



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: sburrows@pambina.com; bbachmeier@pembina.com

March 1, 2024

Mr. Scott Burrows
President and CEO
Pembina Cochin, LLC
4000 585-8 Avenue SW
Calgary, Alberta, Canada

CPF 3-2024-004-NOPV

Dear Mr. Burrows:

From August 15 to September 28, 2022, representatives 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 Pembina Cochin, LLC' US pipelines and Pembina Cochin and Vantage Pipeline (Pembina) records and procedures for Control Room Management (CRM) in Edmonton, Alberta, Canada. Vantage Pipeline US, LP (Vantage) is a subsidiary of Pembina Cochin, LLC.; Vantage controls Vantage Pipeline and Vantage Pipeline is controlled by the Pembina control room.

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), Part 195. 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. . . .**

Vantage failed to have a control room management plan applicable to its regulated hazardous liquid pipeline facilities in accordance with § 195.446 and was unable to demonstrate that they had and followed a written control room management program (CRM) prior to the start of their US assets operation on November 1, 2017. Specifically, when Vantage began operation in the United States, it was using Pembina's Canadian Plan, which was non-compliant with the requirements of § 195.446. This issue was identified by a PHMSA inspector during an inspection in December 2018. Version 1 of the current CRM Plan was first issued December 17, 2018. Therefore, Vantage failed to develop the control room management procedures required under § 195.446(a) for the period between November 1, 2017, and December 17, 2018.

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) 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.**

Pembina failed to demonstrate implementation of API RP 1165, as required by § 195.446(c)(1), associated with its SCADA system that became operational on November 1, 2017. Specifically, Pembina commissioned a new SCADA system in November 2017, but Pembina did not have a CRM Plan for its US assets until December 17, 2018. The CRM Plan Pipeline Control Management Process Version 5, dated April 27, 2022 (US PMP), was submitted to PHMSA on August 15, 2022, during PHMSA's on-site inspection. While this version did not mention API RP 1165, it did reference the US Alarm Management Plan in section 7.2 for details related to the SCADA system.

Pembina failed to provide records to demonstrate that it conducted an audit or formal review of the SCADA screens and SCADA design guide, as required by § 195.446(j)(1). By not providing records to demonstrate that it conducted an audit or formal review of the SCADA screens and SCADA design guide, Pembina failed to follow the mandate of API RP 1165, which is required under § 195.446(c)(1).

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)
- (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 or SCADA displays.**

Pembina failed to maintain adequate records to demonstrate thoroughness of point to point (P2P) verifications, as required by § 195.446(j)(1). Specifically, a review of a point-to-point verification record for Vantage West Block Valve 2 provided three spreadsheets (an analogue spreadsheet, a rate spreadsheet, and a status point spreadsheet) to document the P2P. The spreadsheets identified the tags in the database and identified if the points were safety related. Only the safety related tags provided test information on the status sheets. Additionally, these same safety related tags were output tags for alarming which were the PLC heartbeat, MOV8201, and the station heartbeat. There were items on the list—including Station ESD Pushbutton and Station Pressure LoLo—that must be considered safety related but were not verified. Because these items are status alarms, the tests would have been related to points alarming at the correct priority level, and thus, should have been identified with the correct color scheme and alarm description.

The analogue spreadsheet had only one tag item: PT8201 Pipeline Pressure. Pembina failed to indicate whether this tag item was safety related on the spreadsheet. The analogue spreadsheet also lacked verification of SCADA to field pressure, alarm set points, alarm descriptions and alarm priorities. The analogue spreadsheet identified one screen, but it was not clear if there were other screens this point presented in SCADA. While the analogue spreadsheet did include the initials of a person who completed the P2P verification, it did not include information regarding whether it was a field or SCADA verifier who conducted the verification. The record should identify who was the field verifier in addition to the person verifying on the SCADA side. Pembina also failed to document whether the verification was completed under live or simulated conditions.

By failing to accurately include safety related tags and to document whether verification was completed under live or simulated conditions, Pembina failed to maintain adequate records to demonstrate thoroughness of P2P verifications, in violation of § 195.446(c)(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)
- (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 safely, at least once each calendar year, but at intervals not to exceed 15 months.**

Pembina’s US PMP failed to have a procedure for an internal communication plan for the safe operation of the pipeline. Without a procedure for an internal communication plan, such a plan could not have been tested and verified per the requirement in § 195.446(c)(3). Consequently, Pembina failed to test an internal communication plan for the safe manual operation of the pipeline in 2019, 2020, and 2021, exceeding the timeline mandated in § 195.446(c)(3) of testing and verifying at least once each calendar year, not to exceed 15 months. Therefore, Pembina failed to follow § 195.446(c)(3).

5. § 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)
 - (4) **Test any backup SCADA systems at least once each calendar year, but at intervals not to exceed 15 months.**

Pembina failed to test its back up control room system in 2020 due to complications with COVID-19 (COVID). Per the March 20, 2020, COVID Stay of Enforcement and Notice of Enforcement Discretion, operators were informed that any noncompliance due to COVID must be promptly documented and PHMSA must be promptly notified, which Pembina failed to do. By not completing the required testing of SCADA backup systems

during the period from October 2, 2019, to January 13, 2021, and not filing documentation with PHMSA about the lack of completion of this test due to COVID, Pembina failed to follow § 195.446(c)(4).

6. § 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)
- (d) **Fatigue mitigation.** Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controllers' ability to carry out the roles and responsibilities the operator has defined.
 - (1)
 - (3) **Train controllers and supervisors to recognize the effects of fatigue;**

Pembina failed to follow its procedure in their Fatigue Risk Management Process Version 4, dated June 6, 2022, section 5.1.2. Specifically, Pembina's procedures in section 5.1.2 required employees to complete fatigue refresher training annually not to exceed 15 months. Three controllers were identified as not completing fatigue training: two in 2020 and one in 2019. Therefore, by failing to provide fatigue refresher training to three controllers, Pembina failed to follow § 195.446(d)(3).

7. § 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 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.**

Pembina failed to follow its procedures in its US Assets Alarm Management Plan, Version 5, dated June 27, 2022. Specifically, section 3.9.1 detailed Vantage's procedures for reviewing safety related points in SCADA taken off-scan, forced or manual, and false

alarms once each calendar month for the years 2019, 2020, and 2021. While the procedure made statements directing controllers to conduct the monthly review, it lacked detail to meet compliance.

The procedure required compiling a report based on the review of all manual, off-scan, and inhibit commands and required controllers to note the number of commands that had exceeded one shift length as well as the start/stop time of the bypass and duration. The procedure required false alarms to also be compiled into a report based on a review of completed “Alarm Maintenance Forms” for the month and required a summary of the reported date/time, repair/remediation steps taken, and the date/time of completion. The operator failed to collect and review this information as required by procedure.

A PHMSA inspector reviewed Pembina’s records of the monthly review activity for February 2019, August 2020, and July 2022 and identified that the operator only evaluated the counts of inhibited alarms. These records did not include the date of when the start and stop the points changed status to determine if periods of time that required for associated maintenance or operating activities were exceeded. Section 3.9.1 also required the creation of an inhibited report, which was used to evaluate how many times a point has been inhibited to determine the reason and establish an action plan to resolve the issue. Pembina failed to demonstrate compliance because it did not review how long points had been inhibited to determine if they exceeded that required for associated maintenance or operating activities.

Pembina did review false alarms related to the leak detection system, but not those reported through the “Alarm Maintenance Forms.” By not satisfactorily performing and documenting its monthly review of its safety related points and alarms, Pembina failed to follow § 195.446(e)(2).

8. § 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)**
 - (3) Verify the correct safety-related alarm set-point values and alarm descriptions when associated field instruments are calibrated or changed and at least once each calendar year, but at intervals not to exceed 15 months.**

Pembina failed to provide adequate records for 2019, 2020, and 2021, as required by § 195.446(j)(1) to demonstrate compliance with verifying the correct safety-related alarm

set point values and alarm descriptions when associated field instruments were calibrated or changed at least once each calendar year not to exceed 15 months. Specifically, the US Assets Alarm Management Plan Version 5, dated June 27, 2022, sections 3.7.1 and 3.9.1 required annual review, rather than the requirement of once each calendar year not to exceed 15 months.

The U.S. Vantage Pipeline Operating Philosophy and Narrative Rev. 3, dated May 30, 2022, provided a table of PLC set points used for the review and updated as needed. Pembina did provide emails representing communications back and forth between team members to validate they were performing the reviews. However, the emails did not demonstrate compliance pursuant to § 195.446(e)(3).

By not requiring in its procedures the verification of the correct safety-related alarm set point values and alarm descriptions (1) when associated field instruments are calibrated or changed and (2) at least once each calendar year, not to exceed 15 months, Pembina failed to follow § 195.446(e)(3).

Pembina remediated the deficiency by recognizing a gap in the calibration/change events and modifying the form in February 2022.

9. § 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)

(4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan.

Pembina failed to complete the required review of its Alarm Management Plan to determine effectiveness for the year 2021 and it failed to complete the 2020 review in the require interval of once each calendar year not to exceed 15 months. The 2019 review was completed on March 15, 2019, and the 2020 review was completed on December 4, 2020. This represents an exceedance of 175 days. By not completing the review in 2021, and exceeding the time for the 2020 review, Pembina failed to meet the timeline of at least once each calendar year, not exceeding 15 months, failing to follow § 195.446(e)(4).

Additionally, while Pembina did complete reviews in 2019 and 2020, the reviews were insufficient. The review forms provided only “Yes” or “No” responses. Per § 195.446(j)(1), operators must maintain records for review during inspection

documentation to demonstrate compliance with the requirements of § 196.446. The records did not provide details of the content to support the “Yes” or “No” response on the record document. Therefore, the records are insufficient to demonstrate that appropriate review was conducted on Pembina’s alarm management plan in 2019 and 2020, as required by § 195.446(e)(4).

10. § 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.

Pembina failed to follow its procedure for completing the controller work activity review. Specifically, section 3.9.2 IV of US ALM states, “[V]antage will perform an activity review 8 times each year.” In 2019 only four assessments were completed, and in 2021 the person-to-person activity monitoring was not completed, as also required by section 3.9.2 IV. Pembina changed its review practice to monitoring and tracking activity through electronic measures (alarms, commands, and phone calls per hour). A deviation was created on March 15, 2020, to change from personal observations to digital monitoring which would have covered the 2020 inspection, but they did not amend their procedure to document the change in its practice. Additionally, Pembina presented for inspection records it claimed represented the work activity studies for 2020 and 2021; these records did not have documented dates. By failing to perform activity review eight times in 2019, failing to complete the person-to-person activity monitoring in 2021, and failing to amend its procedure to allow digital monitoring in 2020, Pembina failed to follow its procedures in compliance with § 195.446(e)(5).

11. § 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)

(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)

(6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph no later than January 23, 2018.

Pembina failed to develop and implement a procedure which identified team training as required by § 195.446(h)(6) and identify those personnel who collaborate with controllers as required by § 195.446(b)(5) by January 23, 2018. Additionally, Pembina failed to conduct team training by January 23, 2019. Therefore, Pembina failed to follow § 195.446(h)(6).

12. § 195.505 Qualification program. -

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(a)

(b) Ensure through evaluation that individuals performing covered tasks are qualified.

Vantage failed to qualify one controller under the US Operator Qualification (OQ) program. Records indicated the relevant controller was qualified under the Canadian OQ plan in and around September 2018. Version 1 of the OQ plan was dated October 18, 2017, with modifications in Version 2 dated January 10, 2019, that included moving the 9 SPCC in the Canadian Plan to a new format and initiated tracking in VeriSource. There was no language in the US OQ plan that indicated a coordination with the Canadian OQ Plan. In fact, section 4.3 of the CRM Plan explicitly stated, "[t]he SPCC follows Pembina's Canadian Training, Mentorship and Qualification (TMQ) program for Onboarding, training and mentoring operators. US Operators are qualified in accordance with the US OQ Program, not the Canadian TMQ." After the inspection, Pembina presented the PHMSA inspector the US controller qualification records dated August 19, 2021, for the relevant controller. Because the Canadian OQ plan was not compliant with the requirements of § 195.505, the relevant controller who was only qualified under the Canadian OQ plan was not adequately qualified between September 2018 and August 2021. Therefore, Vantage failed to follow § 195.505(b).

Post inspection, the operator provided qualification records that met the requirements of the operators US Operator Qualification Plan. No further action required.

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 \$ 136,500 as follows:

<u>Item number</u>	<u>PENALTY</u>
4	\$ 34,200
5	\$ 33,500
9	\$ 33,500
11	\$ 33,500
12	\$ 1,800

Proposed Compliance Order

With respect to Items 2, 3, 4, and 7, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Pembina Cochin, LLC. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Warning Items

With respect to Items 1, 6, 8, and 10, we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct these items. Failure to do so may result in 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 3-2024-004-NOPV** 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

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

cc: Bob Bachmeier, Senior Advisor Regulatory Pembina US (bbachmeier@pembina.com)

PROPOSED COMPLIANCE ORDER

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

- A. In regard to Item Number 2 of the Notice pertaining to failing to provide records which would demonstrate implementation of API RP 1165 associated with the SCADA system that became operational on November 1, 2017, Pembina must complete an audit of the SCADA system against API 1165 (incorporated by reference, see § 195.3) and correct any deficiencies identified within **90** days of receipt of the Final Order.
- B. In regard to Item Number 3 of the Notice pertaining to Pembina pipeline's records not being adequate to demonstrate thoroughness of point-to-point verifications, Pembina must amend its point-to-point verification procedure to provide a thorough verification process and then conduct a point-to-point verification on Vantage Block Valve MP008, West Spur Lateral WSL02, and Ottawa and Tampico within **60** days of receipt of the Final Order.
- C. In regard to Item Number 4 of the Notice pertaining to Pembina failing to have an Internal Communication plan for safe manual operation of the pipeline, a procedure to test the plan, and failure to conduct tests of the plan, Pembina must develop an Internal Communication plan for safe manual operation of the pipeline and, a procedure to test the plan, and then test the plan within **60** days of receipt of the Final Order.
- D. In regard to Item Number 7 of the Notice pertaining to Vantage's failure to follow its procedure for reviewing safety related points in SCADA taken off-scan, forced or manual and false alarms once each calendar month for the years 2019, 2020 and 2021, Pembina must amend its procedure to demonstrate compliance and conduct the monthly review using the plan. Pembina must provide to PHMSA three consecutive months of records of the monthly reviews that demonstrate compliance within **120** days of receipt of the Final Order.
- E. It is requested that Vantage 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. 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.