



U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

May 28, 2026

Mr. Kirk Francis, PE
Senior Vice President, Engineering
FlexSteel USA, LLC
1221 Transport Drive
Ameriport Industrial Park
Baytown, TX 77523

RE: Request for Interpretation – Determination of Outside Diameter for Classification of Steel-Reinforced, Multilayer Pipe under 49 CFR Parts 192 and 195

Dear Mr. Francis:

In a letter dated December 9, 2025, FlexSteel USA, LLC (FlexSteel USA) asked the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS) for a written interpretation on the applicability of the Federal safety standards in 49 CFR Parts 192 and 195 to gathering pipelines constructed with FlexSteel. FlexSteel is a three-layer composite pipe product manufactured by FlexSteel USA that consists of (1) an innermost high-density polyethylene (HDPE) layer, (2) a steel-reinforcing layer, and (3) an outermost HDPE layer.

FlexSteel USA seeks confirmation from OPS that the second, steel-reinforcing layer should be used in determining the outside diameter (OD) of a gathering line constructed with FlexSteel under Parts 192 and 195. FlexSteel contends that this result is consistent with the approach used in determining the OD of traditional steel and plastic pipe designs and the risk-based framework for regulating gathering lines. For the reasons provided below, OPS agrees that the steel-reinforcing layer should be used in determining the OD of a gathering line constructed with FlexSteel.

Background

PHMSA has prescribed Federal safety standards for gathering lines in Parts 192 and 195. The applicability of these safety standards to onshore gathering lines depends, in certain cases, on the OD of the pipe.¹ For example, Part 192 uses an OD threshold of “greater than or equal to 8.625

¹ OD is the actual, measurable external width of a pipe. nominal diameter (or nominal pipe size - NPS/DN) is a non-dimensional, standardized designation for sizing. For pipes up to 12 inches, the OD is typically larger than the NPS, while for pipes 14 inches and larger, the NPS corresponds directly to the actual OD.

inches” in determining if an onshore gas gathering line is subject to the requirements for Type C gas gathering lines. Part 195 also uses a threshold of “219.1 mm (8 5/8 in) or less nominal” OD in determining if a pipeline qualifies as a gathering line and a “nominal diameter” threshold range of between “6 5/8 inches (168 mm) to 8 5/8 inches (219.1 mm)” in determining if a gathering line in a rural area qualifies a regulated rural gathering line.

Pointing to these regulations, FlexSteel USA states that “PHMSA has not directly addressed how to measure the OD of composite pipe for purposes of making jurisdictional and regulatory determinations.” FlexSteel USA further notes that “[w]ith respect to steel pipe, PHMSA generally bases the diameter of the pipeline on pipe mill records and does not include any coatings or additional layers that may protect the pipeline while it is in operation when determining the OD of the pipe.” FlexSteel USA contends that “the same approach can be applied in determining the OD of steel reinforced, multilayer pipe” such as FlexSteel.

FlexSteel USA further contends that applying that approach to FlexSteel leads to the conclusion that the steel-reinforcing layer should be used in determining the OD. FlexSteel states that the steel-reinforcing layer “provid[es] the pressure containment capacity” for the innermost HDPE layer, which “determin[es] the throughput capacity.” The outermost HDPE layer, on the other hand, “shields the steel from corrosion and abrasion, serving a function similar to coating,” which is not considered in determining the OD of steel pipe.

Finally, FlexSteel USA contends that “[b]asing the OD of the multilayer pipe on the steel layer is . . . consistent with PHMSA’s established risk-based criteria for regulating certain gas and liquid lines.” FlexSteel USA states that “PHMSA has routinely recognized that the regulation of gathering lines and rural lines is based on the risk associated with the line, which is determined primarily on the throughput of line and its proximity to communities.” Because the inner HDPE layer and steel-reinforcing layers determine the volume and capacity of a pipeline constructed with FlexSteel, FlexSteel USA states that using the steel-reinforcing layer to determine the OD is “consistent with PHMSA’s established risk-based approach for regulating certain gas and liquid lines.”

PHMSA received a comment in support of FlexSteel USA’s position from the Plastic Pipe Institute. PHMSA received comments opposing FlexSteel USA’s position from the National Association of Pipeline Safety Representatives (NAPSR) and Mary S. Friend, Director, Gas Pipeline Safety Division, West Virginia Public Service Commission.

Relevant Regulations

The following regulations are relevant in responding to FlexSteel USA’s request for interpretation:

§ 192.3 - Definitions

§ 192.8 - How are onshore gathering pipelines and regulated onshore gathering pipelines determined?

§ 195.2 - Definitions

§ 195.12 - What is a regulated rural gathering line and what requirements apply?

Analysis and Response

Upon review of the question provided by FlexSteel USA, additional information received from FlexSteel after submitting its request, the public comments, and the relevant requirements in Parts 192 and 195, PHMSA's analysis and responses are as follows:

Question: For purposes of complying with the Federal safety standards for gathering lines in Parts 192 and 195, should FlexSteel USA use the steel-reinforced layer in determining the OD of FlexSteel composite pipe?

PHMSA Response: Yes. While not cited by FlexSteel USA or the public commenters, Part 192 defines "composite materials" as "materials used to make pipe or components manufactured with a combination of either steel and/or plastic and with a reinforcing material to maintain its circumferential or longitudinal strength."² PHMSA added this definition to Part 192 in the final rule that established the safety standards for Type C onshore gas gathering lines in 49 CFR § 192.9(e), including the provision in 49 CFR § 192.9(h) authorizing the use of composite materials through a 90-day prior notice and no objection process.³

The key criteria for determining whether something qualifies as composite material under the Part 192 definition are (1) the use of a combination of steel and/or plastic and (2) a reinforcing material to maintain its circumferential or longitudinal strength. According to the information provided by FlexSteel USA, FlexSteel pipe consists of three layers of material: (1) an innermost HDPE layer, (2) a steel-reinforcing layer, and (3) an outermost HDPE layer. The first HDPE layer determines the throughout (or volume) of gas that can be transported in the FlexSteel pipe; the second steel-reinforcing layer provides pressure containment for the gas being transported in the innermost HDPE layer of the FlexSteel pipe; and the third HDPE layer provides protection for the innermost HDPE layer and the steel-reinforcing layer of the FlexSteel pipe from corrosion or external forces.

In these circumstances, the first and second layers are the composite materials used to make FlexSteel pipe as defined in Part 192. These two layers are made with a combination of plastic and steel, and the second steel-layer is the "reinforcing material" used to "maintain its circumferential or longitudinal strength." The third layer, by contrast, is used to protect the first two layers from other threats and is akin to the use of a coating for cathodic protection or a

² 49 CFR § 192.3.

³ Pipeline Safety: Safety of Gas Gathering Pipelines: Extension of Reporting Requirements, Regulation of Large, High-Pressure Lines, and Other Related Amendments, 86 Fed. Reg. 63,296 (Nov. 15, 2021).

casing to protect a pipeline from external force damage.⁴ As the latter is not being used as “a reinforcing material to maintain . . . the circumferential or longitudinal strength” of the FlexSteel pipe, the third layer is not an essential element of the composite material as that term is defined in Part 192. Therefore, the OD of a gathering line constructed with FlexSteel should be based on the steel-reinforcing layer, not the outermost HDPE layer, under Part 192.

Though there is no comparable definition for “composite material” in Part 195, the OD of a hazardous liquid gathering line constructed with FlexSteel should be similarly based on the steel-reinforcing layer. Part 195 only prescribes safety standards for pipelines constructed with steel pipes and includes a special notification process for operators that want to transport hazardous liquid or carbon dioxide in pipelines constructed with materials other than steel.⁵ Nothing in Part 195 suggests there should be a difference between gas and hazardous liquid pipelines when determining the OD of composite pipe material. Nor is there anything in Part 195 to suggest that the third HDPE layer, which provides protection from corrosion or external force damage, should be included in determining the OD of a gathering line constructed with FlexSteel.

The comments submitted by NAPSIR and Ms. Friend do not justify a different result. NAPSIR and Ms. Friend both acknowledge that the function of the outer HDPE layer of the FlexSteel pipe “is to resist mechanical damage and provide environmental protection” but contend that “[a]ll three layers appear to be required to make the product function.” Noting that “[t]he steel layer has continuous helical gaps that create an annular space and natural capture layer for the gas which permeates the HDPE liner,” NAPSIR and Ms. Friend also contend that “[t]he outer HDPE layer appears to function as a gas containing layer due to the gas permeation of the inner HDPE liner.” NAPSIR and Ms. Friend believe that the outer HDPE layer should be included in determining the OD of a gathering line constructed with FlexSteel under Part 192 for these reasons.

NAPSIR and Ms. Friend do not account for the definition of “composite materials” in Part 192 in their comments. That definition makes clear that the innermost HDPE layer and steel-reinforcing layer of FlexSteel pipe are the relevant composite materials. The outermost HDPE layer, which NAPSIR and Ms. Friend both recognize is used “to resist mechanical damage and provide environmental protection,” is not “a reinforcing material” used “to maintain” the “circumferential or longitudinal strength” of FlexSteel pipe. Indeed, the outermost HDPE layer would not qualify as a composite material even if, as NAPSIR and Ms. Friend contend, that layer could be used to contain gas that enters the annulus in the event that the innermost HDPE layer and steel-reinforcing layer are breached. FlexSteel USA has not represented that the outermost HDPE layer is designed for that purpose, and PHMSA does not ordinarily include measures that are used to prevent or mitigate pipeline failures in determining the characteristics of the pipe itself.

⁴ See 49 CFR § 192.323 (prescribing requirements for “[e]ach casing used on a transmission line or main under a railroad or highway”); PHMSA Interpretation Response #PI-75-036 (discussing requirements in Parts 192 and 195 that apply to casings). PHMSA notes that the thickness of the outer layer is not adjusted based on the internal pressure rating of the FlexSteel pipe but is instead constant for all pressure ratings of the same size pipe.

⁵ See PHMSA Statement of Policy for Transporting Hazardous Liquids or Carbon Dioxide in Non-Steel Pipelines (May 18, 2026), available at <https://www.phmsa.dot.gov/news/phmsa-statement-policy-transporting-hazardous-liquids-or-carbon-dioxide-non-steel-pipelines>.

In summary, OPS agrees with FlexSteel USA that the steel-reinforcing layer should be used in determining the OD of a gathering line constructed with FlexSteel under Parts 192 and 195.

If we can be of further assistance, please contact Joe Berry (720) 601-3577.

Sincerely,

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SATTERTHWAITE Date: 2026.05.28 17:21:10

Cameron H. Satterthwaite
Acting Director, Office of Standards
and Rulemaking

Dec. 9, 2025

Mr. John Gale
Director of Standards and Rulemaking
Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20690

RE: Request for Interpretation – Determination of Outside Diameter for Classification of Steel-Reinforced, Multilayer Pipe under 49 C.F.R. Parts 192 and 195

Mr. Gale:

FlexSteel USA, LLC requests PHMSA's interpretation on how to classify steel reinforced, multilayer pipe systems—such as FlexSteel—used in onshore gas and liquid gathering pipelines under 49 C.F.R. Parts 192 and 195. Specifically, the company seeks clarification on the correct method for calculating outside diameter (OD) for these composite pipelines to ensure accurate jurisdictional and regulatory determinations under the pipeline safety regulations. Consistent with PHMSA's standards for steel and traditional plastic pipe, FlexSteel is requesting confirmation that the OD of steel reinforced, multilayer pipe is based on the diameter of the steel layer, excluding outer HDPE layers.

Background

Under 49 C.F.R. § 192.8, an onshore gas gathering pipeline is considered Type C if it is in a Class 1 location and:

- The OD of the pipe is greater than or equal 8.625 inches, and
- For metallic pipe, the maximum allowable operating pressure (MAOP) produces hoop stress of more than 20% SMYS, or
- For metallic pipe, if the stress level is unknown and the MAOP is more than 125 psig; or
- For non-metallic pipe, the MAOP is more than 125 psig.

Type R gas gathering lines are those located within Class 1 or Class 2 locations that do not meet the criteria of any other gas gathering pipeline designation.

Under 49 C.F.R. § 195.2, a liquid gathering line is defined as a “pipeline 219.1 mm (8 5⁄8 in) or less nominal outside diameter that transports petroleum from a production facility.” Section 195.11 defines a regulated rural liquid gathering line as one that meets a number of requirements, including that it “[h]as a nominal diameter from 6 5⁄8 inches (168 mm) to 8 5⁄8 inches (219.1 mm).”

Outside Diameter Determination

PHMSA has not directly addressed how to measure the OD of composite pipe for purposes of making jurisdictional or regulatory determinations. With respect to steel pipe, PHMSA generally bases the diameter of the pipeline on pipe mill records and does not include any coatings or additional layers that may protect the pipeline while it is in operation when determining the OD of the pipe. This same approach can be applied in determining the OD of steel reinforced, multilayer pipe.

Although current OD standards were developed for traditional steel and plastic pipe designs, using the steel layer as the basis for measuring multilayer pipe OD aligns with PHMSA's established approach for these conventional pipelines. Steel-reinforced composite pipe utilizes a multilayer design, with the innermost HDPE layer determining the throughput capacity of the line and the steel layers providing the pressure containment capacity. The outer HDPE layer shields the steel from corrosion and abrasion, serving a function similar to coating on steel pipe.¹ The OD of this design, therefore, should be measured from the steel layer to remain consistent with PHMSA's standards as applied to steel and traditional plastic pipe, where the OD is based on the diameter of the line pipe excluding any coatings.

Basing the OD of the multilayer pipe on the steel layer is also consistent with PHMSA's established risk-based criteria for regulating certain gas and liquid lines. In Parts 192 and 195, PHMSA has routinely recognized that the regulation of gathering and rural lines is based on the risk associated with the line, which is determined primarily on the throughput of line and its proximity to communities.² The inner HDPE layer in the multilayer design determines the volume carried by the pipeline and the steel layers provide pressure capacity, as confirmed by testing conducted by FlexSteel, while the outer HDPE layer simply adds corrosion and abrasion protection. The steel layer is determinative of the capacity of the line and, therefore, should be

¹ PHMSA has recognized that the HDPE layer of this design functions similarly to a coating in its special permits and State waiver no objection letters. See, e.g., California State Waiver Issued to RockPoint Lodi Gas Storage, LLC, Res. GSRB-2 (Jan. 30, 2025); PHMSA's Special Permit Issued to National Fuel Gas Supply Corp., PHMSA-2021-0042 (2021) (requiring annulus space monitoring between the "inside liner and outer jacket HDPE materials" and noting that "[p]ositive pressure indicates the outer jacket material is intact (holiday free), demonstrating a 'perfect coating', thus external corrosion cannot occur. It indicates that the HDPE liner material is intact and containing bore gas pressure as intended"). See also State Waiver Issued to Cinco Natural Resources Corporation, Docket No. 09903 (Feb. 9 2010) (approved by PHMSA on Apr. 21, 2010) (referring to the outer polyethylene layer as the "outer coating").

² See, e.g., Safety of Gas Gathering Pipelines: Extension of Reporting Requirements, Regulation of Large, High-Pressure Lines, and Other Related Amendments, 86 Fed. Reg. 63266, at 63280, 63286 ("[T]he new regulatory requirements are tailored to the potential hazards the newly regulated gathering lines may pose. . . . The risk-based application of each of these Type C requirements is based on the operational and functional characteristics of those lines and *strikes an appropriate balance between the need to protect people and the environment from the risks associated with large-diameter, high-pressure gathering lines* and the need to exercise caution imposing regulatory burdens before more detailed information can be collected." (emphasis added); see also Protecting Unusually Sensitive Ares and Rural Onshore Hazardous Liquids, 73 Fed. Reg. 31634, at 31640 (Jun. 3, 2008) ("In this initial phase, PHMSA is implementing full regulation of the higher-risk, larger-diameter rural low-stress pipelines.").

the basis for the OD determination to be consistent with PHMSA's established risk-based approach for regulating certain gas and liquid lines.

Interpretation Request:

FlexSteel USA respectfully requests PHMSA's confirmation that, for purposes of onshore gas and liquid gathering classifications under 49 C.F.R. Parts 192 and 195, the outside diameter used in jurisdictional and regulatory determinations for steel-reinforced multilayer pipe should be based on the steel reinforcement layer, excluding the HDPE outer layer.

Thank you for your consideration of this request. Please let us know if you have any questions or if we can provide further information or clarifications to support our position.

Sincerely,



Kirk Francis, PE
Senior Vice President, Engineering
FlexSteel USA, LLC

CC: Max Kieba, Director of Engineering, Office of Pipeline Safety
Cameron Satterthwaite, Deputy Director of Standards and Rulemaking, Office of Pipeline Safety