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Regulator

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Final Audit Report

TransCanada PipeLines Limited
Contaminated Sites Management

CV2223-233

File OF-Surv-OpAud-T211-2022-2023 0101

23 March 2023

Executive Summary

The Canada Energy Regulator (CER) expects pipelines and associated facilities within the Government of Canada's authority, 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 (Audit) of TransCanada PipeLines Limited (TransCanada, or the Auditee) between 14 October 2022 and 11 January 2023.

The objective of this Audit is to verify that the Auditee manages contaminated sites as a component of its Environmental Protection Program (EPP) as per the requirements of the OPR.

There were 14 audit protocols considered and no issues were identified among each of them. The results of the Audit were that all 14 protocols were deemed to be compliant. Table 1 in the report summarizes the Audit findings. Detailed assessments can be found in Appendix 1. All findings are specific to the information assessed at the time of the Audit as related to the Audit scope.

Overall, within the scope of this Audit, TransCanada demonstrated a well laid out and functional management system. TransCanada's management system appears to be able to identify, assess, and remediate contaminated sites across their system.

Given that there were no issues identified by the CER Auditors (the Auditor/s) with any of the company's responses to the audit protocol and information request, or during interviews, no further actions are required by TransCanada. An Audit closeout letter will be sent to TransCanada and the Final Audit Report will be made available to the public on the CER website once TransCanada has advised the CER if it has any requests for redactions.

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1.0 Background

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 a Contaminated Sites Management Audit of the Auditee between 14 October 2022 and 11 January 2023.

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 EPP 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.

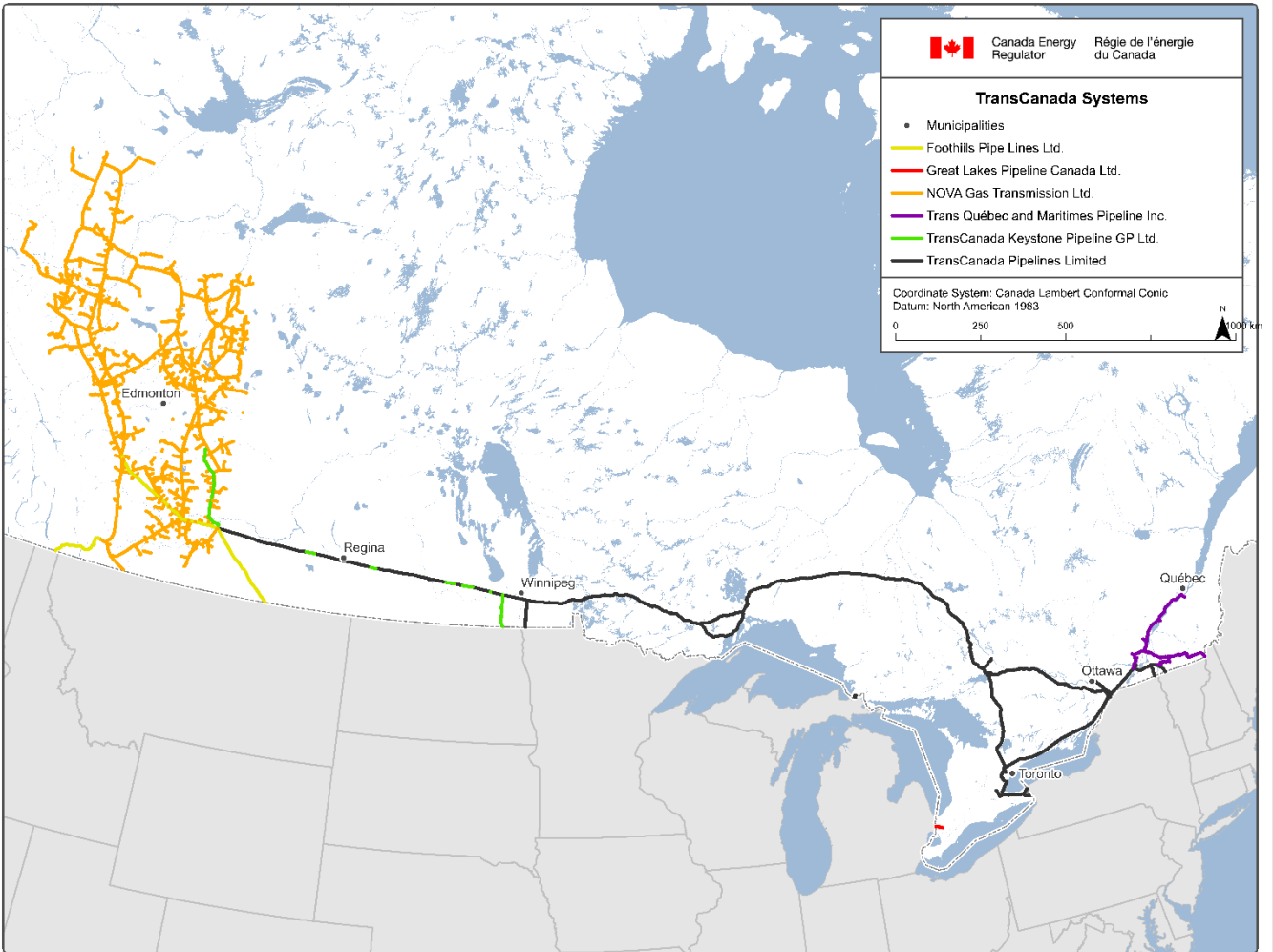
Company Overview

TransCanada owns the TCPL Canadian Mainline (Mainline). The pipeline transports natural gas produced in the Western Canadian Sedimentary Basin to consumers in eastern Canada and the United States. Since the mid-2000s on the eastern portion of the Mainline some export points were reversed to become import points and bring natural gas produced in the Appalachian Basin into Canada. TransCanada is a subsidiary of TC Energy Corporation (TC Energy).

The Mainline commenced operations in 1958. CER-regulated assets that form part of the Mainline include approximately 14,120 km of operating pipeline and various auxiliary infrastructure.

The Mainline extends from the Alberta/Saskatchewan border across Saskatchewan, Manitoba, and Ontario, and through a portion of Quebec. The map below depicts the Auditee's CER-regulated assets.

The TC Energy Management Systems are used by all subsidiary companies either as direct requirements or referenced in the subsidiary management system documents. In some instances, the document references can include both TC Energy and TransCanada.



The map is a graphical representation intended for general informational purposes only. Map produced by the CER, December 2022. Last updated on Dec-20

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 EPP 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 Auditors conducted a sampling of TransCanada’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 (EP) 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 7 October 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 14 November 2022 and followed up on 18 November 2022 with a meeting with the Auditee staff to discuss the plans and schedule for the audit. Document review began on 14 November 2022 and interviews were conducted between 12 December 2022 and 22 December 2022.

In accordance with the established CER audit process, the Lead Auditor shares a pre-closeout summary of the audit results. However, given that the Auditors did not identify any issues of concern with the information provided by TransCanada, there was no need for a pre-closeout meeting. The Lead Auditor conducted a final close out meeting with TransCanada on 11 January 2023.

4.0 Summary of Findings

The Lead Auditor has assigned a finding to each audit protocol. A finding can be either:

- No Issues Identified – no non-compliances were identified during the Audit, based on the information provided by the Auditee, and reviewed by the Auditor within the context of the audit scope; or
- Non-Compliant – the Auditee has not demonstrated that it has met the legal requirements. A 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	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-01	OPR 6.4(c)	Annual Documented Evaluation of Need	No Issues identified	TransCanada was able to demonstrate it had 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
AP-02	OPR 6.5(1)(a)	Setting Objectives and Specific Targets	No Issues identified	TransCanada was able to demonstrate it had an established and implemented 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. Including Environmental and Contaminated Site measures.
AP-03	OPR 6.5(1)(b)	Performance Measures	No Issues identified	TransCanada was able to demonstrate that it had developed performance measures for evaluating the company's success in achieving its goals, objectives, and targets.
AP-04	OPR 6.5(1)(c)	Identifying and Analyzing all Hazards and Potential Hazards	No Issues identified	TransCanada was able to demonstrate that it had developed a process for identifying and analyzing all hazards and potential hazards including those associated with Contaminated Sites.
AP-05	OPR 6.5(1)(d)	Hazard Identification	No Issues identified	TransCanada was able to demonstrate that it had establish and maintain an inventory of the identified hazards and potential hazards.
AP-06	OPR 6.5(1)(e)	Risk Assessment	No Issues identified	TransCanada was able to demonstrate 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.

Audit Protocol (AP) Number	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-07	OPR 6.5(1)(f)	Controls	No Issues identified	TransCanada was able to demonstrate 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.
AP-08	OPR 6.5(1)(h)	Legal List	No Issues identified	TransCanada was able to demonstrate that it, established and maintained a list of those legal requirements for the programs referred to in section 55.
AP-09	OPR 6.5(1)(j)	Training, Competence and Evaluation	No Issues identified	TransCanada was able to demonstrate a process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company.
AP-10	OPR 6.5(1)(m)	Communication	No Issues identified	TransCanada was able to demonstrate process for the internal and external communication of information relating to safety, security, and protection of the environment.
AP-11	OPR 6.5(1)(q)	Operational Control	No Issues identified	The Auditors found no issues of concern with TransCanada process for coordinating and controlling the operational activities or employees and other people working with or on behalf of the company.
AP-12	OPR 6.5(1)(r)	Internal Reporting of Hazards, Potential Hazards, Incidents and Near misses	No Issues identified	TransCanada was able to demonstrate a process for internal reporting of hazards, potential hazards, incidents, and near-misses and for taking corrective and preventive actions, including the steps to manage imminent hazards.
AP-13	OPR 6.5(1)(u)	Inspection and Monitoring	No Issues identified	TransCanada was able to demonstrate 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.

Audit Protocol (AP) Number	Regulatory Reference	Topic	Finding Status	Finding Summary
AP-14	OPR 6.6(1)(c)	Correcting Deficiencies	No Issues identified	TransCanada provided a 2021 Annual Report 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).

5.0 Discussion

Overall TransCanada demonstrated that it has processes, procedures, and work instructions in place for the ongoing assessment and management of contaminated and potentially contaminated sites. The document review and interviews demonstrate that TransCanada had established its processes and procedures required to make this happen.

6.0 Next Steps

With the issuance of the Final Audit Report, TransCanada has 28 days to advise the CER if it has any requests for redactions of any of the information contained in this Audit Report. The CER will take these requests into consideration in deciding what to redact before publishing the Final Audit Report on the CER’s external website. Aside from any potential redaction requests, there is no further action required by TransCanada. The CER will issue an Audit closeout letter in the near future.

7.0 Conclusion

In summary, the CER conducted an operational Audit of TransCanada related to Contaminated Sites Management. Out of a total of 14 audit protocols, none were classified as “non-compliant” and 14 were classified as “no issues identified”, resulting in an audit score of 100 percent.

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	<p>The following key documents and records are related to this finding:</p> <p>The annual internal resource plan. Resource Spreadsheet.</p> <p>TransCanada Pipelines Operational Management System (TOMS) Manual</p> <p>Risk Management (RM) Standard</p> <p>Risk Management (RM) Procedure</p> <p>Management Review of Management Systems and Programs Procedure</p> <p>CER Remediation Process Guide (RPG): Remediation Team Guidance Document*</p> <p>Site Analysis and Risk Monitoring Procedure</p> <p>Environment Program Manual (EPM)</p> <p>2021 Western Mainline Environmental Remediation Program – Decision Support Package</p> <p>2021 Eastern Mainline Environmental Remediation Program – Decision Support Package</p> <p>*Note: Though titled CER RPG, this is a TC Energy document.</p>
Finding Summary	TransCanada was able to demonstrate it had 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.

Detailed Assessment

TransCanada uses an Operational Management System (TOMS) Manual, its associated risk management (RM) documents, plus the other tools that TransCanada uses to identify, analyze, and mitigate risks for all business units within TransCanada, including the Environmental Program (EP) within the Canada Gas Business Unit. The TOMS Manual specifies that business unit leadership, program owners, and project leaders are responsible for implementing the RM process and providing adequate resources and competent support to achieve the required activities and outputs.

The management review process is used to evaluate the adequacy and effectiveness of the EP and includes a management review committee that includes the accountable vice-president(s) and the Environment director(s).

The CER Remediation Team Guidance Document outlines the roles and responsibilities of managing resources and leading people within the environment discipline, establishing environment policies and practices to ensure compliance with permits, and ensuring the identification and assessment of risks and effective implementation of risk measures and controls.

TransCanada provided two primary inputs to the evaluation of need for human resources to manage contaminated sites:

- The EP Management Review, where priorities are set for the coming year, which guide resource planning and budgeting; and,
- A combination of the outputs of the Site Analysis and Risk Monitoring Procedure, the Contaminated Sites Inventory, and the internal site selection process.

The site-specific risk ranking scores and the site status and regulatory requirements, and commitments determine the annual work plan and budget.

These inputs inform both the annual internal resource plan, where full-time equivalent hours are allocated to the scope of work for the year and the requirements for external contractors and consultants to perform the work, all of which is documented in a decision summary for management approval.

In summary, TransCanada was able to demonstrate it had 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 the OPR.

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> <p>TransCanada Pipelines Operational Management System (TOMS) Manual Establish and Monitor Goals Objectives and Targets Process Environment Program Manual Environment Goals Objectives and Targets Process 2021 Environment Program Management Review Memo CER Remediation Process Guide (RPG): Remediation Team Guidance Document Goals Objective and Targets Template</p>
Finding Summary	TransCanada was able to demonstrate it had an established and implemented 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, including Environmental and Contaminated Site measures.

Detailed Assessment

TransCanada has an established process for setting and monitoring goals, objectives, and targets (GOTs) for its EP. This includes establishing GOTs annually and reviewing and approving them on a regular basis, as well as monitoring and reporting on the performance of the management system, elements, and programs at least annually.

The GOTs are informed by various factors such as TransCanada's Key Performance Areas and Indicators (KPAs and KPIs), environmental principles, applicable laws and regulations, hazard and barrier inventories, risk registers, management review actions, and internal stakeholder feedback. TransCanada's environmental GOTs are aligned with the goal of supporting the corporate scorecard key performance area of minimizing environmental impacts while maintaining safe and reliable operations and asset integrity.

The specific objective of reducing the potential adverse effects to the environment through a reduction in the number of serious or greater severity environmental incidents is also noted. Performance measures and targets are established for contaminated sites, and the GOTs are reported on a quarterly basis through the TOMS scorecard.

The TransCanada Environment GOTs have been established and are documented in the corporate template "Goals, Objectives, and Targets" Template dated 23 March 2022. Section 1.5 of the EP Manual states that GOTs have been established for the EP to measure TransCanada's environmental performance and to report to management on the adequacy and effectiveness of the EP.

The EP GOTs were developed in accordance with the process in TransCanada's Establish and Monitor GOTs Process, and are informed by the Auditee's:

- KPAs and KPIs;
- Health, Safety, and Environment (HSE) Commitment Statement;
- Environment Principles;
- Applicable laws and regulations;
- Hazard and barrier inventories;
- Risk registers;
- Management Review actions; and,
- Internal stakeholder feedback.

The TransCanada goals include the environmental GOTs:

Goal:

- Support the Corporate Scorecard KPAs to maintain safe reliable operations and asset integrity while minimizing environmental impacts.

Objective:

- Reduce the potential adverse effects to the environment through a reduction in the number of serious or greater severity environmental incidents.

Contaminated Sites Performance Measures & Targets:

- Number of compressor stations where known environmental contamination risk is reduced.
- Percentage of environmental planners and regional specialists attending remediation training and awareness sessions

In November 2021, the EP completed its annual management review; of which the summary and approval can be found in the 2021 EP Management Review Memo. Program deficiencies, achievements, and priorities were reviewed based on the results of the EP GOTs. TransCanada was able to demonstrate it had an established and implemented 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, including Environmental and Contaminated Site measures.

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"> TransCanada Pipelines Operational Management System (TOMS) Manual Environment Program (EP) Manual Environment Goals Objectives and Targets (GOT) Process Establish and Monitor GOT Process CER Remediation Process Guide (RPG): Remediation Team Guidance Document Management Review of Management Systems and Programs Procedure TOMS Communication Standard
Finding Summary	TransCanada was able to demonstrate that it had developed performance measures for evaluating the company's success in achieving its goals, objectives, and targets.

Detailed Assessment

TransCanada's EP has a goal of supporting the Corporate Scorecard KPA to maintain safe and reliable operations while minimizing environmental impacts, and an objective of reducing the potential adverse effects to the environment through a reduction in the number of serious or greater severity environmental incidents.

The Environmental Program also has two performance measures/metrics related to contaminated sites management: one related to reducing the number of compressor stations where known environmental contamination risk is reduced, and another related to the percentage of environmental planners and regional specialists attending remediation training and awareness sessions. These measures and targets align with the corporate commitment statement of protecting the environment and leaving it in a condition equal to or better than it was found.

The EP Performance Measures are:

- Number of compressor stations where known environmental contamination risk is reduced: Target: >4 sites
- Number of Environmental Planners and Regional Specialists attending remediation training and awareness sessions versus the total number of environmental planners and regional specialists: Target: >80%

The performance measures are reviewed in the annual report and support the achievement of the GOTs.

TransCanada was able to demonstrate that it had developed performance measures for evaluating the company's success in achieving its GOTs, including performance measures for managing Contaminated Sites.

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. <p>The identified hazards and potential hazards have been analyzed for the type and severity of their consequences.</p>

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> Canadian Environmental Design Standard PDS Hazard Identification and Risk Management Procedure EPP for Forested and Ag Construction Environmental Field Analysis Checklist Canada Pre Job-Form CER RPG Remediation Team Guidance Document Site Analysis and Risk Monitoring Procedure Environmental Hazard Barrier Inventory (HBI) PDS Project Roadmap Procedure Site Analysis and Risk Monitoring (RM) Procedure Phase I Environmental Site Assessment Work Aid Level A B HIRM Plan Template Level AB Qualitative Risk Register Template Risk Management (RM) Standard Risk Management (RM) Procedure Vaughan Mainline Expansion Project Environmental and Socioeconomic Analysis Job Safety Analysis Procedure Job Safety Analysis Form General Work Permit Procedure C01130-1 TRANSCANADA 2018 Facilities Abandonment Program - Cond 5 - Phase I ESA-A6X010 Environmental Protection Plan for the Proposed Station 148 E1 Unit Addition Project (English) Stn. 68 Environmental Field Analysis Checklist April 1, 2022 Environmental Field Analysis Checklist - Stn 21
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate that it had developed a process for identifying and analyzing all hazards and potential hazards including those associated with Contaminated Sites.</p>

Detailed Assessment

TransCanada has established a risk management process for identifying, assessing, mitigating, monitoring, and communicating risks and hazards related to asset lifecycle activities, including environmental hazards. The process includes a Hazard Barrier Inventory (HBI) which includes a section on environmental hazards and specifically identifies "contamination" as an environmental hazard.

The EP is responsible for identifying and communicating hazards and risks related to contamination and follows the Canadian Environmental Design Standard to manage risks associated with known or potential contamination throughout the asset lifecycle.

Project-specific requirements for managing, mitigating, and reporting environmental impacts of contaminated site activities are outlined in project documents and contingency plans, and mitigations are provided in the EPP. In the event of encountering new contamination, the hazard is managed systematically in accordance with the CER's RPG Remediation Team Guidance Document, which requires the annual review of an established inventory of known contaminated sites and has a team of subject matter experts in place to specifically manage known and potential contaminated sites. The EPP identifies and communicates hazards and risk results using tools such as the EP Hazard Barrier Inventory (HBI) based on a frequency identified in the EP Communication Strategy. It also identifies contamination as a hazard, which requires that TransCanada follow all applicable processes and procedures related to hazard identification and analysis and has developed controls to manage the associated risk. TransCanada states that the potential for encountering contamination is always present. Contingency plans and mitigations for encountering contamination during the implementation of capital and maintenance projects are provided in the EPP.

Environmental hazards (including new contamination) are identified through Environmental Field Analysis. Upon the identification of new contamination, the hazard is managed systematically by implementing the CER RPG Remediation Team Guidance Document.

TransCanada was able to demonstrate that it had developed a process for identifying and analyzing all hazards and potential hazards including those associated with Contaminated Sites.

AP-05 Hazard Identification

Finding Status	No issues identified
	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	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> Risk Management (RM) Standard Risk Management (RM) Procedure Environmental Hazard Barrier Inventory (HBI) CER RPG: Remediation Team Guidance Document 2022 TRANSCANADA Contaminated Site Annual Update Site Analysis and Risk Monitoring Procedure EPP for Forested and Ag Construction Environmental Field Analysis Checklist Canada Electronic Record of HBI Modification Date
Finding Summary	TransCanada was able to demonstrate that it had established and maintained an inventory of the identified hazards and potential hazards.

Detailed Assessment

The TransCanada Risk Management (RM) process requires the programs to document hazards and barriers in an appropriate inventory form, including the EP. This inventory, called the Hazard Barrier Inventory (HBI), is an annual document that includes a summary of all environmental hazards and potential hazards that may be encountered throughout the life cycle of the assets, as well as a summary of mitigations and barriers. The HBI includes contamination as a hazard and specifies that if contamination is identified, it will be managed through the CER RPG Remediation Team Guidance Document. It is important for companies to regularly review, update, and maintain their hazard and barrier inventory to ensure that they are aware of all potential hazards and have appropriate controls in place to mitigate the associated risks.

TransCanada supplied the audit team with a copy of the TransCanada EP HBI (last updated in January of 2022). The document is an inventory of all environmental hazards and potential hazards that may be encountered throughout the life cycle of the assets and included in the inventory is a summary of mitigations and barriers. Multiple contaminations leading to contaminated site remediation is included in the list of hazards included in the EP HBI, and if contamination is identified, analysis is supported the CER RPG Remediation Team Guidance Document.

TransCanada was able to demonstrate that it had established and maintained an inventory of the identified hazards and potential hazards.

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.

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> TransCanada Pipelines Operational Management System (TOMS) Manual Risk Management (RM) Standard Risk Management (RM) Procedure Canada Gas Operations, Engineering and Projects Hazard Identification and Risk Management (RM) Procedure Environment Program (EP) Manual PDS-Environment Management Procedure EPP for Forested and Ag Construction Contingency Planning Process CDN-US-MEX Environmental Hazard Barrier Inventory (HBI) Phase I Environmental Site Assessment Work Aid Ontario On Site and Excess Soil Work Aid Level A B HIRM Plan Template Environmental Field Analysis Checklist - Stn 21 Stn. 68 Environmental Field Analysis Checklist April 1, 2022 Site Analysis and Risk Monitoring (SARM) Procedure
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate 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.</p>

Detailed Assessment

TransCanada has a risk management (RM) process in place to identify, assess, mitigate, monitor, and communicate risks and hazards related to asset lifecycle activities, including environmental risks. The process includes a RM Standard and a RM Procedure that outline the required steps and activities for each stage of the RM process, including risk identification, risk analysis, risk evaluation, and risk treatment. The EP aligns with this process, and also includes guidance on monitoring potential environmental hazards and the consequences of risk events. TransCanada manages environmental risks associated with contaminated sites through the Site Analysis and Risk Monitoring process and has contingency plans and mitigations in place for abnormal operating conditions, including the discovery of contamination during projects, as outlined in the EPP.

TransCanada presented TOMS Element 2 for evaluating risks associated with identified hazards:

Risk Management – establishes the requirements for all programs to identify, assess, mitigate, monitor, and communicate risks and associated barriers and hazards related to asset lifecycle activities.

The Risk Management (RM) Standard outlines TransCanada's process for completing the required RM process steps. The RM procedure supports the RM standard by describing the required activities, outputs, roles, and responsibilities for each process:

Step 3.0 - Risk Identification, Step 4.0 - Risk Analysis, Step 5.0 - Risk Evaluation and Step 6.0 - Risk Treatment.

Step 5.0 - Risk Evaluation describes how each program is to apply a decision model to their risk analysis, compare results to a tolerance criterion to determine prioritization, document the decision and to continue to monitor.

Section 2 of the EP Manual align with the TOMs RM Standard and RM Procedure. With the added guidance of monitoring potential environmental hazards and consequences of risk events.

The RPG Guidance Document outlines an approach to reporting, managing, and mitigating the environmental impacts of historical and/or operational releases. TransCanada manages environmental risks associated with contaminated sites through the site assessment and risk monitoring.

Contingency plans and mitigations for abnormal operating conditions, which includes the discovery of contamination during projects, are provided in the EPP.

TransCanada was able to demonstrate, 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.

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.

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> Contingency Planning Process Risk Management (RM) Standard Risk Management (RM) Procedure Environmental Hazard Barrier Inventory (HBI) CER RPG: Remediation Team Guidance Document Phase I Environmental Site Assessment Work Aid Groundwater Well Procedure Environment Program (EP) Manual Legal Requirements Monitoring Process Management of Change Element Standard TransCanada Pipeline Consultant Phase II Report Checklist Release and Spill Response Procedure Canada Environmental Field Analysis Checklist Canada EPP for Forested and Ag Construction Environmental Management of Industrial and Hazardous Wastes Standard Site Analysis and Risk Monitoring (SARM) Procedure Polychlorinated Biphenyl (PCB) Exposure Control Procedure GHD 2022 Environmental Program Project Site Specific Safety Plan Compressor Station 21 Environmental Field Analysis Checklist 2022 Canada Gas Operations (CGO) Facility Site Specific Orientation Template Final Edition
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate 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.</p>

Detailed Assessment

TransCanada has a system in place for identifying, assessing, and managing risks throughout the lifecycle of its assets. The TOMS Element 2: Risk Management, and Element 3: Operational Controls, ensure that controls are in place to mitigate identified hazards and protect the public, personnel, property, and the environment. The EP Hazard Barrier Inventory (HBI) identifies and evaluates environmental hazards, including contamination, and the Phase 1 Environmental Assessment Work Aid and Groundwater Well Procedure provides specific guidance on how to manage these hazards.

The EP Procedure provides the requirement for identification, definition, evaluation and communication of the results of risk activities through the EP HBI.

Contamination is identified as an environmental hazard and risk category in the EP HBI. Operational controls to manage contamination hazards have been developed and include procedures and work aids the hazards identified in the HBI are reviewed with and communicated annually to the Remediation Subject Matter Experts (SMEs) to evaluate whether there are additional environmental controls that need to be developed to ensure the contamination risk is prevented, managed, or mitigated.

TransCanada was able to demonstrate 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.

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> <p>Environmental Legal List Assessment Status Report dated October 21, 2022</p> <p>TransCanada Pipelines Operational Management System (TOMS) Manual</p> <p>Environment Program (EP) Manual</p> <p>CER RPG: Remediation Team Guidance Document</p> <p>Parsing Scope of Work Conformed</p> <p>Controlled Document Library Standard</p> <p>Legal Requirements Monitoring Process (LRMP)</p>
Finding Summary	TransCanada was able to demonstrate that it, established and maintained a list of those legal requirements for the programs referred to in section 55.

Detailed Assessment

The TOMS Manual outlines the requirement for each Mandated Program to identify and maintain applicable legal requirements in a Legal Registry and incorporate references into controlled documents. The process steps and assigned roles and responsibilities for establishing and maintaining a legal list are described in the Legal Requirements Monitoring Process (LRMP).

As outlined in the EP Manual, the EP uses the corporate LRMP as the process to identify, monitor, and maintain compliance with applicable environmental legal requirements.

TransCanada also uses the CER's RPG Remediation Guidance Document and further describes how the LRMP is incorporated into contaminated sites management.

TransCanada presented screen shots and an explanation of their legal registry (list), including references to the OPR and the Ontario Ministry of Environment contaminated site regulation.

TransCanada was able to demonstrate that it established and maintained a list of those legal requirements for the programs referred to in section 55.

AP-09 Training, Competence and Evaluation

Finding Status	No issues identified
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"> - TransCanada has a compliant process for developing competency requirements and training programs. - TransCanada 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. - TransCanada employees and those working on behalf of the company are competent to carry out their assigned work. <p>TransCanada provides persons working with or on behalf of the company with adequate training applicable to section 55 programs and the management system.</p>

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> TC Energy Operational Management System (TOMS) Manual Environment Program (EP) Manual Environmental Training and Awareness Program Environmental Competency Requirements Roles, Responsibilities and Competency (RRC) Database Release and Spill Response Procedure Canada Environmental Field Analysis (EFA) Checklist Training Presentation (March 2022). Environmental Competency Release and Spill Response Presentation (05-11-2021). Environmental Competency Soil Presentation (05-11-2021). Environmental Competency Waste Presentation (05-11-2021). CER RPG: Remediation Team Guidance Document TC Energy Supplier Qualification Process PDS-Procurement and Contracting Procedure Canadian Environmental Design Standard General Work Permit Procedure Legal Requirements Monitoring Process (LRMP) Data Management Standard Records Management Standard 2021 Western Canada Environmental Remediation - Kickoff Meeting 2022 Western Canada Environmental Remediation - Kickoff Meeting Daily Construction Report for Compressor Station 17 Remediation Program
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate a process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company.</p>

Detailed Assessment

TC Energy’s Operational Management System (TOMS), Element 4, sets high level guidance for developing roles, responsibilities, and competencies (RRC). TOMS provides a systematic approach to the management and continual improvement of health, occupational safety, process safety, security, environment, emergency response, quality, and asset integrity requirements. TOMS is comprised of elements and programs where elements provide standardized requirements and programs set requirements to manage specific risk.

The process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company is described in several documents starting with TOMS element 4. This element links to the Roles, Responsibilities and Competency (RRC) procedure, which in turn links to the RRC database and the EP Manual, section 4.

The RRC procedure outlines the education, training, skill, capability, experience, and certification for environment roles. The RRC database outlines the environmental functional roles and environment task-specific roles that are aligned with environment hazards commonly encountered in TC Energy's operations and activities. The RRC database captures the minimum training curriculum assigned for completion from the Learning Management System (LMS). The LMS is used to assign, document and store training completion information. The LMS also outlines training requirements for specific roles. Leaders can assign additional training modules beyond the minimum auto-published training requirements. The LMS includes a summary of each user's training history viewable by employees and leaders and the system pushes reminders as due dates approach.

The EP Manual interacts with the RRC database. It describes the roles, training, competency and verification requirements for the Environment Training and Awareness Program (the Program). The Program is provided to employees and contractors undertaking environment-related tasks to proactively manage environmental risks and hazards by developing competent, accountable, and empowered employees with the knowledge, skills, and abilities to perform their job.

Documented evidence of the specific training and evidence of training completion for both employees and those working on behalf of the company (where applicable) was provided for the following courses: Environmental Awareness: Health, Safety and Environment (HSE) Awareness Orientation; Prevention & Management of Releases: Release & Spill Response, Soils Management, Waste Management, Emergency Management, and Environmental Field Analysis (EFA) Checklist Training. Additional information was provided for aerial pipeline patrols, which included specific environmental or potential contamination-related indicators that patrol pilots and observers must look for while on patrol.

Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated they had a process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company.

AP-10 Communication

Finding Status	No issues identified
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.

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> TOMS Communication Standard Environment Program (EP) Manual PDS-Environment Management Procedure CER RPG: Remediation Team Guidance Document Environmental Field Analysis Checklist Canada EPP for Forested and Ag Construction Legal Requirements Monitoring Process (LRMP) Management of Change Element Standard Controlled Document Management of Change Procedure New and Emerging Communications - Methodology New and Emerging (Canada) - October 4, 2021. Item Number 2: New Environment Program operation control for groundwater and water wells New and Emerging (Canada) - March 14, 2022. Item Number 1: New operational control - Ontario On-site and Excess Soil Management New and Emerging (Canada) - April 22, 2022. Item Number 1: Ontario delaying implementation of Phase 2 of the On-Site and Excess Soil Management Regulation Joint Health, Safety and Environment (JHSEC) eNews September 2022 edition. Environment Moment - Spills and Releases of Hydrocarbons (September 2022 edition) JHSEC eNews June 2022 edition. Environment. Contamination Cleanup following attack at CGL's Morice River Crossing (June 2022 edition) Environment Team Day Spring 2021 - Remediation Presentation Compressor Station 58 18-03-2021 COP Remediation 101 Dec 6, 2019 Contamination at Meter Stations Presentation (08-07-2021)
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate process for the internal and external communication of information relating to safety, security, and protection of the environment.</p>

Detailed Assessment

The TOMS Communication Standard (the Communication Standard) supports TC Energy's Operational Management System. The Standard describes the purpose of a communication strategy, includes the management system communication strategy, and provides internal and external TC Energy communication references.

The Communication Standard links to the EP through TC Energy's TOMS. As a mandated program under TOMS, the EP implements communication practices in accordance with the TOMS Communication Standard. The EP Manual outlines the minimum EP requirements and the EP Communication Strategy (APPENDIX B – ENVIRONMENT PROGRAM COMMUNICATION STRATEGY).

As part of the EP, communication shall be documented and scheduled to ensure requirements are known, can be met, agreed to, and are communicated to stakeholders.

The strategy describes guidelines and tools that are scalable according to the scope and complexity of work, enabling consistent and effective implementation of communication by identifying potential audiences or stakeholders and by defining steps, roles, and responsibilities for communicating.

The EP also sets out the requirements for the Project Delivery Standard (PDS). The PDS links to the Environmental Management Procedure (the Procedure) which establishes the framework to manage, plan and execute projects and establishes the minimum requirements based on functional roles across the project lifecycle.

Remediation subject matter experts (SMEs) provide advice and support related to environmental liabilities, risks, and communications associated with contaminated sites for both internal and external communication.

Documented evidence of activity-specific procedures and work aids were provided that outline how the work is executed. This included the Environmental Field Analysis Checklist Canada, EPP for Forested and Ag Construction, and the LRMP. Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated they had a process for the internal and external communication of information relating to safety, security, and protection of the environment.

AP-11 Operational Control

Finding Status	No issues identified
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.

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> TC Energy Operational Management System (TOMS) Manual Environment Program (EP) Manual Environmental Hazard Barrier Inventory (HBI) Site Analysis and Risk Monitoring Procedure Project Delivery Standard (PDS) General Work Permit Procedure EPP for Forested and Ag Construction Environmental Field Analysis Checklist Canada Job Safety Analysis Form Release and Spill Response Procedure Canada CER RPG Remediation Team Guidance Document Phase I Environmental Site Assessment Work Aid Job Safety Analysis Procedure General Work Permit Procedure Pre Job-Planning Procedure Stn 92 (Investigation) Environmental Field Analysis Checklist April 18, 2022 Stn 130 Environmental Field Analysis Checklist April 18, 2022 MLV 58-1 Environmental Field Analysis Checklist April 18, 2022 MLV 58+4 V2 Stn. 80 V2 Stn. 110 V2 Stn. 130 V2 Stn 92-Remedial Action Plan 2022 GHD SSSP (TC Format) Final
<p>Finding Summary</p>	<p>The Auditors found no issues of concern with TransCanada's process for coordinating and controlling the operational activities or employees and other people working with or on behalf of the company.</p>

Detailed Assessment

TOMS element 3 sets high level guidance and parameters specific to operational controls. TOMS provides a systematic approach to the management and continual improvement of health, occupational safety, process safety, security, environment, emergency response, quality, and asset integrity requirements. TOMS is comprised of elements and programs where elements provide standardized requirements, and programs set requirements to manage specific risk.

The process for coordinating and controlling the operational activities of employees and other people working with or on behalf of the company is described in several documents starting with TOMS element 3, which links to the environment and safety programs and the Project Delivery Standard (PDS) which are interactive processes that also function independently. These programs are the primary documents for coordinating and controlling operations activities.

The EP Manual describes how projects align to TOMS and to the Environment Program. The PDS drives projects to coordinate multiple activities through all phases of the project.

Both the manual and the PDS links to the Environmental Management Procedure (the EM Procedure), which outlines the Environmental Management requirements that projects of any size manage potential environmental impacts by: identifying applicable legal requirements, TransCanada's standards and best practices, and applying controls, ensuring compliance and working towards continual improvement. The EM Procedure drives the EM Analysis. This EM Analysis ensures that each person is aware of the activities of others and contains information that will enable them to perform their duties in a manner that protects the environment.

The EM Analysis details are included in the EM Analysis Deliverable Description document. For Level A projects, including smaller scope integrity projects, operations and maintenance, projects and remediation projects, the EM Analysis document can be a fit-for-purpose template included in a completed Environmental Field Analysis Checklist (EFA Checklist) if required. Completion of the EFA Checklist ensures that environmental hazards are considered and identified, along with associated mitigation measures to be implemented during work activities, and to communicate those requirements to those responsible for the project or activity.

An Environmental Implementation Plan (EI Plan) is developed for larger projects that require a more detailed project EI Plan. The EI Plan includes a Communication Plan between the environmental advisor, the environmental inspector, the resource specialist, the TransCanada construction manager and the construction contractor, to ensure each person is aware of the activities of others and has the information that will enable them to perform their duties.

The EM Procedure also outlines roles and responsibilities by project phase, which includes a required step for the environmental advisor on a project to support the identification of potential effects and mitigation, which for larger projects including the development of an Environmental Protection Plan (EPP). The EPP is the primary operational control for larger scale projects.

Documented evidence and samples were provided to the Auditor to demonstrate that this process has been implemented.

Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated that they have established and implemented a process for coordinating and controlling the operational activities of employees and other people working with or on behalf of the company.

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. <p>The company can demonstrate through records that all corrective and preventative actions can be tracked to closure.</p>

Relevant Information Provided by the Auditee	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> Incident Management Standard Incident Management Process Incident Recording Procedure Environment Program (EP) Manual Incident, Quality, and Compliance Classification Guide Release and Spill Response Procedure Canada Learning from Incidents Bulletin Process Learning from Incidents Bulletin Form EPP for Forested and Ag Construction Site Analysis and Risk Monitoring Procedure Environmental Field Analysis Checklist Canada Major Critical - Actual MCA Major - Critical Potential MCP Incident Alert Form Environmental Hazard Barrier Inventory (HBI) Incident Management Process CER RPG: Remediation Team Guidance Document
Finding Summary	<p>TransCanada was able to demonstrate a process for internal reporting of hazards, potential hazards, incidents, and near-misses and for taking corrective and preventive actions, including the steps to manage imminent hazards</p>

Detailed assessment

TOMS element 8 sets high level guidance and parameters specific to incidents and nonconformance management. It states that effective reporting, investigation and follow up are necessary to ensure lessons learned from reported events, including hazards, potential hazards, incidents, and near hits, are used to identify corrective actions and prevent recurrence. TOMS provides a systematic approach to the management and continual improvement of health, occupational safety, process safety, security, environment, emergency response, quality, and asset integrity requirements. TOMS is comprised of elements and programs where elements provide standardized requirements and programs set requirements to manage specific risk.

The process for internal reporting of hazards, potential hazards, incidents, and near-misses, and for taking corrective and preventive actions, is described in several documents starting with TOMS element 8, which links to the Incident Management Standard and the Non-Conformance and Opportunity for Improvement standard.

The Incident Management Standard describes the requirements of Incident Management, the Incident Management Process (the process) and the Incident Recording Procedure (the procedure). The process describes the activities to respond, record, investigate, manage actions, and share learnings for incidents and the procedure details steps for completing consistent and timely written incident records. The process also includes supporting guidance from the CER RPG Remediation Team Guidance Document, which specifies how newly identified contamination is reported and communicated both internally and externally in alignment with the 2020 CER Remediation Process Guide.

Both the process and procedure link into the EP Manual. The EP Manual states that TransCanada employees and contractors shall ensure all environment-related events (e.g., incidents, near hits, hazards, and potential hazards) are documented. New hazards, potential hazards and known hazards are primarily identified through hazard reporting requirements of the TOMS Project Delivery Standard (PDS), project risk registers, and Environmental Field Analysis Checklists. New hazards are integrated as needed and as applicable into the Environment Program Hazard Barrier Inventory.

The Non-Conformance and Opportunity for Improvement standard links to the Non-conformance and Opportunity for Improvement Procedure. Actions related to investigations are developed to address findings and recommendations in accordance with this Procedure.

For imminent hazards that are or may become an emergency, TransCanada follows its EM Program requirements and activates its emergency response procedures. For imminent hazards that are not emergencies, TransCanada relies on its Environment Program requirements. The Environment Program considers any environmental hazard could potentially be imminent depending on site-specific conditions during work execution and, therefore, all environmental hazards are evaluated and acted upon in context. The Environment Program HBI includes a list of environmental hazards that may adversely affect the environment and the associated barriers that are in place to prevent or mitigate potential adverse effects. This suite of environmental barriers applies throughout the lifecycle of TransCanada assets and includes requirements and steps to manage imminent hazards to the environment.

Documented evidence and samples were provided to demonstrate this process has been implemented.

Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated they have established 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.

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.

<p>Relevant Information Provided by the Auditee</p>	<p>The following key documents and records are related to this finding:</p> <ul style="list-style-type: none"> TC Energy Operational Management System (TOMS) Manual Assurance Standard Assurance Process Assurance Audit Procedure Nonconformance and Opportunity for Improvement Procedure Incident Quality Management Classification Guide Handheld Management of Change Element Standard Controlled Document Management of Change Procedure Environment Program (EP) Manual Planned Inspection Procedure Planned Inspection Form Management Review of Management Systems and Programs Procedure Planned Inspection Task Package Waste Management Task Package Site Analysis and Risk Monitoring Procedure Environmental Field Analysis Checklist Canada CER RPG: Remediation Team Guidance Document Phase I Environmental Site Assessment Work Aid TC Energy Consultant Phase II Report Checklist EI Daily Field Report template Environmental Inspection (EI) Daily Field Report - MLV 102-103 Planned Inspections Form (Compressor Station 55) Planned Inspections Form (Compressor Station 58) Waste Storage Inspection and Inventory Form 2021 Environment Program Management Review Memo CGO HSE Combined Implementation Audit Report Environmental Management of Industrial and Hazardous Waste Standard Environmental Complaint Investigation Procedure
<p>Finding Summary</p>	<p>TransCanada was able to demonstrate 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.</p>

Detailed Assessment

TOMS element 9, Performance Monitoring, Assurance and Management Review establishes the requirement to conduct assurance activities that evaluate the adequacy and effectiveness of the Company's processes and procedures. TOMS element 8, Incident and Non-conformance Management has also been linked to this AP because it outlines the process for which audit findings, e.g., corrective actions, are managed and implemented for the Mandated Programs. TOMS provides a systematic approach to the management and continual improvement of health, occupational safety, process safety, security, environment, emergency response, quality, and asset integrity requirements. TOMS is comprised of elements and programs where elements provide standardized requirements and programs set requirements to manage specific risk.

The process for inspecting and monitoring the company's activities and facilities is described in several documents. TOMS element 9 which links to the EP Manual which describes how projects align to TOMS and to the EP and defines assurance activities for Tier 2 HSE Program Implementation Audits and the Annual EP Management Review. Assurance activities are defined by the Assurance Standard (the standard), the Assurance process (the process) and the Assurance Audit Procedure (the procedure).

Through the application of the Standard, the process applies to all tier 1 and tier 2 assurance activities related to TOMS and the associated documents utilized across the organization and throughout the asset lifecycle, including design, construction, operation, and decommissioning, whether the activities are undertaken by TransCanada personnel or by contractors or consultants acting on TransCanada's behalf.

Assurance activities include but are not limited to inspection, self-assessments, management reviews, audits, investigations, and reviews. Assurance activities ensure: the EP is adequate and effective; TransCanada's employees and contractors conform to applicable standards; practices, and procedures, compliance with applicable environmental laws, industry standards and applicable best practices that are established to protect people, the environment and property and continuous improvement in the EP.

The procedure sets out the requirements to ensure all OPR 55(1) program audit requirements are conducted. The procedure supports the standard and the process and provides detailed instructions on how to conduct assurance audits at TransCanada.

Findings from assessments, audits, and inspections may result in immediate corrective and preventative actions or recommendations that inform the management review. Auditors are required to identify potential nonconformance, Opportunities for Improvement (OFI), observations and strengths. After reviewing the audit findings, Nonconformance Reports (NCR) or OFI are issued as part of the final audit report using the Nonconformance and Opportunity for Improvement Procedure. TOMS Element 8 interconnects with TOMS Element 9 and outlines the process for which audit findings, i.e., corrective actions, are managed and implemented for the Mandated Programs.

Documented evidence and samples were provided to demonstrate this process has been implemented

Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated they have established and implement a process for coordinating and controlling the operational activities of employees and other people working with or on behalf of the company.

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> <p>TC Energy Operational Management System (TOMS) Manual Environment Program (EP) Manual Incident Management Standard Incident Management Process Assurance Standard Assurance Process Assurance Audit Procedure Assurance Monitoring and Follow Up Procedure Nonconformance and Opportunity for Improvement Standard Nonconformance and Opportunity for Improvement Procedure Management Review of Management Systems and Programs Procedure (CAN-USA-MEX) OPR Annual Report Procedure 2021 Environment Program Management Review Memo Incident Quality Management Classification Guide Handheld 2021 Accountable Officer Annual Report (redacted)</p>
Finding Summary	TransCanada provided a 2021 annual report that is 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).

Detailed Assessment

TransCanada provided a copy of its 2021 Accountable Officer Annual Report (redacted) (the AO Report). During the interviews, TransCanada staff discussed how deficiencies are rolled up into a higher-level summary within the AO Report. The AO Report contained a three-year assurance overview for 2019, 2020 and 2021 for the OPR Protection Programs, including the “Environmental Protection (OPR s.48)” program. The AO Report contained both deficiencies, areas where the goals, objectives, and targets (GOT’s) were not met, as well as other continual improvements opportunities to work towards.

For 2021, TransCanada identified one deficiency related to environmental awareness training delivery frequency, “Environmental Awareness training was updated and the frequency for this training was increased to every 3 years”. This finding was based on the 2020 GOT’s, which was summarised in the “Performance Measures” section of the report with specific GOT’s being provided in the EPP.

Based on the evidence provided at the time of the Audit and within the scope of the Audit, TransCanada demonstrated they had completed an annual report for 2021 that described actions taken during that year to correct any deficiencies identified by the quality assurance program.

Appendix 2: Terms and Abbreviations

Term/Abbreviation	Definition
CAPA	Corrective and Preventative Actions
CER	Canada Energy Regulator
CER Act	Canadian Energy Regulator Act (S.C. 2019, c.28, s.10)
OPR	Canadian Energy Regulator Onshore Pipeline Regulations (SOR/99-294)
AO Report	Accountable Officer Annual Report
Auditors	CER Auditors
TC Energy or TransCanada	TC Energy Corporation or TransCanada PipeLines Limited or the Auditee
Mainline	TCPL Canadian Mainline
TOMS	TransCanada PipeLines or TC Energy Operational Management System
Communications Standard	TOMS Communication Standard
CER RPG	CER Remediation Process Guide
ETA Program	Environment Training and Awareness Program
EPP	Environmental Protection Plan
EP	Environment Program
EPM	Environment Program Manual
EFA	Environmental Field Analysis
EM	Environmental Management (Procedure and Analysis)
EMADD	Environmental Management Analysis Deliverable Description
EFA Checklist	Environmental Field Analysis Checklist
EI Plan	Environmental Implementation Plan, Procedure
GOT	Goals, Objectives, and Targets

HBI	Hazard Barrier Inventory
HSE	Health, Safety and Environment
KPA	Key Performance Area
KPI	Key Performance Indicator
LRMP	Legal Requirements Monitoring Process
LMS	Learning Management System
NOC	Notice of contamination
PCB	Polychlorinated Biphenyl
PDS	Project Delivery Standard
RM	Risk Management
RRC	Roles, Responsibilities and Competency
SME	Subject Matter Experts