



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

901 Locust Street, Suite 480
Kansas City, MO 64106

NOTICE OF AMENDMENT

VIA ELECTRONIC MAIL TO: scott.hallam@bwpipelines.com; tina.baker@bwpipelines.com

August 15, 2024

Mr. Scott Hallam
President/CEO
Boardwalk Pipelines, LP
9 Greenway Plaza, Suite 2800
Houston, TX 77046

CPF 3-2024-064-NOA

Dear Mr. Hallam:

From August 21 through October 5, 2023, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), inspected Texas Gas Transmission, LLC, and Gulf South Pipeline Company, LLC's (BW Pipelines)¹ procedures for operation and maintenance and integrity management in Owensboro, Kentucky.

As a result of the inspection, PHMSA has identified the apparent inadequacies found within BW Pipelines' plans or procedures. The items inspected and the inadequacies are described below:

1. § 192.113 Longitudinal joint factor (E) for steel pipe.

(a) The longitudinal joint factor to be used in the design formula in § 192.105 is determined in accordance with the following table:

Specification	Pipe Class	Longitudinal joint factor (E)
ASTM A 53/A53M	Seamless	1.00
	Electric resistance welded	1.00

¹ Boardwalk Pipelines, LP, is the primary safety relation for both Texas Gas Transmission, LLC, and Gulf South Pipeline Company, LLC. Both Texas Gas Transmission, LLC, and Gulf South Pipeline Company, LLC, are subsidiaries of Boardwalk Pipelines, LP. See Our Business, BOARDWALK PIPELINES, <https://www.bwpipelines.com/our-business/default.aspx> (last accessed August 12, 2024). The inspection covered both assets and therefore both assets will be referred to jointly as Boardwalk Pipelines, LP (BW Pipelines).

	Furnace butt welded	.60
ASTM A 106	Seamless	1.00
ASTM A 333/A 333M	Seamless	1.00
	Electric resistance welded	1.00
ASTM A 381	Double submerged arc welded	1.00
ASTM A 671	Electric-fusion-welded	1.00
ASTM A 672	Electric-fusion-welded	1.00
ASTM A 691	Electric-fusion-welded	1.00
API Spec 5L	Seamless	1.00
	Electric resistance welded	1.00
	Electric flash welded	1.00
	Furnace butt welded	.60
Other	Pipe over 4 inches (102 millimeters)	.80
Other	Pipe 4 inches (102 millimeters) or less	.60

(b) If the type of longitudinal joint cannot be determined, the joint factor to be used must not exceed that designated for “Other.”

BW Pipelines’ written procedures did not provide adequate guidance for selecting a longitudinal joint factor in accordance with the requirements of § 192.113. Specifically, BW Pipelines’ procedure “TVC Guideline” (June 16, 2023, rev. 1.40) indicated that if BW Pipelines personnel cannot determine seam type, but can prove that the seam type cannot be derated, they call it a non-derated seam type with a longitudinal factor of 1.00. However, § 192.113 specifically requires that if the longitudinal seam type cannot be determined, the joint factor must not exceed that designated as “Other.” The procedure, as written, would be in direct conflict with the regulation. Therefore, BW Pipelines must amend its written procedures to comply with the requirements of § 192.113.

2. § 192.607 Verification of Pipeline Material Properties and Attributes: Onshore steel transmission pipelines.

(a)

(c) Verification of material properties and attributes. If an operator does not have traceable, verifiable, and complete records required by paragraph (b) of this section, the operator must develop and implement procedures for conducting nondestructive or destructive tests, examinations, and assessments in order to verify the material properties of aboveground line pipe and components, and of buried line pipe and components when excavations occur at the following opportunities: Anomaly direct examinations, in situ evaluations, repairs, remediations, maintenance, and excavations

that are associated with replacements or relocations of pipeline segments that are removed from service. The procedures must also provide for the following:

BW Pipelines' written procedure for obtaining material properties opportunistically did not provide adequate guidance in accordance with § 192.607(c). Specifically, BW Pipelines' procedure "Integrity Management Plan" (IMP), Chapter 16, "Verification of Material Properties and Attributes," Section 1.6, "Definitions and Acronyms," defined opportunistic as, "A line excavation where no less than a total of 30 days are available to plan material verification activities, non-destructive testing equipment and technician(s) are available, and it is safe to access the excavation to perform the testing." Obtaining the material properties for above and below ground line pipe and components required by § 192.607(c) must be done when certain excavations occur, and does not allow operators to complete such activities at arbitrary times, such as "when 30 days are available." Boardwalk must amend its written procedures to comply with the requirements of § 192.607(c) in accordance with § 192.605(b)(1).

3. § 192.607 Verification of Pipeline Material Properties and Attributes: Onshore steel transmission pipelines.

(a)

(e) *Sampling multiple segments of pipe.* To verify material properties and attributes for a population of multiple, comparable segments of pipe without traceable, verifiable, and complete records, an operator may use a sampling program in accordance with the following requirements:

(1)

(4) If the test results identify line pipe with properties that are not consistent with available information or existing expectations or assumed properties used for operations and maintenance in the past, the operator must establish an expanded sampling program. The expanded sampling program must use valid statistical bases designed to achieve at least a 95% confidence level that material properties used in the operation and maintenance of the pipeline are valid. The approach must address how the sampling plan will be expanded to address findings that reveal material properties that are not consistent with all available information or existing expectations or assumed material properties used for pipeline operations and maintenance in the past. Operators must notify PHMSA in advance of using an expanded sampling approach in accordance with § 192.18.

BW Pipelines' written procedures for expanded sampling if test results identify line properties that are not consistent with available information were inadequate because they were not in accordance with § 192.607(e)(4). Specifically, BW Pipelines' IMP Chapter 16, section 4.3, "Incorporating ILI to Delineate Populations," needs either a cross reference to section 4.6, "Inconsistencies in Measured Properties and Attributes," or be incorporated into section 4.6. This is due to the fact that these sections have duplicative requirements of the Manager of Pipeline Safety (or designee) to document the discrepancies between ILI and existing records. However, the IMP should also address how the sampling plan will be expanded to address findings that reveal material properties

that are not consistent with all available information, or existing expectations, or assumed material properties used in pipeline operations and maintenance in the past as required by § 192.607(e)(4). Boardwalk must amend its written procedures to comply with the requirements of §§ 192.607(e)(4) and 192.605(b)(1).

4. § 192.607 Verification of Pipeline Material Properties and Attributes: Onshore steel transmission pipelines.

(a)

(f) Components. For mainline pipeline components other than line pipe, an operator must develop and implement procedures in accordance with paragraph (c) of this section for establishing and documenting the ANSI rating or pressure rating (in accordance with ASME/ANSI B16.5 (incorporated by reference, see § 192.7))

BW Pipelines' written procedures for verification of material properties for components did not provide adequate guidance in accordance to § 192.607(a). Specifically, in BW Pipelines' IMP Chapter 16, "Verification of Pipeline Materials and Properties," Section 5, "Non-Line Pipe Components," there was no guidance or specificity on when the attributes to be confirmed would be obtained. Section 5 indicated that a plan will be established, but did not provide guidance on what that plan should consist of (i.e., when the plan will be completed, how does opportunistic apply for components). Therefore, BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.607(f) and 192.605(b)(1).

5. § 192.613 Continuing surveillance.

(a)

(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).

BW Pipelines' procedures for continuing surveillance did not provide enough guidance in accordance with § 192.613(b). Specifically, BW Pipelines' procedure "OM-NG 5010 Surveillance Program and Leak Surveys" did not provide any detail about steps to be taken in case of unsatisfactory conditions with no immediate hazards. The procedure also did not have any details on how to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, how to reduce the maximum allowable operating pressure in accordance with § 192.613(b). Therefore, BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.613(b) and 192.605(b)(1).

6. § 192.624 Maximum allowable operating pressure reconfirmation: Onshore steel transmission pipelines.

(a) Applicability. Operators of onshore steel transmission pipeline segments must reconfirm the maximum allowable operating pressure (MAOP) of all pipeline segments in accordance with the requirements of this section if either of the following conditions are met:

(1)

(b) The pipeline segment's MAOP was established in accordance with § 192.619(c), the pipeline segment's MAOP is greater than or equal to 30 percent of the specified minimum yield strength, and the pipeline segment is located in one of the following areas:

(i)

(iii) A moderate consequence area as defined in § 192.3, if the pipeline segment can accommodate inspection by means of instrumented inline inspection tools.

BW Pipelines' procedure, "TVC Guideline," scope of coverage did not include moderate consequence area as defined in § 192.3 as an applicable area per § 192.624(a)(2)(iii). Specifically, the "TVC Guideline" stated that "HCAs and Class 3 or 4 locations are the only areas required to have TVC work completed based on the current regulations," when moderate consequence areas are also required to be TVC'd. BW Pipelines' must amend its written procedures to comply with the requirements of §§ 192.607(a) and 192.605(b)(1).

7. § 192.624 Maximum allowable operating pressure reconfirmation: Onshore steel transmission pipelines.

(a)

(c) Maximum allowable operating pressure determination. Operators of a pipeline segment meeting a condition in paragraph (a) of this section must reconfirm its MAOP using one of the following methods:

BW Pipelines' procedures for the methods to be used for reconfirmation did not provide adequate guidance as required under § 192.624(c). Specifically, BW Pipelines' procedure IMP, Chapter 15, "Maximum Allowable Operating Pressure Reconfirmation," section 2.3 was a direct cut and paste of Methods 1 through 6 from the regulations. There was no specificity on who is responsible for the action, how the methods are to be conducted, references to other procedures, etc. BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.624(c) and 192.605(b)(1).

8. § 192.712 Analysis of predicted failure pressure and critical strain level.

(a)

(b) Corrosion metal loss. When analyzing corrosion metal loss under this section, an operator must use a suitable remaining strength calculation method including, ASME/ANSI B31G (incorporated by reference, see § 192.7); R-STRENG (incorporated by reference, see § 192.7); or an alternative equivalent method of remaining strength calculation that will provide an equally conservative result.

BW Pipelines' procedures did not provide adequate guidance for analyzing corrosion metal loss as required under § 192.712(b). Specifically, BW Pipelines' procedure IMP, Chapter 7, "Remediation of Anomalous Conditions," section 2.4.3.1, "Corrosion Metal Loss," did not include adequate detail to instruct BW Pipelines' employees on how to conduct an analysis of corrosion metal loss. Section 2.4.3.1 did not address how an equally conservative result would be determined when compared to R-STRENG or ASME/ANSI B31G, and how that is recorded. Section 2.4.3.1 also did not discuss the limitations of the models, which would provide guidance on choosing the best model. Lastly, there was no mention of the notification to PHMSA, as required by § 192.712(b), if BW Pipelines were to use a model that would produce a less conservative result. Therefore, BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.712(b) and 192.605(b)(1).

9. § 192.712 Analysis of predicted failure pressure and critical strain level.

(a)

(d) Cracks and crack-like defects –

(1)

(3) *Cracks that survive pressure testing.* For cases in which the operator does not have in-line inspection crack anomaly data and is analyzing potential crack defects that could have survived a pressure test, the operator must calculate the largest potential crack defect sizes using the methods in paragraph (d)(1) of this section. If pipe material toughness is not documented in traceable, verifiable, and complete records, the operator must use one of the following for Charpy v-notch toughness values based upon minimum operational temperature and equivalent to a full-size specimen value:

BW Pipelines' procedures for analyzing potential crack defects that could have survived a pressure test did not provide adequate guidance in accordance with § 192.712(d)(3). Specifically, BW Pipelines' procedure IMP, Chapter 7, "Remediation of Anomalous Conditions," section 2.4.3.2, "Cracks and Crack-Like Indications," was simply a restatement of the regulations. There was no specificity on how they would determine the largest defect that could survive the pressure test, nor was there any guidance how they would determine the remaining life of the defect. BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.712(d) and 192.605(b)(1).

10. § 192.712 Analysis of predicted failure pressure and critical strain level.

(a)

(e) *Data.* In performing the analyses of predicted or assumed anomalies or defects in accordance with this section, an operator must use data as follows.

BW Pipeline' procedures for performing analysis of the data for anomalies or defects did not provide enough guidance in accordance with § 192.712(e). Specifically, BP Pipelines' procedure "Integrity Management Plan" Chapter 7, "Remediation of Anomalous Conditions," sections

2.4.4. through 2.4.6 simply repeated the regulation. Thus, BW Pipeline's IMP did not provide any guidance on how to conduct what the regulations required. For example, in section 2.4.4, the procedure stated that the SME must explicitly analyze and account for uncertainties in reported assessment results. However, the procedure provided no guidance in how they are supposed to do this. Therefore, BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.712(e) and 192.605(b)(1).

11. § 192.712 Analysis of predicted failure pressure and critical strain level.

(a)

(g) *Records.* An operator must keep for the life of the pipeline records of the investigations, analyses, and other actions taken in accordance with the requirements of this section. Records must document justifications, deviations, and determinations made for the following, as applicable:

BW Pipelines' procedures for record keeping for the analysis of predicted failure pressures did not provide adequate guidance in accordance with § 192.712(g). Specifically, BW Pipelines' IMP, Chapter 7, "Remediation of Anomalous Conditions," section 2.4.8, "Records," did not adequately explain who is responsible for the records, how they are tracked, and where the information is stored. BW Pipelines must amend its written procedures to comply with the requirements of §§ 192.712(g) and 192.605(b)(1).

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled Response Options for Pipeline Operators in Enforcement Proceedings.

Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. § 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under § 190.211. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within

90 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested that BW Pipelines maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Gregory A. Ochs, Director, Central Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 3-2024-064-NOA** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Gregory A. Ochs
Director, Central Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

cc: Tina Baker, Manager, Compliance Services, BW Pipelines, LP,
tina.baker@bwpipelines.com

Enclosure: *Response Options for Pipeline Operators in Enforcement Proceedings*