Canada Energy Regulator | Régie de l'énergie du Canada

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Final Audit Report

Trans-Northern Pipelines Inc.

Damage Prevention

CV2324-228

OF-Surv-OpAud-T217-2023-2024 0101

6 November 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) (**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 Regulations* (SOR/99-294) (**OPR**).

The CER conducted an audit of Trans-Northern Pipelines Inc. (**the auditee or TNPI**) between 14 April 2023 and 2 August 2023. The topic of the audit was Damage Prevention**.**

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**).

Of 11 audit protocols; five were deemed no issues identified. The remaining were deemed non-compliant.

The areas where the company's Damage Prevention program was found to be non-compliant were in the requirements related to the audit protocols AP-01, AP-03, AP-04, AP-07, AP-08, and AP-09. Non-compliances stem from hazard controls not addressing risks, lack of controls in the auditee's communication process, inconsistent use of or the absence of processes and their implementation (e.g., the Management of Change Process), and inconsistency between processes related to the Unauthorized Crossing Response Process and Corrective Action Process.

Detailed assessments explaining the CER's rationale for audit findings can be found in Appendix 1. Note that all findings are specific to the information assessed at the time of the audit as related to the audit scope.

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 outlines 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.

While non-compliant findings exist, the CER believes the company 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.

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1.0 Background

1.1 Introduction

The 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 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 OPR.

The CER conducted an audit of TNPI between 14 April 2023 and 2 August 2023. The topic of the audit was Damage Prevention.

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;
- damaged 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.

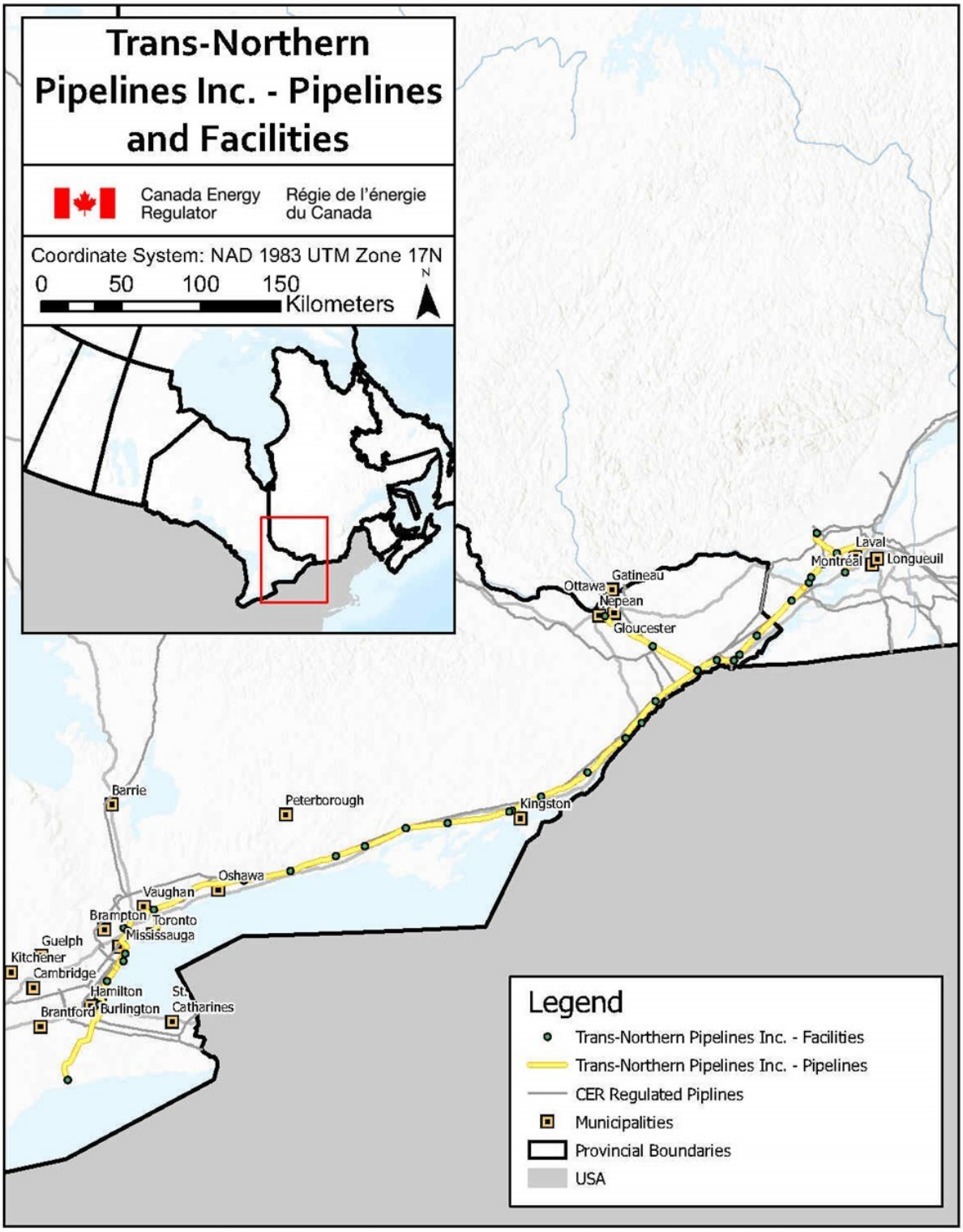
Section 47.2 of the OPR requires companies to develop, implement, and maintain a Damage Prevention program that anticipates, prevents, manages, and mitigates damage to its pipeline. Thus, this audit stream assesses activities relating to:

- depth of cover;
- 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

TNPI has been in operation for over 60 years and is a refined fuels product pipeline company headquartered in Richmond Hill, Ontario. TNPI's CER-regulated system consists of approximately 850 kilometres (km) of pipeline flowing east to west through Ontario and Quebec linking Montreal, Quebec, and Oakville, Ontario. Its system also connects Nanticoke and Toronto, Ontario. Along with these pipeline segments are branch lines which connect to Toronto's Pearson International Airport and Montreal's Pierre Elliot Trudeau International Airport, as well as Clarkson and Ottawa, Ontario. On average, the system moves approximately 27,500 cubic meters or 172,900 barrels of refined fuel products including gasoline, diesel, aviation, and heating fuel daily.

The map below depicts the company's CER-regulated assets.



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, November, 2022, Last updated on Nov 24

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2.0 Objectives and Scope

The objectives of this audit are to assess whether the company'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 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	☒Construction ☒ Operations ☒ Abandonment
Section 55 Programs	☐ Emergency Management ☐ Integrity Management ☐ Safety Management ☐ Security Management ☐ Environmental Protection ☒ 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 TNPI on 14 April 2023 advising the company of the CER's plans to conduct an operational audit. The lead auditor provided the audit protocol and initial information request to the company on 21 April 2023 and followed up with a meeting with the company staff to discuss the plans and schedule for the audit. Document review began on 1 June 2023 and interviews were conducted between 19 June 2023 and 28 June 2023.

In accordance with the established CER audit process, the lead auditor shared a pre-closeout summary of the audit results on 14 July 2023. At that time, the company was given time to provide any additional documents or records to help resolve the identified gaps in information or compliance. Following the pre-closeout meeting, the company 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 company on 2 August 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 company and reviewed by the CER auditors within the context of the audit scope; or
- Non-compliant – The company has not demonstrated that it has met the legal requirements. A CAPA 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 Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-01	OPR	47.2	Damage Prevention Program	Non-compliant	• The Damage Prevention program document doesn't incorporate of all the processes and procedures that, together, make up the program. • The Damage Prevention program's suite of documents have not been updated and maintained to reflect relevant changes within TNPI. • The Damage Prevention program does not address damage-prevention-related risk with respect to first and second parties, as required by section 9.3.3 of the Operational Excellence Management System (**OEMS**).
AP-02	OPR	6.5(1)(c)	Establish and implement a process for identifying and analyzing hazards	No issues identified	• TNPI has a hazard identification and analysis process in place. The process is established and implemented.
AP-03	OPR	6.5(1)(f)	Establish and implement a process for developing and implementing controls	Non-compliant	• Controls don't address the risks (only the hazards are addressed). • The resolution of the controls and the risk register is too broad for it to be properly operationalized and implemented. • This list of controls is not comprehensive. • The Communication Standard does not require controls to be communicated to those exposed to the risks.

Audit Protocol Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-04	OPR	6.5(1)(i)	Establish and implement a process for identifying and managing change	Non-compliant	• The management of change process is not used consistently. For example, no management of change (**MOC**) was provided for adding the Damage Prevention program to the OEMS, nor for the implementation of a new software tool to manage landowner information.
AP-05	DPR-O	16(b)	Damage Prevention Program – Minimum Content – Monitoring – Change in Land Use	No issues identified	• TNPI demonstrated that it conducts ongoing monitoring of changes to land use for both the right-of-way (**RoW**) and land adjacent to the RoW.
AP-06	DPR-O	16(c)	Damage Prevention Program – Minimum Content – Monitoring – Change in Land Owner	No issues identified	• Section 7 of the Damage Prevention Program document, the Land Use and Land Ownership Monitoring Process, and samples of implementation demonstrate that TNPI is conducting ongoing land ownership monitoring.
AP-07	DPR-O	16(f)	Damage Prevention Program – Minimum Content – Managing Requests for Consent	Non-compliant	• No documented process exists for managing the requests for consent. • The Pipeline Locate & Crossing Procedure for Third Party, and the Crossing Guidelines document are both missing the components that make up a process. • Tasks and responsibilities of the crossing analyst are not documented.

Audit Protocol Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-08	OPR	6.5(1)(m)	Establish and implement a process for internal and external communication of information	Non-compliant	• The documented processes are not implemented as written, especially as it pertains to the Communication Process, Communications Standard and Stakeholder Calendar. • The Communication Process was not applied to the TNPI Crossings Guidelines Ontario-Quebec (**TNPI Crossings Guidelines**). • TNPI did not demonstrate implementation of its requirement for workers who interface with the public to have a formal acknowledgement of communications competency.
AP-09	OPR	6.5(1)(r)	Establish and implement a process for internal reporting of hazards and for taking corrective actions	Non-compliant	• A discrepancy exists between the mitigation process referenced in the RoW Maintenance & Surveillance Program (Unauthorized Crossing Response Process), and the mitigation process provided by TNPI (Corrective Action Process).
AP-10	OPR	6.5(1)(u)	Establish and implement a process for inspecting and monitoring company activities for effectiveness	No issues identified	• Together, TNPI's OEMS, Damage Prevention program, RoW Maintenance & Surveillance Program, Audit Process, Inspection Process, Corrective Action Process, and Management Review Process, result in inspecting and monitoring facilities and activities, assessing the adequacy and effectiveness of the Damage Prevention program, and taking corrective and preventive actions when required.
AP-11	OPR	6.5(1)(s)	Establish and maintain a data management system for monitoring and analyzing the trends in hazards, incidents and near-misses	No issues identified	• TNPI has established and maintained a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses. TNPI uses third-party software and excel together to monitor and analyze trends in hazards, incidents, and near-misses, as it pertains to damage prevention.

5.0 Discussion

This audit focuses on the company'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;
- damaged 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 in the pipeline industry over the last few years, which has resulted in situations of high potential severity.

In general, the processes assessed in this audit existed within TNPI's management system. The non-compliant findings are associated with the documented process not being implemented as written, and inconsistencies in how the different procedures and standards link together to make a program.

TNPI's management system consists of several layers of documents, which were difficult to navigate, in part due to the non-compliances listed in AP-01, and in part due to the unnecessary repetition of similar information across the different document types. This complexity decreases the usability of the management system.

Because a successful Damage Prevention program requires coordination between several disciplines (communication, engineering, land etc.), it is especially important that the management system accurately links the processes together so they can function as a cohesive unit.

The staff interviewed during the audit appeared both knowledgeable and experienced. Accurately capturing and embedding this expertise into the management system will improve TNPI's ability to achieve their goals related to Damage Prevention.

In late August 2023, the CER issued an Inspection Officer Order (IOO) to TNPI related to an alleged contravention of the Canadian Energy Regulator Pipeline Damage Prevention Regulations - Obligations of Pipeline Companies (SOR 2016/133). Because this event occurred during an unrelated field inspection after the audit was completed, it was not considered as part of the audit and therefore did not impact the findings. However, due to the closely related timeframe and topic, it is referenced here for purposes of transparency and clarity. For more information, please refer to Inspection Officer Order PRY-002-2023 on the CER website under reports on compliance and enforcement.

6.0 Next Steps

The company 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 company shall file with the CER, a CAPA Plan that outlines 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 closeout letter.

7.0 Conclusion

In summary, the CER conducted an audit of TNPI with a scope specific to Damage Prevention. Out of a total of 11 audit protocols, five were classified as no issues identified, resulting in an audit score of 45 percent.

The areas where the company's Damage Prevention program was found to be non-compliant were in the requirements related to the audit protocols AP-01, AP-03, AP-04, AP-07, AP-08, and AP-09.

TNPI 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	Non-compliant
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 *Canadian Energy Regulator Pipeline Damage Prevention Regulations — Obligations of Pipeline Companies*.
Expected outcome	• 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 company	The following key documents and records are related to this finding: • Damage Prevention Program; • Element 9 Asset Life Cycle Management Supporting Guidelines; • Operational Excellence Management System (OEMS); • Pipeline Integrity Management Standard; • Public Awareness Program: Communication Standard; • Right-of-Way Maintenance & Surveillance; and • TNPI Crossing Guidelines Ontario-Quebec. The following interviews are related to this finding: • Interview AP-01 – Damage Prevention program Overview (OPR 47.2)
Finding summary	In summary, a compliant Damage Prevention program does not exist, it has not been fully implemented, and it has not been maintained. The deficiencies include: • The Damage Prevention program document doesn't include all of the processes and procedures that, together, make up the program; • The Damage Prevention program's suite of documents have not been updated and maintained to reflect relevant changes within TNPI ; and • The Damage Prevention program does not address damage-prevention-related risk with respect to first and second parties, as required by section 9.3.3 of the OEMS.

Detailed Assessment

TNPI has not satisfied the expected outcomes listed above. This section will first discuss the documented process, and then it will discuss the deficiencies.

The auditee's OEMS consists of 16 elements that the Damage Prevention program commits adhering to. These elements are:

- Element 1 Leadership and Accountabilities;
- Element 2 Risk Assessment and Management;
- Element 3 Legal Requirements and Compliance;
- Element 4 Data Document and Information Management;
- Element 5A Organizational Structure;
- Element 5B Learning and Competency;
- Element 6 Operations and Maintenance Programs;
- Element 7 Management of Change;
- Element 8 Third Party and Contractor Management;
- Element 9 Asset Lifecycle Management;
- Element 10 Emergency Management;
- Element 11 Stakeholder Management and Community Relations;
- Element 12 Incident Management, Investigations, and Corrective Actions;
- Element 13A Safety and Occupational Health;
- Element 13B Environmental Protection;
- Element 13C Security Management;
- Element 14 Goals, Objectives and Targets;
- Element 15 Audits, Inspections Self Assessments; and
- Element 16 Management Review.

The Damage Prevention program is part of Element 9 Asset Lifecycle Management. Section 9.3.3 of the OEMS states that "*A Damage Protection Program shall be established, implemented, and maintained that prevents the risk of first-, second-, and third-party damages*".

The Damage Prevention Program document outlines requirements related to:

- Right of way maintenance and surveillance;
- Encroachment management and control pipeline crossing;
- Public awareness; and
- Damage Prevention program monitoring changes to land use and land ownership, vehicle and equipment crossing, and agricultural depth of cover.

The 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. TNPI also provided samples of documents demonstrating the use of the program.

However, several deficiencies exist.

First, the Damage Prevention Program document is incomplete; it does not incorporate all of the processes and procedures that, together, make up the Damage Prevention program[1]. TNPI provided multiple procedures, standards, and processes, both in response to information requests, as well as during interviews, that were not referenced in the Damage Prevention Program document. Further, the Damage Prevention Program document does not reference the OEMS, or Element 9 Asset Life Cycle Management Supporting Guidelines. The OEMS is the governing document that requires the existence of a Damage Prevention program and drives the requirements within the program. Other examples of missing references include:

[1] Hereafter the 22-page document entitled Damage Prevention program will be referred to as the Damage Prevention Program document. The Damage Prevention program, as a whole, will be referred to as the Damage Prevention program.

- Land Use and Land Ownership Monitoring Process;
- Land Zoning Change Notification Procedure; and
- Pipeline Patrol Frequency Process.

During interviews, TNPI indicated that the integration of the Damage Prevention program into the OEMS, and some of the missing references had not been added to the Damage Prevention Program document because they were created after the Damage Prevention Program document was last revised. However, the Damage Prevention Program document is an overarching document that ties all of the components related to Damage Prevention into a Program, and maps how each process relates to one another. Missing references limit the ability for the processes and standards to function as a cohesive program making it difficult for a user to understand what requirements must be followed to comply with the program. The Damage Prevention program's suite of documents have not been maintained to reflect relevant changes within TNPI. For example, section 9.3.3 of Element 9 Supporting Guidelines does not mention the Damage Prevention program, even though the only requirement related to section 9.3.3 is the existence of a Damage Protection[2] Program. Therefore, the Damage Prevention program is not implemented as written.

Second, the Damage Prevention Program document is Revision 1, last revised in 2018. The interviews and the Document Control Procedure indicates that a document review occurs once every three years, but if no changes are made to the document, then the revision number and date of revision remain the same. During the interviews, TNPI indicated that this document was reviewed a second time in 2021. Therefore, the document has existed for five years, and no revisions have been made. This absence of revisions is despite the presence of several errors, and being incomplete as discussed above. Therefore, the Damage Prevention program is not maintained.

Third, a discrepancy exists with respect to the scope of the Damage Prevention program. Section 9.3.3 of the OEMS states that the Damage Prevention program is required to address damage prevention-related risk with respect to first, second, and third parties. However, the Damage Prevention Program document only references this risk with respect to third parties and TNPI did not demonstrate how the Damage Prevention program applies to first and second parties.

[2] During interviews, TNPI indicated that the word protection was erroneously used instead of prevention.

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

Finding status	No issues identified
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	• 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 company	The following key documents and records are related to this finding: • Element 2 Risk Assessment and Management Supporting Guidelines; • Risk Management Standard; • Risk Assessment Matrix; • Risk Assessment Worksheet; • Element 12 Supporting Guidelines; • Event Reporting Procedure; • Corporate Risk Register; • Hazard and Potential Hazard Inventory; and • Damage Prevention Program. The following interviews are related to this finding: • Interview 2.1 AP-02 and AP-03 Hazard and Risk Management (OEMS perspective); • Interview 2.2 AP-02 and AP-03 Hazard and Risk Management (Damage Prevention program perspective); and • Interview 2.3 AP-02 and AP-03 Hazard and Risk Management (Field perspective).
Finding summary	TNPI has a hazard identification and analysis process in place. The process is established and implemented.

Detailed Assessment

TNPI has satisfied the expected outcomes listed above.

TNPI has established and implemented a hazard identification and analysis process that includes Element 2 Risk Assessment and Management Supporting Guidelines of the OEMS, Risk Management Standard, and the Damage Prevention Program document.

The Element 2 Risk Assessment and Management Supporting Guidelines of the OEMS, sets forth the requirements that the Damage Prevention program must satisfy. The intention is to “establish clear expectations for implementation of a systematic approach to identify and manage risk”. Expectations revolve around risk identification, assessment, and mitigation.

This Element 2 guideline provides a suite of policies, procedures, standards, processes, and tools that support this element, which includes the Risk Management Standard.

The Risk Management Standard states that the risk management process involves hazard identification and evaluation, risk assessment, and risk mitigation. Section 10 discusses hazard identification and evaluation in more detail. According to this document, the hazard identification approach uses three sources of information: the existing TNPI hazard inventory, information collected by the management system (such as the number and type of unauthorized activities and results from right-of-way surveillance), and a guided brainstorming session. The identified hazards are then assigned into standardized categories.

Section 10 of the Risk Management Standard requires the hazard inventory to be updated annually, with an extensive review being conducted every five years.

The Damage Prevention Program document discusses risk management in section 12, and references Element 2 Risk Assessment and Management.

Additionally, section 10.1 of the Damage Prevention Program document discusses monitoring agricultural areas for hazards. This section references the Right of Way Monitoring and Surveillance program, the Event Reporting and Investigation Procedure, and Exposed Pipe Condition Reports as inputs to assessing the presence of hazards in agricultural areas. Section 10.2 requires the Risk Management Standard to be used to manage hazards.

Thus, the methods of hazard identification are appropriate to the nature, scope, scale, and complexity of the Damage Prevention program.

TNPI provided an excerpt of the Hazard and Potential hazard Inventory filtered to damage prevention related hazards. Examples of hazards include:

- RoW encroachment related to persons, activities, construction, and vehicle crossing;
- external interference such as third-party mechanical damage (e.g., gouging, deformations);
- low depth of cover; and
- erosion / washouts.

Interviews with TNPI indicate that the field supervisors are aware of and refer to the hazard inventory. From the interviews conducted, Hazard Identification and Evaluation Workshops are held weekly with attendance from various teams in TNPI, appropriate to the topics being discussed.

TNPI is recording and reporting hazards. From the interviews conducted, personnel are reporting hazards in accordance with the Event Reporting procedure with a follow-up investigation occurring to determine potential corrective actions. Based on interviews and review of relevant documents, these activities are being done in a timely manner.

The Risk Assessment Worksheet is being used to analyze and record Damage Prevention risks, hazards, mitigative actions, and timeframes to close-out.

Thus, TNPI has implemented the process and hazards have been identified.

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	• 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 company	The following key documents and records are related to this finding: • Element 2 Risk Assessment and Management Supporting Guidelines; • Risk Management Standard; • Risk Assessment Matrix; • Risk Assessment Worksheet; • Element 12 Supporting Guidelines; • Event Reporting Procedure; • Hazard and Potential Hazard Inventory; • Damage Prevention Program document; and • TNPI Corporate Risk Register – Organizational Risks. The following interviews are related to this finding: • Interview 2.1 AP-02 and AP-03 Hazard and Risk Management (OEMS perspective); • Interview 2.2 AP-02 and AP-03 Hazard and Risk Management (Damage Prevention program perspective); and • Interview 2.3 AP-02 and AP-03 Hazard and Risk Management (Field perspective).
Finding summary	In summary, the CER auditors found that: • Controls don't address the risks (only the hazards are addressed); • The resolution of the controls and the risk register is too broad for it to be properly operationalized and implemented; • This list of controls is not comprehensive; and • The Communication Standard does not require controls to be communicated to those exposed to the risks.

Detailed Assessment

TNPI has not satisfied the expected outcomes listed above. This section will first discuss the documented process, and then it will discuss the deficiencies.

The same documents listed in AP-02 describe the process relating to developing and implementing controls to address hazards and risks: Element 2 Risk Assessment and Management Supporting Guidelines of the OEMS; the Risk Management Standard, and the Damage Prevention Program document.

As discussed in AP-02, the Risk Management Standard states that the risk management process involves hazard identification and evaluation, risk assessment, and risk mitigation. Risk mitigation is where controls are developed to address hazards and mitigate risks. Section 11.4.4 discusses mitigation techniques. Those relevant to this AP include:

- risk termination, in which changes are made to remove the risk entirely; and
- risk treatment, in which changes to the TNPI programs are introduced to reduce the risk (targeting either the probability or the severity).

Examples of risk treatment include types of controls relating to design (e.g., eliminate or substitute the hazard), engineering (e.g., engineering safeguards to mitigate the risk), administrative (e.g., procedures, inspections, training etc.), or physical (e.g., personal protective equipment).

This standard also requires risks and associated controls to be communicated to all staff associated with the operation where the risk resides. The program owner is responsible for identifying required mitigation or controls, and the departmental leadership is responsible for approving the mitigation or controls.

Thus, TNPI has established a process to develop and implement controls related to hazards and risks.

Interviews with TNPI confirm that controls are implemented to mitigate risks identified during larger brainstorming sessions as well as risks identified from other management system areas, such as incidents, management of change, etc. For example, the design of programs, such as the Right of Way Surveillance and Monitoring Program are types of controls to mitigate risks.

TNPI provided an excerpt from the TNPI Corporate Risk Register, which lists all damage prevention related risks. Among other things, this register lists the (multiple) hazards associated with each risk, the potential impacts for each risk, and the controls for each hazard/risk scenario.

Three risks were listed:

- Loss of containment from a buried pipeline segment. Including areas such as subways, watercourses, etc.;
- Non-Compliance with Regulatory Requirements; and
- –RoW encroachments.

A list of controls is linked to each hazard/risk scenario. For example, one of the hazards related to the loss of containment risk is natural forces and natural disasters. Controls include the geo-hazard monitoring program as well as the flood monitoring and high-water action plans. Thus, some controls are developed and implemented.

However, several deficiencies exist.

The first set of deficiencies relate to inappropriate methods and implementation of damage prevention controls as related to the size, scale, and complexity of operations.

First, while controls exist to mitigate the hazard, no controls exist to mitigate the impact of the risk. Both the Risk Management Standard and paragraph 6.5(1)(f) of the OPR require controls to be developed to also address the risks. The Risk Management Standard defines risk as “the product of likelihood of an impact on the health and safety of people, the environment, the community or property/equipment, and the consequences of that impact”. Therefore, when reading the TNPI Corporate Risk Register, risks are a product of the field entitled “Identified Risk”, and the field entitled “Potential Impact”. Controls are explicitly associated with each hazard, but not with each risk.

Second, the resolution of the controls is too broad for it to be properly operationalized and implemented. For example, the scenario where the risk is loss of containment and the hazard is third party damage, has a control of the Damage Prevention program (RoW, One-Call, and Public Awareness). The Damage Prevention program is composed of numerous controls to address numerous hazards and risks. These numerous controls must be explicitly referenced and linked to the hazards and risks they are meant to address.

Third, the resolution of this TNPI Corporate Risk Register is too broad for it to be properly operationalized and implemented. The probability and severity of risk might differ depending on the context of where the pipeline is located, and even seasonality. For example, pipelines in rural areas being developed into urban centres might have a higher risk of line strikes than an urban area that has existed for a long time. Similarly, urban areas may have a higher risk of ground disturbance activities in the summer than in the winter. These scenarios might require an increase in the frequency and/or type of patrols and public outreach activities.

Fourth, the list of controls associated with each hazard are not comprehensive. All damage prevention related programs, processes, procedures and standards are a type of administrative control to address hazards and risks. Thus, they should be listed as a control. For example, the Depth of Cover Monitoring Program, and the Land Use and Land Ownership Monitoring Process are not listed for any of the hazard/risk scenarios. Under RoW encroachments, RoW Surveillance and Monitoring is not mentioned. This incomplete list of controls might be an outcome of the first three deficiencies.

The second set of deficiencies relate to TNPI not demonstrating that the controls are communicated to those exposed to the risks. The Risk Management Standard states that when a risk assessment is performed, the results must be communicated to all staff working in or associated with the operation where the risk resides. However, The Communication Standard does not reference the communication of risk assessment results to internal employees exposed to the risks. The resolution of the risk register and controls discussed above are too broad to identify the internal and external parties that are exposed to the risks, and informed of the controls.

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	• 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 company	The following key documents and records are related to this finding: • Operational Excellence Management System; • Element 7 Management of Change Supporting Guidelines; • Management of Change Procedure; and • Management of Change Approval & Stakeholder/SME Endorsement Matrix. • Business Change Management Procedure; • Samples of Damage Prevention program related MOC's; and • Response to Information Request 1 and 5. The following interviews are related to this finding: • INT 3.1 AP-04 Management of Change (OEMS perspective); • INT 3.2 AP-04 Management of Change (Damage Prevention program perspective); and • INT 3.3 AP-04 Management of Change (field perspective).
Finding summary	The management of change process is not used consistently. For example, no MOC was provided for adding the Damage Prevention program to the OEMS, nor for the implementation of a new software tool to manage landowner information.

Detailed Assessment

TNPI has not satisfied the expected outcomes listed above. This section will first discuss the documented process, and then it will discuss the deficiencies.

TNPI has established a process for managing change and this process defines methods to identify and manage change.

Two sections of the Damage Prevention Program document reference management of change (MOC). Section 7 discusses monitoring change of land use (which will be further discussed in AP-06 and AP-07). Section 17 references Element 7 of the OEMS.

Element 7 of the OEMS document lists the requirements relating to management of change. Requirements include the need for a process to identify the change and assess its impact, the assignment of responsible individuals to carry out the process, factors to consider when approving the change, and communication of the approved change to impacted stakeholders.

This element is accompanied by a supporting guideline that elaborates on the requirements. This guideline states that management of change is applicable to a variety of change types including the following: organizational changes; changes to assets; regulatory changes; technical changes; and changes to the physical environment.

Additional procedures describe how different types of change are to be managed. Examples include the Management of Change Procedure and Business Change Management Procedure.

The Management of Change Procedure includes changes related to procedures, operations, and technology. These changes are all managed via an Intelex management of change module. This procedure references a Management of Change Approval & Stakeholder/Subject Matter Expert (**SME**) Endorsement Matrix, which outlines the types of changes requiring an MOC; internal stakeholders must endorse the change, and provide final approval; during the interviews, the field supervisors indicated this latter document as a commonly used reference for the field staff. This document often references the manager of land and damage prevention as one of the positions that must endorse changes. Thus, MOC impacts to the Damage Prevention program are identified and assessed. Damage Prevention program-specific types of changes that require an MOC and associated approver are provided. Examples of Damage Prevention program - related changes include those in relation to:

- RoW surveillance;
- crossings;
- land use monitoring;
- public awareness;
- one call;
- RoW identification;
- depth of cover in agricultural lands; and
- software solutions.

The Business Change Management Procedure includes changes related to implementation of new systems, significant organizational changes, and major project, programs, and initiatives. These changes are managed outside of the Intelex management of change module.

TNPI has implemented the MOC process in some circumstances. Participants in the interviews were well versed in MOC and the training requirements. Evidence of MOC documentation was also provided and discussed during the interviews. Examples include the introduction of a new depth of cover monitoring program, updates to crossing guidelines to align with regulatory changes, and implementation of a software system called UtiLocate.

However, in other circumstances, no MOC was done. For example, the revision table for the OEMS indicates that in 2022, the OEMS was revised to add the Damage Prevention program under Element 9 (Asset Life Cycle Management). TNPI stated that this was an editorial change rather than a change in program or process, thus an MOC was not required. However, applying a protection program to a management system is more than an editorial change; management system elements must be applied to the Damage Prevention program, which requires potential changes related to activities, resource requirements, processes, and procedures, as well as roles and responsibilities.

Other evidence suggests a potential lack of, or inadequate, MOCs. Many of the damage prevention-related procedures do not reflect the current organizational structure. The Damage Prevention Program document also does not list processes and procedures that have been introduced since its last revision. These issues are common when MOCs are either not performed or inadequate. These deficiencies are also highlighted in AP-01.

Lastly, a new third-party software system is currently being rolled out to teams within TNPI to track information related to land ownership. When asked for the MOC related to this roll-out, TNPI replied that no MOC was required because the impact was not company-wide, the software is external to TNPI, and developed to support departments of Land and External affairs. However, introduction of a new software tool to manage land ownership information is within the scope of the Business Process Change Management procedure and paragraph 6.5(1)(i) of the OPR.

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

Finding status	No issues identified
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 *Canadian Energy Regulator Onshore Pipeline Regulations* 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	• 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 company	The following key documents and records are related to this finding: • Damage Prevention Program document; • RoW Maintenance and Surveillance Program; • Land Zoning Change Notification Procedure; • Land Use and Land Ownership Monitoring Process; • Vehicle and Aerial Patrol Report; and • Response to Information Request 1 and 6. The following interviews are related to this finding: • Interview 4.1 AP-05 & AP-06 Monitoring Change in Land Use and Landowner (Damage Prevention program perspective); and • Interview 4.2 AP-05 & AP-06 Monitoring Change in Land Use and Landowner (Field Supervisor perspective).
Finding summary	TNPI demonstrated that it conducts ongoing monitoring of changes to land use for both the RoW and land adjacent to the RoW.

Detailed Assessment

TNPI has satisfied the expected outcomes listed above.

Section 7 of the Damage Prevention Program document, the Land Use and Land Ownership Monitoring Process, and the Land Zoning Change Notification Procedure document, together, discuss how land use changes are monitored (the latter two documents are not referenced in the Damage Prevention Program document, which is further discussed in AP-01).

The Damage Prevention Program references ongoing monitoring of changes to land use, both adjacent and on land within which the pipeline is located. According to the Land Use and Land Ownership Process, TNPI primarily monitors changes in land use via written incoming notices from municipalities, provincial agencies, land developers, etc. Types of land use change include agricultural, residential, and commercial. The Land Department receives those notices and will respond to the notification originator. The *Land Zoning Change*

Notification document details the procedural steps for the review and evaluation of those notices as well as composing a response and informing the affected programs within TNPI when a change in land use is identified for further action.

The RoW patrols are another method used by TNPI to monitor changes in land use, where encroachment developments on or near the RoW can be observed and reported to the Land Department for review. The Vehicle and Aerial Patrol Report form requires patrollers to indicate whether encroachment developments are on or near the RoW. Guidance provided in the form is to look for erection of new structures, new dwellings, pasture to agricultural use, undocumented buildings, structures or facilities (e.g., roads, ditches, fences, swimming pools, driveways, laneways). However, interviews with staff indicate land use changes are often known by TNPI prior to the RoW patrol observations.

Thus, TNPI has provided evidence to demonstrate that ongoing monitoring of land use is occurring. TNPI maintains the information about the types of the land use for its pipeline and adjacent land. For example, they provided a table listing land use changes identified in the 2022 calendar year. During the interviews, staff provided examples of when public awareness campaigns and monitoring activities were increased to address large development projects.

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

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 *Canadian Energy Regulator Onshore Pipeline Regulations* must include ongoing monitoring of any change in the landowner of the land on which a pipeline is located.
Expected outcome	• 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 company	The following key documents and records are related to this finding: • Damage Prevention Program document; • RoW Maintenance and Surveillance Program; • Land Zoning Change Notification; • Land Use and Land Ownership Monitoring Process; • Vehicle and Aerial Patrol Report; and • Response to Information Requests 1 and 6. The following interviews are related to this finding: • Interview 4.1 AP-05 & AP-06 Monitoring Change in Land Use and Landowner (Damage Prevention program perspective); and • Interview 4.2 AP-05 & AP-06 Monitoring Change in Land Use and Landowner (Field Supervisor perspective).
Finding summary	Section 7 of the Damage Prevention Program document, the Land Use and Land Ownership Monitoring Process, and samples of implementation demonstrate that TNPI is conducting ongoing land ownership monitoring.

Detailed Assessment

TNPI has satisfied the expected outcomes listed above.

The Damage Prevention program references ongoing monitoring of changes of landowners. Similar to AP-05, the Damage Prevention Program document and the Land Use and Land Ownership Monitoring Process discuss how land use changes are monitored. Section 7 of the Damage Prevention Program document requires TNPI to maintain line lists of landowners and occupants of land through which the pipeline runs or is adjacent. The *Land Use and Land Ownership Monitoring* provides requirements for monitoring and maintaining landowner lists in the vicinity of pipelines to effectively prevent pipeline damage by identifying hazards and managing risks related to land use and ownership. The document provides the roles and responsibilities, training requirements for employees engaged in the process as well as contains procedural steps. The Land/Property Administrator is responsible for ongoing monitoring of any change in

ownership of land through which the pipeline is located or that's adjacent to. The adjacent land is defined by TNPI "as having common boundary but no greater than 30 metres from the pipe". Examples of inputs that inform potential change in land ownership include stakeholder outreach, returned mail, land title tools, and contacts from landowners themselves. Once landownership changes are identified, the landowner database is updated.

TNPI has provided evidence to demonstrate ongoing monitoring of changes to landowners is occurring. Interviewees discussed their respective roles in monitoring for change in landownership, which was consistent with the Damage Prevention Program document and procedures. TNPI also provided the following examples to demonstrate use of the process:

- DP Ownership Report Active Interests Sample;
- TNPI Landowners Form Update Example; and
- Landowner update – Parcel Identifier Example.

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

Finding status	Non-compliant
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	• The company has a compliant process;
	• The process addresses requests for consent to:
	  ○ 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; and
	• The company is able to demonstrate the process has been used.

Relevant information provided by the company	The following key documents and records are related to this finding: • Damage Prevention Program (Damage Prevention Program document) ; • TNPI Crossing Guidelines Ontario – Quebec (Crossing Guidelines document); • Pipeline Locate and Crossing Procedure for Third Party; • 2023 Permit Tracker; • Risk Management for Crossing Tracker; • Sample Prescribed/Controlled Area Permit; • Sampling of executed crossing permits; and • Response to Information Requests 1 and 6. The following interviews are related to this finding: • Interview 4.3 AP-07 Managing Requests for Consent (Damage Prevention program perspective).
Finding summary	In summary, the CER auditors found that: • No documented process exists for managing the requests for consent; • The Pipeline Locate & Crossing Procedure for Third Party, and the Crossing Guidelines document are both missing the components that make up a process; and • Tasks and responsibilities of the crossing analyst are not documented.

Detailed Assessment

The auditee has not satisfied the expected outcomes listed above. This section will first discuss the documented process, and then it will discuss the deficiencies.

The Damage Prevention Program document references the Pipeline Crossing Guidelines, and the Pipeline Locate and Crossing Procedure for Third Party. TNPI indicated these were the key documents relating to this audit protocol. Within the Damage Prevention Program document is a section entitled Encroachment and Pipeline Crossing Requirements which, at a high level, discusses the various sets of relevant activities. This section:

- indicates that the Crossing Guidelines document will be used to assist external third parties on ground disturbances, construction activities, vehicle crossings and required approvals;
- discusses the need to report unauthorized activities and other regulatory reporting requirements; and
- discusses registration with and management related to the provincial one call system.

Another section within the Damage Prevention Program document entitled Vehicle and Equipment Crossing, discusses a variety of topics such as a stress analysis in relation to vehicle crossings, applications for vehicle crossings, and again references the Crossing Guidelines.

During interviews, TNPI indicated that the Crossing Guidelines document is shared with third parties to assist them with applying for written consent as well as safely work near the TNPI pipelines, and that it is also used internally to help determine whether consent is required or not. Internal use of this document was evident during interviews, in particular the appendix regarding acceptable and unacceptable activities over the TNPI Pipeline RoW.

During the interview, the activities or steps to be taken by the crossing analyst for managing incoming requests for written consent were described. These activities include: the use of the risk matrix to evaluate applications, the use of other tracking spreadsheets (e.g., 10-day timelines), the requirements to consult with engineering prior to permit issuance, and communicating the decision to the requestor(s).

Samples of written consents issued for vehicle crossings, construction of facilities and ground disturbance were submitted to demonstrate that TNPI has addressed requests for consent for these different types of activities.

However, several deficiencies exist, most of which relate to the absence of a process to manage requests for consent.

In accordance with Appendix 1 of the CER Management System Requirements and CER Management System Guide, a process is defined as a documented series of interrelated actions that take place in an established order and are directed toward a specific result. A compliant process must:

- Describe the purpose, scope, objective and specific results that the process is intended to achieve;
- Describe the series of interacting actions or steps that take place in an established order;
- Define the roles, responsibilities and authorities of staff to ensure the process is appropriately applied;
- Where required, reference other relevant processes, procedures, and work instructions; and
- Describe how it is integrated with each section 55 program.

Most of the above process requirements were missing in both the Crossing Guidelines document and the Pipeline Locate and Crossing Procedure for Third Party. Furthermore, these documents did not describe how requests for consent were managed.

A process to manage requests for consent is a key administrative control to address the risk of damaged pipe caused by hazards associated with construction, ground disturbance, and/or vehicle crossings. According to the interviews, the crossing analyst plays a significant role in determining which requests receive consent, and under which conditions the requested activities can be performed safely. However, most of the crossing analyst activities described during the interview were not documented. Items such as the roles and responsibilities of the crossing analyst, the steps relating to what they do, when and how they do it, are all absent. Specific examples of tools discussed in the interviews to determine and track consent that were not referenced in any process include the Risk Management for Crossing Tracker and the 2023 Permit Tracker.

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

Finding status	Non-compliant
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	• 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 company	The following key documents and records are related to this finding: • Operational Excellence Management System; • Damage Prevention Program; • Element 11 Stakeholder Management and Community Relations Supporting Guidelines; • Communication Process; • Communications Standard; • TNPI Crossings Guidelines; • Samples of internal and external communications; and • Response to Information Requests 1, 6, and 7. The following interviews are related to this finding: • INT 5.1 AP-08 Communications (OEMS perspective) ; • INT 5.2 AP-08 Communications (Damage Prevention program perspective) ; and • INT 5.3 AP-08 Communications (field perspective).
Finding summary	In summary, the CER auditors found that: • The documented processes are not implemented as written, especially as it pertains to the Communication Process, Communications Standard and Stakeholder Calendar; • The Communication Process was not applied to the TNPI Crossings Guidelines; and • TNPI did not demonstrate implementation of their requirement for workers who interface with the public to have a formal acknowledgement of communications competency.

Detailed Assessment

TNPI has not satisfied the expected outcomes above. This section will first discuss the documented process, and then it will discuss the deficiencies.

A process has been established, and the communication methods have been defined. TNPI has several layers of documents that, together, discuss how communications occur.

Element 11 of the OEMS is entitled Stakeholder Management and Community Relations. The purpose of this element is to “ensure effective communication and management of stakeholder relationships to enhance the trust and confidence of the communities in which TNPI operates”. It lists eight requirements. Element 11 is accompanied by a supporting guidelines document. These guidelines reference the Communication Process document, the Communications Standard document, and the Stakeholder Calendar document.

The purpose of the Communication Process document is to: “establish TNPI as a credible source of information about its operations, build trust with internal and external stakeholders; and enhance and protect TNPI’s reputation as a safe, reliable, environmentally responsible operator”. The flowchart in section five of the Communication Process illustrates the steps and responsibilities around designing and implementing a communication strategy. The table in section six describes the steps in detail. Step four of this procedure discusses the development of an annual, project, or initiative specific Communication Standard that specifies information to be communicated, how, to whom, at what frequency etc.

The Communication Standard document “outlines TNPI’s communication objectives, methods, internal and external audiences, communication tactics and channels”. It has separate sections for internal and external communications. Examples of internal communication activities include town halls, surveys, department meetings, brochure and promotional materials, emails, and Intelex. Internal audiences are categorized as employees and shareholders. External audiences are categorized as regulatory, landowner and community, elected officials, municipal departments and emergency response personnel, pipeline industry associations, and media. Examples of external communication activities include brochures, annual landowner communication, mailouts, newsletters, website, email etc.

The Damage Prevention Program document has a section on Public Awareness. It references a targeted public awareness program for discussing strategies to communicate the principles and performance of the Damage Prevention program to TNPI stakeholders. It references education programs, surveys, mail-outs, and direct communication with landowners.

The Pipeline Locate & Crossing Procedure for Third Party references the need for communication protocols, and the TNPI Crossing Guidelines Ontario Quebec are distributed both internally and externally.

TNPI provided samples of both internal and external communications such as internal emails, internal meeting minutes, and external newsletters. Thus, internal and external communications are occurring.

However, several deficiencies exist.

The first set of deficiencies relate to the Communication Process not being implemented as written. The items below highlight some of the discrepancies.

- Step 1 of 13, of the Communication Process requires stakeholders and associated information to be identified and listed in the Communications Standard. However, interviewees indicated that the stakeholder analysis is captured in a document entitled Stakeholder Calendar (i.e., not the Communications Standard). This Stakeholder Calendar[3] is not referenced in the Communication Process document.

- Within the Communication Process, different terms are being used. Step four of the flowchart (section 5) references a communications strategy, whereas the same step in the table (section 6) references an annual, project, or initiative-specific Communications Standard. As discussed above, interviews indicate that the document that contains most of the information specified in step four is called the Stakeholder Calendar. Neither the Communication Standard nor the Stakeholder Calendar satisfies the step four requirement, which is to indicate what information is to be communicated, and the purpose of distributing that information.

- This same step four of the Communication Process requires TNPI to prepare an annual, project, or initiative-specific Communications Standard. However, the Communications Standard reviewed during this audit was last revised in 2021. It is neither annual, project, nor initiative specific.

- Step seven of this same process indicates that "*employees and contractors communicating with external stakeholders must have a formally acknowledged competency in communications*". When asked for samples of this formal acknowledgement for staff under the damage prevention group and field services groups (of which all communicate with external stakeholders), TNPI stated that this step was only applicable to communication staff. However, this distinction does not exist in the Communication Process document. TNPI provided examples of training for three operators within the field services group, and no examples of competency sign off for any of the requested groups.

The second set of deficiencies relate to the Crossing Guidelines document not being vetted through the Communication Process and/or Communications Standard, despite being a key document educating both internal and external audiences on the types of activities permissible on the RoW.

- During interviews, TNPI indicated that the Crossings Guideline document had not been subject to their Communication Process.
- TNPI provided no evidence that the Crossings Team (under the damage prevention group) has been approved as competent in communications to interact with external stakeholders. Members of the Crossings Team are the authors of the Crossings Guideline document.
- The Crossings Guideline document is written poorly and difficult to understand. The overall structure of the document is confusing. No introduction section exists, and nowhere does the document state its purpose and/or scope. Sentences are sometimes written in third person, and other times in second person. Formatting issues exist, such as different font type and size. The lack of context and unprofessional design of this document detracts from the message it is trying to deliver, and may decrease the community's trust and confidence in TNPI, which violates the purpose stated in Element 11 Stakeholder Management and Community Relations Supporting Guidelines.

Finally, the Pipeline Locate & Crossing Procedure for Third Party requires a communication protocol for various types of consent, yet this communication protocol is not listed in the Communications Standard.

[3] TNPI provided a demo of the Shared Stakeholder Calendar, which is a spreadsheet with columns for audience, objectives, strategy, deliverables, timing, lead, and status. While referenced inconsistently, TNPI demonstrated that it does exist and it is being used.

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

Finding status	Non-compliant
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	• 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 company	The following key documents and records are related to this finding: • Element 12 Incident Management, Investigations and Corrective Actions Supporting Guidelines; • Event Reporting Policy; • Event Reporting Procedure; • Event Investigation Procedure; • Corrective Action Process; and • RoW Maintenance and Surveillance Program. The following interviews are related to this finding: • Interview 6.1 AP-09 Internal Reporting (OEMS perspective); • Interview 6.2 AP-09 Internal Reporting (Damage Prevention program perspective); and • Interview 6.3 AP-09 Internal Reporting (Field perspective).
Finding summary	A discrepancy exists between the mitigation process referenced in the RoW Maintenance & Surveillance Program (Unauthorized Crossing Response Process), and the mitigation process provided by TNPI (Corrective Action Process).

Detailed Assessment

TNPI has not satisfied all the expected outcomes above. This section will first discuss the documented process, and then it will discuss the deficiency.

The OEMS Element 12, Incident Management, Investigations and Corrective Actions, its supporting guidelines, and section 20 of the Damage Prevention Program document, and the RoW Maintenance & Surveillance Program, together, define the requirements for reporting events. Events include items such as incidents, near misses, hazards, and regulatory non-compliances. These documents point to the Event Reporting Procedure and Event Investigation Procedure which details the roles and responsibilities associated with each step.

This audit focused on unauthorized activities, as they are the main type of event related to damage prevention. TNPI defines unauthorized activity as “any activity or encroachment within right of way of the pipeline without permission from TNPI”.

Because unauthorized activities are considered to be a type of incident, as per the TNPI definition, they are subject to these reporting requirements. Interviews with TNPI and documents sampled indicate that the majority of the expected outcomes have been satisfied. For example, once an unauthorized activity is identified and the field technician has stopped the work, they will report the incident via their event reporting software (Intelex). The field technicians also collect information relating to the specifics of the unauthorized activity, which is attached to the event. The Damage Prevention Team will then conduct an investigation. The type of investigation is determined by the severity of the event.

The deficiency relates to a discrepancy with respect to which process is used to generate and implement corrective actions. The Right of Way Maintenance & Surveillance Procedure indicates that an Unauthorized Crossing Response Process is used to mitigate issues identified during the investigation of unauthorized crossings. However, TNPI provided a Corrective Action Process, rather than an Unauthorized Crossing Process.

Therefore, TNPI has not provided evidence that it has defined the methods for taking corrective and preventive actions in response to unauthorized activities.

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	• 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 company	The following key documents and records are related to this finding: • Operational Excellence Management System; • Damage Prevention Program; • Element 15 Audits, Inspections, and Assessments Supporting Guidelines; • Audit Process; • Inspection Process; • Corrective Action Process; • Right of Way Maintenance and Surveillance Program; • Pipeline Patrol Frequency Process; • Measurement and Monitoring Process; • Management Review Process; • Audit Report; • UX Crossing Tracker QUEONAB; • MS and TS patrol samples; • Internal Audit Final report Damage Prevention Program; and • Response to Information Request 1 and 9. The following interviews are related to this finding: • INT 7.1 AP-10 Inspect & monitor for adequacy and effectiveness (OEMS perspective); • INT 7.2 AP-10 Inspect & monitor for adequacy and effectiveness (Damage Prevention program perspective); and • INT 7.3 AP-10 Inspect & monitor for adequacy and effectiveness (field perspective).

Finding summary	Together, TNPI's OEMS, Damage Prevention program, RoW Maintenance & Surveillance Program, Audit Process, Inspection Process, Corrective Action Process, and Management Review Process, result in inspecting and monitoring facilities and activities, assessing the adequacy and effectiveness of the Damage Prevention program, and taking corrective and preventive actions when required.

Detailed Assessment

TNPI has satisfied the expected outcomes above.

TNPI has established and implemented a process. This process includes methods for inspecting and monitoring their activities and facilities.

Section 23 of the Damage Prevention program (performance audits and reviews) requires TNPI to conduct various types of audits and reviews to confirm implementation of the Damage Prevention program. This section points to several elements within the OEMS, including element 15.

Element 15 of the OEMS (Internal Auditing, Inspections, and Assessments), with its supporting guidelines, requires TNPI to implement quality assurance activities to assess the adequacy and effectiveness of its OEMS, programs, and processes. This element references numerous other documents, including:

- Audit Process;
- Inspections Process;
- Corrective Action Process; and
- Management Review Process.

The Audit Process discusses a tiered approach to the types of audits and assessments, with tier one being the lowest level of audit, and tier four being the highest. A full review of the program occurs in tier four. Program owners also conduct self-assessments typically on an annual basis. This document includes the steps to conduct an audit. Audits and resulting corrective actions are managed using an Intelex module.

Similarly, the Inspection Process discusses the steps to conduct inspections. In general, inspections are scheduled through a third party software platform.

The Corrective Action Process defines the requirements for creating, administering, tracking, reporting, and managing corrective actions through to completion. This process is applicable to numerous other processes including the Audit Process, the Investigation Process, Measurement and Monitoring process, and the Management Review Process.

The Management Review Process reviews the adequacy and effectiveness of the OEMS and underlying programs. The process includes a quarterly program review meeting where a featured program presents its performance information.

The Damage Prevention program references these processes, in addition to having additional sub-programs to address damage-prevention-specific needs. For example, the RoW Maintenance and Surveillance Program discusses key patrol activities, including aerial patrols, vehicle patrols, and line walk patrols. Each of these patrol activities has an associated procedure, which is referenced in the RoW Maintenance and Surveillance Program. Other monitoring tools are also referenced, such as the depth of cover monitoring program. Most of these reports are captured within their third party software platform.

All of these processes and the Damage Prevention program reference the Measurement and Monitoring Process. The monitoring and measurement process ensures that TNPI is meeting all regulatory

requirements and is on-track to meet its goals, objectives and targets. Step 2A of the process requires the program owner to assess program adequacy and effectiveness. This assessment includes the review of process non-compliances, status of projects, corrective action plans, management of changes, opportunities for improvement, emergency changes to legal requirements, and significant issues and risks. It also includes trending of process key performance indicators to goals, objectives, and targets, and determining the need for additional corrective action plans.

TNPI has provided samples of documents demonstrating that they are completing inspection and monitoring activities as per the process and retaining records. For example, TNPI conducted an internal Damage Prevention program Audit in 2022, and has provided records of vehicle, aerial, and line walk patrol reports. Quarterly Damage Prevention program review meetings occurred in September 2022. The presentation for Damage Prevention program included a list of successes for base work and continuous improvement, as well as a list of challenges. Each of the challenges had a corresponding section for required leadership team acknowledgement, input, support, and decision. One of the challenges was attrition of internal resources. Since that presentation, a new position has been added: Damage Prevention Team Lead. TNPI also provided a graph that trends unauthorized activities by geographic regions and offender category. Categories of offenders include the following: landowner, municipality, utility / government, and municipality.

When asked questions about the adequacy and effectiveness of their Damage Prevention program, the Manager of Land and Damage Prevention was able to provide an informed response. Interviews with operators and field supervisors yielded answers consistent with their process.

AP-11 Establish and maintain a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses

Finding status	No issues identified
Regulation	OPR
Regulatory reference	6.5(1)(s)
Regulatory requirement	A company shall, as part of its management system and the programs referred to in section 55, establish and maintain a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses.
Expected outcome	• The company has established and maintains a data management system. • The company's data management system can demonstrate all information is traceable and trackable to its hazards, incidents, and near misses. • The company is analyzing and trending data collected from hazards, incident, and near-misses
Relevant information provided by the company	The following key documents and records are related to this finding: • Element 4 Data, Document and Information Management Supporting Guidelines; • Element 12 Incident Management, Investigations and Corrective Actions Supporting Guidelines; • Trending Report Summary for DP; • Example Trending Report Summary for DP; • Fall 2022 Mailout Tracking Returned Mail Sample; • UX Crossing Tracker QUEONAB CURRENT; • 2023 HR UA Trending; and • 2023 HR UA Trending. The following interviews are related to this finding: • Interview AP-11 Establish and maintain a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses (OPR 6.5(1)(s)) MS and Damage Prevention program perspective; and • Interview AP-11 Establish and maintain a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses (OPR 6.5(1)(s)) Field Supervisor perspective.
Finding summary	TNPI has established and maintained a data management system for monitoring and analyzing the trends in hazards, incidents and near-misses. TNPI uses third party software, and excel together to monitor and analyze trends in hazards, incidents, and near-misses, as it pertains to damage prevention.

Detailed Assessment

TNPI has satisfied the expected outcomes listed above.

An Intelex Event Reporting module is used to capture data related to hazards, incidents, and near misses (i.e., events as per TNPI) for all programs, including Damage Prevention. Each record contains general data related to the initial discovery of the event (such as event type, date, location, description, and immediate

steps taken), tracks implementation of corrective and protective actions, and links the event to the relevant OEMS element.

TNPI analyses and trends data collected from hazards, incidents, and near misses. For example, this data is monitored in daily operation meetings, trended in stewardship reports, and reported to senior management and the board of directors on a regular basis.

Damage Prevention related events within Intelex are primarily composed of identified hazards and unauthorized crossings. As discussed in AP-10, high risk unauthorized crossings are monitored, trended, and reported to senior management on a regular basis. High risk unauthorized activities consist of ground disturbance less than three metres from the pipe, construction of a facility over or under the pipe, vehicle crossings, and unauthorized activities by repeat offenders.

Other third-party software systems track other Damage Prevention related information. Examples include data related to locates, RoW patrol reports, depth of cover, encroachments, and types of stakeholders.

When asked to describe an example of a trend related to unauthorized activities, TNPI referenced that, over the years, the distribution of unauthorized activities has changed from being clustered in the spring/summer, to being distributed more evenly throughout the calendar year. When asked whether large or small contractors are more likely to be involved in an unauthorized activity, TNPI responded that there wasn't a significant difference between the two. These responses support the assertion that data is being monitored, trended, and interpreted.

In summary, TNPI demonstrated that it has established and maintained a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses.

Appendix 2: Terms and Abbreviations

For a set of general definitions applicable to all operational audits, please see Appendix I of the CER Management System Requirements and CER Management System Audit Guide found on the CER's website at www.cer-rec.gc.ca. The definitions below are specific to this audit report.

Term or Abbreviation	Definition
CAPA	Corrective and Preventive Action
CER	Canada Energy Regulator
CER Act	*Canadian Energy Regulator Act* (S.C. 2019, c.28, s.10)
TNPI Crossings Guidelines	TNPI Crossings Guidelines Ontario-Quebec
DPR-O	*Canadian Energy Regulator Pipeline Damage Prevention Regulations – Obligations of Pipeline Companies (SOR/2016-133)*
MOC	Management of Change
OEMS	Operational Excellence Management System
OPR	*Canadian Energy Regulator Onshore Pipeline Regulations* (SOR/99-294)
Resolution	The size of the smallest unit of measurement observed or recorded for an object
RoW	Right-of-Way
The company	Trans-Northern Pipelines Inc. (TNPI)