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: kevin.ruffatto@enbridge.com & eric.anderson@enbridge.com

May 10, 2024

Mr. Kevin Ruffatto
VP, US Operations
Enbridge Storage (Cushing), LLC
915 N Eldridge Parkway, Suite 1100
Houston, TX 77079

CPF 3-2024-045-NOPV

Dear Mr. Ruffatto:

From September 18 to September 28, 2023, 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.), performed an on-site inspection of Enbridge Storage (Cushing), LLC's (hereinafter Enbridge Cushing) control room management records and procedures for the Enbridge Storage (Cushing) Control Room, in Cushing, Oklahoma.

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

1. **§ 195.446 Control room management.**
(a) *General.* This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. . . .
(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: . . . .

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

Enbridge Cushing failed to test and verify its internal communication plan in calendar year 2021 to provide adequate means for operation of the pipeline safely, at least once each calendar year, but at intervals not to exceed 15 months. Additionally, while the internal communication plan was tested in calendar year 2020, it was not adequate to demonstrate compliance.[a] In calendar year 2021, the plan was reviewed and greatly amended. The 2021 review and amendment included the procedure for the internal communication plan and testing the plan, but the test was not executed until November 15, 2022. Thus, Enbridge Cushing failed to test its internal communication plan in calendar year 2021.

After the inspection, Enbridge Cushing provided a test of its internal communication plan dated December 5, 2023. While the process and test were improved, more work is required to demonstrate compliance. The test primarily covered work inside the terminals related to different manifolds; the test did not cover the broader scope of pipeline operations. For example, the test did not include methods for leak detection or key monitoring points on pipeline segments. Therefore, Enbridge Cushing failed to test and verify an internal communication plan to provide adequate means for manual operation of the pipeline safely, at least once each calendar year, but at intervals not to exceed 15 months, as required by § 195.446(c)(3).

2. § 195.446 Control room management.
(a) *General*. This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. . . .
(b) . . . .
(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.

Enbridge Cushing failed to follow its procedure, CRM Plan section 4.3.2, to complete a point-to-point verification when it acquired the SCADA system from former operator BKEP Crude, LLC, OPID 32418 (Blue Knight), when the SCADA system was relocated to include creating an Operational Technology (OT) network for its Grandstaff assets, which were connected to the Blue Knight OT network, as required by § 195.446 (c)(2). Specifically, when Enbridge Cushing acquired Blue Knight, on March 1, 2021, Enbridge Cushing moved the relevant console from

[a] From July 19 to September 17, 2020, PHMSA inspected the internal communication plan tested in 2020 and found it not adequate. *See* CPF 3-2022-016-NOPV (January 7, 2022).

Blue Knight's backup center to Enbridge Cushing's primary console center. Enbridge Cushing maintained the server at the original Blue Knight facility and designated this as the backup control room. Enbridge Cushing hired the Blue Knight controllers to work the console and verified the relocated and modified console against points in the backup SCADA system that had not been relocated or modified. But Enbridge Cushing did not conduct any point-to-point verifications between SCADA and end devices following acquisition, which was required by § 195.446 (c)(2) and Enbridge Cushing's CRM Plan section 4.3.2. PHMSA's review of Enbridge Cushing's network mapping of the two SCADA systems identified that the systems were isolated from each other and that the Blue Knight system could not be accessed by any consoles except the designated console. Thus, to facilitate the relocation, a new OT network, including communications equipment and configurations, had to be installed and implemented. At a minimum, there should have been some level of additional testing to ensure alarms were being routed to the appropriate server and recording properly on the event log, per § 195.446(e)(1). However, Enbridge Cushing did not conduct this verification.

Enbridge Cushing's CRM Plan section 4.3.2, "Point-to-Point Verification," stated, "[p]oint-to-point verification is the process used to verify the physical location of devices, data values, status, and any alarm settings including alarm description and alarm set points." It also stated, "[p]oint-to-Point verification will be required whenever: (1) Safety related field equipment is added, changed, or moved (2) Change that affects pipeline safety is made to the SCADA display (3) Safety related SCADA component is changed." SCADA modification through installation of a new OT network and communication systems can affect how alarms are received at a console. Since many alarms were considered affecting safety, including loss of communications, the new OT network and communication system were considered a safety related SCADA component. Thus, Enbridge Cushing was required by section 4.3.2 to conduct point-to-point verification.

Additionally, Enbridge Cushing failed to conduct an audit of its SCADA system to verify API RP 1165 had been implemented, particularly section 5.3 "Display Response," as required by § 195.446(c)(1). This would have included a verification of call up time between the old and new configuration to ensure there was no degradation with the relocated consoles. Therefore, Enbridge Cushing failed to complete a point-to-point verification as required by § 195.446(c)(2) and its CRM Plan section 4.3.2.

3. § 195.446 Control room management.

(a) *General*. This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. . . .

(b) . . . .

(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:

(1) . . . .

(2) Identify at least once each calendar month points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false

alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities;

Enbridge Cushing failed to have a written alarm management plan to provide for effective controller response to alarms. Specifically, Enbridge's procedure entitled "The Monthly Procedure Review Version 10.0," dated July 31, 2023, (Monthly Procedure Review), required Enbridge Cushing to count safety related disabled alarms and/or points each month. During the inspection, Enbridge Cushing stated that it used the term "disabled" to cover off-scan, inhibit, forced and manual, but it could not demonstrate that this definition was the procedure's intended interpretation. The Monthly Procedure Review did not contain a definition for "disabled," nor was "disabled" referred to in the SCADA system in a manner that would justify this interpretation. SCADA systems normally have and record events related to off-scan, inhibit, forced or manual, even though those terms may vary depending upon the SCADA vendor.

Moreover, the plan failed to have sufficient provisions to facilitate the monthly review required by § 195.446(e)(2). Enbridge Cushing failed to conduct an adequate monthly review required by § 195.446(e)(2). Records of Enbridge Cushing's Monthly Alarm Reviews for September 2020, June 2021, and June 2022 demonstrated that only disabled alarms were identified with no further information related to identifications of alarms taken off-scan or forced/manual.

In addition to these issues, Enbridge Cushing failed to include the Ionics (Console 96) alarm review in its monthly review for the months of March, April, and May 2022. All consoles must be included in the monthly review. Therefore, Enbridge Cushing failed to conduct an adequate monthly review as required by § 195.446(e)(2).

4. § 195.446 Control room management.

(a) *General*. This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. . . .

(b) . . . .

(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:

(1) . . . .

(5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not exceeding 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and

Enbridge Cushing failed to complete the workload study for consoles 96, 98, and 99 in calendar year 2022, as required by § 195.446(e)(5). The workload study was not completed because Enbridge Cushing's workload data used for the analysis was not accurately captured in the analysis tool due to data gaps and duplications for consoles 98 and 99. Console 96 had no calculated data due to the workload (iDashboard) tool commissioning being delayed and server connectivity issues with the vendor.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed $266,015 per violation per day the violation persists, up to a maximum of $2,660,135 for a related series of violations. For violation occurring on or after January 6, 2023 and before December 28, 2023, the maximum penalty may not 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.

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 $78,200 as follows:

Item number	PENALTY
3	$39,100
4	$39,100

Proposed Compliance Order

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

Warning Item

With respect to Item 2, we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct an additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct this Item. Failure to do so may result in an additional enforcement action.

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 3-2024-045-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: 2024.05.10 12:14:35 -05'00'

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

cc: Eric Anderson, Sr. Compliance Advisor, Audits and Inspections, US Pipeline Compliance, **eric.anderson@enbridge.com**

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

PROPOSED COMPLIANCE ORDER

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

A. In regard to Item 1 of the Notice, pertaining to Enbridge Cushing's failure to test and verify an internal communication plan to provide adequate means for manual operation of the pipeline safely, at least once each calendar year, but at intervals not to exceed 15 months, Enbridge Cushing must amend its procedures for manual operation of the pipeline to include leak detection and pipeline monitoring, that also include the procedure for the test, and then conduct a test using the procedure within **90 days** of receipt of the Final Order.

B. In regard to Item 3 of the Notice, pertaining to Enbridge Cushing's failure to have a written alarm management plan to provide for effective controller response to alarms, Enbridge Cushing must amend its procedure related to monthly alarm review and conduct two consecutive monthly reviews within **120 days** of receipt of the Final Order.

D. It is requested that Enbridge Cushing maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Gregory A. Ochs, Director, Central Region, Pipeline and Hazardous Materials Safety Administration. 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.