

# Gas Pipeline Regulatory Reform

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# Objective

- ▶ The goal of this presentation is to make you aware of the recent changes to the pertinent code sections, increase your understanding of the changes and why they were made, as well as maintaining compliance with the updated regulations.

# Summary of Updates

- ▶ Updated Code Sections:
  - ▶ Plastic - § 192.3, 192.7, 192.121, 192.281, 192.285, and appendix B to part 192
  - ▶ Atmospheric Corrosion Monitoring - §192.481, 192.491, 192.1007, and 192.1015
  - ▶ Incident Reporting - §191.3
  - ▶ Mechanical Fitting Failure - §191.12 and 192.1009
  - ▶ Pressure Vessels - §192.153

# Summary of Updates

- ▶ Updated Code Sections:
  - ▶ Master Meters: §192.1003, 192.1005, and 192.1015
  - ▶ Farm Taps: §192.740 and 192.1003
  - ▶ Welding: §192.229(b)
  - ▶ Pre-tested Steel Pipe: §192.507(d)
  - ▶ Rectifiers: §192.465(b)

# Background

- ▶ Initiated by PHMSA to ease regulatory burdens on the construction, operation, and maintenance of gas distribution, transmission, and gathering pipeline systems.
- ▶ No adverse effects on safety anticipated.
- ▶ Notification of Regulatory Review was published on October 2, 2017.
  - ▶ Received nearly 3,000 public comments.
- ▶ Notice of Proposed Rulemaking was published on June 9, 2020.
  - ▶ Received 46 comments.

# Background

- ▶ Gas Pipeline Regulatory Reform Rule published in the Federal Register on 1/11/21.
- ▶ Effective: March 12, 2021.
- ▶ Compliance Date: October 1, 2021.
- ▶ From time of notification to compliance is almost **4 years!**
- ▶ Annual cost savings to be estimated at approximately \$130 million.

# Plastic Pipe

- ▶ Revision of requirements governing plastic pipe (at §§ 192.3, 192.7, 192.121, 192.281, 192.285, and appendix B to part 192) to improve alignment with, and incorporate by reference, certain updated industry standards.
- ▶ The amended regulations apply to **new, repaired** and **replaced** plastic pipe used in the transportation of natural gas.
  - ▶ **Effective Date: January 22, 2019**, except for some marking aspects (December 31, 2019).
- ▶ § 192.7 (Documents Incorporated by Reference)
  - ▶ **16 new or updated standards** (i.e., ASTM F2620 – Heat Fusion Joining of PE, ASTM F1924 – Plastic Mechanical Fittings for use on PE, ASTM F1948 – Metallic Fittings for use on Thermoplastic Pipe, etc.).

## § 192.3 – Definitions

- ▶ PHMSA added a definition for “**weak link**” that outlines methods used to **avoid overstressing** plastic pipe during trenchless excavation.

## § 192.7 – documents that are incorporated by reference partly or wholly

- ▶ PHMSA added or updated a list of **standards related to plastic pipe, fittings, and other components made of PE, PA-11, and PA-12.**
- ▶ PHMSA also added a standard for maintenance or repair of PVC segments.

## § 192.9 – requirements that apply to gathering lines

- ▶ PHMSA amended § 192.9 by adding a new paragraph (d)(3) specifying that newly constructed **type B regulated gas plastic gathering pipes must comply with all requirements of § 192 applicable to plastic pipe.**
- ▶ The existing language in paragraphs (d)(3) – (d)(7) remained the same although reordered to paragraphs (d)(4) – (d)(8).

## § 192.59 – plastic pipe

- ▶ PHMSA amended this section by requiring operators to verify that **all pipe is free of visible defects prior to installation.**
- ▶ PHMSA also permitted the use of pipes that had been previously used in gas service other than natural gas.

## § 192.63 – Marking of materials

- ▶ PHMSA revised paragraph (a) to delete (a)(1) and (a)(2).
- ▶ The revised paragraph (a) required that materials be marked in accordance with the appropriate listed specification.
- ▶ Delayed adopting proposed definition of Traceability and Tracking operators still expected to collect under DIMP 192.1007(a)(5).

## § 192.67 – Storage & Handling of Plastic Pipelines

- ▶ The newly added § 192.67 established storage & handling standards for plastic pipeline components.

## § 192.121 – Design of Plastic Pipe

- ▶ § 192.121 was amended to specify the design requirements for newly installed plastic tubing made of PE, PA-11, & PA-12.
- ▶ PHMSA revised the maximum specs for PE pipes and permitted the use of PA-12 in gas service as follows:
  - ▶ **New & replaced PE pipes with a minimum wall thickness of 0.090” may now be operated with a design factor of 0.40 vs. 0.32 (previously).**

## § 192.121 – Design of Plastic Pipe (Con't)

- ▶ New & replaced PA-11 pipes may be operated with a design factor of 0.40, a maximum pressure  $\leq 250$  PSIG (previously 200 PSIG) and a maximum diameter of 6" (previously 4").
- ▶ Operators were allowed to install PA-12 with a design factor of 0.40, a maximum pressure  $\leq 250$  PSIG, and a maximum diameter of 6".
- ▶ The design limitations previously found in § 192.123 were merged into this section.

## § 192.123 – [Removed & Reserved]

- ▶ § 192.123 previously contained design limitations for plastic pipe that were merged into § 192.121.

## § 192.143 – General Requirements

- ▶ PHMSA added a new paragraph (c) to specify that **components used for plastic pipes must be able to withstand operating pressures & anticipated loads** in accordance with a listed spec as defined in § 192.3.

## § 192.145 – Valves

- ▶ PHMSA added a new paragraph (f) to specify that plastic valves:
  - ▶ Must be designed to meet a “listed spec” as defined in § 192.3.
  - ▶ Not operated in conditions that exceed the applicable pressure or temperature ratings detailed in the applicable listed specification.

## § 192.149 – Standard Fittings

- ▶ PHMSA added a new paragraph (c) to specify that a plastic fitting may only be installed if it meets a listed specification as defined in § 192.3.

## § 192.191 – Design Pressure of Plastic Fittings [Removed & Reserved]

- ▶ With the addition of § 192.143(c), § 192.191 became redundant and was removed & reserved.

## § 192.204 – Risers installed after January 22, 2019

- ▶ Required all riser designs to be tested to ensure safe performance under anticipated external and internal loads.
- ▶ Required factory assembled anodeless risers to be designed and tested in accordance with ASTM F1973-13.
- ▶ Allowed the use of plastic risers from plastic mains to regulator stations with certain expectations and limitations.

## § 192.281 – Plastic Pipe

- ▶ Paragraph (b)(2) and (3) were revised to clarify that solvent cements may only be used to join PVC components and may not be heated or cooled to accelerate setting.
- ▶ **Paragraph (c) was revised to specify that each heat fusion joint on a PE pipe or component, with the exception of electrofusion joints, must comply with ASTM F2620-12.**
- ▶ **Paragraph (e)(3) and (4) were added to require newly installed mechanical fittings to meet a listed specification and provide Category 1 seal and resistance.**

# § 192.283 – Plastic Pipe: Qualifying Joining Procedures

- ▶ Incorporated requirements for mechanical joints or fittings to be Category 1.
- ▶ Removed references to two versions of ASTM D2513 and instead requires operators to test procedures in accordance with the appropriate listed specification.
- ▶ Repealed the obsolete § 192.283(d).

## § 192.285 – Plastic Pipe: Qualifying Persons to Make Joints

- ▶ § 192.285(a)(2) previously specified that a person must make a specimen joint that is subjected to the testing detailed in § 192.285(b).
- ▶ **Now also references ASTM F2620-12 for PE heat fusion joints (except for electrofusion joints).**

## § 192.313 – Bends and Elbows

- ▶ Added a new paragraph (d) requiring that operators may only make bends in plastic pipe with a bend radius greater than the minimum bend radius specified by the manufacturer.

## § 192.321 - Installation of Plastic Pipe

- ▶ Paragraph (d) was revised to require newly installed plastic pipe to have **a wall thickness consistent with § 192.121**.
- ▶ Paragraph (f) was revised to specify the plastic pipe must be **protected from damage at both the entrance and exit of the casing** during the installation process.
- ▶ Paragraph (h)(3) was corrected to refer to § 191.121 due to the merger of §§ 192.121 and 192.123.
- ▶ Paragraph (i) was added to allow for the aboveground termination of plastic mains under certain conditions.

## § 192.329 – Installation of Plastic Pipelines by Trenchless Excavation

- ▶ Required operators **to use a weak link** as defined by § 192.3.
- ▶ Required operators to **take practicable steps to avoid striking other underground structures.**

## § 192.367 – Service Lines: General Requirements for Connections to Main Piping

- ▶ Paragraph **(b) specified requirements for compression-type fittings** for service-line main connections.
- ▶ Amended to require that operators **must use Category 1 compression-type fittings.**

## § 192.375 – The Service Lines: Plastic

- ▶ The final rule **amended this section to apply the riser standards in § 192.204 to aboveground service lines.**

## § 192.376 – Installation of Plastic Service Lines by Trenchless Excavation

- ▶ Operators must take steps to avoid other underground structures.
- ▶ Use of a weak line device is required during the pull through process to avoid overstressing the pipeline.

## § 192.455 – External Corrosion Control: Buried or Submerged Pipelines Installed after 07/31/71

- ▶ Added a new paragraph (g) to require cathodic protection on electrically isolated metal fittings on plastic pipelines not meeting the exceptions in paragraph (f) installed after the effective date of this rule.
- ▶ Such fittings must also be **maintained in accordance with the operators' integrity management plans.**

# § 192.513 – Test Requirements for Plastic Pipelines

- ▶ Amended paragraph (c) to reduce the **maximum limit for testing pressure from 3 times the pressure determined under § 192.121 to 2.5 times** the maximum pressure to avoid overstressing the line during testing.

# § 192.720 – Distribution Systems: Leak Repair

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- ▶ Added a new § 192.720 **prohibiting the use of temporary mechanical leak repair clamps as a permanent repair of plastic pipe used in distribution service.**

# § 192.756 – Joining Plastic Pipe by Heat Fusion; Equipment Maintenance and Calibration

- ▶ Added a new § 192.756 that **establishes minimum requirements for equipment maintenance for equipment used in the heat fusion of plastic pipe.**

# Atmospheric Corrosion Monitoring

- ▶ Revision of atmospheric corrosion monitoring requirements (at §§ 192.481, 192.491, 192.1007, and 192.1015) both to align the inspection interval for atmospheric corrosion on gas distribution service pipelines with leakage survey requirements at § 192.723, and to clarify that consideration of corrosion risks under DIMP explicitly includes atmospheric corrosion;
  - ▶ §192.481(a)
    - ▶ **Onshore other than a service line – every 3 CY but with interval NTE 39 months.**
    - ▶ Onshore service line – every 5 CY but with interval NTE 63 months (except as provided in paragraph (d) of this section.
  - ▶ §192.481(d) If atmospheric corrosion is found on a service line during the most recent inspection, then the next inspection of that pipeline or portion of pipeline must be within 3 calendar years, but with intervals not exceeding 39 months.

# Incident Reporting

- ▶ Revision of the monetary threshold for incident reporting (at § 191.3) to update for inflation over the three decades since the current monetary threshold was established, and introduce a new appendix A to part 191 to provide for annual updates to that threshold to account for inflation.
  - ▶ §191.3(1)(ii) **Estimated property damage of \$122,000 or more**, including loss to the operator and others, or both, but excluding the cost of gas lost.

# Mechanical Fitting Failures

- ▶ Revision of certain reporting requirements (at §§ 191.12 and 192.1009) to eliminate a dedicated report form for mechanical fitting failures (MFFs), and modify other required report forms to incorporate more information on MFFs.

# Pressure Vessels

- ▶ Revision of test requirements for pressure vessels at § 192.153 to align pressure test factor requirements with industry standards, and to clarify certain other pressure testing requirements.
  - ▶ § 192.153 – Components Fabricated By Welding Subpart D – Design Of Pipeline Components
  - ▶ § 192.505 – Strength Test Requirements For Steel Pipelines To Operate At A Hoop Stress Of 30% Or More Of SMYS Subpart J – Test Requirements
  - ▶ Subparts Are Not Retroactive Parts Of The Code (KILAMOP)

# Master Meters & DIMP

- ▶ The final rule revised §192.1003, 192.1005, and 192.1015 and eliminated DIMP requirements for master meter systems.
- ▶ Limited geographic area and typically, one type of pipe, single operating pressure, and limited equipment.
- ▶ Shift focus to more fundamental risk mitigation activities.
- ▶ Small LPG Operators not exempt.

# Farm Taps & DIMP

- ▶ The final rule revised §192.740 and 192.1003 by giving operators the option to manage inspections of pressure regulators servicing farms taps under DIMP or the inspection requirements of 192.740.
- ▶ Farm taps were excluded from DIMP in the 2017 rule.
- ▶ Change to reduce burden on operators and offer flexibility.
- ▶ 192.740(c)(4) was removed.

# Welding Process

- ▶ The final rule revised § 192.229(b) to allow welders to demonstrate they have engaged in welding with a welding process at least twice each calendar year (interval does not exceed 7 ½ months) and the welds were tested and accepted in accordance with API Standard 1104.60.
- ▶ Provides consistency with § 192.229(c)(1) and 192.229(d)(2).
- ▶ Offers training flexibility and beneficial to welders.
- ▶ No negative impact on safety.

# Pre-testing Steel Pipe

- ▶ The final rule revised §192.507 to allow for pre-installation pressure testing of fabricated units and short sections of pipe on lower stress pipelines where post installation testing is impractical.
- ▶ Offers greater flexibility.
- ▶ Shortens repair time.
- ▶ Pre-testing provisions do not cover all applications.

# Rectifiers – External Corrosion Control Monitoring

- ▶ The final rule revised § 192.465(b) to clarify that rectifiers could be monitored remotely, information to be documented during inspections, and timeframe for when a physical check is required.
- ▶ Technology is always evolving.
- ▶ Provided clarity is the regulations regarding the inspection requirements.

# Thank you

- ▶ PHMSA - Pipeline Safety: Gas Pipeline Regulatory Reform; Correction
  - ▶ <https://www.phmsa.dot.gov/regulations/federal-register-documents/2021-04576>
- ▶ Federal Register Document:
  - ▶ <https://www.federalregister.gov/documents/2021/01/11/2021-00208/pipeline-safety-gas-pipeline-regulatory-reform>
- ▶ PUC Website Info:
  - ▶ <https://www.puc.pa.gov/pipeline/2021-pipeline-safety-conference/>
- ▶ Federal Code:
  - ▶ <https://www.ecfr.gov/cgi-bin/text-idx?SID=4eedcf718045af30dbd5317db4e31d96&mc=true&node=pt49.3.192&rgn=div5>