

NOTICE OF AMENDMENT

VIA ELECTRONIC MAIL TO: sburrows@pembina.com and bbachmeier@pembina.com

February 6, 2024

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

CPF 3-2024-003-NOA

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 your Pembina Cochin, LLC US pipelines; Pembina Cochin and Vantage Pipeline (Pembina) procedures for Control Room Management (CRM) in Edmonton, Alberta, Canada. Vantage Pipeline US, LP (Vantage) is a subsidiary of Pembina Cochin, LLC, and is controlled by the Pembina control room.

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

1. 195.446 Control room management.

(a) General. (1) 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. The procedures required by this section must be integrated as appropriate with the operator's written procedures required by §195.402. An

(b) operator must develop the procedures no later than August 1, 2011 and must implement the procedures according to the following schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.

Pembina's procedure, US Pipeline Control Management Process Version 5, dated April 27, 2022, (US PCMP) section 1.3 was not adequate to determine whether an asset is a control room. Specifically, the US PCMP presented two considerations for determination: (1) whether there is a computer-based system used in the control room to collect and display information and (2) whether controllers are using the system "with assigned operational authority and responsibility to monitor and control regulated pipeline facilities." The US PCMP also stated that persons who use the system for "monitoring but use verbal or manual means to call-out personnel to perform control actions" are considered controllers. The US PCMP needed to include a process to apply these criteria to assets such as pumping stations or customer locations to support the determination of where the control rooms are located and where they are not.

Pembina needs to amend the US PCMP to include a procedure that supports the criteria and create a record to verify it applied the criteria to various assets in determining control room locations.

2. 195.466 Control room management.

(a)

(b) *Roles and responsibilities.* Each operator must define the roles and responsibilities of a controller during normal, abnormal and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1)

(2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others,

Pembina's US PCMP procedures were not adequate to ensure that a controller's role and responsibilities were clearly defined when the controller is not the first person to detect an Abnormal Operating Condition (AOC). Specifically, Pembina procedure US PCMP section 3.2.1.3 provided a bulleted list for the controller to respond to an AOC. O&M Plan V6, dated December 1, 2021, section 26.2 "Response to AOC Incidents" had steps to follow when an Abnormal Operation was identified in the field. Section 26.2's procedures for Abnormal Operations was not cross-referenced in the US PCMP plan. During the inspection, Pembina informed the PHMSA inspectors that in practice, field

personnel call the emergency hot line which rings a special phone on the consoles. However, this step was missing from the section 26.2 procedure.

Pembina needs to amend the O&M procedure to include the step where the field personnel call the emergency hot line that rings on the consoles. Both the specific hot line number and where the hot line phone is located need to be included in the US PCMP plan. Additionally, the procedure needs to include the responding controller's required response and follow-up actions to the hot-line phone call.

3. 195.446 Control room management.

(a)

(b) Roles and responsibilities. Each operator must define the roles and responsibilities of a controller during normal, abnormal and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1)

(3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others,

Pembina's procedure SPCC-Evacuation-Immediate Version 3.0.0, dated March 15, 2022, was not adequate to ensure that a controller's role and responsibilities during an emergency was adequately defined. Specifically, Pembina's SPCC-Evacuation-Immediate Version 3.0.0 procedure did not include a process for monitoring the Vantage Pipeline during evacuation. Step 2 of the procedure stated, "[s]hutdown all pipelines except AEGS and Vantage using the emergency shutdown command." This was insufficient because it did not include a directive to monitor the pipeline system after it's been shut down.

Pembina had a laptop that was intended to be used to monitor the pipeline remotely during the evacuation. Step 15 of the procedure described how this laptop with a USB modem was used to maintain SCADA control of the AEGS pipeline; Step 15 failed to include the Cochin pipeline. The procedure is unclear on whether a separate laptop is required to monitor the Cochin pipeline or if the same laptop is used to monitor both the AEGS and Cochin pipeline systems.

Pembina needs to amend the SPCC-Evacuation-Immediate Version 3.0.0 procedure to include consideration of how the Vantage system will be monitored and/or controlled during an evacuation event.

4. 195.446 Control room management.

(a)

(b) Roles and responsibilities. Each operator must define the roles and responsibilities of a controller during normal, abnormal and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1)

(3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others,

Pembina's procedure US PCMP did not adequately state the controllers' responsibilities in the event of a SCADA failure or system communications failure. Specifically, US PCMP section 7.5.1 did not include a control room practice that if communications are "down" for 15 minutes the sites will shut down. The US PCMP language did not instruct the controllers how to act upon a 15-minute communication loss.

Pembina needs to amend the US PCMP to include the roles and responsibilities of the controller if there is a SCADA or communications failure for greater than 15 minutes. The procedure must include instructions on how to manually shut down the system and verify all valves and assets are in the expected status since the system does not automatically shut down. If there is already a process for the manual shut down and verification, then this must be referenced in the CRM Plan.

5. 195.446 Control room management.

(a)

(b) Roles and responsibilities. Each operator must define the roles and responsibilities of a controller during normal, abnormal and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1)

(4) A method of recording controller shift-changes and any other hand-over of responsibility between controllers,

Pembina's procedure SPCC Elog and Handover Guideline Version 3, dated June 15, 2022, was not adequate to define what information needed to be exchanged during short breaks. Specifically, section 7.1.1 defined a short break as less than 15 minutes and require a verbal handover with no documentation requirement. Section 7.1.2 identified an extended break as greater than 15 minutes and requires a "mini shift turnover," but failed to describe what information needed to be exchanged. The required communications, in practice, were the same between controllers and for both types of breaks. The procedures did not describe what the person assuming the monitoring needs to do. For example, the procedure should clarify whether the person assuming monitoring should monitor only or acknowledge alarms or send set points. Also, before leaving the console for the short break, the procedures need to clarify what the controller needed to verify before leaving, such as making sure that (1) all commands sent have been completed, (2) there are no unacknowledged alarms, (3) any calls to field personnel have been returned, etc. Lastly, the procedures should have an upper limit on the time away from console when a full shift change is required. This procedure was also not referenced in the US CRM Plan.

Pembina needs to amend the SPCC Elog and Handover Guideline Version 3 to define what the controller needs to verify before leaving the console, the different levels of time

away from the console and what information needs to be exchanged for the different time away durations. For example, the procedure should identify what information needs to be exchanged between controllers when taking a break of less than 15 minutes, a break of greater than 15 minutes, and if there is a high limit after 15 minutes where a full shift change must occur. The procedure also needs to address documentation requirements for the time away.

6. Control room management.

(a)

(b) *Roles and responsibilities.* Each operator must define the roles and responsibilities of a controller during normal, abnormal and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(1)

(5) The roles, responsibilities and qualifications of others with the authority to direct or supersede the specific technical actions of a controller.

Pembina's procedures in its US PCMP did not adequately define the roles, responsibilities, and qualifications of non-controller personnel. Specifically, section 3.2.2.1 stated "[a]ll non-controller personnel are prohibited from superseding the technical actions of a Control Center Operator (CCO)." During the inspection, Pembina communicated to the PHMSA inspectors that it did not want anyone to direct or supersede a controller. Section 3.2.2.1 allows for other operators/controllers to direct or supersede the technical actions of another operator/controller.

Pembina needs to amend the US PCMP to clearly state that no one has the authority to direct or supersede the technical actions of a controller.

7. Control room management.

(a)

(c) *Provide adequate information.* Each operator must provide its controllers with information, processes and procedures necessary for the controllers to carry out the roles and responsibilities 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's procedures in its US PCMP was not adequate to address the requirements of § 195.446(c)(1) to clearly define the types of changes to the SCADA system(s) that constitute additions, expansions, or replacements under the meaning of the CRM rule. Specifically, the US Assets Alarm Management Plan Version 5.0, dated June 22, 2022, (US ALM) section 1.2 stated, "[i]mplementation of API RP 1165 is required when changes are made to the SCADA system that impact the display characteristics of the screens." While Pembina did implement SCADA Human Machine Interface (HMI)

screens that display characteristics that represent the bulk of API RP 1165, other changes still need to be made to meet the full requirements of § 195.446(c)(1). Pembina needs to define additions (*i.e.*, new consoles, additional HMI screens, existing facilities added to SCADA), expansion (*i.e.*, new assets or facilities, server memory, acquired assets with different SCADA system), and replacement (*i.e.*, new SCADA system, failed HMI, failed server). Some of these examples would require additional API RP 1165 implementation. For example, adding new facilities in SCADA would require following API RP 1165 design standards, conducting an audit of conformance, and, if the acquisition causes a new SCADA system to be necessary, then a plan would be needed to make the acquired assets compliant with API RP 1165 in SCADA

Pembina needs to amend the US ALM to provide definitions and examples that constitute additions, expansions and replacements to SCADA systems, to ensure API RP 1165 will be appropriately implemented. The procedure must also be updated to include a method to document circumstances when certain provisions of API RP 1165 are not practical for the SCADA system use.

8. 195.446 Control room management

(a)

(c) *Provide adequate information.* Each operator must provide its controllers with information, processes and procedures necessary for the controllers to carry out the roles and responsibilities 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's US ALM did not adequately define safety-related points. Specifically, US ALM section 2.1 provided a list of qualifiers used to identify safety related points. Section 2.1 did not include any leak notification alarms as safety related points.

Pembina needs to amend the US ALM to include leak notifications as points affecting safety.

9. 195.446 Control room management.

(a)

(d) *Fatigue mitigation.* Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined.

Pembina's Fatigue Risk Management Process Version 4, dated June 6, 2022, (FRMP) section 5.2 was not adequate to determine the effectiveness of the fatigue education/training program. Specifically, the procedure simply stated that Pembina will review the effectiveness of fatigue education program. While the procedure required review of the program for effectiveness once each calendar year, not to exceed 15

months, it did not provide a process on how Pembina would conduct the review. The procedure needed to include what would be evaluated, what information would be collected and analyzed to determine effectiveness, and some criteria should be provided to determine “effectiveness” or define what effectiveness is.

Pembina needs to amend the FRMP to include a process for review of Pembina’s training content related to fatigue causes, health concerns, behaviors, mitigation techniques, and any other relevant content. The procedure also needs to include criteria used to determine how “effective” the training is

10. 195.446 Control room management.

(a)

(d) *Fatigue management.* Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller’s ability to carry out the roles and responsibilities the operator has defined.

(1)

(4) Establish a maximum limit on hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

Pembina’s procedures in its FRMP were not adequate because they did not provide for 35-hours of continuous off-duty rest period if the extended or emergency hours are exceeded. Specifically, FRMP section 6.5 allowed for “occasional one 18-hour hold-over shift (19-hours with hand-over time), or two 14-hour shifts (15-hours with hand-over time) in any sliding 5-day period is allowed within the following parameters.” Under the current procedures, for any hours over 14 extended duty hours, the controller may not be able to get 8 hours of continuous sleep, when taking into consideration factors such as commute, personal time, and family duties. Therefore, it is important for accommodations be made to provide the controller adequate opportunities for rest. Examples of this may include provisions for lodging to eliminate or reduce the commute, delayed starts following the extended day or 35-hours off after hours of service are exceeded in any of the scales provided.

Pembina needs to amend the FRMP to provide established hours of continuous off-duty rest period when any hours-of-service limits are reached or exceeded.

11. 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 operators’ plan must include provisions to,

Pembina’s US ALM was not adequate to describe practices in place to document and correct inaccurate or malfunctioning alarms once identified. During the inspection, Pembina described to PHMSA inspectors a reasonable practice in place, but the practice

was not represented in procedure; some steps were missing. This procedure should be represented in both sections 3.5.2 and 3.7.1

Pembina needs to amend the US ALM to document the practice in place to document, track and correct inaccurate or malfunctioning alarms once identified.

12. 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 operators' plan must include provisions to,

Pembina's US ALM section 3.4 was not adequate to provide a process for alarm rationalization. Specifically, the procedure did not provide criteria to determine how alarms will be prioritized. Section 3.3.4 stated, "[a]larm priority is determined by analyzing what the direct consequences would be if no action was taken by the operator and based on how much time the operator has to respond." This was a statement not a procedure of how alarm priorities are determined and established. While the operator had a practice in place, Pembina did not have a procedure with specific steps, criteria and considerations for alarm rationalization and priority determination.

Pembina needs to amend the US ALM to provide a clear process that will support consistent alarm rationalization and priority assignment.

13. 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 operators' plan must include provisions to,

Pembina's US ALM procedures were not adequate to define what changes controllers can make to alarm limits or setpoints, inhibit alarms, or take points off-scan to provide for effective controller response to alarms. Specifically, the US ALM sections 1.3 (inhibit alarms), 3.1.5 (forced or bypassed points), and 3.3.4 (hi-hi and lo-lo alarms) allowed controllers to change hi and low alarms and failed to provide a statement for controller authority to taking points off-scan or putting them back on scan.

Pembina needs to amend the US ALM to include the controller's authority and documentation on regarding taking a point off-scan and returning it to scan.

14. 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 operators' plan must include provisions to,

(1)

(6) Address deficiencies identified through the implementation of paragraphs (e)(1) - (e)(5) of this section.

Pembina's US ALM procedure section 3.9 item V was not adequate to address how identified deficiencies would be addressed and corrected. Specifically, the procedure directed deficiencies to be "noted and tracked as part of the US PCMP Corrective Action Process." When this process was reviewed by the PHMSA inspectors during the inspection, the PHMSA inspectors determined that the US PCMP Corrective Action Process solely detailed the procedure for deficiencies identified through audit findings. While this is important to ensuring procedures and records are current and complete, the deficiencies described in § 195.446(e)(6) related to the compliance requirements defined in sections §195.446(e)(1) through subsection (e)(5). The Alarm Management Form process appeared to address those needs for many of the issues, but not all. Each of the different elements in § 195.446(e) should be clearly stated how an identified deficiency will be documented, addressed, and followed through to correction.

Pembina needs to amend the US ALM to define when deficiencies are identified under each of the sections § 195.446(e)(1) through (e)(5), how the deficiencies will be documented, and the corrective action completed.

15. 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.

Pembina's US PCMP was not adequate to define the established controller training program and content. Specifically, US PCMP section 4 did not include a list of the training topics and a description and layout of the training program. The procedure also did not state or provide a process to review the training program content once each calendar year not to exceed 15 months. Section 4.3 of the plan referenced the Training, Mentorship, & Qualification (TMQ) as the model for training controllers; this is the Canadian training model, and it described the roles and responsibilities of various actors in the training effort. Because the regulations are different for control room management between Canada and the US, it was not clear if all the required content for § 195.446 related to training was included in the TMQ program. There is major differences between the Canadian and US regulations. For example, TQM section 11 stated that the requirement to review the program and content is "every 15 months, but at least once each calendar year;" this is the reverse of the US requirement of the US regulation. Additionally, TMQ section 11 failed to provide a process for how the review would be

conducted and the US PCMP procedure also lacked a process for conducting review of the training program.

Pembina needs to amend the US PCMP to include training topics, a description and layout of the training program, a reference to the program that will include content, and a process to describe how the review of content will be conducted. When describing the training program, the procedure needs to include content, training plan, assessments, retraining, and operator qualification.

16. 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.

Pembina's US PCMP was not adequate to provide controllers training on recognizing and responding to abnormal operating conditions that are likely to occur simultaneously or in sequence. Specifically, section 3.2.1 listed abnormal operations from code language and then added that these are "likely to occur simultaneously or in sequence." This was inadequate because it did not provide the relationships between abnormal operations and the resulting response of the controller. For example, an uncommanded valve closure can be followed by a sudden increase in upstream pressure and pump shutdown due to high discharge pressure. Responses to these conditions are defined roles and responsibilities of the controller and therefore must be included in the training program content. Section 3.2.1.2 stated, "SPCC response to any single leak trigger requires an immediate check if more than one leak trigger has occurred simultaneously or in sequence." This was inadequate because it did not define the required or expected controller response. Section 3.2.1.3 provided a step of actions to take when responding to an abnormal operation. This was inadequate because it only related to single abnormal conditions and did not address the requirement of § 195.446(h)(1).

Pembina needs to amend the US PCMP to identify a list of cause and effect of abnormal operations. For example, when a pump shuts down un-commanded, the upstream pressure can rise and the downstream fall; something similar can happen when a valve closes un-commanded. There may be other conditions unique to the pipeline operations. The procedure needs to be amended to identify these conditions and develop training procedure and content to support controller training.

17. 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)

(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's US PCMP section 4.4 was not adequate to define the frequency of new and recurring team training. Specifically, section 4.4 failed to address when a new operator or new collaborator, as defined in section 4.4.1, will be initially trained. Section 4.4 also did not address how often team training would be conducted (*i.e.*, annually, every two years, every three years, etc.).

Pembina needs to amend the US PCMP to include when and how initial training will be conducted, the frequency for team training, as well as when and how group Team Training will be conducted.

18. 195.446 Control room management.

(a)

(i) Compliance validation. Upon request, operators must submit their procedures to PHMSA or, in the case of an intrastate pipeline facility regulated by a State, to the appropriate State agency.

Pembina's US PCMP was not adequate to ensure compliance and coordination with regulators. Specifically, US PCMP section 9.6 only identified compliance and coordination with regulators for US Vantage Pipeline; section 9.6 failed to mention Pembina Cochin pipeline, which is a separate pipeline system. The procedure also identified Vantage's Regulatory Team as responsible for compliance validation and coordination and only referenced Regulatory Procedure US-REG-001 for guidance. US-REG-001 applies to reporting requirements under Part 195 (Drug & Alcohol, IMP, Annual Reports, etc.). The procedure needs to require Pembina Cochin Pipeline compliance and coordination with regulators.

Pembina needs to amend the US PCMP to include the Pembina Cochin Pipeline and the appropriate sections of regulations.

19. 195.446 Control room management.

(a)

(j) Compliance and deviations. An operator must maintain for review during inspection:

(1) Records that demonstrate compliance with the requirements of this section.

Pembina's US PCMP was not adequate to ensure records are maintained properly to demonstrate compliance. Specifically, section 7.3.1 "Control Centre Documentation & Records Management" failed to specify how long records need to be maintained. Section 7.3.1 referred to "long term retention," this language is subjective and did not clarify how long documents will be retained. While Pembina did have a corporate retention policy, it was not referenced in the US PCMP. Pembina could reference this retention policy in its US PCMP to meet this requirement.

Pembina needs to amend the US PCMP to clearly state Vantage's the retention policy. If Pembina chooses to use its corporate retention policy, the procedure should reference that policy and include reference to where the policy is located.

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 Compliance 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 30 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 Pembina 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 3-2024-003-NOA** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

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

cc: Bob Bachmeier, Senior Advisor Regulatory Pembina US, bbachmeier@pambina.com

Enclosure: Response Options for Pipeline Operators in Enforcement Proceedings