



Canada Energy
Regulator

Régie de l'énergie
du Canada

Suite 210
517 Tenth Avenue SW
Calgary, Alberta
T2R 0A8

517, Dixième Avenue S.-O.
bureau 210
Calgary (Alberta)
T2R 0A8

File OF-Surv-OpAud-P108-2020-2021-01
CV 2021-477
8 April 2021

Mr. Mick Dilger
Chief Executive Officer and Accountable Officer
Pembina Pipeline Corporation
4000, 383 - 8 Avenue SW
Calgary, AB T2P 1G1
Email [REDACTED]

Dear Mr. Dilger:

**Canada Energy Regulator (CER) Final Audit Report
Pembina Pipeline Corporation (Pembina) – Audit of Accountable Officer
Annual Report**

Please find attached a copy of the Final Audit Report for the audit of Pembina's 2019 Accountable Officer Annual Report conducted during the period from 22 September 2020 to 4 December 2020. The audit was conducted by the CER in accordance with section 103 of the *Canadian Energy Regulator Act* (CER Act).

On 8 February 2021, the CER sent Pembina the Draft Audit Report documenting the evaluation of Pembina's 2019 Annual Report for review and comment. Pembina was also advised that the CER intends to post the Final Audit Report on the CER's website. To that end, Pembina was advised that if it had any objections to the release of the audit report, or to specific parts of the report, to provide the CER with a list of those objections along with a detailed rationale and specific reference to applicable sections of the *Access to Information Act* and the *Privacy Act*. Pembina was advised that the CER redacts the personal information of Pembina's employees with the exception of the personal information of Pembina's executive staff, which the CER considers publicly known figures of the company.

On 8 March 2021, Pembina submitted comments regarding the Draft Audit Report. The CER has reviewed the comments and finalized its Final Audit Report and appendices (attached to this letter). A redacted version of the Final Audit Report will be posted on the CER's website.

Corrective and Preventive Action Plan

Pembina must submit to the CER, a corrective and preventive action (CAPA) plan for approval within 30 calendar days of receipt of this Final Audit Report describing the methods, timing and rationale for addressing the non-compliant findings identified in the audit report (6 May 2021). Pembina is directed to use the CER standard CAPA plan template in the development of its CAPA plan for approval. The template was previously provided to Pembina.

The CER will monitor and assess Pembina's corrective and preventive actions until they are fully implemented. The CER will continue to monitor the implementation and effectiveness of Pembina's management system and programs through targeted compliance verification activities as part of its on-going regulatory approaches.

If you require any further information or clarification, please contact Niall Berry, Lead Auditor, Systems Operations Business Unit at 403-471-1921 or at 1-800-899-1265 toll free.

Yours sincerely,

Signed by

Niall Berry
Lead Auditor
Canada Energy Regulator

Attachment: Pembina Pipeline Corporation - Final Audit Report – Audit of Accountable Officer Annual Report, dated 2 April 2021

c.c.: Mr. Dan Barghshoon, Acting-Director Audit, Enforcement and Investigation, Canada Energy Regulator, email [REDACTED]

Ms. Kathryn Milne, Lead Auditor, Canada Energy Regulator,
email [REDACTED]

[REDACTED] Senior Regulatory Advisor, Pembina, email [REDACTED]



Canada Energy
Regulator

Régie de l'énergie
du Canada

Suite 210, 517 Tenth Avenue SW
Calgary, Alberta
T2R 0A8

Pembina Pipeline Corporation
Final Audit Report
Audit of Accountable Officer Annual Report
Compliance Verification Activity: CV2021-477
File OF-Surv-OpAud-P108-2020-2021 01
Date: 8 April 2021



Executive Summary

In accordance with Reference 103 of the *Canadian Energy Regulator Act* (CER Act), the Canada Energy Regulator (CER) conducted a compliance audit of the 2019 Annual Report related to CER regulated entities under the Pembina Pipeline Corporation (excluding Veresen Energy Inc.). These entities include: Pembina Energy Services Inc., Pembina Prairie Facilities Ltd., PKM Cochin ULC, Pouce Coupe Pipe Line Ltd. and Veresen NGL Pipeline Inc., and were chosen in reference to the 24 April 2020 annual report notification letter provided to the CER.

The objectives of the audit were to verify that Pembina's Annual Report¹ meets the requirements of the *Canadian Energy Regulator Onshore Pipeline Regulations* (SOR/99-294) (OPR) and that the company has the necessary processes, procedures and work instructions in place to fulfill the requirements of the OPR section 6.6.

The scope of the audit included the personnel, processes, and activities used to generate the 2019 Annual Report focusing on the OPR under paragraphs 6.6(1)(a), 6.6(1)(b), 6.6(1)(c), 6.5(1)(b), and 6.5(1)(v) over all of Pembina's program areas for all lifecycle phases of Pembina's CER-regulated assets.

The CER conducted the audit using the audit protocols, attached in Appendix 1 of this report. The CER assessed whether Pembina's documentation, processes, and activities complied with legal and other requirements under the CER's authority listed below.

- The CER Act;
- The OPR; and,
- Any conditions contained within applicable certificates or orders issued by the CER.

Of the five (5) regulatory requirements listed in the audit protocol, the CER audit staff had no issues of concern with one (1) and found Pembina to be non-compliant with four (4). The non-compliant findings relate to the generation of Pembina's Annual Report in accordance with the requirements of, and to the level of detail required by, the OPR. The findings from the audit are summarized in Table 1 and explained in detail in Appendix 1 of this report.

With respect to the identified non-compliances, based on interviews with Pembina's staff and a review of the information provided by the company, the CER is of the view that the non-compliant findings do not result in imminent or immediate safety or environmental protection issues.

In summary, Pembina has many practices and activities that would support the development of an Annual Report and a good management system. However, these practices were not documented or systematically folded into the company's daily operations. Pembina management has recognized and is taking action to address these deficiencies.

Pembina is required to develop a Corrective and Preventive Action (CAPA) Plan to address the non-compliant findings and file it with the CER within 30 days of receipt of the Final Audit Report. The CER will monitor the implementation of the CAPA Plan to confirm that it is completed in a timely manner.

¹ annual report as referenced in OPR subsection 6.6(1)



Table of Contents

Executive Summary	2
1.0 Introduction	4
1.1 Audit Objectives	4
1.2 Audit Scope and Methodology	4
2.0 Facility and Process Description	5
3.0 Assessment of Compliance	5
3.1 General	5
3.2 Assessment of Pembina's Regulated Facilities	6
3.3 List of Audit Findings	6
4.0 Conclusion	8
Appendix 1.0 - Audit Assessment Tables	10
AP-01: Performance Measures to meet Company Goals, Objectives and Targets	10
AP-02: Describe Company's Performance in Achieving its Goals, Objectives and Targets	13
AP-03: Process to Evaluate the Adequacy and Effectiveness of the Management System	15
AP-04: Describe the Adequacy and Effectiveness of the Management System	17
AP-05: Describe the Actions Taken to Correct Deficiencies	19
Appendix 2.0 - Map and System Description	20
Appendix 3.1 - Abbreviations	21
Appendix 3.2 - Glossary of Terminology and Definitions	22
Appendix 4.0 - List of Company Staff Interviewed and Documents Reviewed	25
Table 1 - Summary of Findings	7



1.0 Introduction

In accordance with section 103 of the CER Act, the CER conducted a compliance audit of the Pembina 2019 Annual Report (hereafter referred to as the Annual Report). The audit was conducted during the period of 22 September to 4 December 2020.

CER audit staff applied the audit protocol listed in Appendix 1 of this report. Abbreviations and terminology used in the report can be found in Appendix 3.

Subsection 6.1(1) of the OPR requires that companies regulated by the CER establish and implement a management system that:

- is explicit, comprehensive and proactive;
- integrates the company's operational activities and technical systems with its management of human and financial resources;
- applies to all of the company's activities involving the design, construction, operation, or abandonment of a pipeline, and to the programs referred to in section 55;
- ensures coordination between the programs referred to in section 55; and,
- corresponds to the size of the company, to the scope, nature, and complexity of its activities, and to the hazards and risks associated with those activities.

Each company and its management system is required to comply with all applicable requirements of the CER Act, its applicable regulations, any standards referenced in the regulations, and any company-specific Orders and Certificates.

1.1 Audit Objectives

The objectives of the audit were to verify that Pembina's Annual Report meets the requirements of the OPR and that the company has the necessary processes, procedures and work instructions in place to fulfill the requirements of the OPR under subsection 6.6.

1.2 Audit Scope and Methodology

The scope of the audit included the personnel, processes, and activities used to generate the Annual Report focusing on the OPR under paragraphs 6.6(1)(a), 6.6(1)(b), 6.6(1)(c), 6.5(1)(b), and 6.5(1)(v) over all of Pembina's program areas for all lifecycle phases of Pembina's CER-regulated assets.

An audit notification letter was sent to Pembina on 22 September 2020 advising Pembina of the CER's plans to conduct the audit and detailing the audit's objectives. The Lead Auditor provided the audit protocol, initial information request, and the audit plan to Pembina on 25 September 2020. The CER followed up on 6 October 2020 with an opening meeting to discuss the plans and schedule for the audit.

Document review began on 29 October 2020 and interviews were conducted during the period from 16 to 20 November 2020. The audit was conducted virtually with no actual on-site visits. Pembina provided the CER with access to all of its documents and records related to the audit through a shared access site to which Pembina granted access to the CER audit team.

To evaluate Pembina's compliance, CER audit staff reviewed the documents and records provided by Pembina and conducted interviews with company personnel. Note that the *2019 OMS*



Accountable Report, (Operations Management System) had 2 sections. The body of the report included all assets except the Cochin pipeline. The appendix was a separate Annual Report including only the Cochin pipeline. This appendix was authored by the previous owner (i.e., not by Pembina Pipeline Corporation).

The CER audit staff shared a pre-closeout summary of the results of the audit with Pembina staff on 20 November 2020, which identified four (4) potential non-compliances. At that time, Pembina was given an additional week to provide any documents or records which Pembina believed could help resolve the non-compliances. Subsequent to the pre-closeout meeting, Pembina provided additional information to be considered by CER audit staff in making their final assessment of compliance. The CER audit staff reviewed the additional information and then provided Pembina with a Final Closeout summary of findings on 4 December 2020.

2.0 Facility and Process Description

Pembina Pipeline Corporation is a parent company to several CER-regulated entities:

- Pembina Energy Services Inc.;
- Pembina Prairie Facilities Ltd.;
- Pouce Coupé Pipe Line Ltd.;
- Veresen NGL Pipeline Inc.; and
- PKM Cochin ULC (acquired by Pembina Pipeline Corporation in December of 2019).

These entities are wholly-owned subsidiaries of Pembina Pipeline Corporation.

(Note that Veresen Energy Pipeline Inc. is partially owned by Pembina Pipeline Corporation, and excluded from the scope of this audit). Together, the above entities comprise almost 2000 km of pipeline, and carry products such as crude oil, condensate, and gas. Numerous pump stations, block valves, metering and pigging facilities also comprise Pembina Pipeline Corporation's assets. They span the provinces of British Columbia, Alberta, and Saskatchewan. See Appendix 2.0 for a map.

3.0 Assessment of Compliance

3.1 General

There are a number of requirements in this audit in order for an auditee to be able to demonstrate to the CER that it is conducting its activities in compliance with the OPR within the objectives and scope of the audit.

The OPR requires that CER-regulated companies establish documented policies and goals to ensure that its obligations under the OPR are met. The company must have a policy for the internal reporting of hazards, potential hazards, incidents and near-misses and corporate goals for the prevention of ruptures, liquid and gas releases, fatalities and injuries and for the response to incidents and emergency situations. In addition, the OPR requires the company's accountable officer to prepare a policy statement that sets out the company's commitment to those policies and goals and communicate it to the company's employees.

The company must base its management system, as well as the programs referred to in section 55 of the OPR on its policies and goals. It also must have a process for setting the objectives and specific targets required to achieve the corporate goals, and performance measures for evaluating the company's success in achieving its goals, objectives and targets.



Having established a management system, the OPR requires the company to establish and implement a process for evaluating the adequacy and effectiveness of the management system and for monitoring, measuring and documenting the company's performance in meeting its obligations under the OPR. To accomplish this, the company is required to have a quality assurance program for the management system and for each program referred to in section 55, including a process for conducting compliance audits and for taking corrective and preventive actions if deficiencies are identified.

The primary focus of the audit being conducted herein, is that the OPR requires that each year, the company generate an annual report for the accountable officer's review and signature. The annual report must describe the company's performance in achieving its goals, objectives and targets during the previous year, as evaluated by the company's performance measures. In addition, the report must describe the adequacy and effectiveness of the company's management system in achieving the companies, policies, goals and objectives and to describe the actions taken during the year to correct any deficiencies identified by the company's quality assurance program.

Once the company has prepared its annual report and it has been reviewed and signed by the accountable officer, the company must advise the CER of this in writing. This written advisory is to be signed by the Accountable Officer (AO) and delivered to the CER no later than 30 April of each year.

The receipt of this notification each year serves to advise the CER that the accountable officer is aware of and has signed off on an annual report which details:

- The adequacy and effectiveness of the management system and programs;
- Any deficiencies identified through the company's quality assurance measures; and
- The status of the actions being taken to rectify any deficiencies.

The CER does not normally ask companies to provide a copy of this annual report, but simply to verify that it has completed it and that it has been reviewed and signed by the AO. However, the CER can ask companies to produce the report, as it did during this audit.

More detailed explanations of the CER's expectations for this audit are explained in Appendix 1.0.

3.2 Assessment of Pembina's Regulated Facilities

The CER audit staff's assessment of Pembina's compliance with the regulatory requirements are summarized in Table 1 of this report and explained in detail in Appendix 1.0 attached to this report. The CER audit staff had no issues of concern with one (1) of the protocol items and found Pembina to be non-compliant with four (4) of the regulatory requirements evaluated as part of this audit.

3.3 List of Audit Findings

The CER could assign one of two possible types of findings to each audit protocol item evaluated:

1. No Issues Identified – *No non-compliances were identified during the audit based on the information provided and reviewed within the context of the scope of the audit; or,*
2. Non-compliant – *An evaluated regulatory requirement does not meet legal requirements. The company has not demonstrated that it has developed and implemented programs, processes and procedures that meet the legal requirements. A corrective and preventative action plan must be developed and implemented.*



Below is a table that provides a generalized description of the CER's audit findings. They correspond to the Appendix 1 Audit Assessment Tables that provide more information regarding the review and substance of each finding.



Table 1: Summary of Findings

Audit Protocol Item	Regulatory Reference	Protocol Topic	Status	Summary of Finding
AP-01	OPR paragraph 6.5(1)(b)	Performance Measures to meet Company Goals, Objectives and Targets	Non-Compliant	No performance measures have been developed that evaluate the performance of goals, objectives, and/or targets.
AP-02	OPR paragraph 6.6(1)(a)	Describe Company's Performance in Achieving its Goals, Objectives and Targets	Non-Compliant	While a signed Annual Report exists, the report does not describe the company's performance in achieving goals, objectives, and/or targets. Performance measures, targets, and objectives are all missing from the report.
AP-03	OPR paragraph 6.5(1)(v)	Process to Evaluate Adequacy and Effectiveness of the Management System	Non-Compliant	No document exists that describes how to evaluate the adequacy and effectiveness of their management system. Thus, no process exists.
AP-04	OPR paragraph 6.6(1)(b)	Describe the Adequacy and Effectiveness of the Management System	No Issues Identified	As discussed in AP-03, Pembina has not established a process for evaluating the adequacy and effectiveness of the company's management system; therefore, Pembina is unable to describe the adequacy and effectiveness of the company's management system.
AP-05	OPR paragraph 6.6(1)(c)	Describe the Actions Taken to Correct Deficiencies	Non-Compliant	The Annual Report does not describe actions to resolve program-related deficiencies.

4.0 Conclusion

Pembina did not demonstrate that their Annual Report satisfied the OPR requirements evaluated during this audit, as summarized below:

- Performance measures were not developed to evaluate the management system's success in achieving goals, objectives, and/or targets.
- The Annual Report does not describe the company's performance in achieving its goals, objectives, and targets.
- While activities occurred to evaluate the adequacy and effectiveness of the management system, and while these activities were documented in the Annual Report, they were done without using a process.
- The Annual Report does not describe actions to resolve program-related deficiencies.



In summary, Pembina has many practices and activities that would support development of an AO Annual Report and a good management system. However, these practices were not documented or systematically incorporated into the company's daily operations. Pembina management has recognized this and is taking action to address these deficiencies.

The CER requires Pembina to address the deficiencies identified during this audit through the development of a CAPA Plan using a template which will be provided by the CER to analyze, address, and manage these deficiencies. The CAPA Plan is to be filed by Pembina with the CER for approval within 30 days of receipt of the Final Audit Report.

The CER will assess the implementation of Pembina's CAPA Plan to confirm it is fully implemented in a timely manner.

The CER will make its Final Audit Report public on the CER's website.

With respect to quality assurance program (OPR paragraph 6.5.(1)(w)) being outside of the scope of this audit, the CER still expects Pembina to take action to bring its quality assurance program into alignment with the requirements of the OPR and may conduct compliance verification activities on this topic in the future.



Appendix 1.0 - Audit Assessment Tables

AP-01: Performance Measures to meet Company Goals, Objectives, and Targets

Regulatory Requirement:

OPR paragraph 6.5(1)(b) A company shall, as part of its management system and the programs referred to in section 55, develop performance measures for evaluating the company's success in achieving its goals, objectives, and targets.

Expected Outcome:

- *The company has developed performance measures that are relevant to its documented goals, objectives, and targets.*
- *The performance measures support the ability to assess the achievement of the company's goals, objectives, and targets.*
- *The company applies the performance measures to assess its success in achieving its goals, objectives, and targets.*

Summary of Information Made Available by Pembina:

To demonstrate compliance with this requirement, Pembina supplied the CER audit staff with:

- ***Pembina_CV2021-477_IR1_Audit_Protocol_and_Information_Request_Pembina_Response1***
- ***Pembina_CV2021-477_IR1_Audit_Protocol_and_Information_Request_Pembina_Response2***
- ***2019 OMS Annual Report SIGNED***
- ***2019 Pembina PPM FINAL - submitted***
- ***Pembina Health Safety and Environment Policy (FINAL AUGUST 2020)***
- ***OMS 3.1 Goals, Objectives and Targets Standard***
- ***OMS 4.1 Roles and Responsibilities Standard***
- ***OMS 7.1 Competency & Training Standard***
- ***OMS 9.1 Assurance Standard***
- ***OMS 10.1 Management Review Standard***
- ***2019 OMS PLS Annual Awareness Module***
- ***2020 OMS PLS Annual Awareness Module***
- ***2019 Accountable Officer Meeting Presentation***
- ***Accountable Officer Meeting Minutes 04212020***
- ***TBU Manager's Scorecard Report – December 2019***
- ***Managers Monthly Scorecard Dec 2019 Distribution Example***
- ***Safety and Environment Committee Charter (Oct 29 2019)***
- ***Safety Committee Mandate***
- ***11042020 S&E Minutes v.2 (screenshot of pg. 2)***



- **Safety Program Principle 1 - Leadership and Accountability (screenshot of pg 9)**
- **Safety Committee Meeting Minutes – Feb 5 2019 - FINAL (screenshot of pg. 3)**
- **02262020 S&E Committee minutes (screenshot of pgs. 1-2)**
- **Integrity Management Program**
- **TSU Scorecard February 2019 page 12, 14 (screenshot of pg. 12, 14)**
- **CBU February 2019 SEM Meeting Minutes AB (screenshot of pg. 1)**
- **05062020 S&E Minutes v.1 SIGNED (screenshot of pg. 2)**
- **September 29, 2020 Incident Response Panel meeting minutes (screenshot of pg. 2)**
- **Meeting Minutes from Q2 Working group (screenshot of pgs. 1-3)**
- **Meeting Minutes from Q2 Steward Committee (screenshot of pgs. 1-3)**
- **Meeting Minutes from the Q2 Steering Committee (screenshot of pgs. 1-3)**
- **"(draft) Minutes of the Meeting of the Safety and Environment Committee (November 4, 2020) (screenshot of pg. 2)"**

Assessment:

Pembina has not satisfied all of the expected outcomes listed above.

During interviews and subsequent information requests, Pembina staff indicated that a monthly manager scorecard report is assembled and reviewed for each business unit. The scorecard includes safety, integrity, and environment metrics, measured against forecast values (which can be considered targets). A point system exists that feeds these results into a short term incentive plan that rewards employees based on performance. In other words, metrics and targets exist but they are not linked to goals and objectives, and thus cannot be considered performance measures of goals and/or objectives. The CER auditors note that this process occurred outside of Pembina's Operating Management System and was not presented in the Annual Report.

The CER acknowledges that Pembina staff have recognized this deficiency and are taking actions to operationalize the management system, as is discussed in more detail within the AP-04 assessment.

Pembina also provided the CER with a 2019 Pembina PPM (Pipeline Performance Measures) Report, which includes counts of activities performed vs planned number of activities. As an example, the company describes its inspection activities for 2019 as, "*the following inspection and maintenance activities occurred: • 12 routine tank inspections, • 46 mainline valve inspections, • 9 facility pipeline inspections*" but does not report if this met, exceeded or failed to meet the number of inspections that were planned for the year. Again, because these measures are not linked to Pembina specific goals, objectives, and/or targets, they cannot be considered performance measures as per the OPR.



Finding: Non-Compliant

Based on the information made available by Pembina and reviewed by the CER audit staff within the scope of this audit, Pembina is considered non-compliant to this OPR section. No performance measures have been developed that evaluate the performance of goals, objectives, and/or targets.

Pembina will have to develop a CAPA to address these deficiencies and submit to the CER for approval via a CAPA Plan.



AP-02: Describe Company's Performance in Achieving its Goals, Objectives, and Targets

Regulatory Requirement:

OPR paragraph 6.6(1)(a) A company shall complete an annual report for the previous calendar year, signed by the accountable officer, that describes the company's performance in achieving its goals, objectives, and targets during that year, as evaluated by the performance measures developed under paragraph 6.5(1)(b).

Expected Outcomes: The company is able to demonstrate that:

- *The company has completed an annual report for the previous calendar year.*
- *The report has been reviewed and signed by the accountable officer.*
- *The annual report discusses the company's performance in achieving its goals, objectives, and targets.*
- *The goals, objectives and targets are those developed in accordance with the requirements of the OPR paragraph 6.5(1)(b).*

Summary of Information Made Available by Pembina:

To demonstrate compliance with this requirement, Pembina supplied the CER audit staff with the following documents:

- ***see the document list in AP-01***

Assessment:

While Pembina does have a 2019 OMS Annual Report signed by the AO, Pembina has not satisfied all of the expected outcomes listed above.

This Annual Report does not discuss the company's performance in achieving its 2019 goals, objectives, and/or targets. While section 8.1 lists the 2019 goals and completion dates and section 4.0 Pipeline Performance Measures discusses 2019 activities and counts (e.g., the number of routine tank inspections), these two sections are disparate; little to no correlation exists between the two. The activities and counts cannot be considered performance measures as per the OPR because they do not measure the performance of any goals and/or objectives. Furthermore, the report does not discuss 2019 objectives and/or targets.

The monthly manager scorecard, and the 2019 Pipeline Performance Metrics discussed in AP-01 are not included in Pembina's Annual Report.



Finding: Non-Compliant

Based on the information made available by Pembina and reviewed by the CER audit staff within the scope of this audit, Pembina is considered non-compliant to this section. While a signed Annual Report exists, the report does not describe the company's performance in achieving goals, objectives, and/or targets. Performance measures, targets, and objectives are all missing from the report.

Pembina will have to develop a CAPA to address these deficiencies and submit to the CER for approval via a CAPA Plan.



AP-03: Process to Evaluate the Adequacy and Effectiveness of the Management System

Regulatory Requirement:

OPR paragraph 6.5(1)(v) A company shall, as part of its management system and the programs referred to in section 55, establish and implement a process for evaluating the adequacy and effectiveness of the company's management system and for monitoring, measuring and documenting the company's performance in meeting its obligations under these Regulations.

Expected Outcome: The company is able to demonstrate that:

- *The company has a compliant process that is established and implemented.*
- *The company has developed methods for evaluating the adequacy and effectiveness of its management system.*
- *The company's management system has been evaluated for adequacy and effectiveness.*
- *The company's performance in meeting its obligations under these Regulations have been monitored, measured and are documented.*
- *The company has implemented corrective actions based on the results of its monitoring and measuring the adequacy and performance of its management system.*

Summary of Information Made Available by Pembina

To demonstrate compliance with this requirement, Pembina provided the CER audit staff with the following documents:

- **see the document list in AP-01**

Assessment:

Pembina has not satisfied all of the expected outcomes listed above.

Pembina has not established a process for evaluating the adequacy and effectiveness of the company's management system. For a process to be established, it needs to be documented and the document must include: roles and responsibilities, steps, and intended outcomes. It is not documented and thus, not established.

However, the auditors recognize that Pembina has conducted activities to assess the performance of the management system, identify deficiencies, and course correct. Pembina presented meeting minutes and other documentation as evidence that the management system, including the governance, is on a planned improvement schedule.

These activities will be discussed further in AP-04.



Finding: Non-Compliant

Based on the information made available by Pembina and reviewed by the CER audit staff within the scope of this audit, Pembina is considered to be non-compliant to this section. No document exists that describes how to evaluate the adequacy and effectiveness of their management system. Thus, no process exists.

Pembina will have to develop a CAPA to address these deficiencies and submit to the CER for approval via a CAPA Plan.



AP-04: Describe the Adequacy and Effectiveness of the Management System

Regulatory Requirement:

OPR paragraph 6.6(1)(b) A company shall complete an annual report for the previous calendar year, signed by the accountable officer, that describes, the adequacy and effectiveness of the company's management system, as evaluated by the process established and implemented under 6.5(1)(v).

Expected Outcome: The company is able to demonstrate that:

- *The company has completed an annual report for the previous calendar year that is signed by the accountable officer.*
- *The annual report discusses the adequacy and effectiveness of the company's management system.*
- *The discussion of adequacy and effectiveness of the management system is based on the process established and implemented in accordance with the requirements of the OPR paragraph 6.5(1)(v).*

Summary of Information Made Available by Pembina:

Pembina supplied CER audit staff with the following documents:

- ***see the document list in AP-01***

Assessment:

Pembina has not satisfied the expected outcomes listed above.

The 2019 OMS Annual Report exists and is signed by the AO. While no performance measures are documented, this report does describe key deficiencies related to governance and operationalizing the management system. These deficiencies are further documented in the presentation to the AO, and within the meeting minutes. An interview with the AO confirmed that he was aware of the key issues relating to the management system. Pembina also provided evidence to demonstrate that work is underway to resolve these deficiencies through several new and/or revised standards (listed above) and through hiring of additional staff. Thus, the auditors considers that the report describes the adequacy and effectiveness of the management system.

As discussed in AP-03, Pembina has not established a process for evaluating the adequacy and effectiveness of the company's management system; therefore, Pembina is unable to describe the adequacy and effectiveness of the company's management system. Because Pembina has demonstrated that it follows its standards, the CER considers that the CAPA required to address the AP-03 deficiency will also address the deficiency noted in AP-04.

The CER will monitor the CAPA for AP-03 and its effect on AP-04 to ensure compliance.



Finding: No issues identified

Based on the information made available by Pembina and reviewed by the CER audit staff within the scope of this audit.



AP-05: Describe the Actions Taken to Correct Deficiencies

Regulatory Requirement:

OPR paragraph 6.6(1)(c) A company shall complete an annual report for the previous calendar year, signed by the accountable officer, that describes the actions taken during that year to correct any deficiencies identified by the quality assurance program established under paragraph 6.5(1)(w).

Expected Outcome: The Company is able to demonstrate that:

- *The company has completed an annual report that has been signed by the AO.*
- *The company has identified any deficiencies identified by the company's quality assurance program, through audits, inspections and other activities.*
- *The company has a quality assurance program.*
- *The annual report discusses the actions taken by the company to correct any deficiencies that have been identified by the company's quality assurance program.*

Summary of Information Made Available by Pembina:

To demonstrate compliance to this regulatory requirement, Pembina supplied CER audit staff with the following documents:

- **see the document list in AP-01**
- **OMS Steering Committee October 19th meeting minutes (screenshot of pg. 2)**

Assessment:

Pembina has not satisfied all of the expected outcomes listed above. The Annual Report describes some deficiencies related to the OMS overall, and the actions that will be taken to resolve these deficiencies. However, deficiencies related to the section 55 programs (i.e., environmental protection, safety management, security management, emergency management, integrity management), and actions to resolve these deficiencies are not described in the Annual Report.

While outside the scope of this audit, the CER expects Pembina to bring its quality assurance program into alignment with the requirements of the OPR; and may conduct compliance verification activities on this topic in the future.

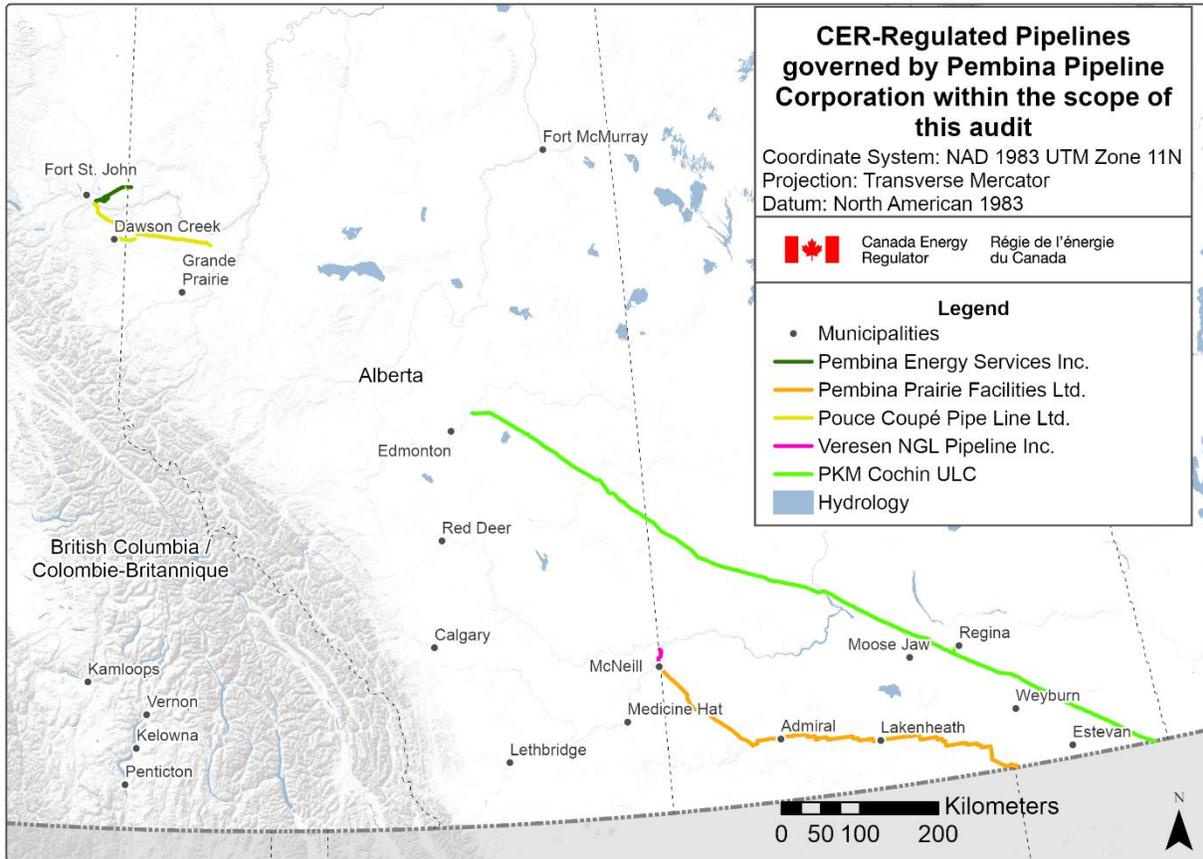
Finding: Non-Compliant

Based on the information made available by Pembina and reviewed by the CER audit staff within the scope of this audit, Pembina is considered to be non-compliant to this section. The Annual Report does not describe actions to resolve program-related deficiencies.

Pembina will have to develop a CAPA to address these deficiencies and submit to the CER for approval via a CAPA Plan.

Appendix 2.0 - Map and System Description

Pembina's CER-Regulated pipelines are shown in the following map below.



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, March, 2021, Last updated on Mar 19

Figure 1. Map of Relevant CER Regulated Pipelines



Appendix 3.1 – Abbreviations

The following abbreviations were used in this report:

AO:	Accountable Officer
CAPA:	Corrective and Preventive Actions
CER:	Canada Energy Regulator
CER Act:	<i>Canadian Energy Regulator Act</i>
OMS:	Operational Management System
OPR:	<i>Canadian Energy Regulator Onshore Pipeline Regulations</i>
PPM:	Pipeline Performance Measures



Appendix 3.2 – Glossary of Terminology and Definitions

(The CER has applied the following definitions and explanations in measuring the various requirements included in this audit. They follow or incorporate legislated definitions or guidance and practices established by the CER.)

Adequate: The management system, programs or processes complies with the scope, documentation requirements and, where applicable, the stated goals and outcomes of the CER Act, its associated regulations and referenced standards. Within the CER's regulatory requirements, this is demonstrated through documentation.

Audit: A systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified activities, events, conditions management systems or information about these matters conform to audit criteria and legal requirements and communicating the results of the process to the company.

Corrective Action Plan: A plan that addresses the non-compliances identified in the audit report and explains the methods and actions that will be used to correct them.

Developed: A process or other requirement has been created in the format required and meets the described regulatory requirements.

Effective: A process or other requirement meets its stated goals, objectives, targets and regulated outcomes. Continual improvement is being demonstrated. Within the CER's regulatory requirements, this is primarily demonstrated by records of inspection, measurement, monitoring, investigation, quality assurance, audit and management review processes as outlined in the OPR.

Established: A process or other requirement has been developed in the format required. It has been approved and endorsed for use by the appropriate management authority and communicated throughout the organization. All staff and persons working on behalf of the company or others that may require knowledge of the requirement are aware of the process requirements and its application. Staff has been trained on how to use the process or other requirement. The company has demonstrated that the process or other requirement has been implemented on a permanent basis. As a measure of 'permanent basis,' the CER requires the requirement to be implemented, meeting all of the prescribed requirements, for three months.

Finding: The evaluation or determination of the compliance of programs or elements in meeting the requirements of the CER Act and its associated regulations.

Implemented: A process or other requirement has been approved and endorsed for use by the appropriate management authority. It has been communicated throughout the organization. All staff and persons working on behalf of the company or others that may require knowledge of the requirement are aware of the process requirements and its application. Staff has been trained on how to use the process or other requirement. Staff and others working on behalf of the company have demonstrated use of the process or other requirement. Records and interviews have provided evidence of full implementation of the requirement, as prescribed (i.e., the process or procedures are not partially utilized).

Inventory: A documented compilation of required items. It must be kept in a manner that allows it to be integrated into the management system and management system processes without further definition or analysis.



List: A documented compilation of required items. It must be kept in a manner that allows it to be integrated into the management system and management system processes without further definition or analysis.

Maintained: A process or other requirement has been kept current in the format required and continues to meet regulatory requirements. With documents, the company must demonstrate that it meets the document management requirements in OPR, paragraph 6.5(1)(o). With records, the company must demonstrate that it meets the records management requirements in OPR, paragraph 6.5(1)(p).

Management System: The system set out in OPR sections 6.1 to 6.6. It is a systematic approach designed to effectively manage and reduce risk, and promote continual improvement. The system includes the organizational structures, resources, accountabilities, policies, processes and procedures required for the organization to meet its obligations related to safety, security and environmental protection.

(The CER has applied the following interpretation of the OPR for evaluating compliance of management systems applicable to its regulated facilities.)

As noted above, the CER management system requirements are set out in OPR sections 6.1 to 6.6. Therefore, in evaluating a company's management system, the CER considers more than the specific requirements of section 6.1. It considers how well the company has developed, incorporated and implemented the policies and goals on which it must base its management system as described in section 6.3; its organizational structure as described in section 6.4; and considers the establishment, implementation, development and/or maintenance of the processes, inventory and list described in subsection 6.5(1). As stated in paragraphs 6.1(1)(c) and 6.1(1)(d), the company's management system and processes must apply and be applied to the programs described in section 55.

Manual: A document that contains a set of instructions on methods which are employed to accomplish a result. These instructions will be detailed and comprehensive. The document will be organized for ease of use.

Non-Compliant: The audited company has not demonstrated that it has established, developed, maintained and/or implemented programs, processes and procedures that meet the legal requirements relating to the protocol item referenced. A CAPA Plan must be developed for approval and implemented.

Plan: A detailed, documented formulation for action to achieve an end.

Practice: A repeated or customary action that is well understood by the persons authorized to carry it out.

Procedure: A procedure indicates how a process will be implemented. It provides a documented series of steps followed in a regular and defined order thereby allowing individual activities to be completed in an effective and safe manner. A procedure also outlines the roles, responsibilities and authorities required for completing each step.

Process: A documented series of actions taking place in an established order, with identified roles and responsibilities, and directed towards a result. A process includes the roles, responsibilities and authorities for the actions. A process may contain a set of procedures, if required.



(The CER has applied the following interpretation of the OPR for evaluating compliance of management system processes applicable to its regulated facilities.)

OPR subsection 6.5(1) describes the CER's required management system processes. In evaluating a company's management system processes, the CER considers whether each process or requirement: has been established, implemented, developed or maintained as described within each section; whether the process is documented; and whether the process is designed to address the requirements of the process, for example a process for identifying and analyzing all hazards and potential hazards. Processes must contain explicit required actions including roles, responsibilities and authorities for staff establishing, managing and implementing the processes. The CER considers this to constitute a common 5 w's and h approach (who, what, where, when, why, and how). The CER recognizes that the OPR processes have multiple requirements; companies may therefore establish and implement multiple processes, as long as they are designed to meet the legal requirements and integrate any processes linkages contemplated by the OPR section. Processes must incorporate or contain linkage to procedures, where required to meet the process requirements.

As the processes constitute part of the management system, the required processes must be developed in a manner that allows them to function as part of the system. The required management system is described in OPR section 6.1. The processes must be designed in a manner that contributes to the company following its policies and goals established and required by section 6.3.

*Further, OPR subsection 6.5(1) indicates that each process must be part of the management system **and** the programs referred to in OPR section 55. Therefore, to be compliant, the process must also be designed in a manner which considers the specific technical requirements associated with each program and is applied to and meets the process requirements within each program. The CER recognizes that single process may not meet all of the programs; in these cases it is acceptable to establish governance processes as long as they meet the process requirements (as described above) and direct the program processes to be established and implemented in a consistent manner that allows for the management system to function as described in section 6.1.*

Program: A documented set of processes and procedures designed to regularly accomplish a result. A program outlines how plans, processes and procedures are linked, and how each one contributes toward the result. Program planning and evaluation are conducted regularly to check that the program is achieving intended results.

(The CER has applied the following interpretation of the OPR for evaluating compliance of programs required by the CER regulations.)

The program must include details on the activities to be completed including what, by whom, when, and how. The program must also include the resources required to complete the activities.



Appendix 4.0 – List of Company Staff Interviewed and Documents Reviewed

The lists of company staff interviewed and documents reviewed are maintained on file at the offices of the CER.