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

901 Locust Street, Suite 480
Kansas City, MO 64106

NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER

VIA ELECTRONIC MAIL TO: stan.horton@bwpipelines.com; tina.baker@bwpipelines.com

July 27, 2023

Mr. Stanley Horton
President/CEO
Boardwalk Petrochemical Pipeline, LLC
9 Greenway Plaza Suite 2800
Houston, TX 77036

CPF 3-2023-014-NOPV

Dear Mr. Horton:

From September 19 to September 23, 2022, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code (U.S.C.) inspected, by video conference, your Control Room Management (CRM) records in Sulphur Springs, Louisiana.

As a result of the inspection, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

1. § 195.444 Leak Detection

(a) ….

(b) *General.* A pipeline must have an effective system for detecting leaks in accordance with §§ 195.134 or 195.452, as appropriate. An operator must evaluate the capability of its leak detection system to protect the public, property, and the environment and modify it as necessary to do so. At a minimum, an operator's evaluation must consider the following factors - length and size of the pipeline, type of product carried, the swiftness of leak detection, location of nearest response personnel, and leak history.

Boardwalk's CRM Procedure Appendix 8, Pipeline Leak Detection Procedure, did not include procedures for consideration of initial and periodic evaluation of the leak detect system capability, modifications identified through testing, evaluations and assessments, or records that demonstrated they had performed testing or evaluation to show they have an effective system for detecting leaks in accordance with § 195.444(b) and § 195.452(i)(3). Part 195.444(b) and Part 195.452(i)(3) requires the operator to perform an evaluation that considers the following factors: length and size of the pipeline, type of product carried, the swiftness of leak detection, location of nearest response personnel, leak history, and risk assessment results. There was nothing in the procedure that addressed these factors or pointed to a study that addressed these factors. The procedure did not require new evaluation and benchmarking if assets are added or removed, and the procedure did not establish a frequency for the leak detection capability evaluation.

Boardwalk employs a combination of methods to accomplish effective leak detection, such as SCADA, leak surveys, patrols, and product accounting through measurement meters. It did not require new evaluation and benchmarking if assets are added or removed, and the procedure did not establish a frequency for the leak detection capability evaluation. There were no records of testing the benchmark to verify it was established at an appropriate level to confidently detect leaks. There was no alarming around the benchmark provided in the SCADA mass balance system for monitoring. The procedure also did not require re-evaluation of the mass balance or rate of change when system parameters change. The operator did not provide records that demonstrated evaluations were completed to fulfill the requirements of § 195.444(b) and § 195.452(i)(3).

2. § 195.446 Control room management.

(a) ….
(c) *Provide adequate information*. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:
(1) Implement API RP 1165 (incorporated by reference, see § 195.3) whenever a SCADA system is added, expanded or replaced, unless the operator demonstrates that certain provisions of API RP 1165 are not practical for the SCADA system used;

Boardwalk failed to provide a record that demonstrated they had implemented and were compliant with API RP 1165 whenever a SCADA system is added, expanded or replaced. Simply stating in the CRM Procedure and Style Guide that they will comply was not adequate to demonstrate compliance that their SCADA screens, system performance and HMI Style Guide/SCADA Design Standard met the requirements of API 1165. Boardwalk did not provide records to demonstrate they had reviewed their screens and system functions to demonstrate they were compliant with API 1165.

A review of the Boardwalk Pipelines Display Standards and Style Guide: Liquids Control Revision date 07/27/2022 identified that Sections 5 and 10 of API 1165 First Edition, January 2007 were not included as required by § 195.446 (c)(1).

3. § 195.446 Control room management.

(a) ….
(c) *Provide adequate information*. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:
(1) ….
(2) Conduct a point-to-point verification between SCADA displays and related field equipment when field equipment is added or moved and when other changes that affect pipeline safety are made to field equipment of SCADA displays;

Boardwalk failed to conduct a point-to-point (P2P) when they implemented a new SCADA system at the Sulpher Springs Control Room. Additionally, procedure BWP-6603 did not include a requirement to verify all SCADA screens when conducting a point-to-point (P2P) to ensure values and alarm graphics/messaging was accurate on all screens. As a result, Boardwalk could not produce records that demonstrated the point-to-point verification as well as which screens were reviewed and information verified as correct.

Prior to start of the inspection, the operator implemented a new SCADA system in November 2021 and conducted parallel polling between the new SCADA system (AVIVA) and old SCADA system (Honeywell) in place of point-to-point verification. A review of the SCADA Migration Issue Log identified screen issues where some points required orange boxes around them to indicate control points. Other points had orange boxes around them but should not have had them. There were other points that were not reading the same values and the labeling was not correct (GPM for flow when it should have been KLBS/hr). The Migration Issues Log was used as a different tool than the P2P screen verification which was not adequate to demonstrate compliance. The process did identify screen deficiencies and required correction of them. The Migration Issue Log, reviewed as a record during inspection, offered insight into SCADA screen design errors, and demonstrated the screens were not always developed correctly to meet the SCADA HMI Design Standards.

4. 195.446 Control room management.
(a) ….
(c) *Provide adequate information*. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:
(1) ….

(3) Test and verify an internal communication plan to provide adequate means for manual operation of the pipeline safety, at least once each calendar year, but at intervals not to exceed 15 months;

Boardwalk failed to complete a test of the internal communication system for safe manual operation of the pipeline in calendar year 2020 and could not provide records for the actual event they counted as a test on May 11, 2019.

On May 11, 2019, there was a lightning strike which resulted in loss of communication. Pipeline control was moved to the Port Allen backup control room. The terminal was operating in manual mode and calling back information to the backup control center. Boardwalk could not find any logbooks related to the readings that the terminal was reporting back to the control room. An operator, pursuant to § 195.446(j)(1) must maintain for review during inspection records that demonstrate compliance with the requirements of Part 195.446.

In October 2020, Boardwalk was preparing for shut down ahead of a hurricane. They operated out of the Houston backup center. They operated some parts of their system and shut down the rest during the storm. The operator used field personnel to shut in part of the affected system, but this was not considered part of their manual operations test plan. This cannot be considered a test.

5. § 195.446 Control room management.

(a) ….
(e) *Alarm management.* Each operator using a SCADA system must have a written alarm management plan to provide for effective controller response to alarms. An operator's plan must include provisions to:

Boardwalk's CRM Plan was not adequate because it did not have a process to address rationalization of alarms to provide for effective controller response to alarms. During the inspection, the operator indicated that alarms may have been rationalized, but they did not appear to have inherited any work papers from the previous operator. They also indicated that they rely heavily on the field to say what they want monitored and the response level. This approach lacks consistency in alarm management.

6. § 195.446 Control room management.

(a) ….
(h) *Training.* Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition the training program must include the following elements:

(1) Responding to abnormal operating conditions likely to occur simultaneously or in sequence;

Boardwalk failed to provide training content of abnormal operations that could occur simultaneously or in sequence to support the training requirement. Sections 9.1 and 9.9 of the CRM Plan required controllers to be trained on this topic. However, the operator did not provide a list or examples of abnormal operating conditions that could occur simultaneously or in sequence that was used for training. While there are generic conditions that can exist on every pipeline, the operator needed to review their operations to determine if there are unique conditions on their pipeline. This information was missing from the training content used for training controllers. The operator indicated that they use the procedures to cover this topic for controllers, but there was nothing in the procedures, training content or details of training records that adequately demonstrated compliance with this requirement.

7. 195.446 Control room management.

(a) ….

(h) *Training*. Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition the training program must include the following elements:

(1) ….

(3) Training controllers on their roles and responsibilities for communication under the operator's emergency response procedures;

Boardwalk did not establish specific training for how the leak detection system works and supports alarming to SCADA. The CRM Training program content referred the controller to Appendix 8, which provided some information about the calculated benchmark to identify potential leaks. Appendix 8 did not provide directions or steps for a controller to take, if a possible leak or leak is identified. No training records were presented for review during the inspection of controller training related to Leak Detection other than requiring the review of Appendix 8 – Leak Detection of the CRM Plan.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $257,664 per violation per day the violation persists, up to a maximum of $2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022 and before January 6, 2023, the maximum penalty may not exceed $239,142 per violation per day the violation persists, up to a maximum of $2,391,412 for a related series of violations. For violation occurring on or after May 3, 2021 and before March 21, 2022, the maximum penalty may not exceed $225,134 per violation per day the violation persists, up to a maximum of $2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021 and before

May 3, 2021, the maximum penalty may not exceed $222,504 per violation per day the violation persists, up to a maximum of $2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019 and before January 11, 2021, the maximum penalty may not exceed $218,647 per violation per day the violation persists, up to a maximum of $2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018 and before July 31, 2019, the maximum penalty may not exceed $213,268 per violation per day, with a maximum penalty not to exceed $2,132,679. For violation occurring on or after November 2, 2015 and before November 27, 2018, the maximum penalty may not exceed $209,002 per violation per day, with a maximum penalty not to exceed $2,090,022.

We have reviewed the circumstances and supporting documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of $16,700 as follows:

Item number	PENALTY
4	$16,700

Proposed Compliance Order

With respect to Items 1, 2, 3, 5, 6, 7, and 8, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Boardwalk. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

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. All material you submit in response to this enforcement action may be 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 your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. 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 a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 3-2023-014-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

GREGORY ALAN OCHS Digitally signed by GREGORY ALAN OCHS
Date: 2023.07.27 14:51:59 -05'00'

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

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

cc: Tina Baker, Manager Compliance Service, **tina.baker@bwpipelines.com**

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Boardwalk Petrochemical Pipeline, LLC (Boardwalk) a Compliance Order incorporating the following remedial requirements to ensure the compliance of Boardwalk with the pipeline safety regulations:

A. In regard to Item 1 of the Notice pertaining to Boardwalk not including procedures that demonstrated an effective system for detecting leaks in accordance with § 195.444 (b) and §195.452 (i)(3), Boardwalk must develop procedures to include recommended frequency of testing as well as the format and criteria for testing, and evaluation of the results and response/action items to address findings. Boardwalk must also conduct and document test/assessments/evaluations and present documentation to PHMSA within **90** days of receipt of the Final Order.

B. In regard to Item 2 of the Notice pertaining to Boardwalk failing to demonstrate that it had implemented and were compliant with API RP 1165 whenever a SCADA system is added, expanded or replaced, Boardwalk must conduct an audit of their SCADA screens and style guide against API RP 1165 to identify compliance and deficiencies and correct those deficiencies, or demonstrate that certain provisions of API RP 1165 are not practical for the SCADA system used, within **90** days of receipt of the Final Order.

C. In regard to Item 3 of the Notice pertaining to Boardwalk's failure to conduct a point-to-point when implementing the new AVIVA SCADA system. Boardwalk must complete a point to point of the AVIVA Sulphur Springs SCADA system. The procedure for point-to-point must also be modified to include verification of all screens, verify all point values and status match, the appropriate alarm conditions present such as on/off, open/closed, local/remote, in alarm with the correct priority, etc., within **120** days of receipt of the Final Order.

D. In regard to Item 5 of the Notice pertaining to Boardwalk's failure to have a process to address rationalization of alarms to provide for effective controller response to alarms, Boardwalk must develop an alarm rationalization process that supports a consistent method for determination of alarm priorities and set points to provide effective controller response to alarms. The operator must also utilize that process to rationalize all alarms within **120** days of receipt of the Final Order.

E. In regard to Item 6 of the Notice pertaining to Boardwalk failing to provide training content for abnormal operations that could occur simultaneously or in sequence to support the training requirement, Boardwalk must identify alarms that could occur simultaneously or in sequence, the response to those conditions and training content to support those conditions. The operator must also train

controllers on the content. The operator must also utilize that process to rationalize all alarms within **60** days of receipt of the Final Order.

F. In regard to Item 7 of the Notice pertaining to Boardwalk failing to establish specific training for how the leak detection system works and supports alarming to SCADA as well as what steps to take, as the controller, if a possible leak or leak is identified, Boardwalk must develop training content to describe how the Aviva system works to calculate the benchmark, how the value is alarmed to SCADA, and how the controller must respond should the alarm present. The operator must also train controllers on the content within **60** days of receipt of the Final Order.

G. It is requested that Boardwalk maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Gregory Ochs, Director, Central Region, Pipeline and Hazardous Materials Safety Administration, OPS. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.