



Canada Energy
Regulator

Régie de l'énergie
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Audit Report

**Trans-Northern Pipelines Inc.
Contaminated Sites Management**

CV2223-232

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16 March 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 a Contaminated Sites management audit of Trans-Northern Pipelines Inc. (TNPI or the auditee) between 20 September 2022 and 15 December 2022.

The objective of this audit is to verify that the auditee manages contaminated sites as a component of its Environmental Protection Program as per the requirements of the OPR.

Of 14 audit protocols; 11 were deemed no issues identified. The non-compliances are varied in nature and do not have a common thread or theme to them. Non-compliances are due to a combination of a lack of documented processes and procedures, a lack of comprehensive linkages between various processes and procedures, and the lack of a verification check between contractor Job Safety Analysis (JSA) and the equivalent version of a TNPI JSA.

Overall, within the scope of this audit, TNPI demonstrated a functional management system. TNPI's management system appears to be able to identify, assess, and remediate contaminated sites across their system.

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.

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

The CER conducted a Contaminated Sites management audit of Trans-Northern Pipelines Inc. (TNPI or the auditee) between 20 September 2022 and 15 December 2022.

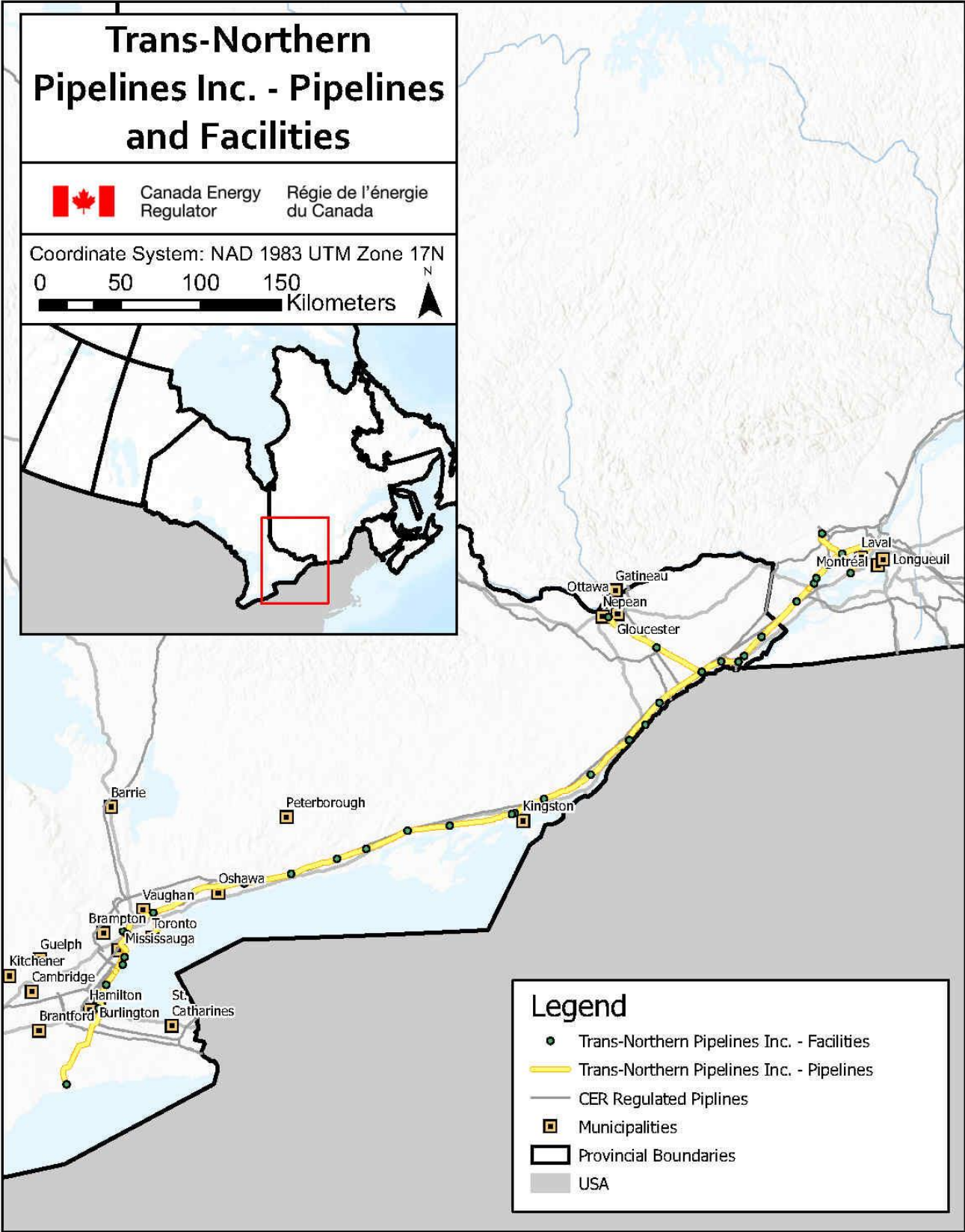
1.2 Description of Audit Topic

While the OPR does not have a specific requirement for the management of contaminated sites, the CER expects the company's Environmental Protection Program to proactively manage contaminated and suspected contaminated sites. The protection of ecological and human health must be maintained throughout a facility's lifecycle, as a result the appropriate management of contaminated and potentially contaminated sites is a critical activity.

1.3 Company Overview

Trans-Northern Pipelines Inc. is a refined fuels product pipeline company headquartered in Richmond Hill, Ontario. TNPI's CER regulated system consists of approximately 850 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 172,900 barrels of refined fuel products daily.

The map below depicts the location of the auditee'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

2.0 Objectives and Scope

The objective of this audit is to verify that the auditee has a contaminated site management program as a component of its Environmental Protection Program that meets the requirements of the OPR. As part of assessing this objective, the auditors evaluated if the company has the necessary processes, procedures, and work instructions in place to fulfil the requirements of sections 6 and 48 of the OPR.

The following are scope limitations to this audit. First, this audit does not serve as a certificate or approval of any specific remediation activities. Although sampling of site-specific activities was completed, this audit is not a comprehensive assessment of all site-specific remediation activities. Second, this audit does not address emergency management and/or incident response practices that would either prevent the creation of a contaminated site or minimize the magnitude of a contamination event.

The table below details the scope selected for this audit.

Audit Scope	Details
Audit Topic	Contaminated Sites
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 checked="" type="checkbox"/> Environmental Protection <input type="checkbox"/> Damage Prevention
Time Frame	Not Applicable

3.0 Methodology

The CER Auditors (auditors) conducted a sampling of TNPI's management system processes, procedures and work instructions related to the topics being assessed in the audit. The auditors did not review and assess all management system documentation, nor did they review all environmental program documentation. 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 20 September 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 21 September 2022 and followed up on 3 October 2022 with a meeting with the auditee staff to discuss the plans and schedule for the audit. Document review began on 31 October 2022 and interviews were conducted between 16 November 2022 and 18 November 2022.

In accordance with the established CER audit process, the lead auditor shared a pre-closeout summary of the audit results on 2 December 2022. After this meeting, the auditee was given five business days to provide any additional documents or records to help resolve the identified gaps in information or compliance. The lead auditor conducted a final close out meeting with the auditee on 15 December 2022.

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 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 1: Summary of Findings

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-01	OPR	6.4(c)	Annual Documented Evaluation of Need	No Issues Identified	The auditors found no issues of concern with TNPI's activities related to the organizational structure and the evaluation of need completed to achieve the company's anticipated needs within the scope of the audit.
AP-02	OPR	6.5(1)(a)	Setting Objectives and Specific Targets	No Issues Identified	The auditors found no issues of concern with TNPI's processes for setting objectives and targets to achieve the company's goals within the scope of the audit.
AP-03	OPR	6.5(1)(b)	Performance Measures	No Issues Identified	The auditors found no issues of concern with the performance measures TNPI has established for evaluating the company's success in achieving its goals, objectives, and targets within the scope of the audit.
AP-04	OPR	6.5(1)(c)	Identifying and Analyzing all Hazards and Potential Hazards	No Issues Identified	The auditors found no issues of concern with the process TNPI has established for identifying and analyzing all hazards and potential hazards within the scope of the audit.

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-05	OPR	6.5(1)(d)	Hazard Identification	No Issues Identified	The auditors found no issues of concern with the activities TNPI has established for maintaining an inventory of the known and potentially identified contaminated sites, within the scope of this audit.
AP-06	OPR	6.5(1)(e)	Risk Assessment	No Issues Identified	The auditors found TNPI demonstrated identifying hazards and potential hazards along with the risks related to normal and abnormal operating conditions.
AP-07	OPR	6.5(1)(f)	Controls	No Issues Identified	The auditors found no issues of concern with the activities TNPI has established for developing and implementing controls to prevent, manage, and mitigate the identified hazards and for communicating the controls to those who may be exposed to the risks, within the scope of this audit.
AP-08	OPR	6.5(1)(h)	Legal List	No Issues Identified	The auditors found no issues of concern with the list of legal requirements TNPI has established and maintained, within the scope of the audit.
AP-09	OPR	6.5(1)(j)	Training, Competence and Evaluation	Non-Compliant	Within the objectives and scope of this audit the auditors find that TNPI is non-compliant with respect to TNPI's competency management processes. TNPI's process does not ensure third-party employee training and competency checks are taking place.
AP-10	OPR	6.5(1)(m)	Communication	Non-Compliant	The auditors identified non-compliances with TNPI's processes for internal and external communication of information within the scope of this audit. The auditors noted that work was being conducted informally and with an uncontrolled process. The auditors identified that the Site Remediation Stakeholder Notification Matrix document does not link to other communication documents identified in TNPI's processes, nor does it have an Intellex number which is an indicator that the Site Remediation Stakeholder Notification Matrix document is not managed by TNPI's document control processes.

Audit Protocol (AP) Number	Regulation	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-11	OPR	6.5(1)(q)	Operational Control	Non-Compliant	Within the objectives and scope of this audit, the auditors identified a non-compliance with respect to TNPI's operational control of its staff and contractors. TNPI evaluates a contractor's JSA for completeness; however, it does not evaluate the contractors JSA for adequacy and equivalence to a comparative TNPI JSA.
AP-12	OPR	6.5(1)(r)	Internal Reporting of Hazards, Potential Hazards, Incidents and Near-misses	No Issues Identified	Within the objectives and scope of this audit, the auditors found no issues of concern with respect to TNPI's internal reporting of hazards, potential hazards, incidents, and near misses.
AP-13	OPR	6.5(1)(u)	Inspection and Monitoring	No Issues Identified	The auditors found no issues of concern with TNPI's processes for inspection and monitoring within the scope of the audit.
AP-14	OPR	6.6(1)(c)	Correcting Deficiencies	No Issues Identified	The auditors found no issues of concern with TNPI's processes for correcting deficiencies within the scope of the audit.

5.0 Discussion

Overall TNPI demonstrated processes, procedures, and work instructions are in place for the ongoing assessment and management of contaminated and potentially contaminated sites. The document review and interviews demonstrate TNPI had established its processes and procedures required to make this happen. No inspections were completed in direct support of this audit. The auditors did review TNPI's past compliance history, which includes past inspection reports as part of their preparation for this audit.

While not part of this audit, the auditors noted a potential deficiency with respect to paragraph 6.5(1)(o) of the OPR where it was noted that many of the relevant documents under review were dated older than three years. TNPI staff subsequently indicated that reviews of documents are carried out on a scheduled frequency and in some cases the documents are not revised, therefore the date on the document is not updated. Review of additional material resulted in the auditors being satisfied that the documents had been reviewed and updated where required, but that recording the reviews even when changes are not made would better reflect that the reviews occur.

As the auditors reviewed TNPI's submitted documentation it was noted that, in sections where different types and forms of external communication were required, TNPI did not always identify why certain impacted or potentially impacted parties were excluded from the list of those being notified – specifically Indigenous Peoples. While communicating with Indigenous Peoples is not a specific requirement of the OPR, it is an important step as part of Reconciliation and something that TNPI may want to update in their documentation going forward.

6.0 Next Steps

TNPI is required to resolve all non-compliant findings through the implementation of a CAPA plan using a template provided by the CER. 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 finding 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 Trans-Northern Pipelines Inc. related to Contaminated Sites management. Out of a total of 14 audit protocols, three (3) were classified as “non-compliant” and 11 were classified as “no issues identified”, resulting in an audit score of 79 percent.

Trans-Northern Pipelines Inc. is expected to resolve these non-compliances 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 Annual Documented Evaluation of Need

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.4(c)
Regulatory Requirement	The company must have a documented organizational structure that enables it to demonstrate, based on an annual documented evaluation of need, that the human resources allocated to establishing, implementing, and maintaining the management system are sufficient to meet the requirements of the management system and to meet the company's obligations under these Regulations.
Expected Outcome	<ul style="list-style-type: none"> - The company has completed an annual documented evaluation of need. - The annual documented evaluation of need discusses the amount of human resources allocated to establishing, implementing and maintaining the management system. - The annual documented evaluation of need meets the company's obligations with respect to these Regulations.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: Element 1 Leadership and Accountability Supporting Guidelines Element 5A Organizational Structure Supporting Guidelines TNPI Business Planning Process TNPI Workforce Planning Overview Process Summary Environmental Protection Program Manual 2022 June 29 OEMS & Environment Spring Program Review TNPI Position Description Guide 2022 Sept 21 OEMS & Environment Fall Program Review Presentation Business Case Contaminated Sites Advisors Mar 2022 Business Case Environmental Project Advisors
Finding Summary	The auditors found no issues of concern with TNPI's activities related to the organizational structure and the evaluation of need completed to achieve the company's anticipated needs within the scope of the audit.

Detailed Assessment

TNPI provided the auditors with information which described the organizational structure and processes that support the evaluation of need requirement. The company has an overarching Operational Excellence Management System (OEMS) with 16 elements which are structured around the Plan-Do-Check-Act business management cycle.

Element 13B – Environmental Protection Supporting Guidelines is the framework that links the OEMS to the Environmental Protection Program (EPP) and applicable environmental aspects. These include, among others:

- Air management;
- Land management;
- Water management;
- Waste management; and
- Contaminated site management.

Management system processes, procedures, and records are referenced in the Environmental Protection Program Manual. OEMS elements and processes that support this program are referenced within the document.

TNPI identifies the need for adequate resources in Element 1 – Leadership and Accountability. The document states resources shall be provided for the effective development, implementation, sustainment, control, and improvement of the systemic processes that support all aspects of OEMS. These resources shall be periodically reviewed and where necessary changed to ensure adequacy.

The Environmental Protection Program aligns to Element 5A-Organizational Structure Supporting Guidelines. Requirements include:

- Organizational structure;
- Responsibility and authority;
- Employee performance;
- Selection and placement; and
- Employee changes.

The Business Planning Process document describes the need to assess, assign and acquire both human and non-human resources based on developed workplans. Annual goals, objectives, and targets are developed, and workforce planning is described in the Annual Workforce Planning Process. This process identifies five steps:

- HR initiates process with department managers;
- Gather feedback on workforce needs (numbers or resources);
- Provide input into annual budgeting process;
- Approval via the budgeting process through Board of Director Meeting; and
- Action as applicable (i.e., recruitment).

TNPI provided the auditors with an organizational chart that showed the company's Leadership Team, and the Security, Environmental & Emergency Management Team, which includes the Remediation Team who are responsible for contaminated sites management. In addition, TNPI provided two examples of business cases that explained and justified the need for additional staff. The business cases identified additional resources for Environmental Project and Contaminated Sites Advisors.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with TNPI's activities related to the organizational structure and the evaluation of need processes.

AP-02 Setting Objectives and Specific Targets

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(a)
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 setting the objectives and specific targets that are required to achieve the goals established under subsection 6.3(1) and for ensuring their annual review.
Expected Outcome	<ul style="list-style-type: none"> - The company has a compliant process that is established and implemented. - The company has set objectives and targets that are required to achieve the goals established under subsection 6.3(1). - All objectives are relevant to the company's management system when considering the scope of the process and their application to section 55 programs. - An annual review of the objectives and targets is performed by the company. - The review determines if the objectives were achieved or if corrective or preventive actions are needed.
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"> - Element 14 Goals Objectives and Targets Supporting Guidelines - Operational Excellence Policy - Environmental Protection Program Manual - Business Planning Process - Measurement and Monitoring Process - Goals Objectives and Targets Template - Operational Ex Policy Proof of Annual Review - 2022 Presidents Message – Corporate Goals - 2022 February 07 - OEMS & Environmental Program Review Presentation - 2022 June 29 - OEMS & Environment Spring Program Review Presentation - 2022 September 21 - OEMS & Environment Fall Program Review Presentation - OEMS Minutes Management Year-End_Review_2021-2022 Feb07 Environment - OEMS Minutes Management Mid-End Review 2022Jun29 - 2022_September_21 - OEMS & Environment Fall Program Review Presentation - TNPI GOTs 2022 (SE & EM) – SEEM GOT 2022 - Screenshot of Cascade Senior Level Goals Objectives
Finding Summary	The auditors found no issues of concern with TNPI's processes for setting objectives and targets to achieve the company's goals within the scope of the audit.

Detailed Assessment

TNPI provided auditors with processes that describe how the company sets objectives and specific targets. The Operational Excellence Policy states the OEMS elements are designed to prevent ruptures, liquid releases, fatalities, and injuries and be prepared for the response to incidents and emergency situations. This policy also addresses the need for open communication about hazards, incidents and near misses without fear of disciplinary action. TNPI states their target is zero harm to people and the environment.

Element 14 – Goals, Objectives and Targets (GOTs) Supporting Guidelines document states TNPI leadership establishes, communicates, cascades, and reviews the Company’s GOTs. SMART (specific, measurable, achievable, relevant, and time-based) goals are defined, and the process includes regular monitoring and evaluation of the progress towards TNPI’s GOTs as described in the Measurement and Monitoring Process. This information is reviewed at the quarterly OEMS Program Review Meetings. Several samples of program review presentations were provided by TNPI and demonstrated the review was being conducted.

Element 13B – Protection Supporting Guidelines define who is responsible and accountable for the EPP; what processes, procedures, and tools are used, and links the processes to the company’s overarching OEMS. Contaminated site management is identified as one of the EPP’s environmental aspects.

The EPP references the Element 14 process in its planning section. The Business Planning process is used to develop the specific GOTs and business plans to ensure alignment with TNPI’s strategic GOTs and business drivers. Contaminated Site Management is identified as part of the program’s processes and described in the Operational Control – Environmental Protection Procedures. The business planning cycle includes:

- Review strategies;
- Establish goals, targets, and plans;
- Communicate and cascade; and
- Measure, review and evaluate.

Several samples were provided that demonstrated the development of TNPI’s GOTs. This included TNPI’s GOTs for 2022 that showed the corporate goals and department’s objectives for the EPP. Objectives included executing annual work plans for legacy contaminated sites, implementing a waste management process for contaminated sites, and conducting environmental engagement sessions with TNPI staff. The Minutes from the Management Year End Review demonstrated that an annual review was being conducted. It is noted that the OEMS and Program Management Review meetings identified corrective actions as continuous improvement initiatives and corrective action plans for audits, assessments, and inspections.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with TNPI’s activities related to setting the objectives and specific targets that are required to achieve the goals established under subsection 6.3(1) and for ensuring their annual review.

AP-03 Performance Measures

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(b)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55, develop performance measures for evaluating the company's success in achieving its goals, objectives, and targets
Expected Outcome	<ul style="list-style-type: none"> - The company has developed performance measures that are relevant to its documented goals, objectives, and targets. - The following two items will be confirmed in connection with the company's annual report per paragraph 6.6(1)(b): <ul style="list-style-type: none"> o The performance measures support the ability to assess the achievement of the company's goals, objectives, and targets. o The company applies the performance measures to assess its success in achieving its goals, objectives, and targets.
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"> - Element 14 Goals Objectives and Targets Supporting Guidelines - Element 13B Environmental Protection Supporting Guidelines - Element 16 Management Review Supporting Guidelines - Environmental Protection Program Manual - Measurement and Monitoring Process - Management Review Process - 2022 Sept 21 Fall Program Review Agenda and Meeting invite - Corporate Balanced Scorecard - 2021 AO Report Environment extract
Finding Summary	The auditors found no issues of concern with the performance measures TNPI has established for evaluating the company's success in achieving its goals, objectives, and targets within the scope of the audit.

Detailed Assessment

TNPI provided the auditors with documents that describe and demonstrate how the company developed performance measures for evaluating the company's success in achieving its GOTs.

Element 14 – Goals, Objectives, and Targets Supporting Guidelines states key performance measures/indicators are regularly collected and presented to management and posted quarterly.

The EPP Manual states the established EPP GOTs are SMART and are supported by the development and sustainment of Key Performance Measures (KPMs) used to evaluate progress towards the GOTs. The EPP KPMs are listed in Element 13B–Environmental Protection Supporting Guidelines. The Guideline lists six verification measures that provide indications on the EPP's ability to meet the element's requirements, and the nine effectiveness measures which focus on tracking the EPP processes results.

TNPI stated the specific key performance measures for the Environmental Protection Program which includes contaminated sites management were:

1. Number of overdue CER environmental reports;
2. Number of historical releases investigated according to the 2022 Workplan;
3. Number of information requests closed on time by TNPI (CER information requests or follow-up actions requested and answered, includes all regulator's requests like provincial Ministries of Environment and municipalities);
4. Number of Spills Reportable and Non-Reportable; and
5. Number of LOPC (Loss of Primary Containment).

The Measurement and Monitoring and Management Review processes align to OEMS and supports the requirements for the EPP. Performance assessments monitor the progress of achieving goals and targets and provides information into the Management Review process. On a quarterly basis, TNPI conducts an OEMs Program Review which includes a review of the program goals, measures, and targets. Annually, TNPI conducts an Accountable Officer review that includes the review of protection programs and performance measures.

Several samples were provided that demonstrated how the EPP reviewed GOTs and monitored KPMs on a quarterly basis and annually at the Accountable Officer Report Meeting. Performance measures are communicated to the TNPI employees through a Balanced Scorecard that is accessible through a SharePoint portal.

In summary, within the objectives and scope of this Audit, the auditors found no issues of concern with TNPI's activities related to developing performance measures for evaluating the success in achieving its goals, objectives, and targets.

AP-04 Identifying and Analyzing all Hazards and Potential Hazards

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
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 section 55 programs. - 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. - 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"> Element 2 TNPI Risk Assessment and Management Supporting Guideline Risk Management Standard TNPI Risk Assessment Matrix Risk Assessment Worksheet Element 12, Incident Management, Investigations and Corrective Actions Event Reporting Procedure Legacy Contaminated Site Assessment Process Environmental Protection Program Manual Job Safety Analysis Procedure TNPI Full Final Hazop Report Management of Change Procedure Soil Headspace Vapor Monitoring Procedure
Finding Summary	The auditors found no issues of concern with the process TNPI has established for identifying and analyzing all hazards and potential hazards within the scope of the audit.

Detailed Assessment

TNPI indicated that it takes a broad view to identify a wide range of potential hazards, then systematically reviews and narrows the list of potential hazards by determining which hazards are relevant to the situation at hand. TNPI's Element 2 TNPI Risk Assessment and Management Supporting Guideline states that the Risk Assessment and Management element provides a systematic and consistent approach for the identification, assessment, and management of TNPI's priority risks. It also states that the element applies to all projects, operational and non-operational activities covering the lifecycle, foreseeable emergency situations, and hazards and risks associated with normal and abnormal conditions. When reviewing the TNPI Risk Management Standard, it states that in carrying out the TNPI risk

management process, TNPI ensures the risks assessed and the mitigation applied minimize the impacts of the identified hazards.

The Element 2 TNPI Risk Assessment and Management Supporting Guideline goes on to provide a list of different hazard and risk assessment activities that may take place. These include such options as:

- Engineering Assessments;
- Job Safety Analysis (JSA);
- Process Hazard Analysis;
- Layer of Protection Analysis; and
- What-if-analysis.

Some of the methods of hazard and risk assessment are more applicable to environment and contaminated sites work than others. According to TNPI's EPP Manual, it is to work in alignment with the Risk Management Standard and Element 2 requirements to complete EPP specific hazard identifications and risk assessments. The results of which are added to an EPP specific risk assessment. The interaction between the higher-level company risk approach and the more detailed EPP approach appears to provide TNPI with a comprehensive perspective on risk.

When preparing to conduct operational or O&M work at a specific site, such as an integrity dig, a Pre-Disturbance Environmental Screening Checklist must be completed prior to the start of work. There is a requirement for TNPI environment staff to conduct a review of existing historical releases and contaminated sites data to identify contaminated and potentially contaminated sites in the area of the proposed workspace. All known contamination or areas with potential contamination is documented on the form with details and recommended mitigation measures to be followed. TNPI staff indicated this does not mean it is not possible for new, previously unknown, historical contamination to be identified during work at a site. To account for this possibility TNPI has developed the Soil Headspace Vapour Monitoring document. The procedure states that its purpose is to outline the soil sampling and soil headspace vapour monitoring requirements needed to screen for potential environmental impacts. It goes on to say that it contains the procedures to be implemented in the event contamination is potentially identified. If contamination is potentially identified, then specialist environmental consultants are to be brought in to do additional detailed site investigation work.

Some pipeline rights-of-way contain multiple pipelines from more than one company. TNPI staff indicated if contamination is found while working in such a situation it reaches out to the other users of the right-of-way and works with them to determine next steps.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with the process TNPI has established for identifying and analyzing all hazards and potential hazards within the scope of the audit.

AP-05 Hazard Identification

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(d)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55, establish and maintain an inventory of the identified hazards and potential hazards
Expected Outcome	<ul style="list-style-type: none"> - The company has a compliant inventory that is established and maintained. - The inventory includes hazards and potential hazards associated within the company scope of operations and activities through the lifecycle of the pipelines. - Hazards and potential hazards are identified across all section 55 programs. - The inventory has been maintained, it is current, and is up-to-date including changes made to company operations and activities. - The inventory is being used as part of the risk evaluation and controls processes.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: TNPI Hazard Inventory Environmental Program Master Environmental Protection Program Risk Assessment LAND Example CER Contaminated Sites Inventory Annual Update Links TNPI Risk Management Standard Element 2 TNPI Risk Assessment and Management Supporting Guidelines Management of Change Procedure
Finding Summary	The auditors found no issues of concern with the activities TNPI has established for maintaining an inventory of the known and potentially identified contaminated sites, within the scope of this audit.

Detailed Assessment

TNPI provided several databases and worksheets to highlight its overall list of contaminated sites and potential environmental hazards. The CER Contaminated Sites Inventory Annual Update provides a list of all federally regulated contaminated sites under TNPI's responsibility. This worksheet is updated at least annually by TNPI staff.

TNPI has a Hazard or Potential Hazard Inventory which was developed by drawing on multiple sources available in both the oil and gas sectors, energy, pipeline, and other high-risk industries. This inventory provides a starting point and is supplemented by other information sources and hazard identification approaches. The inventory is reviewed by Program owners and key stakeholders as one of the steps to update the TNPI Hazard Inventory. TNPI demonstrated this inventory by providing a list of different environmental potential hazards. This inventory is refined and updated on an annual basis.

Other OPR section 55 programs, such as Integrity, have access to the environment program's hazards or potential hazards and can access them in the planning for future work activities such as integrity digs. The information is made available to all internal users as it may provide useful information in the planning of future activities.

In summary, the auditors found no issues of concern with the activities TNPI has established for maintaining an inventory of the known and potentially identified contaminated sites within the scope of this audit.

AP-06 Risk Assessment

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(e)
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 evaluating the risks associated with the identified hazards and potential hazards, including the risks related to normal and abnormal operating conditions
Expected Outcome	<ul style="list-style-type: none"> - The company has a compliant process for evaluating risks that is established and implemented. - The method(s) for risk evaluation confirm that the risks associated with the identified hazards (related to normal and abnormal operating conditions) are based on referenced regulatory standards and are appropriate for the nature, scope, scale, and complexity of the company's operations, activities, and are connected to the purposes and intended outcomes of the section 55 programs. - Risks are evaluated for all hazards and potential hazards and includes normal and abnormal conditions. - Risk levels are monitored on a periodic basis and as-needed, and re-evaluated for changing circumstances. - Risk tolerance/acceptance criteria is determined for all hazards and potential hazards.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: Operations Excellence Management Manual TNPI Risk Management Standard LCSAP Strategy MOC Training in Cornerstone Management of Change Procedure Risk Assessment Training in Cornerstone Risk Assessment Practitioners Level Training in Cornerstone Risk Management Training – Practitioners Level Course
Finding Summary	The auditors found TNPI demonstrated identifying hazards and potential hazards along with the risks related to normal and abnormal operating conditions.

Detailed Assessment

TNPI indicated the TNPI Risk Management Standard contains the process requirements for this Audit Protocol. The document states once the hazard inventory has been finalized, associated risk events are defined for each relevant hazard. The document indicates TNPI is to assess the potential risk events which may be caused by each hazard and the potential for interacting hazards to contribute to a risk event. During interviews, TNPI staff indicated that they will take the worst possible consequence or risk event while completing hazard assessments to ensure an appropriate level of controls is applied.

For contaminated sites specific risk assessment work, TNPI pointed to the Legacy Contaminated Site Assessment Process (LCSAP). The document is based on the CER's *Remediation Process Guide* which provided the foundation for TNPI's risk assessment and contaminated site prioritization. According to the process, historic leaks and spills are assessed and prioritized through the LCSAP process to determine if the site is low risk (no contamination) or will require an in-depth Environmental Site Assessment (ESA) to determine the extent of contamination and what the potential remediation requirements might be. The site scoring prioritization table within the LCSAP is completed annually to provide support and justification in the reduction of potential risk associated with historic contaminated sites. One of the outputs of the LCSAP is a workplan which can lead to the collection of missing information needed for the updating of the prioritization modelling as well as detailed ESAs for the highest priority sites. Once this information is assessed, sites deemed to be contaminated are managed through the Contaminated Sites Management Process.

While not prevalent for every contaminated site, some sites will have a residual risk element to them that TNPI is required to monitor and potentially treat over long time frames. For example, this may occur at facilities where a contamination plume extends under a building and cannot be accessed until the infrastructure is removed at some point in the future. TNPI's operating history is quite long, dating back to the 1950's. As a result of this long operating history, the environmental legal requirements for spills/leaks and contaminated sites have changed dramatically over the years. A site considered remediated in the past may no longer meet the current standards. As a result, TNPI may be required to re-enter sites once thought to be '*cleaned up*' and perform additional work. This concern is identified and addressed in TNPI's Contaminated Sites Management Process.

Evidence gathered from audit interviews, past field inspections, and other previous compliance verification activities of contaminated sites does demonstrate that TNPI has or is in the process of implementing a risk management approach at some of its contaminated sites. The CER accepts this remedial approach as a possible option for some contaminated sites, depending on their unique characteristics.

In summary, within the scope of this audit, the auditors found TNPI demonstrated identifying hazards and potential hazards along with the risks related to normal and abnormal operating conditions.

AP-07 Controls

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
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 section 55 programs. - Controls are developed and implemented. - Controls are adequate to prevent, manage and mitigate the identified hazards and risks. - Controls monitored on a periodic basis and as-needed and re-evaluated for changing circumstances. - Controls are communicated to those exposed to the risks.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: TNPI Risk Management Standard Element 2 TNPI Risk Assessment and Management Supporting Guidelines Monitoring Impacts of Historical Releases and Contaminated Sites Soil Head Space Vapor Monitoring Pre-Disturbance Environmental Screening Procedure Environmental Inspection Form Project
Finding Summary	The auditors found no issues of concern with the activities TNPI has established for developing and implementing controls to prevent, manage and mitigate the identified hazards and communicating the controls to those who may be exposed to the risks within the scope of this audit.

Detailed Assessment

During interviews TNPI staff indicated controls are put in place to mitigate the risk and to stop the threat from occurring. If this can't be done, TNPI will look to mitigate the results through preventative and mitigative controls. TNPI pointed to the TNPI Risk Management Standard for the process requirements for this Audit Protocol. This document states TNPI has developed comprehensive programs to mitigate risks associated with known hazards and their associated risks. These programs include controls which consist of the mitigation activities to treat any unacceptable risk associated with the identified hazards. The TNPI Risk Management Standard indicates critical controls are to be reviewed annually as part of the review and update of the Corporate Risk Register. Risks currently documented within the Corporate Risk Register need to be reassessed to determine if the risk levels remain at an acceptable level, or if additional mitigations or controls are needed.

According to the TNPI Risk Management Standard critical controls may include a combination of engineering, administrative, and physical controls that come from different programs within TNPI. OEMS Element and Program owners are to provide information on the effectiveness of controls through several different management review processes such as:

- The annual OEMS review;
- Annual program reviews;
- Quarterly OEMS and program reviews; and
- Monthly Corporate KPM reviews.

TNPI staff indicated they will conduct a site characterization to determine what controls may be necessary for a specific contaminated site. Through this, Site Specific Environmental Protection Plan (SSEP) may be developed to address specific characteristics of a site which may include additional controls. TNPI staff indicated the use of groundwater monitoring is done around the perimeter of facilities for proactive monitoring and within a facility if known contamination exists as a form of control for monitoring the potential spread of contamination.

TNPI staff indicated that controls are communicated to potentially impacted stakeholders through multiple methods. TNPI pointed to the Managing Impacts of Historical Releases and Contaminated Sites process as the main method followed to communicate potential contaminated sites information. The document states the process is to ensure that the locations of historical release and contaminated sites are identified, and the hazards and potential hazards associated with these sites are communicated to those who are working in the vicinity of these sites. The process states that if the contamination at these sites is impacting operational or development activities then the process will ensure appropriate mitigation is put in place to manage the identified hazards.

In summary, the auditors found no issues of concern with the activities TNPI has established for developing and implementing controls to prevent, manage and mitigate the identified hazards and communicating the controls to those who may be exposed to the risks within the objectives and scope of this audit.

AP-08 Legal List

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(h)
Regulatory Requirement	A company shall, as part of its management system and the programs referred to in section 55, establish and maintain a list of those legal requirements
Expected Outcome	<ul style="list-style-type: none"> - The company has established and maintained a list of legal requirements. - The list has been communicated to appropriate personnel. - The list has been maintained and is up-to-date based on the company scope of operations, its activities, including new and existing legal requirements. - The list includes all legal requirements for all section 55 programs. - The legal list has been developed to the clause level of the applicable regulation and standards.
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"> - Element 3 Legal Requirements and Compliance and Compliance Supporting Guidelines - Element 3 Leadership Training – Legal Requirements and Compliance - Element 3 Leadership Training – Legal Requirements and Compliance Intalex Training Requirement Example - Legal List Environment – Report - Q2 2022 Regulatory Newsletter - 2022 Q2 OEMS Review – July 11 Example Highlighting New & Upcoming Regulatory Items - Example of Regulation Monitoring NRES What’s New Standard Edition January 24th to 30th 2022 - Example Regulation Monitoring – Pause of Implementation of Excess Soil Requirements which came into effect Jan 1, 2022 - Example Regulation Monitoring – Pause of Implementation of Excess Soil Requirements
Finding Summary	The auditors found no issues of concern with the list of legal requirements TNPI has established and maintained, within the scope of the audit.

Detailed Assessment

In the assessment of this Audit Protocol, the auditors did not review the processes, procedures and related documentation used for the development and the establishment of the legal list. The focus of this audit was on the outcomes of those processes and procedures, and specifically the environmental portion of the legal list.

TNPI provided the auditors with processes which describe the management of the EPP legal list.

Element 3 – Legal Requirements and Compliance Supporting Guidelines describes how TNPI identifies and maintains a list of legal requirements. Employees have the responsibility to review and manage additions, changes, or deletions. General and awareness training is provided to employees. Leadership receives comprehensive training and an example of this was shown in a presentation.

The Regulatory Compliance Lead has the responsibility to manage the Legal Requirements and Compliance Process and maintain the list. In addition, they provide on going monitoring for changes, additions, or deletions in the legal list. Areas where changes are taking place support the review process and provide input into the changes.

TNPI stated that it maintains a full list of requirements in its Intelex software application. Intelex is an Environmental, Health, Safety, and Quality (EHSQ) software program to provide support in compliance tracking, incident reporting, audit management, and document control. This Intelex list is available to all employees and internal contractors. Displayed in Intelex is the record number, regulatory type, regulation title, and regulatory agency.

Several samples were provided that demonstrated the legal list for the EPP, including contaminated sites management. An example of clause level concordance for sections 5, 6, 48, 52, and 55 of the OPR, specific to the EPP was observed. TNPI demonstrated that legal requirements for all jurisdictions, including provincial and municipal, was being monitored.

Communication of legal requirements changes includes quarterly newsletters, quarterly OEMS reviews, and emails.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with TNPI's activities related to establishing and maintaining a list of legal requirements for the Environmental Protection Program.

AP-09 Training, Competence and Evaluation

Finding Status	Non-Compliant
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(j)
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 competency requirements and training programs that provide employees and other persons working with or on behalf of the company with the training that will enable them to perform their duties in a manner that is safe, ensures the safety and security of the pipeline and protects the environment
Expected Outcome	<ul style="list-style-type: none"> - The company has a compliant process for developing competency requirements and training programs. - The company has defined what competency requirements are required. - Training programs are traceable and trackable to the defined competency requirements and effective at achieving the desired competencies. - Employees and those working on behalf of the company are competent to carry out their assigned work. - Provide persons working with or on behalf of the company with adequate training applicable to section 55 programs and the management system.
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"> - Element 5B Learning and Competency Supporting Guidelines - Learning and Competency Process - Contractor General Procedure and Conditions - Training Program and Policy
Finding Summary	Within the objectives and scope of this audit, the auditors find that TNPI is non-compliant with respect to TNPI's competency management processes. TNPI's process does not ensure third-party employee training and competency checks are taking place.

Detailed Assessment

TNPI's Learning and Competency Process states that employees are regularly assessed and evaluated to ensure they are competent to perform the responsibilities and authorities of their positions. The document indicates the frequency of competency assessments is based on the risk associated with the role, work scope, and regulatory requirements associated with the work. TNPI staff stated during interviews that TNPI does have contaminated sites training, such as pre-disturbance guidelines, that is provided to staff and contractors, who would take the same training.

TNPI's Training Needs Assessment Process states that it is a method to identify the current level of competency, skill, or knowledge in one or more areas, and compares that competency level to the required competency standard established for the position. The process indicates department leaders are expected to conduct a needs assessment for each position within their respective work group. A job description was provided for a TNPI Remediation Advisor position which outlined the job's competencies and expectations.

When reviewing Element 5B Learning and Competency Supporting Guidelines document the auditors noted the following about third-party employee competency management. The document states that the process to verify the competencies of third-party employees is "*in development*". The auditors conducted additional follow-up with TNPI on this document, and the auditors are of the opinion that a gap exists in TNPI's training and competency portion of its management system. Through the review of additional documentation and interviews, it appears the hiring manager would be the person accountable for doing this step; however, it is not documented in TNPI's current version of its training and competency processes and procedures. When reviewing TNPI's Contractor General Conditions & Procedures document it does contain specific clauses for contaminated sites management for contractors to follow when conducting field activities for TNPI.

In summary, within the objectives and scope of this audit, the auditors find that TNPI is non-compliant with respect to TNPI's competency management processes. TNPI's process does not ensure third-party employee training and competency checks are taking place.

AP-10 Communication

Finding Status	Non-compliant
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
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. - Internal and external communication is occurring and it is adequate for the management system and section 55 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"> - Element 11 Stakeholder Management and Community Relations Supporting Guidelines - Communications Process - Communications Standard - Managing Impacts of Historical Releases and Contaminated Sites - Communication log MP 306.22 - Communication Log St Rose Junction - Monthly Contaminate Sites Stewardship Report for March 2022 - Monthly Contaminated Sites Stewardship Report End of July 2022 - Monthly Leadership Team presentation - 2022 February 07 – OEMS & Environment Program Review Presentation - 2022 June 29 – OEMS & Environmental Sprint Program Review Presentation - 2022 September 21 – OEMS & Environmental Fall Program Review Presentation - Field To Control Centre Communication Protocol - Reoccurring Meeting Invite for Master Schedule – Projects and Downtime - Site remediation Stakeholder Notification Matrix
Finding Summary	The auditors identified non-compliances with TNPI's processes for internal and external communication of information within the scope of this audit. The auditors noted that work was being conducted informally and with an uncontrolled process. The auditors identified that the Site Remediation Stakeholder Notification Matrix document does not link to other communication documents identified in TNPIs processes, nor does it have an Intalex number which is an indicator that the Site Remediation Stakeholder Notification Matrix document is not managed by TNPI's document control processes.

Detailed Assessment

TNPI provided the auditors with processes for the internal and external communication of information relating to safety, security, and protection of the environment.

Element 11 – Stakeholder Management and Community Relations describes the company’s requirements for internal and external communication of information. Objectives identify the requirement to keep the community and employees informed regarding relevant operations from safety, security, health, and environmental perspectives.

The Communications Process document identifies internal and external stakeholders and aligns with Element 11. The communication cycle and process flow describe the steps to identify stakeholders, plan communications, communicate, report, and evaluate the performance. A supporting procedure, the Communication Standards, describes a strategic approach to communications which includes anticipate, engage, collaborate, participate, monitor, and review.

Examples of internal communications include town hall meetings, town hall surveys, department meetings, brochures and promotional materials, leadership emails, SharePoint/Make-It-Home portal, Intellex web-based management system for policies and procedures, and email. External communication is conveyed to regulatory agencies, landowners and community, elected officials, municipal departments, emergency response personnel, pipeline industry associations, and media.

The EPP Manual describes program specific communication. Some examples include:

- Regularly engaging with employees, contractors, and shareholders to raise awareness of corporate and business objectives by attending and presenting at various group meetings;
- Participating in routine and non-routine business activities to observe and communicate necessary environmental protection requirements for those activities; and
- Encouraging regular and transparent, two-way communication to inspire confidence and build trust related to the protection of the environment.

For the EPP, the Regulatory and External Affairs Team coordinates the overall program, and the external communication is executed through the Land Affairs Team or designate. The document, Managing Impacts of Historical Releases and Contaminated Sites requires specific communication requirements for a project communication plan due to the sensitivity of the work.

Several samples were provided by TNPI which demonstrated internal and external communications. Monthly stewardship reports, leadership team meetings, quarterly OEM & Program reviews were examples of internal communications. External communication notification of contamination to stakeholders and a site remediation stakeholder notification matrix were provided.

Within the scope of this audit, the auditors identified non-compliances with TNPI’s processes for internal and external communication of information. The auditors noted that work was being conducted informally and with an uncontrolled process. The auditors identified that the Site Remediation Stakeholder Notification Matrix document does not link to other communication documents identified in TNPIs processes, nor does it have an Intellex number which is an indicator that the Site Remediation Stakeholder Notification Matrix document is not managed by TNPI’s document control processes.

AP-11 Operational Control

Finding Status	Non-Compliant
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.5(1)(q)
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 coordinating and controlling the operational activities of employees and other people working with or on behalf of the company so that each person is aware of the activities of others and has the information that will enable them to perform their duties in a manner that is safe, ensures the safety and security of the pipeline and protects the environment
Expected Outcome	<ul style="list-style-type: none"> - The company has a compliant process that is established and implemented. - The methods for coordinating and controlling operational activities are defined. - Employees and other people working with or on behalf of the company are aware of the activities of others. - Employee's operational activities are planned, coordinated, controlled, and managed. - People working for or on behalf of the company: <ul style="list-style-type: none"> o are pre-qualified for their assigned duties to ensure safety, the security of the pipeline and to protect the environment; o are assigned work plans that have been reviewed by the company and are assessed for the interoperation with the work to be performed by other people working on behalf of the company; and o have adequate oversight performed by company representatives for their assigned tasks to ensure safety, security of the pipeline and the protection of the environment.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: Managing Impacts of Historical Releases and Contaminated Sites Job Safety Analysis Job Safety Execution Plan Line Control Record of Meetings Field Control Centre Communication Protocol
Finding Summary	Within the objectives and scope of this audit, the auditors identified a non-compliance with respect to TNPI's operational control of its staff and contractors. TNPI evaluates a contractor's JSA for completeness; however, it does not evaluate the contractors JSA for adequacy and equivalence to a comparative TNPI JSA.

Detailed Assessment

Through document review, the auditors identified the Job Safety Analysis as the document related to this Audit Protocol process requirement. This document goes into detail about the roles, responsibilities, and scope involved if an individual (internal or external) wants to conduct work at a site. During interviews with TNPI staff, it was indicated the requirements for multiple work groups, or complex projects, working on the same site at the same time are to be coordinated between the different project foremen. The foremen are to be aware of all hazards and potential hazards of the other groups activities, to sign off on the other groups JSA or

Toolbox meeting, and to communicate this information within their own respective team to ensure safety and to protect the environment.

Prior to the start of any work and potentially multiple times a day, if work conditions change, a Tailgate or Toolbox meeting is held to discuss the work about to be completed. During this meeting the JSA shall be developed with the assistance of all workers who will perform the task(s). This JSA is to be specific to the site or job being completed. After completing the JSA all workers are expected to sign off on it and follow it as described.

During the review of TNPI's JSA document, the auditors noted that TNPI states contractor JSAs are to be utilized to the greatest extent possible. While this can be an acceptable procedure, TNPI must ensure that the contractor JSAs are compatible with the work TNPI is about to undertake, and that the contractor JSA is, at a minimum, as thorough and as good quality as what TNPI would develop and utilize in the same situation. TNPI's JSA document states that a contractor JSA is to be reviewed by a TNPI representative for completeness. In the auditor's opinion, document completeness is not the same as being evaluated for quality and comparative to what an equivalent TNPI JSA would look like.

TNPI applies several additional documents, for project control, which must be addressed prior to work being completed at a facility or on the right-of-way. A pre-disturbance checklist and, where required, a Site Specific Environmental Protection Plan (SSEPP) which outlines the various environmental mitigations required for a specific project are to be completed prior to the start of work.

The internal Field to Control Centre Communication Protocol is also used as a method to control and facilitate safe work at TNPI work sites. The protocol outlines the steps required to ensure the control centre is aware of field operation activities. The protocol outlines additional steps that are required to be followed if working on a live line.

From an environmental perspective, the Managing Impacts of Historical Releases and Contaminated Sites document is to be followed to ensure the locations of historical releases and contaminated sites are identified, and the hazards associated with these sites are communicated to those who are working in the vicinity of these locations. The document outlines the steps and procedures to be followed if confirmed contamination will impact pipeline operational activities, projects, or development opportunities. The process requires mitigation and corrective actions to be taken to manage the identified hazards. The SSEPP specifies where and when activities can take place, taking into account environmental issues of concern such as contaminated and potentially contaminated sites being located within or in close proximity to the job site.

In summary, within the objectives and scope of this audit, the auditors identified non-compliance with respect to TNPI's operational control of its staff and contractors. TNPI evaluates a contractor's JSA for completeness; however, it does not evaluate the JSA for adequacy and equivalence to a comparative TNPI JSA.

AP-12 Internal Reporting of Hazards, Potential Hazards, Incidents and Near-misses

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
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. - The company can demonstrate through records that all corrective and preventative actions can be tracked to closure.
Relevant Information Provided by the auditee	The following key documents and records are related to this finding: Element 12 – Incident Management, Investigations and Supporting Guidelines Event Reporting Policy Event Reporting Procedure Event Investigation Procedure
Finding Summary	Within the objectives and scope of this audit, the auditors found no issues of concern with respect to TNPI's internal reporting of hazards, potential hazards, incidents, and near misses.

Detailed Assessment

When reviewing the documentation provided by TNPI, the Event Reporting Procedure provides the process to address this OPR requirement. This document states that all events can be prevented. The document states that all events must be reported and prioritized for investigation which allows TNPI to look for trends and opportunities for improvement. An event can be defined as any of the following:

- Incidents;
- Near Misses;
- Hazards;
- Violation of policy; and
- Regulatory non-compliance.

All events, which includes environmental nonconformances or incidents, are to use TNPI's internal document control system, Intellex, for reporting purposes. As part of this reporting, the user is to include the immediate corrective actions taken to reduce or prevent the risk.

The Event Reporting Procedure states that a daily summary of all new events is to be circulated to individuals responsible for managing the events in their department along with TNPI's Leadership Team as part of the morning operations meeting. The daily morning meeting is used to review all new events and, based on actual or potential severity determine if an investigation is warranted, and to assign events for follow-up among other things.

According to TNPI's Event Investigation Procedure, TNPI is to investigate events using the Systematic Casual Analysis Technique (SCAT). The document states that while identifying the root cause, special attention should be made in identifying what, if any, parts of the OEMS elements are applicable to the incident. This brings TNPI's management system into the process for assessing and identifying underlying failures, and corrective actions to be implemented to improve the overall system.

TNPI's Event Investigation Procedure indicates all events must be risk ranked using TNPI's Risk Matrix. For near misses, the document states the user is to identify the worst probable outcome and use this for the consequence part of the modelling. All events are to be reviewed using known existing hazards to determine contributing factors, immediate cause, and root cause.

TNPI's Event Reporting Procedure defines an imminent threat for TNPI. Among other things, this definition includes an immediate danger or threat to the employee, people, property, and the environment. The Event Reporting Procedure provides direction for TNPI staff when contractor related events occur. The TNPI supervisor is to ensure that all internal reporting requirements occur and, if required, escalate the event to more senior management within 24 hours of the event having taken place and reported through the Intellex system like all other internal events.

As part of the Event Investigation Procedure, corrective actions address the root cause and include the following characteristics to name a few:

- The action addresses the root cause of the incident and not the symptom;
- The action prevents a recurrence of similar incidents; and
- The action was implemented as intended.

All corrective actions are followed up through the bi-weekly Operations-Environment, Health, and Safety (EHS) meetings and significant events are also followed-up at monthly Leadership Team meetings.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with respect to TNPI's internal reporting of hazards, potential hazards, incidents, and near misses.

AP-13 Inspection and Monitoring

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
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 programs referred to in section 55. - 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. - 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"> - Element 15 Auditing, Inspections and Assessments Supporting Guidelines - Element 13B Environmental Protection Supporting Guidelines - Environmental Protection Program Manual - Internal Audit Process - Inspection Process - Corrective Action Process - Contaminated Site Management Process - Environmental Site Assessment Process - Legacy Contaminated Site Assessment Process - Facility Inspections - OWS Separator Inspection - 2022 June 29 – OEMS & Environment Spring Program Review Presentation - Dorval Station Facility Inspection April 7, 2021 - Incident Details Intelix 3282 - Bi-Monthly Meeting & Minutes Environmental Team & Dig Team July 7 - Integrity Inspectors Safety Meeting with Environmental Participation
Finding Summary	The auditors found no issues of concern with TNPI's processes for inspection and monitoring within the scope of the audit.

Detailed Assessment

TNPI provided the auditors with processes for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the EPP and for taking corrective and preventive actions if deficiencies are identified.

Element 15 – Internal Audits, Inspections and Assessments Supporting Guidelines describes the approach of assurance that monitors the company’s activities and performance. TNPI states that quality assurance activities are implemented to assess the adequacy and effectiveness of the OEMS, programs and processes. Supporting process documents include the Internal Audit Process, Inspection Process, and Corrective Action Process.

The internal audit process describes the four tier groups used by TNPI. This includes:

- Tier 1 – activity-based reviews to confirm proficiency of an activity, typically performed through an assessment of tasks using a checklist;
- Tier 2 – evaluations focused on the operational conditions of a workplace and the adherence to procedures and documentation;
- Tier 3 – management system approach to auditing programs (desktop review of program documentation and records that evaluates adequacy and effectiveness of the program); and
- Tier 4 – a full review of the program documentation, interviews, and record reviews (these can be executed by an independent third-party audit).

The inspection process focuses on various assets and functional areas and work in conjunction with other assurance activities such as audits and assessments. Examples of inspections include Oil and Water Separator Inspection and Cleaning, Facilities Annual Inspection, and the Monthly Tank Inspection.

The Corrective Action Process describes the requirements and responsibilities for creating, administering, tracking, reporting, and managing corrective actions. Findings identified in audits or inspections are managed through the Intelex system. Corrective actions are determined, and a plan is developed, approved, and implemented. Any needed changes are communicated using the management of change process and lessons learned are shared with employees.

Contaminated site management specific references related to inspection and monitoring include the Legacy Contaminated Site Assessment Process (LCSAP), ESA, and the Contaminated Sites Management Process. The LCSAP process is completed annually and focuses on risk reduction associated to historic leaks and spills. The ESA investigates specific details of a leak to determine the extent of contamination and required remediation or risk management activities. The Contaminated Sites Management Process manages all activities related to the ongoing management of the developed plans that can include a Remedial Action Plan (RAP), Risk Management Plan (RMP), or Site Management Plan (SMP).

TNPI provided samples demonstrating how the company inspects and monitors activities and facilities, including a Facility Inspection report and Oil and Water Separator Inspection. Evaluation of adequacy and effectiveness of the Environmental Program was demonstrated in the OEMS effectiveness reviews. As an example, the 29 June 2022 – OEMS & Environmental Spring Program Review Presentation noted that non-compliance and non-conformance issues related to the EPP processes were identified in the program review. Intelex event reference numbers demonstrated corrective actions are being addressed.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with TNPI's activities related to establishing and implementing a process for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the EPP and for taking corrective and preventive actions.

AP-14 Correcting Deficiencies

Finding Status	No issues identified
Regulation	Canadian Energy Regulator Onshore Pipeline Regulations
Regulatory Reference	6.6(1)(c)
Regulatory Requirement	A company shall complete an annual report for the previous calendar year, signed by the accountable officer, that describes the actions taken during that year to correct any deficiencies identified by the quality assurance program established under paragraph 6.5(1)(w).
Expected Outcome	<ul style="list-style-type: none"> - The company has completed an annual report for the previous calendar year that is signed by the accountable officer. - The annual report discusses the actions taken to correct identified deficiencies. - The discussion of quality assurance of the management system is based on the program established and implemented in accordance with the requirements of paragraph 6.5(1)(w) of the OPR.
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"> - Element 16 Management Review Supporting Guidelines - Management Review Process - Measurement and Monitoring Process - 2021 AO Report Environmental extract
Finding Summary	The auditors found no issues of concern with TNPI's processes for correcting deficiencies within the scope of the audit.

Detailed Assessment

TNPI provided the auditors with information demonstrating the annual report for the previous year was signed by the Accountable Officer, and actions were taken during that year to correct any deficiencies.

Element 16 – Management Review describes the management review responsibilities and requirements. The element establishes processes that ensure the OEMS framework and programs are reviewed annually and evaluated against the organizational strategies and goals.

The Management Review Process states the management review and the Accountable Officer report are conducted annually. The Accountable Officer review meeting assesses the performance of TNPI's management system, the achievement of TNPI's GOTs, and corrective actions identified by the quality assurance program. The meeting's review includes:

- Management System Performance Highlights – reviews of TNPI’s GOTs, OEMS framework, protection programs, audits, OEMS assessments, inspections, resources, and organizational structure;
- Performance Measures – year-end KPI’s for health, incidents, and compliance, audit closure tracking, monthly leadership team meetings, and consolidation of program and OEMS performance; and
- Actions to correct deficiencies that were identified.

A sample was provided to demonstrate corrective actions were being addressed by TNPI. The 2021 Accountable Officer Report environmental extract was provided as evidence that an Accountable Officer report was created, submitted in 2021, and that the EPP was part of the report. This report is signed on 29 April 2022, by the Accountable Officer. Excerpts of EPP information was observed, and the report showed corrective actions raised through the management review were completed in the first quarter of 2021.

In summary, within the objectives and scope of this audit, the auditors found no issues of concern with TNPI’s activities related to correcting deficiencies identified in the previous year’s annual report.

Appendix 2: Terms and Abbreviations

Term/Abbreviation	Definition
CAPA	Corrective and Preventative Actions
CER	Canada Energy Regulator
EHS	Environment, Health, and Safety
EHSQ	Environmental, Health, Safety, and Quality
ESA	Environmental Site Assessment
EPP	Environmental Protection Program
GOT	Goals, Objectives, and Targets
IR	Information Request
JSA	Job Safety Analysis
KPMs	Key Performance Measures
LCSAP	Legacy Contaminated Site Assessment Process
LOPC	Loss of Primary Containment
OEMS	Operational Excellence Management System
OPR	Onshore Pipeline Regulations
PDCA	Plan, Do, Check, Act
RAP	Remedial Action Plan
RMP	Risk Management Plan
SMART	Specific, Measurable, Achievable, Relevant, and Time based
SMP	Site Management Plan
SSEPP	Site Specific Environmental Protection Plans
TNPI	Trans-Northern Pipelines Inc.