



Canada Energy
Regulator

Régie de l'énergie
du Canada

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

Final Audit Report

Plains Midstream Canada ULC

Damage Prevention

CV2223-228

OF-Surv-OpAud-P384-2022-2023 0101

14 April 2023

Executive Summary

The Canada Energy Regulator (CER) expects pipelines and associated facilities within the Government of Canada's jurisdiction to be constructed, operated and abandoned in a safe and secure manner that protects people, property, and the environment. To this end, the CER conducts a variety of compliance oversight activities, such as audits.

Section 103 of the *Canadian Energy Regulator Act* (S.C. 2019, c.28, s.10) authorizes Inspection Officers to conduct audits of regulated companies. The purpose of these audits is to assess compliance with the *Canadian Energy Regulator Act* and its associated Regulations.

The purpose of operational audits is to ensure that regulated companies have established and implemented both a management system and its associated programs, as specified in the *Canadian Energy Regulator Onshore Pipeline Regulations* (SOR/99-294) (**OPR**).

The CER conducted a Damage Prevention operational audit (**audit**) of Plains Midstream Canada ULC (the auditee) between 28 April 2022 and 26 January 2023.

The objectives of this audit were to assess whether the auditee's Damage Prevention Program is:

- effectively integrated within the company's management system as per section 6 of the OPR; and
- able to anticipate, prevent, manage, and mitigate damage to its pipeline as per section 47.2 of the OPR and section 16 of the *Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies* (SOR/2016-133) (**DPR-O**).

Of ten audit protocols; six were deemed no issues identified. The remaining four were deemed non-compliant.

Within 30 calendar days of receiving the Final Audit Report, the auditee shall file with the CER a Corrective and Preventive Action (CAPA) plan that details how the non-compliant findings will be resolved. The CER will monitor and assess the implementation of this CAPA Plan to confirm that it is completed in a timely manner.

Note that all findings are specific to the information assessed at the time of the audit as related to the audit scope.

While non-compliant findings exist, the CER believes the auditee can still construct, operate, and abandon pipelines in a manner that will preserve the safety of persons, the environment, and property.

The Final Audit Report will be made public on the CER website.

Table of Contents

Executive Summary	2
1.0 Background	5
1.1 Introduction.....	5
1.2 Description of Audit Topic	5
1.3 Company Overview	6
2.0 Objectives and Scope.....	8
3.0 Methodology.....	9
4.0 Summary of Findings.....	10
5.0 Discussion	12
6.0 Next Steps.....	13
7.0 Conclusion	13
Appendix 1: Audit Assessment.....	14
AP-01 Damage Prevention Program	14
AP-02 Establish and implement a process for identifying and analyzing hazards	16
AP-03 Establish and implement a process for developing and implementing controls ...	19
AP-04 Establish and implement a process for identifying and managing change.....	23
AP-05 Damage Prevention Program – Minimum Content – Monitoring – Change in Land Use	26
AP-06 Damage Prevention Program – Minimum Content – Monitoring – Change in Land Owner.....	28
AP-07 Damage Prevention Program – Minimum Content – Managing Requests for Consent	30
AP-08 Establish and implement a process for internal and external communication of information.....	32
AP-09 Establish and implement a process for internal reporting of hazards and for taking corrective actions.....	34
AP-10 Establish and implement a process for inspecting and monitoring company activities for effectiveness	37
Appendix 2: Terms and Abbreviations.....	40

List of Tables

Table 1. Audit Scope.....	9
Table 2. Summary of Findings	10

List of Figures

Figure 1. Map of Auditee's Infrastructure in Central Canada	7
Figure 2. Map of Auditee's Infrastructure in Ontario	8

1.0 Background

1.1 Introduction

The Canada Energy Regulator (CER) expects pipelines and associated facilities within the Government of Canada's jurisdiction to be constructed, operated and abandoned in a safe and secure manner that protects people, property, and the environment.

Section 103 of the *Canadian Energy Regulator Act* (S.C. 2019, c.28, s.10) (**CER Act**) authorizes Inspection Officers to conduct audits of regulated companies. The purpose of these audits is to assess compliance with the CER Act and its associated Regulations.

The purpose of operational audits is to ensure that regulated companies have established and implemented both a management system and its associated programs, as specified in the *Canadian Energy Regulator Onshore Pipeline Regulation* (SOR/99-294) (**OPR**).

The CER conducted a Damage Prevention operational audit of Plains Midstream Canada ULC (**PMC or the auditee**) between 28 April 2022 and 26 January 2023.

1.2 Description of Audit Topic

This audit focuses on the auditee's Damage Prevention Program for several reasons:

- Damage Prevention regulations came into force in 2016, as a tool to support the safe execution of activities occurring near a pipeline;
- damage to pipelines pose a significant hazard to the safety of people, property, and the environment; and
- several incidents of third-party damage to pipelines have occurred over the last few years which has resulted in situations of high potential severity.

Section 47.2 of the OPR requires companies to develop, implement, and maintain a Damage Prevention Program (**DPP**) that anticipates, prevents, manages, and mitigates damage to its pipeline. Thus, this audit stream assesses activities relating to:

- depth of cover;
- clearly identifying pipeline locations;
- company liaison/ education activities aimed at potential groups that conduct activities near pipelines including: contractors, municipalities, and landowners;
- monitoring and surveillance; and
- response to notifications.

1.3 Company Overview

Plains Midstream Canada ULC (**PMC**) is an indirect subsidiary of Plains All American (**PAA**) Pipeline, L.P. PMC specializes in the transportation, storage, processing and marketing solutions for crude oil, natural gas, and natural gas liquids (**NGLs**) and links petroleum producers with refiners and other customers via pipeline, truck, and rail transportation. PMC also operates facilities for crude oil and NGL storage, separation of NGL from natural gas, and fractionation of NGL into specification products. PMC is headquartered in Calgary, Alberta, with their Canadian facilities located in four provinces and where it conducts business in eight provinces. PMC has both provincially regulated and federally regulated pipelines. The CER currently regulates approximately 704 kilometres of PMC pipelines, as well as their storage facilities in Windsor, Ontario.

PMC pipelines regulated by the CER include:

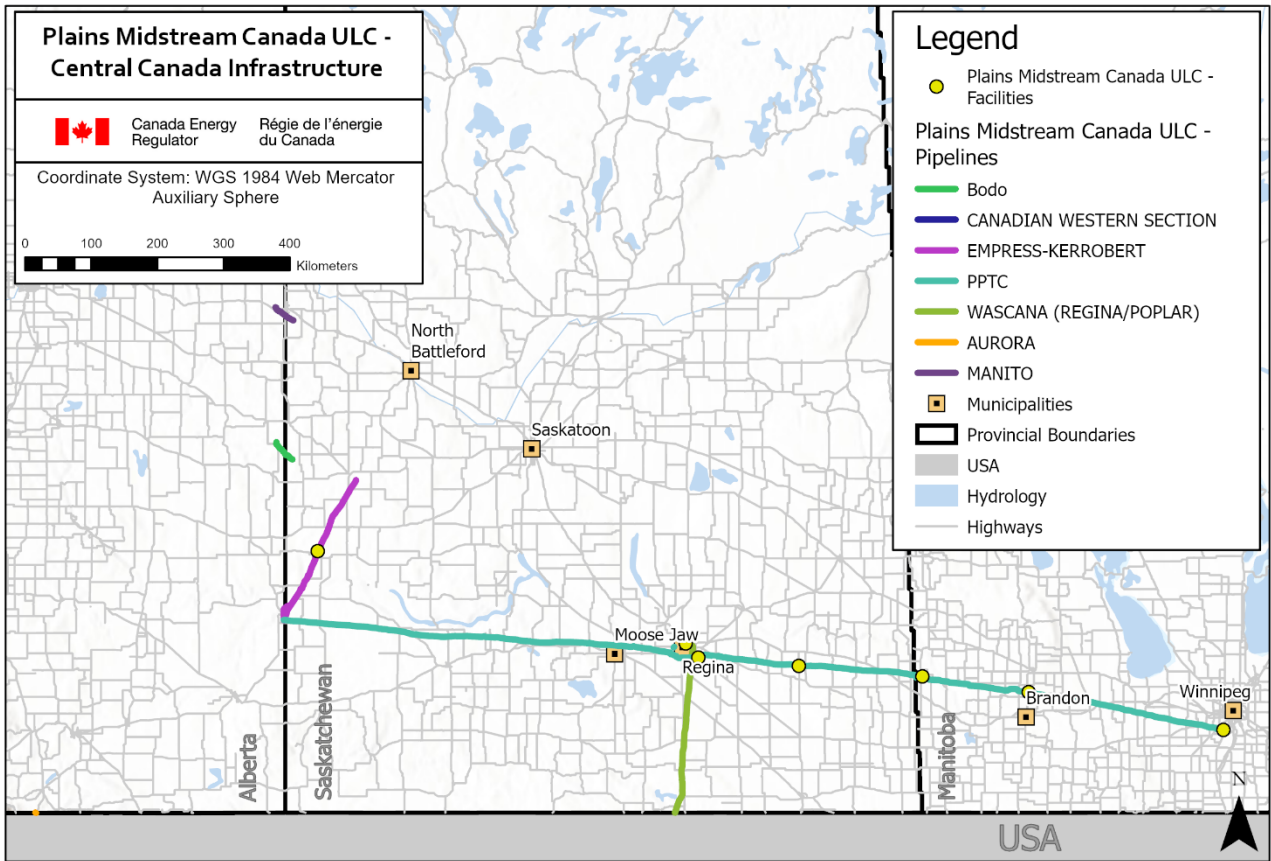
- Plains Petroleum Transmission Company (**PPTC**) system
- Wascana
- Empress Kerrobert
- Manito
- Bodo
- Aurora¹
- Eastern Delivery System North and South
- Windsor to Sarnia
- Kalkaska
- Sarnia Downstream

The Milk River Pipeline was excluded from the scope of the audit as it was sold on 1 June 2021.

At the time of the audit, PMC was undergoing a convergence project, where their management system, and the management system of the parent company (Plains All American) were being merged. This is discussed in more detail in AP-04.

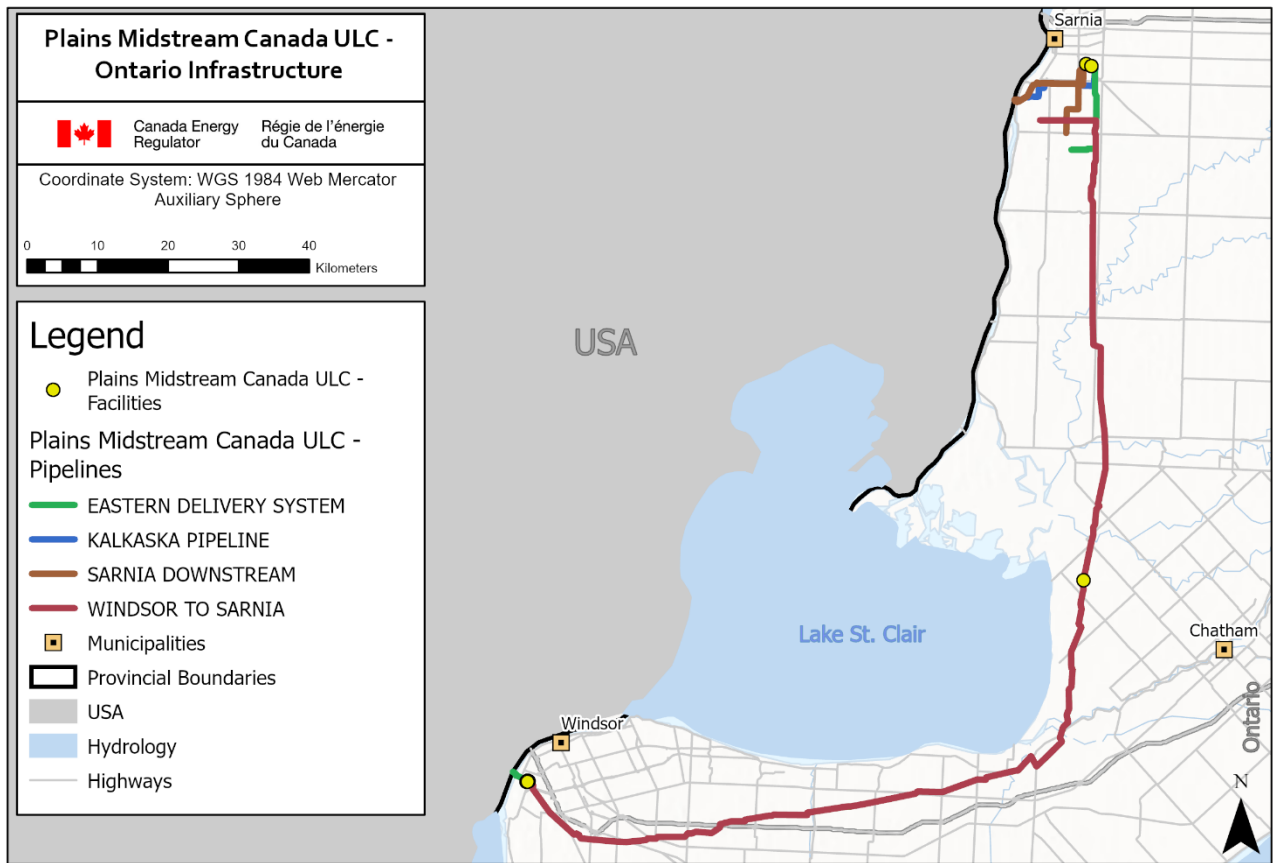
Figures 1 and 2 depict the auditee's CER regulated assets.

¹ Aurora is owned by Aurora Pipeline Company, a wholly owned subsidiary of Plains Midstream Canada



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, February, 2023, Last updated on Feb 07

Figure 1. Map of the auditee's Infrastructure in Central Canada



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, February, 2023, Last updated on Feb 07

Figure 2. Map of the auditee's Infrastructure in Ontario

2.0 Objectives and Scope

The objectives of this audit are to assess whether the auditee's Damage Prevention Program is:

- effectively integrated within the company's management system as per section 6 of the OPR; and
- able to anticipate, prevent, manage, and mitigate damage to its pipeline as per section 47.2 of the OPR and section 16 of the *Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies (SOR/2016-133) (DPR-O)*.

The table below outlines the scope selected for this audit.

Table 1. Audit Scope

Audit Scope	Details
Audit Topic	Damage Prevention
Lifecycle Phases	<input checked="" type="checkbox"/> Construction <input checked="" type="checkbox"/> Operations <input checked="" type="checkbox"/> Abandonment
Section 55 Programs	<input type="checkbox"/> Emergency Management <input type="checkbox"/> Integrity Management <input type="checkbox"/> Safety Management <input type="checkbox"/> Security Management <input type="checkbox"/> Environmental Protection <input checked="" type="checkbox"/> Damage Prevention
Time Frame	Not Applicable

3.0 Methodology

The auditors assessed compliance through:

- document reviews;
- record sampling; and
- interviews.

The list of documents reviewed, records sampled, and the list of interviewees are retained on file with the CER.

An audit notification letter was sent to the auditee on 28 April 2022 advising the auditee of the CER's plans to conduct an operational audit. The lead auditor provided the audit protocol and initial information request to the auditee on 4 May 2022 and met with auditee staff to discuss the plans and schedule for the audit. Document review began on 6 June 2022 and interviews were conducted between 20 June 2022 and 29 June 2022.

On 1 September 2022 the CER issued a letter to the auditee indicating the audit would be paused due to the re-assignment of auditors. On 6 December 2022, the CER issued a letter to the auditee indicating the relaunch of the audit. The pre-close out and close out meetings were scheduled in January 2023 to accommodate holiday vacation schedules.

In accordance with the established CER audit process, the lead auditor shared a pre-closeout summary of the audit results on 11 January 2023. At that time, the auditee was given five business days to provide any additional documents or records to help resolve the identified gaps in information or compliance. Subsequent to the pre-closeout meeting, the auditee provided additional information to assist the lead auditor in making their final assessment of compliance. The lead auditor conducted a final close out meeting with the auditee on 26 January 2023.

4.0 Summary of Findings

The lead auditor has assigned a finding to each audit protocol. A finding can be either:

- No Issues Identified – No non-compliances were identified during the audit, based on the information provided by the auditee and reviewed by the auditor within the context of the audit scope; or
- Non-Compliant – The auditee has not demonstrated that it has met the legal requirements. A Corrective and Preventive Action plan shall be developed and implemented to resolve the deficiency.

All findings are specific to the information assessed at the time of the audit, as related to the audit scope.

The table below summarizes the finding results. See [Appendix 1: Audit Assessment](#) for more information.

Table 2. Summary of Findings

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-01	OPR	47.2	Damage Prevention Program	No Issues Identified	A Damage Prevention program exists, which interfaces with the Operations Management System (OMS). The program contains a set of core processes that serve to anticipate, prevent, manage, and mitigate potential damage to the auditee’s pipelines.
AP-02	OPR	6.5(1)(c)	Establish and implement a process for identifying and analyzing hazards	Non-compliant	Deficiencies relate primarily to implementation of the process: <ul style="list-style-type: none"> • two lists of hazards exist, and it is not clear how they relate and why they are different; and • many of the hazards identified do not conform to a definition of a hazard.

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-03	OPR	6.5(1)(f)	Establish and implement a process for developing and implementing controls	Non-compliant	<p>Deficiencies relate primarily to the implementation of the process:</p> <ul style="list-style-type: none"> the Hazard Controls Inventory and the Risk Register list different controls for different hazards and it is unclear how they relate and which takes precedence; the Risk Register is out of date and incomplete; risks related to loss of soil do not list the Depth of Cover Process as a control; and for the 3 sampled pipeline systems, Ground Patrol reports could not be produced, which indicates a lack of implementation of the Ground Patrol Procedure.
AP-04	OPR	6.5(1)(i)	Establish and implement a process for identifying and managing change	Non-compliant	No Management of Change (MOC) was conducted to evaluate hazard and risks specific to Damage Prevention, with respect to the 2020 Integrated OMS project.
AP-05	DPR-O	16(b)	Damage Prevention Program – Minimum Content – Monitoring – Change in Land Use	Non-compliant	The Land Use Survey Procedure requires ongoing monitoring of change of the use of land, and adjacent land on which an active pipeline is located. However, it is not clear if land with inactive pipelines are monitored due to conflicting responses between Interview 3.3. and the RoW Surveillance and Monitoring Procedure, and the Aerial Patrol Procedure.
AP-06	DPR-O	16(c)	Damage Prevention Program – Minimum Content – Monitoring – Change in Land Owner	No Issues Identified	The Public Awareness Procedure discusses annual and ongoing monitoring from a variety of sources, and the auditee has provided records and participated in interviews demonstrating implementation.

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-07	DPR-O	16(f)	Damage Prevention Program – Minimum Content – Managing Requests for Consent	No Issues Identified	The Crossings, Proximities and Encroachment Agreement Process and associated procedures addresses requests for consent, how consent is determined, and how consent is communicated to the requestor. Samples of crossing agreements demonstrate the process is in use.
AP-08	OPR	6.5(1)(m)	Establish and implement a process for internal and external communication of information	No Issues Identified	The auditee has a company-wide Communication Process that ties into the Damage Prevention Program. The 2021 Damage Prevention Communication Plan, and sampled outputs from this plan demonstrate that this process has been implemented.
AP-09	OPR	6.5(1)(r)	Establish and implement a process for internal reporting of hazards and for taking corrective actions	No Issues Identified	Processes, procedures, samples, and interviews all demonstrate the establishment and implementation of a process to report hazards, incidents, and to take corrective actions.
AP-10	OPR	6.5(1)(u)	Establish and implement a process for inspecting and monitoring company activities for effectiveness	No Issues Identified	Processes, procedures, samples, and interviews all demonstrate the establishment and implementation of a process for inspecting and monitoring company activities for effectiveness.

5.0 Discussion

Each audit protocol was first assessed by reviewing written processes and associated documents provided by the auditee. Then interviews were conducted to determine how the requirements were applied by the OMS team, the Damage Prevention team, and at the field supervisory level. Finally, records were sampled for three pipeline systems (PPTC, Wascana, and Empress-Kerrobert).

Together, these techniques enabled the auditors to understand how the auditee incorporated the AP requirements into their management system, the role that each team played in fulfilling these requirements, and whether these requirements were applied to the selected pipelines.

In general, the non-compliant APs relate to deficiencies in implementing the processes, where the records or outputs were either absent or incomplete.

While the auditee has some non-compliant findings, the auditee also has some best practices. For example, the auditee has a Damage Prevention committee that facilitates communication across departments and between the office and field staff. It was frequently referenced in the interviews as a venue to troubleshoot problems and communicate issues across teams.

6.0 Next Steps

The auditee is required to resolve all non-compliant findings through the implementation of a CAPA Plan. The next steps of the audit process are as follows:

- Within 30 calendar days of receiving the Final Audit Report, the auditee shall file with the CER, a CAPA Plan that details how the non-compliant findings will be resolved;
- The CER will monitor and assess the implementation of the CAPA Plan to confirm that it is completed:
 - on a timely basis; and
 - in a safe and secure manner that protects people, property, and the environment;
- Once implementation is completed, the CER will issue an audit close out letter.

7.0 Conclusion

In summary, the CER conducted an operational audit of PMC related to Damage Prevention. Out of a total of ten audit protocols, six were classified as no issues identified, resulting in an audit score of 60 percent.

PMC is expected to resolve these deficiencies through the implementation of a CAPA Plan. The CER will monitor and assess the implementation of this CAPA Plan and issue an audit close-out letter upon its completion.

Appendix 1: Audit Assessment

AP-01 Damage Prevention Program

Finding Status	No issues identified
Regulation	OPR
Regulatory Reference	47.2
Regulatory Requirement	A company shall develop, implement and maintain a Damage Prevention program that anticipates, prevents, manages and mitigates damage to its pipeline and meets the requirements set out in section 16 of the <i>Canadian Energy Regulator Pipeline Damage Prevention Regulations — Obligations of Pipeline Companies</i> .
Expected Outcome	<ul style="list-style-type: none"> • A compliant Damage Prevention program exists; • Content in the Damage Prevention program anticipates, prevents, manages, and mitigates potential damage to the company's pipelines; • The Damage Prevention program has been implemented; and • The Damage Prevention program is maintained.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Plains Midstream Canada Damage Prevention Program v2.5 • Information Request AP-01.3 • The following interviews are related to this finding: • Interview 1.2 Damage Prevention Program Overview
Finding Summary	A Damage Prevention program exists, which interfaces with the Operations Management System. The program contains a set of core processes that serve to anticipate, prevent, manage, and mitigate potential damage to the auditee's pipelines.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above.

A compliant Damage Prevention Program exists, and content within anticipates, prevents, manages, and mitigates potential damage to the company's pipelines. PMC uses an Operations Management System (**OMS**), which includes a Damage Prevention Program (**DPP**). This DPP is a 44-page document that interfaces with OMS components. This document begins with a damage-prevention-commitment statement signed by the VP of Health, Safety, Environment & Regulatory. It then outlines the Damage Prevention core processes, which include:

- One-Call Management;
- Crossings, Proximities, and Encroachment;
- Ground Disturbance;
- Public Awareness;
- Right of Way Surveillance and Monitoring;
- Unauthorized Activities;

- Class Location and Land Use Planning; and
- Training and Competency.

This document then discusses how OMS elements and sub-elements are applied to the DPP.

This program also indicates that it is aligned and coordinated with other key programs such as Environmental Protection, Operational Risk Management, Integrity Management, Stakeholder Relations, and Health and Safety Management.

Note that a Depth of Coverage Management Process exists but it belongs to the Pipeline Integrity Management Program.

The DPP has been implemented. Interviewees ranging from senior management to field operators were aware of this program, their respective roles, and were able to discuss examples of how it has been applied. Sampling across the three pipeline systems (PPTC, Wascana, and Empress-Kerrobert) indicates that the process is being used, and the majority of expected outputs of the process exist.

The DPP has been maintained, as the program is reviewed at least every three years.

AP-02 Establish and implement a process for identifying and analyzing hazards

Finding Status	Non-compliant
Regulation	OPR
Regulatory Reference	6.5(1)(c)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for identifying and analyzing all hazards and potential hazards.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process that is established and implemented; • The methods for identification of hazards and potential hazards are appropriate for the nature, scope, scale, and complexity of the company's operations, activities and the Damage Prevention program; • The identification of hazards and potential hazards must include the full life cycle of the pipeline; • The company has comprehensively identified and analyzed all relevant hazards and potential hazards; • The hazards and potential hazards have been identified for the company's scope of operations through the lifecycle of the pipelines; and • The identified hazards and potential hazards have been analyzed for the type and severity of their consequences
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Operational Risk Management Process • Risk Assessment Process • Hazard Identification Process • Hazard and Controls Inventory Process • Hazard Analysis Process • Hazard Identification Reporting Procedure • Hazard Prevention Program • (Authorization to Work Process) • (Field Level Hazard Assessment Process) • (Formal Hazard Assessment Process) • (Role Hazard Profiles Process) • Risk Register Damage Prevention <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 8.1 AP-02 and AP-03 Hazard and Risk Management (OMS Perspective) • Interview 8.2 AP-02 and AP-03 Hazard and Risk Management (DPP Perspective) • Interview 8.3 AP-02 and AP-03 Hazard and Risk Management (Field Perspective)

Finding Summary

Deficiencies relate primarily to implementation of the process:

- two lists of hazards exist, and it is not clear how they relate and why they are different; and
- many of the hazards identified do not conform to a definition of a hazard.

Detailed Assessment

The auditee has not satisfied the expected outcomes listed above. This section first discusses the auditee's process, and then discusses the deficiencies.

The auditee has established a process to identify and analyze hazards, and potential hazards. This process analyzes the hazard relating to type and severity.

The Operational Risk Management Process contains sub-processes relevant to this provision: the Hazard Identification Process, the Hazard Reporting Procedure, and the Hazard Analysis Process. These processes apply across all protection programs including Damage Prevention.

One of the objectives of the Hazard Identification Process is to "generate a comprehensive list of hazards based on events that might create, enhance, prevent, degrade, [accelerate or] delay the achievement of an objective" (p3 of 6). A hazard is defined as "a dormant or potential situation that poses a threat to health, property, reputation, or environment. It is only with a loss of control will an exposure to a hazard occur" (p4 of 6). This process is applicable across all protection programs including Damage Prevention. This process requires people with appropriate knowledge to be involved in identifying hazards. No training requirements beyond general awareness are required. The key components within this process include collect information, inspect and observe, hazard categorization, involve workers; and investigate incidents. The Hazard Identification Reporting Procedure outlines the mechanism to submit hazard identification reports.

The Hazard Analysis Process gathers background information on the hazard, and then assess risks associated with this hazard.

Other pieces of the management system also feed into hazard identification, such as the Hazard Identification Reporting Procedure, the Incident Reporting and Investigation Program, and the MOC process and procedure.

Three interviews were conducted with the OMS and risk representatives, the Damage Prevention team, and field staff. The OMS and risk representatives appeared most familiar with these two processes. The Damage Prevention team acknowledged participating in these processes with the guidance of the risk specialists. Field staff were not familiar with these processes but indicated that they interfaced with the Damage Prevention team with respect to identifying hazards in the field.

Two key outputs relating to hazard identification and analysis include the Hazard and Controls Inventory for Damage Prevention, and the Risk Register for Damage Prevention.

The Hazard and Controls Inventory Process lists the steps required by each sub-element (including Damage Prevention) to generate a Hazard and Controls Inventory. The Hazard and Controls Inventory Damage Prevention, provided by the auditee, is an export from a centralized database filtered for Damage Prevention. Fields include hazard, hazard definition, example consequences, controls, reviewers, and date last reviewed. Eight items are listed under hazards. This inventory lists eight hazard 'categories'. Each of the eight hazards listed are associated with multiple controls, which are mostly processes and procedures.

The Damage Prevention Risk Register is an output of the Risk Register Procedure. This register is also an export from a centralized database filtered for Damage Prevention. It lists 17 records. Each record indicates the hazard, along with other risk-related information.

Several deficiencies exist with these outputs.

First, the hazards listed in the risk register are different than those hazards listed in the Hazard Control Inventory. It is also not clear which hazard list takes precedence and/or how they relate.

Second, many of the hazards listed in the inventory and the register, are not hazards as defined by the Hazard Identification Process, indicated above. Non-conforming hazards from the inventory include:

- "manage ground disturbances, first and second party";
- "manage ground disturbances, third party";
- "external hazards to pipeline";
- "physical security measures";
- "process/procedures/management systems"; and
- "annual planning".

Non-conforming hazards from the register include:

- "managing crossing requests"
- "review of landowner information"; and
- "emergency preparedness and response to a process safety event".

For example, 'annual planning' and 'review of landowner information' are not a dormant or potential situation that poses a threat to health, property, reputation, or environment, if a loss of control occurs. In other words, the methods for identification of hazards and potential hazards relating to Damage Prevention are not appropriate for the nature, scope, scale, and complexity of the company's operations, activities and the Damage Prevention program. It is vital to list hazards properly, such that the next steps of assessing risks and implementing controls specifically address the hazard. It is also important to list hazards at sufficient levels of specificity such that further assessment of risk and implementation of controls accurately reflects the context of the hazard. For example, some pipeline systems or portions of the pipeline may be prone to flooding annually. This annual flooding will result in different risks and controls as compared to other pipeline systems that rarely experience flooding.

Several other deficiencies exist within the hazard control inventory and the risk register, which will be further discussed in AP-03.

AP-03 Establish and implement a process for developing and implementing controls

Finding Status	Non-compliant
Regulation	OPR
Regulatory Reference	6.5(1)(f)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for developing and implementing controls to prevent, manage and mitigate the identified hazards, potential hazards and risks and for communicating those controls to anyone who is exposed to the risks.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process for developing and implementing controls; • The method(s) for developing controls are appropriate for the nature, scope, scale, and complexity of the company's operations and activities and the Damage Prevention program; • Controls are developed and implemented; • Controls are adequate to prevent, manage and mitigate the identified hazards and risks; • Controls are monitored on a periodic basis and as needed and re-evaluated for changing circumstances; and • Controls are communicated to those exposed to the risks.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Operational Risk Management Process • Developing Controls Process • Developing Controls Process • Hazard Analysis Process • Hazard and Controls Inventory Process • Controls Communicaiton Process • Risk Assessment Process • Risk Register Procedure <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 8.1 AP-02 and AP-03 Hazard and Risk Management (OMS Perspective) • Interview 8.2 AP-02 and AP-03 Hazard and Risk Management (DPP Perspective) • Interview 8.3 AP-02 and AP-03 Hazard and Risk Management (Field Perspective)

Finding Summary

Deficiencies relate primarily to the implementation of the process:

- the Hazard Controls Inventory and the Risk Register list different controls for different hazards and it is unclear how they relate and which takes precedence;
- the Risk Register is out of date and incomplete;
- risks related to loss of soil do not list the Depth of Cover Process as a control; and
- for the 3 sampled pipeline systems, Ground Patrol reports could not be produced, which represents a lack of implementation of the Ground Patrol Procedure.

Detailed Assessment

The auditee has not satisfied the expected outcomes listed above. This section first discusses the auditee's process, and then discusses the deficiencies.

As discussed in AP-02, the auditee has established an Operational Risk Management process supplemented with several other processes and procedures to address risk management, including developing and implementing controls.

The Hazard Analysis Process discusses how to evaluate identified hazards and whether the hazard requires further mitigation. Key steps include collect background information, determine inherent risk, document existing controls, determine residual risk, propose new controls if required.

The Hazard and Controls Inventory Process lists the steps required by each sub-element (including Damage Prevention) to generate a hazard and controls inventory.

The Developing Controls Procedure requires the selection of controls to be prioritized using the following hierarchy of controls:

- elimination;
- substitution;
- engineered;
- administrative; and
- personal protective equipment.

The Controls Communication Process serves to communicate controls to those exposed to the respective risks. The Risk Assessment Process describes how risks are to be assessed, from initial identification to new control proposal, and post-response risk rating determination. Key steps include hazard identification and background information, inherent risk determination, existing control documentation, residual risk determination, proposal of new controls, post response risk determination.

These processes apply across the company, including Damage Prevention.

Three interviews were conducted with OMS representatives, the Damage Prevention team, and field staff. Responses from the interviews were consistent with the written documentation, and personnel were aware of their duties with respect to identifying and implementing controls.

As discussed in AP-02, two key outputs relating to developing, implementing, and communicating controls include the Hazard and Control Inventory for Damage Prevention, and the Risk Register for Damage Prevention.

The first set of deficiencies relate to the above two outputs.

First, the controls listed in the Damage Prevention Hazard and Control Inventory are not the same as the controls listed in the Risk Register, and it is unclear which set of controls take precedence and/or how they relate.

Second, the Damage Prevention Hazard and Control Inventory references loss of soil cover related to external hazards to a pipeline, but it does not list the Depth of Cover Process as a control.

Third, the Damage Prevention Risk Register has not been maintained in accordance with the Risk Register Procedure, as described in the following three examples.

All but one of the 17 records in the Risk Register have a risk status of 'archived'. According to the Risk Register Procedure, archived means no further mitigative actions are required and the risk rating is acceptable. Thus, this status is incorrect, as actions (i.e., controls) related to Damage Prevention need to be implemented on an on-going basis, which according to this procedure, means the risk status should be 'open'.

Additionally, many fields in the Risk Register are not populated. These include:

- asset / pipeline that is affected by the hazard;
- consequence from exposure to the hazard;
- current mitigative controls;
- proposed preventive / mitigative controls and plan
- approved / not approved;
- due date; and
- accountable approver.

Finally, the risk register appears out of date. For example, several records have a risk status of 'archived', and a control status of 'on track', which is contradictory. Another record (186) lists the risk status as 'archived', the control status as 'on-track', and the comments indicate that work is tentatively scheduled for completion week of 26 November 2018. This is also contradictory, given that four years have passed. Initial entry and last reviewed dates range between 2017-2019 (with one exception of a review conducted in 2021). The Risk Register Procedure requires the register to be reviewed and updated at least annually.

The second set of deficiencies relate to a set of procedures and processes that were sampled for their outputs.

The audit sampled outputs of selected processes and procedures to assess implementation of administrative controls. Records were requested for three pipeline systems: PPTC, Wascana, and Empress-Kerrobert. Twenty-five records were requested. The auditee was either unable to provide records or provided insufficient records in several instances.

For example, the auditee was unable to produce Ground Patrol Reports for each of the three sampled pipeline systems, as required by the Ground Patrol Procedure. The Ground Control Procedure was listed as a control within the Hazard and Control Inventory. Therefore, this control was not implemented.

Other records not provided related to administrative controls are discussed in AP-07 and AP-10 as it relates to managing consent and assurance, respectively.

AP-04 Establish and implement a process for identifying and managing change

Finding Status	Non-compliant
Regulation	OPR
Regulatory Reference	6.5(1)(i)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for identifying and managing any change that could affect safety, security or the protection of the environment, including any new hazard or risk, any change in a design, specification, standard or procedure and any change in the company's organizational structure or the legal requirements applicable to the company.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process for identifying and managing change; • Methods are defined to identify and manage change; and • Impacts to the company management system the Damage Prevention program are identified and assessed.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Management of Change Process • Management of Change Procedure • Regulatory Requirements Management Process • Regulatory Requirements Management Procedure • Samples of MOC documentation • Samples of work conducted on the 2020 Integrated OMS project <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 2.1 Management of Change (PSM perspective) • Interview 3.1 Management of Change (DPP perspective) • Interview 3.2 Management of Change (Field perspective) • Interview 6.1 (OMS Perspective)
Finding Summary	No MOC was conducted to evaluate hazard and risks specific to Damage Prevention, with respect to the 2020 Integrated OMS project.

Detailed Assessment

The auditee has not satisfied the expected outcomes listed above. This section first discusses the auditee's process, and then discusses the deficiencies.

The Management of Change (**MOC**) Process outlines how technical, administrative, regulatory, and organizational changes will be evaluated and managed. Key steps include: change recognition, initiation, scope development, review & approval, implementation, authorization, and closeout.

The MOC Procedure supplements the process with additional details on responsibilities for various roles, information required to be included in an MOC, minimum acceptable reviews and approvals, and a step-by-step walkthrough of the lifecycle of an MOC.

The MOC Process and Procedure applies to all protection programs, including Damage Prevention.

Three interviews were conducted with the PSM representatives, the Damage Prevention team, and field staff. The corporate MOC process is owned by the process safety management department, primarily because the vast majority of management of change relates to assets and technical changes, and the process safety management department has the skill set to manage these types of changes.

DPP and field personnel interviews focused on administrative and technical MOC. Their responses were aligned with what was written in the process and procedures, and staff were aware of their respective roles.

Samples of MOC documents that were assessed included:

- regulatory MOC's
 - 2016 MOC initiated when the Damage Prevention Regulations came into force;
 - 2019 MOC involving the changes relating to the updated CSA Z662:19;
- administrative & technical MOC's
 - 2018 MOC involving a change in aerial patrol vendor for Saskatchewan and all PPTC assets (administrative);
 - 2021 MOC involving changing from a 14-day expiry for locates to a 30-day expiry (administrative);

Deficiencies pertain to the absence of MOCs related to the 2020 Integrated OMS Project as applied to Damage Prevention.

The auditee is currently undergoing a major project entitled '2020 Integrated OMS', where the management system of PMC and the management system of Plains All American (the parent company) are being converged. This project involves significant organizational and administrative changes. This project began in 2020, applies across two countries (Canada, which relates to the auditee, and the United States), and is being led by the OMS group. The project is organized into functional practices, one of which included Damage Prevention and public awareness. The three phases of the project are discovery, design, and implementation. The discovery phase identified the processes, 'as is'; the design phase identified the constraints, assumptions, and risks related to the future design. Most, if not all the functional areas have completed the discovery phase and design phase and are being implemented.

The OMS interviewees indicated that the functional areas are accountable for identifying hazards, risks, and necessary controls relating to this project, and the changes that it will bring. Two deficiencies relate to this project. First, interviewees indicated that the management of change process didn't work for the 2020 Integrated OMS Project, given its nature, scope, and complexity. This response contradicts the scope of the MOC process which stated it included administrative and organizational change. The interviewees indicated a variance process existed and was used, yet no evidence was provided when asked (the auditee provided a Vendor Variance Procedure which is unrelated). Second, no evidence was provided indicating that Damage Prevention changes related to the 2020 Integrated OMS Project had been identified or assessed. At least two categories of changes exist:

- changes to the OMS that could impact the Damage Prevention program; and
- changes to processes and procedures within the Damage Prevention program.

AP-05 Damage Prevention Program – Minimum Content – Monitoring – Change in Land Use

Finding Status	Non-compliant
Regulation	DPR-O
Regulatory Reference	16(b)
Regulatory Requirement	The Damage Prevention program that a pipeline company is required to develop, implement and maintain under section 47.2 of the <i>Canadian Energy Regulator Onshore Pipeline Regulations</i> must include ongoing monitoring of any changes in the use of the land on which a pipeline is located and the land that is adjacent to that land.
Expected Outcome	<ul style="list-style-type: none"> • The Damage Prevention Program is developed, implemented, and maintained; • The Damage Prevention Program references ongoing monitoring of changes to land use, both adjacent and on land within which the pipeline is located; and • The company can provide evidence to demonstrate ongoing monitoring of land use is occurring.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Class Location and Land Use Planning Process • Class Location Survey Procedure • Land Use Survey Procedure • Aerial Patrol Procedure • RoW Surveillance and Monitoring Procedure <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 3.3 Monitoring Change in Land Use and Land Owner (DPP perspective)
Finding Summary	The Land Use Survey Procedure requires ongoing monitoring of change of the use of land, and adjacent land on which an active pipeline is located. However, it is not clear if land with inactive pipelines are monitored due to conflicting responses between Interview 3.3. and the RoW Surveillance and Monitoring Procedure, and the Aerial Patrol Procedure.

Detailed Assessment

The auditee has not satisfied the expected outcomes listed above. This section first discusses the auditee's process, and then discusses the deficiencies.

As discussed in AP-01, a Damage Prevention program is developed, implemented, and maintained.

This program also references ongoing monitoring of changes to land use, both adjacent and on land on which active pipelines are located. The Damage Prevention Program references the Class Location and Land Use Planning Process which outlines the requirements for conducting class location surveys of and monitoring land use near PMC infrastructure. An annual work plan is developed, from which a vendor develops a survey schedule for all of PMC's active pipelines. Land use monitoring also occurs via routine activities throughout the year.

The Land Use Survey Procedure outlines the steps for conducting a land use survey of PMC's active pipelines. A vendor is contracted to conduct a desktop study for both land use and class location surveys annually. The vendor compares baseline imagery and other data with images recently collected. The review is limited to 30 m on either side of Plain's pipeline. Two types of land-use-change are monitored: from forested to cultivated/pasture; and subdivision of land. The output of this procedure is a land use survey report which identifies the presence or absence of these changes. Results from land use monitoring is communicated to the Asset Integrity Program and GIS as part of a collaborative effort to share information across programs. Asset Integrity is notified of any identified changes in land use, and responsible for assessing the change and determining required actions. Damage Prevention determines supplementary public awareness activities on a case-by-case basis.

Implementation was assessed via a sample of an output of this process (i.e. land use survey). A land use survey report for the Manito pipeline system indicates that ongoing monitoring of land with active pipelines is occurring. This land use survey report contains 102 records with fields including the legal land description, presence/absence of a structure, a description of the imagery, 2019 benchmark, 2020 change, and 2021 change.

A deficiency exists relating to the scope of the process. These processes and procedures are explicitly scoped towards RoW on which only active pipelines exist. However, land with non-active pipelines also need to be monitored. Non-active pipelines could be re-activated to transmit product, and the CER act defines pipelines to include those that are used or are to be used for the transmission of product. Additionally, while non-active pipelines may have a different risk profile than active pipelines, risks still exist.

The RoW Surveillance and Monitoring Process does require annual monitoring of non-active pipelines (by virtue of referencing all pipelines), and the process does reference that land use changes are one of the conditions that are identified and addressed, as required. In most cases, aerial patrols are conducted (as opposed to ground controls). The Aerial Patrol Procedure does require substantial changes to land adjacent to the RoW to be recorded, such as changes in land use. However, during INT 3.3., the auditee indicated that aerial patrols were not used to monitor change in land usage. This response conflicts with the written procedure. Therefore, it is unclear whether RoWs with non-active pipelines are monitored for land use.

AP-06 Damage Prevention Program – Minimum Content – Monitoring – Change in Land Owner

Finding Status	No issues identified
Regulation	DPR-O
Regulatory Reference	16(c)
Regulatory Requirement	The Damage Prevention program that a pipeline company is required to develop, implement and maintain under section 47.2 of the <i>Canadian Energy Regulator Onshore Pipeline Regulations</i> must include ongoing monitoring of any change in the landowner of the land on which a pipeline is located.
Expected Outcome	<ul style="list-style-type: none"> • The Damage Prevention Program is developed, implemented, and maintained; • The Damage Prevention Program references ongoing monitoring of changes of landowners, for both adjacent land and on land within which the pipeline is located; and • The company can provide evidence to demonstrate ongoing monitoring of landowners is occurring.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Public Awareness Process • Public Awareness Annual Planning Procedure • Samples of identified changes of land owners on the Bodo and PPTC pipeline systems <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 3.3 Monitoring Change in Land Use and Land Owner (DPP perspective)
Finding Summary	The Public Awareness Procedure discusses annual and ongoing monitoring from a variety of sources, and the auditee has provided records and participated in interviews demonstrating implementation.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above. This section first discusses the auditee's process, and then discusses the deficiencies.

The Damage Prevention Program references ongoing monitoring of changes of landowners, through the Public Awareness Process and Procedure. Specifically, the Public Awareness Procedure discusses the requirements relating to land ownership monitoring. First, affected stakeholders are identified for all parcels of land within a 30 m buffer zone of buried infrastructure. Monitoring is conducted by collecting land titles on an annual basis. Other information is collected on an ongoing basis, from a variety of sources, including:

- feedback from other PMC departments (e.g. field operations, community relations advisors, land and Indigenous relations, etc.)
- feedback from external sources such as rural municipalities etc.

The auditee also provided examples of records where the change in land ownership was identified both near the Bodo pipeline system and the PPTC pipeline system.

Interviews with the Damage Prevention team indicate personnel are aware of and aligned with the process.

AP-07 Damage Prevention Program – Minimum Content – Managing Requests for Consent

Finding Status	No issues identified
Regulation	DPR-O
Regulatory Reference	16(f)
Regulatory Requirement	The Damage Prevention program that a pipeline company is required to develop, implement and maintain under section 47.2 of the Canadian Energy Regulator Onshore Pipeline Regulations must include a process for managing requests for the consent to construct a facility across, on, along or under a pipeline, to engage in an activity that causes a ground disturbance within the prescribed area or to operate a vehicle or mobile equipment across the pipeline.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process; • The process addresses requests for consent to: <ul style="list-style-type: none"> ○ construct a facility across, on, along, or under a pipeline; ○ engage in an activity that causes ground disturbance within the prescribed area; and ○ operate a vehicle or mobile equipment across the pipeline. • The process describes how consent is determined • The process describes how the issuance or denial of consent is communicated to the requestor; • The company is able to demonstrate the process has been used.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Crossings, Proximities and Encroachment Agreement Process • Third Party Crossings, Proximities and Encroachment Agreement Procedure • Expired Crossings, Proxiities and Encroachment Agreement Reporting Procedure • Technical Guidelines for Construction near Pipeline Facilities • Samples of facility crossing agreements • Information Request 7 Response • 2022 Q1 Crossings Assessment <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 4.1 Managing Requests for Consent (DPP perspective) • Interview 4.2 Managing Requests for Consent (Field perspective)
Finding Summary	The Crossings, Proximities and Encroachment Agreement Process and associated procedures addresses requests for consent, how consent is determined, and how consent is communicated to the requestor. Samples of crossing agreements demonstrate the process is in use.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above.

The auditee has developed a process to address requests for consent relating to construction on, along, or under a pipeline; ground disturbance activities within the prescribed area; and operating a vehicle or mobile equipment across a pipeline.

The Crossings, Proximities and Encroachment Process outlines the requirements for approving and facilitating crossings, proximities, and encroachment by third parties on buried or aboveground infrastructure. The Technical Guidelines for Construction near Pipeline Facilities provides guidance to third parties on how and when to submit a request. The Third-Party Crossings, Proximities, and Encroachment Agreements Reporting Procedure provides detailed steps that the auditee will follow.

These steps can be summarized as follows. The auditee:

- receives the request from third party;
- determines if the request is routine or non-routine;
- identifies timeline requirements according to regulatory jurisdiction;
- verifies that the request meets specific requirements outlined in this procedure. If it doesn't, the auditee will reach out to the applicant;
- determines and implements internal reviews required according to the Third-Party Agreement Decision Matrix;
- issues a third-party agreement to the applicant if the request passes the internal review process or contact the applicant to discuss reasons behind denial of the request; and
- uploads signed agreements into tracking system.

This process describes how consent is determined. First, the auditee conducts a validation check to ensure the request is complete and accurate, and then cross checks the request against the Technical Guidelines. Finally, the auditee will involve other internal departments in the review (e.g., asset integrity), by assessing the type of work proposed using the Third-Party Agreement Decision Matrix. If at any point, the request does not meet the requirements, the auditee will contact the requestor for further information.

The process also describes how the issuance or denial of consent is communicated to the requestor. Where further information is required, the auditee will make two attempts to collect missing information via email and will follow up with a phone call. If no contact can be made, the auditee will notify the requestor that the request is cancelled, and a new application must be submitted. If work has not started on an agreement before the expiry date, the auditee will notify the third parties in writing that the agreement is cancelled.

Interviews with the Damage Prevention team and field staff indicate both parties are aware of the written process.

Records were requested for three pipeline systems: PPTC, Wascana, and Empress-Kerrobert. Samples provided by the auditee include facility crossing agreements, an export of a database which tracks requests, and a quarterly crossings assessment report.

AP-08 Establish and implement a process for internal and external communication of information

Finding Status	No issues identified
Regulation	OPR
Regulatory Reference	6.5(1)(m)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for the internal and external communication of information relating to safety, security and protection of the environment.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process that is established and implemented; • The methods for both internal communication and external communication are defined; • The company is communicating internally and externally related to safety, security and protection of the environment; and • Internal and external communication is occurring, and it is adequate for the management system and the Damage Prevention program implementation.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • PMC Communication Program • PMC Communication Process • 2021 Sub-Element Damage Prevention Communications Plan 2021 • Public Awareness Annual Planning Procedure • Damage Prevention External Website • HSE Bulletin 2022-12 – Depth of Cover in Ag Areas <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 4.3 Communications (OMS perspective) • Interview 4.4 Communicaitons (DPP perspective) • Interview 4.5 Communications (Field perspective)
Finding Summary	The auditee has a company-wide Communication Process that ties into the Damage Prevention Program. The 2021 Damage Prevention Communication Plan, and sampled outputs from this plan demonstrate that this process has been implemented.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above.

The auditee has a Communication Program that sets commitments related to internal and external communication company wide. The PMC Communication Process aligns the company-wide commitments to the safety, security, and environmental protection, and specifically to sub-element owners (e.g., sub-element 2.7 Damage Prevention). This process describes development of communication objectives, an associated annual communication plan, and the execution of this plan.

The communication plan template captures the following information:

- activity;
- governance documents to be developed or updated;
- affected stakeholders;
- key messages;
- new/different information;
- abilities/competencies required;
- how the activity will be communicated and reinforced;
- when the information will be communicated; and
- how the sub-element owner will verify the activity is sustained.

The plan allows for both internal and external communications.

The auditee also provided the Damage Prevention communication plan developed for 2021, and examples of outputs from that communication plan. Examples of outputs targeted to an internal audience include a HSE Bulletin that discusses depth of cover in agricultural areas. Other examples of internal communication outputs include April Safety Awareness Month, and a Locate Rodeo where senior leaders try to perform locates.

Examples of outputs targeted to an external audience include the Damage Prevention website, the Technical Guidelines for Construction near Pipeline Facilities referenced previously in this report, and a draft version of a depth-of-cover brochure that is in development. These materials are linked to the Public Awareness Plan, which is specifically targeted to third party stakeholders and Damage Prevention topics.

Interviews with the Damage Prevention team and field staff indicate both parties are aware of and aligned with the process. The field staff receive safety bulletins, are connected to the Damage Prevention team and community relations advisors, are comfortable fielding questions from landowners and other third parties, and have materials such as brochures they can hand out.

Of particular success is an internal Damage Prevention Committee, which is composed of the Damage Prevention team and field staff. Multiple interviews across the audit referenced this committee as a 'go-to' source of information, where Damage Prevention related questions can be asked, issues discussed, and solutions developed.

AP-09 Establish and implement a process for internal reporting of hazards and for taking corrective actions

Finding Status	No issues identified
Regulation	OPR
Regulatory Reference	6.5(1)(r)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for the internal reporting of hazards, potential hazards, incidents and near-misses and for taking Corrective and Preventive Actions, including the steps to manage imminent hazards.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process that is established and implemented; • The company has defined its methods for internal reporting of hazards, potential hazards, incidents, and near-misses; • Hazards and potential hazards are being reported as required by the company's process; • Incidents and near-misses are being reported as required by the company's process; • The company has defined how it will manage imminent hazards; • The company is performing incident and near-miss investigations; • The company's investigation methodologies are consistent and appropriate for the scope and scale of the actual and potential consequences of the incidents or near misses to be investigated; • The company has defined the methods for taking Corrective and Preventive Actions; and • The company can demonstrate through records that all corrective and preventative actions can be tracked to closure.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • Incident Reporting and Investigation Program • Hazard Prevention Program • Hazard Identification Reporting Procedure • Safety Incident Management Procedure • Corrective and Preventive Action Management Program • Samples of Incident Reports • Samples of MOC's <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 5.1 Internal Reporting (OMS perspective) • Interview 5.2 Internal Reporting (DPP perspective) • Interview 5.3 Internal Reporting (Field perspective)

Finding Summary

Processes, procedures, samples, and interviews all demonstrate the establishment and implementation of a process to report hazards, incidents, and to take corrective actions.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above.

The auditee has established and implemented an internal reporting process.

Hazard Prevention Program requires adequate and consistent identification, assessment, communication and control of personal health and safety hazards.

Supporting this program is the Hazard Identification Reporting Procedure, which requires hazards to be reported, assessed, and actioned. Hazards identified (HID) are to be reported to a supervisor and entered into a database. The HID is then assessed, and immediate, interim, and systemic corrective actions are identified (as per the Corrective & Preventive Actions Management Program). Once actions are completed, then the HID is closed in the system. This procedure also has an incentivized component where 'good catches' are flagged.

The Incident Reporting and Investigation Program describes requirements relating to incident management, including incident reporting.

Supporting this program, the Safety Incident Management Procedure provides details on how incidents and near misses are properly reported, investigated, how corrective and preventive actions are taken to mitigate or prevent re-occurrence. This procedure is applicable to all protection programs, including Damage Prevention. Incidents (including near misses) are reported and submitted into an incident database (VelocityEHS). This database then sends a notification to a prescribed distribution list. The incident is assessed, risk ranked, and then investigated. Corrective and preventive actions are identified, added to the database, and tracked to completion.

The auditee also conducts aerial monitoring as per the Aerial Patrol Procedure, which also can result in reports of potential hazards relating to weather events (e.g., flooding), unauthorized activities (e.g., excavation near pipeline), and/or incidents (e.g., spills). These reports are all initially treated as an incident.

The auditee provided four samples that satisfy the following expected outcomes:

- the auditee is performing incident and near-miss investigations;
- investigation methodologies are consistent and appropriate for the scope and scale of the actual and potential consequences of the incidents or near misses to be investigated;
- the auditee has defined the methods for taking Corrective and Preventive Actions; and
- the auditee can demonstrate through records that all corrective and preventative actions can be tracked to closure.

The first sample involves an incident report relating to a line strike. Among other items, the report indicates when the incident was reported, the details of the incident, the initial assessment, investigation, and corrective actions tracked to completion.

The next three samples involved incidents reported by aerial patrol. Examples of reports for the PPTC, Wascana and Empress Kerrobert pipeline systems were produced, and the records provided the initial report through investigation, implementation of Corrective and Preventive Actions, and close out.

Three interviews were conducted with the OMS representatives, the Damage Prevention team, and field staff. Responses from the interviews were consistent with the written documentation, and personnel were aware of their duties with respect to reporting incidents and hazards. The control centre notifies operations upon receiving a report of a potential incident. If it relates to an unauthorized activity, then field operations are deployed to assess. The Damage Prevention team gets involved after this initial deployment, depending on the situation. When asked about an example of mitigative actions, the interviewees referenced an increase in unauthorized activities on the PPTC line during harvesting season. In response, the auditee conducted supplemental outreach activities and increased the frequency of aerial patrols. When asked about an example of managing an imminent hazard, the interviewees referenced a lightning storm that occurred during the summer, and described the steps to stop the work, ensure the safety of the crew and report the event.

AP-10 Establish and implement a process for inspecting and monitoring company activities for effectiveness

Finding Status	No issues identified
Regulation	OPR
Regulatory Reference	6.5(1)(u)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55 establish and implement a process for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the programs referred to in section 55 and for taking Corrective and Preventive Actions if deficiencies are identified.
Expected Outcome	<ul style="list-style-type: none"> • The company has a compliant process that is established and implemented; • The company has developed methods for inspecting and monitoring their activities and facilities; • The company has developed methods to evaluate the adequacy and effectiveness of the Damage Prevention program; • The company has developed methods for taking Corrective and Preventive Actions when deficiencies are identified; • The company is completing inspections and monitoring activities as per the company's process; and • The company retains records of inspections, monitoring activities, and Corrective and Preventive Actions implemented by the company.
Relevant Information Provided by the auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> • OMS Processes • Operations Assurance Process • Operations Assurance Program • Operations Assurance Individual Activity Process • Damage Prevention Embedded Assurance Plan • 2021 Damage Prevention Audit Plan • 2021 Damage Prevention Audit Report • 2021 Damage Prevention Audit Corrective Action Plan • Annual Assessment Report Screenshot <p>The following interviews are related to this finding:</p> <ul style="list-style-type: none"> • Interview 6.1 Inspect & Monitor for Adequacy and Effectiveness (OMS perspective) • Interview 6.2 Inspect & Monitor for Adequacy and Effectiveness (DPP perspective) • Interview 6.3 Inspect & Monitor for Adequacy and Effectiveness (Field perspective)
Finding Summary	Processes, procedures, samples, and interviews all demonstrate the establishment and implementation of a process for inspecting and monitoring company activities for effectiveness.

Detailed Assessment

The auditee has satisfied the expected outcomes listed above.

The auditee has established a process for inspecting and monitoring their activities and infrastructure, which includes methods to evaluate the adequacy and effectiveness of the Damage Prevention program.

Many of the Damage Prevention controls discussed in AP-03 involve inspection and monitoring, including:

- Aerial Patrol Procedure
- Class Location Survey Procedure
- Ground Patrol Procedure
- Land Use Survey Procedure
- RoW Surveillance and Monitoring Process
- Third Party Crossings, Proximities and Encroachment Inspection Procedure

Methods to evaluate adequacy and effectiveness also exist via assurance activities. The auditee's Operations Assurance Program and processes are designed to verify the state of the OMS and supporting programs. Examples of assurance activities include audits, inspections, assessments, and observations. An Assurance Activity Process provides more details requires relating to assurance activities. In summary, multiple levels of assurance exist, carried out by corporate, program owners (e.g., Damage Prevention), and field operations.

The auditee has also developed methods to take Corrective and Preventive Actions when deficiencies are identified. The Corrective and Preventive Actions Management Program requires all programs, including Damage Prevention, to identify, implement, and manage Corrective and Preventive Actions. Sources of Corrective and Preventive Actions include assurance activities, such as program assessments, compliance audits, external audits, inspections, and monitoring.

To assess whether the auditee is completing inspection and monitoring activities as per the process, a set of assurance-related records were requested and assessed (Implementation of controls, such as procedures and processes, was assessed in AP-03).

As part of the Operations Assurance audit cycle, the corporate department audited Damage Prevention in 2021. This Audit identified two internal nonconformances and two opportunities for improvement. Five other deficiencies were initially identified, but contested by Damage Prevention, and subsequently removed. This audit demonstrates implementation of the first level of assurance.

An embedded assurance plan was developed as required by the second level of assurance. The Damage Prevention Embedded Assurance Plan lists 24 assurance activities relating to:

- Damage Prevention Program;
- Ground Disturbance Process;
- One-Call Management Process;
- Crossings, Proximities and Encroachment Process;
- Public Awareness Process;
- RoW Surveillance and Monitoring Process;
- Class Location and Land Use Planning Process; and
- Unauthorized Activity Process.

Associated fields include role responsible for execution, assurance type, frequency, and record type.

Three interviews were conducted with the OMS representatives, the Damage Prevention team, and field staff. Responses from the interviews were consistent with the written documentation, and personnel were aware of their duties with respect to inspecting and monitoring.

Sampling also asked for records documenting assurance activities related to:

- locating and marking for the PPTC pipeline system (Line Locate Assessment Form);
- assessing second party ground disturbances for the Empress-Kerrobert pipeline system (Ground Disturbance Excavator Assessment Form); and
- third party crossing for PPTC, Wascana, and Empress-Kerrobert (Ground Disturbance Inspection Form).
- The Annual Assessment Report related to the RoW Surveillance and Monitoring Process.

The auditee provided documentation satisfying the above requests.

Appendix 2: Terms and Abbreviations

Term/Abbreviation	Definition
CER	Canada Energy Regulator
Audit	CER Damage Prevention operational audit
CER Act	Canadian Energy Regulator Act (S.C. 2019, c.28, s.10)
OPR	<i>Canadian Energy Regulator Onshore Pipeline Regulations (SOR/99-294)</i>
DPR-O	Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies (SOR/2016-133)
PMC or the auditee	Plains Midstream Canada ULC
PPTC	Plains Petroleum Transmission Company
PAA	Plains All American Pipeline, L.P.
AP	Audit Protocol
CAPA	Corrective and Preventive Action
DPP	Damage Prevention Program
MOC	Management of Change
NGLs	Natural Gas Liquids
OMS	Operations Management System
PSM	Process Safety Management
RoW	Right-of-way