



February 10, 2017

Sheri Young
Secretary of the Board
National Energy Board
210 - 517 10th Ave SW
Calgary, Alberta T2R 0A8

Dear Ms. Young,

**RE: Trans-Northern Pipelines Inc. (TNPI) Corrective Action Plan
National Energy Board Final Audit Report of TNPI Pipeline Patrol Activities
NEB File OF-Surv-OpAud-T217-2016-2017 01**

On January 18, 2017, the National Energy Board (Board) issued its Final Audit Report (Report) in respect of TNPI's pipeline patrol activities.

TNPI joins the Board in its commitment to the safety and protection of the environment, and recognizes the time and effort expended by the NEB staff who administered the audit. TNPI appreciates the auditors' positive findings with respect to TNPI's policies and organizational structure as they relate to pipeline inspection and monitoring.

TNPI acknowledges that the Board has identified some aspects of TNPI's pipeline patrol activities for which improvements can be made, and TNPI is committed to taking action in respect of same.

As directed by the Board in the Report, TNPI hereby submits the enclosed Corrective Action Plan (CAP) addressing the Board's findings in the Report. TNPI looks forward to continuing to work with the Board with respect to the CAP.

Should the Board have any questions or require any additional information with respect to the enclosed CAP, please do not hesitate to contact the undersigned.

Sincerely,

A black rectangular box redacting the signature of Gail Sharko.

Gail Sharko
Manager, Regulatory & External Affairs

c: John Ferris, President & CEO

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Background

In 2016, the National Energy Board (NEB) completed an audit of Trans-Northern's NEB regulated facilities, with a focus on assessing the adequacy and effectiveness of its above ground monitoring and surveillance activities (collectively referred to as patrol activities). Sub-element 4.1 *Inspection, Measurement and Monitoring*, of the NEB Management System and Protection Program Audit Protocol combined with the requirements contained within the Damage Prevention Regulations – Obligations of Pipeline Companies (DPR-O) and CSA Z662-15 formed the primary basis for the audit.

During the audit, the NEB conducted field inspections, reviewed documentation and interviewed Trans-Northern's corporate and regional staff. Pursuant to sub-element 4.1, *Inspection, Measurement and Monitoring* of the National Energy Board Management System and Protection Program Audit Protocol, the following are expectations of Trans-Northern:

"The company shall have an established, implemented and effective process for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the protection programs and for taking corrective and preventive actions if deficiencies are identified. The evaluation shall include compliance with legal requirements.

The company shall have an established, implemented and effective process for evaluating the adequacy and effectiveness of the company's management system, and for monitoring, measuring and documenting the company's performance in meeting its obligations to perform its activities in a manner that ensures the safety and security of the public, company employees and the pipeline, and protection of property and the environment.

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses. The company shall have documentation and records resulting from the inspection and monitoring activities for its programs.

The company management system shall ensure coordination between its protection programs, and the company should integrate the results of its inspection and monitoring activities with other data in its hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment."

The audit commenced in July 2016 and concluded with the issuance of the final draft report on December 18, 2016.

Final Audit Report Overview

A Final Audit Report (OF-Surv-OpAud-T217-2016-2017-01) was issued by the Board to Trans-Northern on January 18, 2017. The Final Audit Report identified a number of non-compliant findings from the audit of TNPI's Pipeline Patrol Activities including the extent to which management system processes are integrated with patrol activities. Trans-Northern's patrol activities were assessed for compliance with the applicable regulatory requirements using two complimentary protocols. The protocols were broken down into two appendices as follows:

Appendix I – broken down into five sections, with each section covering a partial component of the Board's expectations for sub-element 4.1

Appendix II – identifies five Management System elements which are further broken down into 17 sub-elements.

The Board found that TNPI demonstrated that it conducts various types of patrol activities on its right of way, however, some non-compliant findings were identified. The Non-Compliant findings generally fell into three key categories:

- failure to demonstrate that patrol activities are being conducted in accordance with all the legal requirements;
- failure to demonstrate the consistent and formal identification, documentation, communication and resolution of issues identified by patrol activities; and
- lack of evaluation of the patrol activities and the staff and contractors conducting them to ensure the ongoing effectiveness, adequacy and suitability of these activities and identify areas for improvement;

TNPI has prepared this Corrective Action Plan (CAP) to address the deficiencies and non-compliances noted in the Final Audit Report.

Trans-Northern's Pipeline Patrol Activities

Trans-Northern monitors its Right-of-Way (ROW) for evidence of actual or potential threats to its pipeline on a regular basis. Monitoring consists of a combination of aerial inspections and ground-based surveillance activities (i.e.: line walks, vehicles). All Trans-Northern facilities are monitored and any surface conditions or factors that may adversely affect the safety, operation, or environmental integrity are reported. Some of the specific examples of items or activities that are monitored include surface conditions on and adjacent to the ROW, facility conditions, third party activities, encroaching developments and environmental events.

The Board's audit found that Trans-Northern demonstrated that it conducts various types of patrol activities to identify hazards on its rights of way, particularly relating to the identification and

management of potential unauthorized third party activity. The Board also assessed Trans-Northern's management system processes and found evidence to show that some of the governance sub-elements had been integrated with the patrol activities including its overarching Health and Safety policy, its Management of Change process and its development of goals and targets.

Trans-Northern's Management System

A carefully designed and well-implemented management system supports a strong culture of safety and is fundamental to keeping people safe, ensuring the security of all pipeline assets, and protecting the environment. Trans-Northern's enterprise-wide Operational Excellence Management System (OEMS) framework is directly applicable to all its activities, including patrols, and has been established for the management of operational and related business function risks with the goal of delivering Operational Excellence. The OEMS consolidates numerous standards, systems and processes, into a single management system such that each standard, system and process can be reviewed and assessed using a common framework and structure.

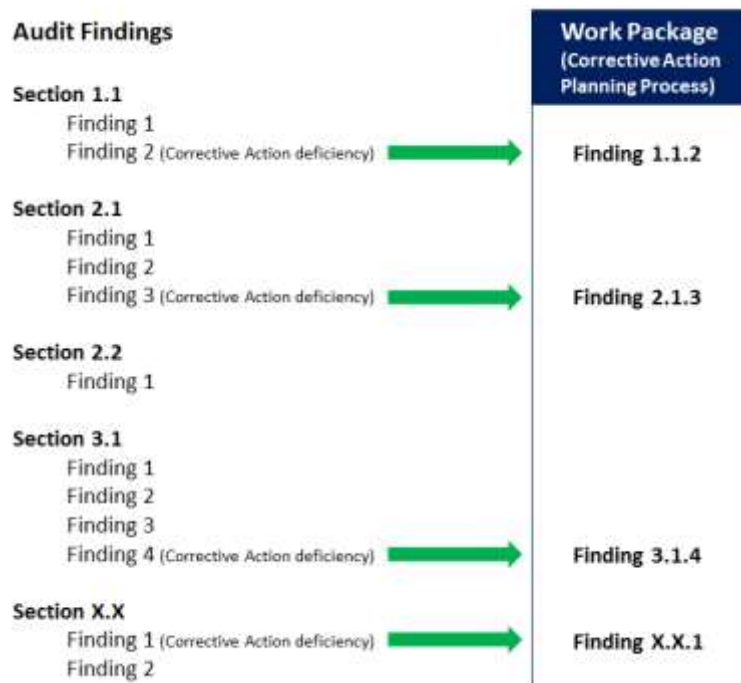
The OEMS is based on the continual improvement cycle (Plan-Do-Check-Act), which is a commonly accepted model for management systems. There is a total of sixteen OEMS Elements supporting the framework, each containing the requirements and expectations for managing operational and asset integrity risks inherent in the business.

By utilizing, assessing and continually improving the OEMS, Trans-Northern is committed to ensuring that its pipeline systems are designed, constructed, operated, maintained, decommissioned and abandoned in accordance with all applicable regulations, applicable codes and standards. In doing this, Trans-Northern can achieve its goals and objectives related to the safety and security of the public and company's employees, the pipeline and protection of property and environment.

Integrated CAP Response to Non-Compliant Findings

Trans-Northern recognizes that the non-compliant findings identified in the Final Audit Report may not be independent, but rather may be interrelated with other deficiencies noted by the Board. As such, Trans-Northern has reviewed each finding and grouped them into discrete work packages to better reflect their interrelated nature. Trans-Northern feels that this approach will result in improved planning and implementation effectiveness and improve integration of corrective actions. Figure 1 outlines the proposed approach.

Figure 1 – Integrated Approach to Corrective Actions (Illustrative Only)



Twelve (12) discrete work packages are proposed to address the forty-four (44) deficiencies and non-compliance findings outlined in the Board's Audit Report. Table 1 summarizes the Work Packages and the findings that are addressed by each Work Package.

Table 1 – Findings Addressed by Work Package

Work Package	Description	Findings Addressed (TNPI Finding #)	Target Completion Date
Communication Process	Update communication process and provide required training to staff.	Appendix II - 3.5.1	2017 Q3
MoC Process	Update MOC No. 17 to include the requirements for training.	Appendix II - 3.4.2	2017 Q3
Competency Assessment Process	Document competency assessment process and provide required training to staff. Implement competency assessment process for patrol activities, verifying patroller competencies.	Appendix II - 3.4.1	2018 Q1
Contractor Management Program/Process	Determine contractor training and competency requirements, provide required training and verify competencies.	Appendix II - 3.4.3, 3.4.5	2018 Q1
Corrective Action Planning Process	Develop corrective action process and provided required training to Patrol staff. Implement the corrective process for the Patrol activities.	Appendix I - 1.2.1, 3.1.1 Appendix II – 4.2.6, 4.2.7	2017 Q4
Document Control Process	Update Document Control process and provide required training to Patrol staff. Confirm all controlled Patrol documents are current.	Appendix II - 3.4.4, 3.6.2, 3.6.3	2018 Q1
Effectiveness Assessment Process	Develop an effectiveness assessment process and provide the required training. Implement the effectiveness assessment on the Patrol program and records.	Appendix I - 1.2.2, 2.2.2 Appendix II - 2.1.3, 4.3.2, 4.4.2	2018 Q1
Hazard Identification Process	Formalize Trans-Northern's hazard inventory and update process to update inventory with new hazards and potential hazards.	Appendix II – 2.1.1, 2.1.2, 2.1.5, 2.1.7	2018 Q1

Work Package	Description	Findings Addressed (TNPI Finding #)	Target Completion Date
Management Review Process	Update the Trans-Northern's management review process and provide required training. Implement the management review process for Patrol related activities.	Appendix I – 1.2.3. Appendix II – 4.2.4, 4.2.8, 4.3.1, 5.1.1, 5.1.2	2018 Q1
Patrols Procedures	Update and provide Patrols procedures, forms and training packages to staff and contractor patrollers.	Appendix 1 – 1.2.1, 2.1, 2.2.1, 2.3.1, 3.1.2 Appendix 2 – 2.1.6, 3.4.4, 3.4.6, 3.5.2, 3.5.3, 3.6.1, 3.6.4, 4.2.1, 4.2.2, 4.2.3, 4.2.5, 4.2.6	2017 Q4
Records Management Process	Develop and implement a records management plan for Patrols and provide required training.	Appendix II – 4.4.1	2018 Q2
Risk Assessment Process	Update and train staff on the risk assessment process. Implement risk assessment process and determine if additional mitigation or controls are required.	Appendix II – 2.1.4, 2.1.8, 3.5.3	2018 Q2

A detailed breakdown by individual finding has also been provided to facilitate NEB review and assessment (see "Corrective Action Plan").

Prioritization of Work Packages

TNPI has assessed each finding and prioritized the Work Packages using a risk-based approach. The risk assessment undertaken considered several different factors, including:

1. Initiatives Underway

Initiatives already underway will continue as planned and may be given priority based on resources already allocated and actions taken

2. Degree of Impact to Patrol Activities

By focussing on those corrective actions that improve patrol activities more directly, program deficiencies are more quickly addressed, associated hazard identification is improved and risk is reduced

3. Number of Individual Findings Addressed

By increasing the priority of those work packages that address a greater number of findings, the risks associated with the deficiencies identified can be more effectively addressed

Table 2 summarizes the prioritization assessment for each Work Package.

Table 2 – Prioritization of Work Packages

Priority	Work Package	Degree of Impact to Patrol Activities	Number of Findings Addressed
1	Communication Process (underway)	Medium	1
2	MoC Process (underway)	Low	1
3	Patrols Procedure(s) (underway)	High	12
4	Corrective Action Planning Process	High	4
5	Contractor Management Program/Process	High	2
6	Competency Assessment Process	High	1
7	Management Review Process	Medium	6
8	Effectiveness Assessment Process	Medium	5
9	Document Control Process	Medium	4
10	Hazard Identification Process	Medium	4
11	Risk Assessment Process	Medium	3
12	Records Management Process	Medium	1

Degree of Impact Definition:

High – process or procedure has a direct impact on the patrol activities and how they are conducted

Medium – process or procedure has a direct impact on the outcomes of patrol activities

Low – process or procedure has an indirect impact on the patrol activities

Corrective Action Plan

The following tables describe the CAP for each non-compliant finding, following the structure outlined in Appendix I and II of the NEB Final Audit Report. Each CAP includes the objective and expected outcome with documented success measures; actions for developing and implementing the CAP including change impacts to training and competency; schedules for implementation; and associated Work Package that will address the finding.

APPENDIX I: PIPELINE PATROL AUDIT – EVALUATION OF SUB-ELEMENT 4.1 INSPECTION, MEASUREMENT AND MONITORING

1.2 Evaluating adequacy and taking corrective action

Conclusion

The audit verified that Trans-Northern is conducting several types of ground and aerial patrol activities. The Board also noted that the patrols identify issues of potential unauthorized activity.

However, the Board found that Trans-Northern did not demonstrate that it had a consistent process for taking corrective action for all reported issues including any environmental or integrity issues identified by patrol activities. Therefore, the Board has determined that Trans-Northern is in non-compliance with OPR s. 6.5(1)(u) as it relates to pipeline patrol activities. As a result, the Board requires that Trans-Northern develop a CAP to address this non-compliance.

In order to ensure that the CAPs related to reporting and tracking of issues noted by patrols are implemented across all of the protection programs, the Board will verify that all issues noted by the various types of ROW surveillance and monitoring (including cathodic protection, and scour assessments) are being tracked and managed to resolution during the CAP review period.

TNPI Finding #	Finding Description		
1.2.1	The Board also notes that Trans-Northern is identifying some environmental and integrity issues such as pipeline exposures or vegetation management in its patrol reports. However, despite these issues being noted by patrols, Trans-Northern could not demonstrate that it was consistently tracking these issues to resolution through the work order system or communicating them internally to ensure coordination between the protection programs.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol identified issues are consistently tracked and managed to resolution.	% of issues identified entered into CA system % issues resolved on time	Corrective Action Planning Process Patrols Procedure(s)
	Action(s)		
	a. Update patrols procedures to capture all identified issues into corrective action process. b. Develop an overarching corrective action procedure for patrols to include tracking of issues		
			Target Completion Date 2017 Q3

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	until completion.		
TNPI Finding #	Finding Description		
1.2.2	Despite the number of types of patrol activities being conducted, Trans-Northern did not demonstrate that it is evaluating the effectiveness of these activities to verify that they were adequate or effective. This issue is discussed in subsequent sections of this report.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol activities are evaluated for effectiveness.	Patrol KPIs are developed, measured, reviewed and acted upon.	Effectiveness Assessment Process
	Action(s)		Target Completion Date
	a. Develop patrol KPIs. b. Measure patrol KPIs. c. Review patrol KPIs and determine corrective actions if necessary.		2018 Q1
TNPI Finding #	Finding Description		
1.2.3	The Board noted several issues with respect to pipeline identification along its ROW. During its review of records, the Board noted instances of signage deficiencies previously noted by Trans-Northern which remained deficient years later. In addition, during the inspections, the Board identified several ROW markers that did not contain any cautionary statement as required by CSA Z662-15 clause 10.5.3.3.		
	Objective/Outcome	Success Measure(s)	Work Package
	Signage is complete and current.	# of outstanding signage issues raised by patrols	Management Review Process
	Action(s)		Target Completion Date
	a. Complete assessment actions to resolve current signage issues. b. Capture identified signage issues in corrective action process. c. Track and resolve outstanding signage issues.		2017 Q4

APPENDIX I: PIPELINE PATROL AUDIT – EVALUATION OF SUB-ELEMENT 4.1 INSPECTION, MEASUREMENT AND MONITORING

2.1 Monitoring of adjacent lands (DPR-O s.16(b))

Conclusion

As it has not developed or implemented a method to monitor lands adjacent to ROWs as required by the DPR-O s. 16(b), the Board has determined that Trans-Northern is in non-compliance with this requirement. As a result, the Board requires that a CAP be developed to address this non-compliance.

TNPI Finding #	Finding Description		
2.1	As it has not developed or implemented a method to monitor lands adjacent to ROWs as required by the DPR-O s. 16(b), the Board has determined that Trans-Northern is in non-compliance with this requirement.		
	Objective/Outcome	Success Measure(s)	Work Package
	New hazards resulting from new landowners or new land uses are identified and mitigated.	Procedure to monitor adjacent land of developed. # of issues initiated from monitoring adjacent lands.	Patrols Procedure(s)
	Action(s) a. Determine procedural activities to monitor land use adjacent to ROW to identify issues for resolution. b. Capture issues associated with adjacent lands.		Target Completion Date 2017 Q4

APPENDIX I: PIPELINE PATROL AUDIT – EVALUATION OF SUB-ELEMENT 4.1 INSPECTION, MEASUREMENT AND MONITORING

2.2 Observing conditions and activities (CSA clause 10.6.1.1)

Conclusion

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Due to the fact that both the aerial and ground patrols report by exception, that is, only note when activity or an issue is present, Trans-Northern could not demonstrate that it is monitoring all the issues as noted in CSA Z662-15 clause 10.6.1.1. As a result, the Board has determined that Trans-Northern is in non-compliance with this requirement. The Board requires that a CAP be developed to address this non-compliance.

TNPI Finding #	Finding Description		
2.2.1	Through a review of inspection reports, the Board confirmed that inspection reports were being generated after each inspection. However, a review of a sample of ground and aerial inspection reports identified that these reports did not include confirmation that the CSA-Z662-15 clause 10.6.1.1. conditions and Right of Way Maintenance and Surveillance Procedure activities were being monitored or assessed during patrols. The Board noted that the inspection reports did not account for the monitoring of conditions and activities as listed in CSA. Instead these reports stated either “no issues” or listed potential unauthorized activities. The Board is of the view that only reporting what is out of the norm, or by exception, does not typically allow for a demonstration of the ongoing monitoring of developing trends that can affect the safety and operation of the pipeline nor does it confirm with documentation that an assessment of the various potential issues has occurred.		
	Objective/Outcome	Success Measure(s)	Work Package
	All CSA identified conditions and activities are monitored.	Patrol procedures include the CSA identified conditions and activities by patrol type. Patrol forms updated to include the CSA identified conditions & activities monitored by each patrol type. Concordance table updated to include procedures used to meet CSA Clause 10.6.1.1.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update Patrol procedures to include the CSA identified conditions and activities. b. Update Patrol forms to include the CSA identified conditions and activities for each patrol type. c. Update concordance table to include the procedures used to meet CSA Clause 10.6.1.1 requirements.		2017 Q4
TNPI Finding #	Finding Description		

2.2.2	The Board noted that the majority of the ROW that was inspected during the audit was maintained for visibility and appropriate signage present. However, despite being in areas that are patrolled frequently, the Board identified several instances where ROW signage was inadequate. There were locations where signage was not legible, obscured by vegetation, or damaged or missing and therefore did not meet the requirements of CSA Z662-15. In order to promote timely resolution of these non-compliances, they were addressed through the Board's inspection process. However, the Board considers that these deficiencies indicate inconsistent and inadequate implementation of Trans-Northern's Right of Way Maintenance and Surveillance Procedure and Trans-Northern's Pipeline Integrity Management Standard. These deficiencies are an indicator that Trans-Northern has not assessed the effectiveness of these patrols to ensure they are meeting all of the expectations of the legal requirements as well as Trans-Northern's procedures.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol activities are effectively and consistently completed.	Patrol KPIs are developed, measured and reviewed.	Effectiveness Assessment Process
	Action(s)		Target Completion Date
	a. Develop patrol KPIs. b. Measure patrol KPIs. c. Review patrol KPIs and determine corrective actions if necessary.		2018 Q1

APPENDIX I: PIPELINE PATROL AUDIT – EVALUATION OF SUB-ELEMENT 4.1 INSPECTION, MEASUREMENT AND MONITORING

2.3 Frequency of inspections (CSA clause 10.6.1.2)

Conclusion

Although Trans-Northern demonstrated that it had established a frequency for its patrols, it did not provide its criteria for the determination of frequency and therefore could not demonstrate it was considering all of the factors as required by CSA Z662-15 clause 10.6.1.2. As a result, the Board has determined that Trans-Northern is in non-compliance with this requirement. The Board requires that a CAP be developed to address this non-compliance.

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TNPI Finding #	Finding Description		
2.3.1	Although Trans-Northern was able to demonstrate that it has designated certain areas as Elevated Consequence Areas (ECAs) and that this designation had an impact on patrol frequency, Trans-Northern did not provide documented criteria for establishing its frequency of patrols. Without criteria for determining the ECAs, the Board was unable to establish which factors were used to determine “the consequence of a leak” for the ECAs. Further, in its determination of patrol frequency in the absence of criteria, Trans-Northern could not demonstrate that it has considered all of the factors listed in CSA clause 10.6.1.2 which represent inherent hazards that could affect the probability of an incident such as population density or land-use.		
	Objective/Outcome	Success Measure(s)	Work Package
	TNPI has documented the criteria used to determine patrol frequency that includes the factors listed in CSA clause 10.6.1.2.	Documented process/criteria to determine patrol frequency includes CSA 10.6.1.2 requirements and applied. Implemented patrol frequency review.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update the Patrols program to include the method and criteria used to determine the frequency of patrols. b. Implement an assessment of frequency of patrols.		2017 Q4

APPENDIX I: PIPELINE PATROL AUDIT – EVALUATION OF SUB-ELEMENT 4.1 INSPECTION, MEASUREMENT AND MONITORING

3.1 Notification of locations regarding low risk agricultural activity (DPR-O s.7)

Conclusion

Trans-Northern could not demonstrate that it has procedures or patrols to monitor depth of cover to identify areas where low-risk agricultural activities would jeopardize the safety of the pipeline as required by the DPR-O s.7. As a result, Trans-Northern is in non-compliance with this requirement. The Board requires that a CAP be developed to address this non-compliance.

TNPI Finding #	Finding Description
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3.1.1	Also, Trans-Northern notes instances of exposed pipe discovered during its patrols activities. Upon review of the annual line walk reports, the Board noted instances where sections of exposed pipe were reported, Trans-Northern was not able to demonstrate that it had tracked these issues to resolution. This issue is examined further in Appendix II of this report.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol identified issues are consistently tracked and managed to resolution.	Audit identified exposure issues are included in corrective action tracking system. Audit identified exposure issues are tracked until resolution.	Corrective Action Planning Process
	Action(s)		Target Completion Date
	a. Add or confirm all exposed pipe issues are added to corrective action tracking system. b. Track exposure issues until resolution.		2017 Q4
TNPI Finding #	Finding Description		
3.1.2	Trans-Northern did not demonstrate that it has a process for proactively monitoring depth of cover on agricultural lands that would enable it to identify areas where low-risk agricultural activity would jeopardize the safety of the pipeline.		
	Objective/Outcome	Success Measure(s)	Work Package
	Depth of cover issues on agricultural lands are identified and mitigated.	Depth of Cover monitoring process is documented.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update or create a patrol procedure to include activities to monitor depth of cover.		2017 Q4

APPENDIX II: PIPELINE PATROL AUDIT – INTERACTION WITH OTHER MANAGEMENT SYSTEM SUB-ELEMENTS

2.1 Hazards Identification, Risk Assessment and Control

Conclusion

Regarding its patrol activities, Trans-Northern demonstrated that it has established and implemented some aspects of Hazard Identification, Risk Assessment and Controls. Based on the documents provided and interviews with staff and contractors, the Board determined that Trans-Northern focuses its patrol activities on the identification of hazards and potential hazards related to damage prevention and third party activity.

The audit found that other potential hazards that were listed in the ROW procedure were not being adequately accounted for during patrols. In particular, Trans-Northern was not able to demonstrate that its patrols were consistently identifying environmental or integrity-related hazards or potential hazards.

Also, with the exception of damage prevention, Trans-Northern did not demonstrate a fully implemented process for the evaluation of risk as described in the regulations. As a result, the Board finds Trans-Northern in non-compliance with the requirements of NEB OPR sections 6.5(1)(e) and (f) to evaluate and manage risks and develop and implement corresponding controls and requires Trans-Northern develop a CAP to address these deficiencies.

TNPI Finding #	Finding Description		
2.1.1	The procedure (Right-of-way (ROW) Surveillance Procedure) also lists specific activities and conditions that should be monitored during aerial patrols and foot patrols. It is unclear from the documentation provided if these conditions and activities as identified in the procedures form part of the Trans-Northern inventory of hazards and potential hazards or if they are listed only in the procedures.		
	Objective/Outcome	Success Measure(s)	Work Package
	All hazards (new and existing) are included in a hazard inventory.	Formalized TNPI inventory of hazards and potential hazards. All patrols identified hazards are included in the hazard inventory.	Hazard Identification Process
	Action(s)		
	a. Formalize TNPI's hazard inventory. b. Add or confirm all patrol monitored/identified hazards are included in hazard inventory.		
	Target Completion Date		
	2018 Q1		

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TNPI Finding #	Finding Description		
2.1.2	The audit found that Trans-Northern's worksheet (TNPI High Level Risk Assessment) is comprised of high level risk categories such as encroachment and loss of containment due to third party strike.		
	Objective/Outcome	Success Measure(s)	Work Package
	All hazards (new and existing) are included in a hazard inventory to be risk assessed by the risk assessment process.	All patrols identified hazards are included in the hazard inventory.	Hazard Identification Process
	Action(s)		Target Completion Date
	a. Add or confirm all patrol monitored/identified hazards are included in hazard inventory.		2018 Q1
TNPI Finding #	Finding Description		
2.1.3	Also, although patrols are included in the worksheet (TNPI High Level Risk Assessment worksheet) as a mitigation or control in place for the identified risk of third party damage, Trans-Northern did not include any details or evaluation criteria that are applied to determine their effectiveness.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrols have been validated as effective risk mitigation methods.	Patrol KPIs are developed, measured and reviewed and acted upon.	Effectiveness Assessment Process
	Action(s)		Target Completion Date
	a. Develop patrol KPIs. b. Measure patrol KPIs. c. Review patrol KPIs and determine corrective actions if necessary.		2018 Q1
TNPI Finding #	Finding Description		
2.1.4	Statements such as "Consider further controls to protect pipeline" or "No further actions to be taken" were noted (in the TNPI High Level Risk Assessment worksheet). The worksheet also included recommendations to be implemented with no target date assigned. In the Board's view, these statements do not reflect an adequate assessment of these hazards or the proposed controls.		

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	Objective/Outcome	Success Measure(s)	Work Package
	Implementation of risk assessment process.	Training completed on updated Risk Assessment process. Implement Risk Assessment Process. Risk mitigation and controls identified as required.	Risk Assessment Process
	Action(s)		Target Completion Date
	a. Provide training on updated Risk Assessment process. b. Implement updated Risk Assessment Process. c. Determine any additional required mitigation or control.		2018 Q2
TNPI Finding #	Finding Description		
2.1.5-	The audit found that although some environmental and integrity hazards were being identified by the various patrol activities, they were not being captured and added to the worksheet (TNPI High Level Risk Assessment worksheet) or the Intelex system.		
	Objective/Outcome	Success Measure(s)	Work Package
	All identified hazards (new and existing) are included in the hazard inventory.	All patrol identified hazards are included in the hazard inventory.	Hazard Identification Process
	Action(s)		Target Completion Date
	a. Add or confirm all patrol monitored/identified hazards are included in hazard inventory.		2018 Q1
TNPI Finding #	Finding Description		
2.1.6	The Board also noted that Trans-Northern did not have procedures to ensure that all identified hazards from the patrols for each region were being entered into Intelex for evaluation and management.		
	Objective/Outcome	Success Measure(s)	Work Package

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	All patrol identified hazards (new and existing) are included in the hazard inventory.	Patrols procedures include the requirement to add new and potential hazards to the hazard inventory.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update Patrol procedures and forms to identify, capture and communicate new and potential hazards.		2017 Q3
TNPI Finding #	Finding Description		
2.1.7	Trans-Northern did not demonstrate that hazard identification from other protection programs was informing the patrols. For example, although invasive species was identified as an environmental issue on the ROW, Trans-Northern did not demonstrate that its staff or contractors conducting patrols were aware or trained to identify this issue during patrols and report back.		
	Objective/Outcome	Success Measure(s)	Work Package
	All hazards (new and existing) are identified and risk assessed, and if necessary, monitored and mitigated (program or reaction).	Risk management process updated to include identification/development and implementation of mitigation measures.	Hazard Identification Process
	Action(s)		Target Completion Date
	a. Update program documents to report hazards and potential hazards from programs into risk identification process.		2017 Q4
TNPI Finding #	Finding Description		
2.1.8	With the exception of hazards related to third party damage discussed above, the Board found no documentation to indicate that all new hazards or potential hazards identified by patrols are being analyzed, communicated or assessed. As a result, the Board requires that Trans-Northern develop a CAP to address this non-compliance. (see section 3.5 of this Report)		

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	Objective/Outcome	Success Measure(s)	Work Package
	All new or potential hazards are evaluated.	Risk management process includes evaluation of new hazards. Risk register includes newly evaluated hazards.	Risk Assessment Process
	Action(s)		Target Completion Date
	a. Update risk assessment process to include capture and assessment of new or potential hazards. b. Provide training on updated risk assessment process.		2018 Q1

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3.4 Training, Competence and Evaluation

Conclusion

While Trans-Northern demonstrated that it has developed, and implemented a process for identifying, tracking and managing training, the Board determined that its suite of training is incomplete for staff and contractors involved in patrols. The Board also found that Trans-Northern has not established and implemented a process for identifying and verifying competencies with respect to its patrol activities. As a result, the Board finds Trans-Northern in non-compliance with NEB OPR s. 6.5(1)(k). The Board requires Trans-Northern to develop a corrective action plan to address the described deficiencies.

TNPI Finding #	Finding Description		
3.4.1	The Board also found that Trans-Northern has not established and implemented a process for identifying and verifying competencies with respect to its patrol activities.		
	Objective/Outcome	Success Measure(s)	Work Package

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	The competencies of patrol activities have been identified and verified.	Competency assessment process documented. Patrol activity competency assessment updates completed.	Competency Assessment Process
	Action(s)		Target Completion Date
	a. Document current Competency Assessment process b. Provide training on Competency Assessment process. c. Determine the required competencies reverification frequency of patrollers of each patrol type (i.e. Aerial, Vehicle, Line Walk). d. Verify the competencies of staff and contractor patrollers of each patrol type.		2018 Q1
TNPI Finding #	Finding Description		
3.4.2	Records indicate that the ROW maintenance training is taken only once. Trans-Northern did not demonstrate that changes to the hazards, operations procedures or legal requirements do not trigger the requirement for additional training.		
	Objective/Outcome	Success Measure(s)	Work Package
	The training requirements are determined for any changes to patrol activities.	MOC for changes in patrol activities include the determination of changes to training requirements.	MoC Process
	Action(s)		Target Completion Date
	a. Update MOC No. 17 to include the determination of the training requirements due to the additional patrol requirements due to the new and updated regulation.		2017 Q3
TNPI Finding #	Finding Description		
3.4.3	With respect to the management of the training and competency requirements of its contract personnel who conduct patrols, Trans-Northern did not demonstrate that it has included these contractors within a contractor management program that includes a process for the evaluation of the contractors' competency. Also, Trans-Northern did not provide records to demonstrate that contract ROW pilots were evaluated as required by Trans-Northern ROW Maintenance and Surveillance Procedure section 3.5.5.1. nor did Trans-Northern provide evidence of the training, licenses and requirements for contractors.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol contractors are verified to meet	Contractor requirements documented and verified.	Contractor Management

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	contractor requirements and competencies including specified training requirements.	Contractor competency training requirements documented and verified.	Program/Process
	Action(s)		Target Completion Date
	a. Determine the patrol contractor requirements. b. Determine the patrol contractor training and competency requirements. c. Verify the patrol contractors have met contractor requirements and training and competency requirements.		2018 Q1
TNPI Finding #	Finding Description		
3.4.4	In addition, at the time of the audit, new aerial patrol spotters were being trained using outdated procedures and were not aware of the current legislation.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrollers are trained on current procedures and made aware of current legislation.	Training is provided referencing current procedures and legislation.	Document Control Process Patrol Procedure(s)
	Action(s)		Target Completion Date
	a. Provide patrollers training on document control practices. b. Provide patrollers training on legislative requirements.		2018 Q1
TNPI Finding #	Finding Description		
3.4.5	The audit identified that there were no procedures or awareness provided to the contractors that outlined Trans-Northern's expectations in the event that they encounter hostility during potential interactions with the public or third parties.		
	Objective/Outcome	Success Measure(s)	Work Package
	Contractors effectively represent TNPI when they interact with the public or third parties.	Patrol contractors have acknowledged TNPI's Violence and Harassment training.	Contractor Management Program/Process
	Action(s)		Target Completion Date
	a. Include requirement for violence and harassment training in the patrol contractor scope of work (SOW). b. Provide violence and harassment training expectations to contractors.		2017 Q4

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TNPI Finding #	Finding Description		
3.4.6	The Board also noted that the training provided to staff who conduct patrols did not account for all of the responsibilities and expectations outlined in the ROW Surveillance procedures. Along with third party activity, the procedures include the requirement for staff and contractors to monitor and report on conditions such as “erosion, washout, subsidence, scour, loss of cover, and soil conditions which would endanger the pipeline” as the environmental or integrity related issues. Trans-Northern could not demonstrate that it has developed or provided staff and contractors with the training or awareness that would enable them to identify these issues while on patrol.		
	Objective/Outcome	Success Measure(s)	Work Package
	All staff are trained to perform their Patrol related responsibilities.	Competency Based Training (CBT) Training guides are updated to reflect all competencies identified in the patrols procedures. Staff are trained to perform all competencies.	Patrols Procedure(s)
	Action(s)		
	a. Update Patrol CBT Training Guides to reflect the updated Patrol Procedures. b. Training staff with the updated Training Guides.		
	Target Completion Date		
	2017 Q4		

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3.5 Communication

Conclusion

Based on the Board’s evaluation of Trans-Northern’s communication practices against the requirements and the scope of this audit, the Board has determined that Trans-Northern is non-compliant with NEB OPR s. 6.5(1)(m). Trans-Northern will have to develop corrective actions to address the described deficiencies.

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TNPI Finding #	Finding Description		
3.5.1	Trans-Northern was, however, unable to demonstrate a communication process or procedure for the internal communication of issues related to legal requirements, to staff and contractors who conduct patrols.		
	Objective/Outcome	Success Measure(s)	Work Package
	Issues related to legal requirements are communicated to staff and contractors conducting patrols.	The communication process is updated. Training is provided on communication process.	Communication Process
	Action(s)		Target Completion Date
	a. Update communication processes to include communication of legal issues. b. Develop and provide training to implement communication process.		2017 Q3
TNPI Finding #	Finding Description		
3.5.2	In addition, the audit reviewed several patrol reports and noted that, with the exception of damage prevention issues, Trans-Northern could not demonstrate that it was communicating the issues noted on patrol to the appropriate protection program to manage and resolve. For example, there were instances of exposed pipe and areas that required brushing identified by the annual line walk. Trans-Northern could not provide records to demonstrate that these issues had been communicated to the Operations group or captured in the IFS system which generate work orders.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol identified issues are communicated to the appropriate protection program.	Patrol procedures updated to include the protection program communication requirements. Communication of issues are communicated to the appropriate protection program.	Patrols Procedure(s)
	Action(s)		Target Completion Date

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	<ul style="list-style-type: none"> a. Update Patrols procedures to include the communication of patrol identified issues to the appropriate protection program. b. Train and implement the communication requirements of the Patrols procedures. 	2017 Q4
TNPI Finding #	Finding Description	
3.5.3	Also, Trans-Northern was not able to demonstrate that concerns or issues identified by the protection programs are being communicated to patrols for monitoring. For instance, there was no link between its patrols and its environmental protection program established for the monitoring of any post-construction mitigation or potential encounter with invasive species.	
	Objective/Outcome	Success Measure(s)
	Program hazards identified to be monitored (as a risk mitigation activity) are included in a monitoring activity.	Additional program level monitoring activities identified by risk assessment are assigned within the Patrol procedures.
	Action(s)	
	<ul style="list-style-type: none"> a. Update Risk Assessment process to include: <ul style="list-style-type: none"> - the addition of newly identified safety program hazards to be risk assessed - that any program level mitigative monitoring be considered in the Patrol procedures b. Provide training on updated risk assessment process. c. Update the Patrol procedure to include additional program level monitoring identified by the safety programs using the Risk Assessment process. 	2018 Q1
		Work Package
		Risk Assessment Process Patrols Procedure(s)
		Target Completion Date

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3.6 Documentation and Document Control

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<u>Conclusion</u> Based on the Board's evaluation of Trans-Northern's patrol activities against the requirements, the Board has determined that Trans-Northern is non-compliant with NEB OPR s. 6.5(1)(o). Trans-Northern will have to develop corrective actions to address the described deficiencies.			
TNPI Finding #	Finding Description		
3.6.1	During the site inspections, the Board noted that not all documents related to patrols reviewed and updated with current legal requirements. For example, the Board noted that the Right of Way Maintenance and Surveillance Procedures were not updated contained outdated CSA references and had not been revised to reflect the June 2016 requirements from the DPRs.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol procedures reflect the current regulatory requirements.	Patrol procedures have up-to-date CSA and OPR requirements.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Complete MOC 17 action plan. b. Update patrol procedures referencing the current CSA standard and the June 2016 requirements from the Damage Prevention regulations. c. Provide training on any changes to patrol procedures.		2017 Q4
TNPI Finding #	Finding Description		
3.6.2	During interviews and inspections, the Board discovered that the provision of current procedures to contractors was inconsistent. This inconsistency resulted in long time contractors not having the latest versions of the procedures.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol staff and contractors are using the most current procedures.	All staff and contractors have access to the most current procedures. Document Control Training provided to patrol staff	Document Control Process

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		and contractors. Out-of-date versions of the patrol procedures have been removed.	
	Action(s)		Target Completion Date
	a. Update Document Control Procedure. b. Provide current patrol procedures to patrol staff and contractors. c. Train staff and contractors on document control practices. d. Remove or destroy all out-of-date procedures.		2018 Q1
TNPI Finding #	Finding Description		
3.6.3	In addition, the public awareness materials that staff and contractors were providing to stakeholders during patrols were found to be out of date.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol staff and contractors are providing stakeholder the most current information.	Staff trained in document control. Public awareness materials provided to stakeholders is current. Out-of-date versions of public awareness materials have been destroyed.	Document Control Process
	Action(s)		Target Completion Date
	a. Train personnel on Document Control practices. b. Confirm that the Public Awareness materials are being managed as controlled documents. c. Remove all out-of-date public awareness materials.		2018 Q1
TNPI Finding #	Finding Description		
3.6.4	The Board also noted that every employee and contractor who conducts patrols appears to use a different reporting template which may result in inconsistent reporting from region to region.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol staff and contractors are using the	Patrol forms are updated and distributed to	Patrols Procedure(s)

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	most current reporting form.	patrollers. Out-of-date versions of Patrol forms are destroyed.	
	Action(s)		Target Completion Date
	a. Review and finalize the Patrol forms (consolidate to a single form where possible). b. Provide current forms (and associated training) to patrol contractors and employees. c. Remove all out-of-date Patrol forms.		2017 Q4

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4.2 Investigation of Incidents, Near-misses and Non-compliances

Conclusion

The Board finds that, aside from the reporting of potential unauthorized activities as described in Appendix I of this report, Trans-Northern did not demonstrate that it has implemented a consistent process for reporting hazards and potential hazards that are identified by patrol activities and tracking them to verify that they have been resolved. As a result, the Board has determined that Trans-Northern is non-compliant with NEB OPR s. 6.5(1)(r). Trans-Northern will have to develop corrective actions to address the described deficiencies.

TNPI Finding #	Finding Description		
4.2.1	During the review of this database, the Board noted that Trans-Northern did not demonstrate that it was consistently documenting and investigating issues besides unauthorized activities that were identified during patrol activities, most notably those issues noted during the annual line walk. As discussed in sub-element 3.5 of this report, Trans-Northern did not demonstrate that it has a process to ensure that environmental or integrity issues noted in patrol reports were being documented or communicated to the appropriate group for tracking to resolution.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol identified issues are consistently documented and investigated.	Patrol procedures updated to include instructions to document issues. Provide training on updated patrol procedures.	Patrol Procedure(s)

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	Action(s)		Target Completion Date
	a. Update the Patrols procedures to include instructions to identify and capture issues requiring investigation and resolution. b. Provide training on updated patrols procedures.		2017 Q4
TNPI Finding #	Finding Description		
4.2.2	Trans-Northern discussed the role of its IFS system that it uses to initiate, track and manage work orders including those triggered by issues noted on patrol. Based on its review, the Board found the system was not fully implemented as evidenced by the following observations:		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol identified issue work orders in IFS are consistently entered, tracked and managed.	Procedures to initiate, track and manage Patrol issues related work orders in IFS are documented. Staff are trained on the use of IFS for Patrol identified issues.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update the Patrol procedures to include use of the IFS system to initiate, track and management Patrol identified issues. b. Provide staff training on the use of IFS.		2017 Q4
TNPI Finding #	Finding Description		
4.2.3	...signage issues noted on patrols that were not entered into IFS and no follow-up was demonstrated;		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol identified signage issue work orders are consistently entered, assigned, tracked, completed and closed in an issue tracking system.	Patrol procedures updated to include the system where signage issues are entered and managed. Patrol identified signage issues are entered and managed.	Patrols Procedure(s)

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	Signage issues are resolved on-time.		
	Action(s)		Target Completion Date
	a. Update the Patrols procedure to include the system that signage issues are entered and tracked. b. Provide staff training on where to enter and track signage issues.		2017 Q4
TNPI Finding #	Finding Description		
4.2.4	...issues entered into IFS as a work order that were not tracked or actioned;		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol identified issue work orders in IFS are consistently entered, tracked and managed.	Issues entered IFS work orders are tracked. Outstanding issues entered as IFS work orders are actioned for completion.	Management Review Process
	Action(s)		Target Completion Date
	a. Update and Implement the Management Review Process including: <ul style="list-style-type: none"> - the review of the status of completion of Issues entered as IFS work orders - actioning any outstanding IFS work orders 		2017 Q4
TNPI Finding #	Finding Description		
4.2.5	...the process for identifying issues from patrols and entering them into IFS varied between the regions;		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol identified issue work orders are consistently entered IFS.	Patrol procedures updated to include the system where patrol-identified issues are entered. Patrol-identified issues are entered.	Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update the Patrols procedure to include the system that issues are entered. b. Provide staff training on where to entering issues.		2017 Q4

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TNPI Finding #	Finding Description		
4.2.6	...lack of consistency regarding which issues get actioned and why;		
	Objective/Outcome	Success Measure(s)	Work Package
	Issues are consistently evaluated and, as required, actioned.	Updated Patrols procedure to include the types of issues to be entered into a corrective action system. Updated Corrective Action process with evaluation of issues to determine resolution actions.	Corrective Action Planning Process Patrols Procedure(s)
	Action(s)		Target Completion Date
	a. Update Patrols procedure to include the types of issues to be entered into a corrective action system. b. Update Corrective Action process with to include a step to evaluate the issues to determine if resolution actions are required. c. Provide training on location to enter and track Patrol issue. d. Provide training on Corrective Action process.		2017 Q4
TNPI Finding #	Finding Description		
4.2.7	...lack of documented procedures describing how accountability for the work order is determined		
	Objective/Outcome	Success Measure(s)	Work Package
	Accountability of Patrol-identified issue work orders in IFS is clearly defined.	The Corrective Action process is updated to include the assignment of accountability for the corrective actions.	Corrective Action Planning Process
	Action(s)		Target Completion Date
	a. Develop an overarching corrective action procedure to include the assignment of accountability for the resolution of corrective action.		2017 Q3
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4.2.8	Trans-Northern could not demonstrate that it conducts a review of the IFS system and the work orders to ensure that all of the issues, including those issues identified by patrols are properly resolved and closed out in the system.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol identified issue work orders are tracked and reviewed in IFS.	Completed effectiveness assessment of issues captured in IFS.	Management Review Process
	Action(s)		Target Completion Date
	a. Document and Implement the Management Review Process including the review of: <ul style="list-style-type: none"> the status of completion of scheduled Patrol activities the status of the assessment and resolution of any issues identified during patrol activities 		2018 Q1

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4.3 Internal Audit

Conclusion

Considering the scope of this audit, the Board determined that Trans-Northern has an internal audit scope and schedule that meets Board expectations with regards to patrol activities. However, Trans-Northern did not demonstrate that the corrective actions recommended for the operational areas were applied to the patrol activities. Also, Trans-Northern could not demonstrate that it has conducted any reviews to determine whether its patrol activities are adequate or effective. As a result, the Board has determined that Trans-Northern is non-compliant with NEB OPR Section 6.5(1)(w). The Board requires Trans-Northern to develop a corrective action plan to address the described deficiencies.

TNPI Finding #	Finding Description
4.3.1	Upon a review of the findings relating to ROW maintenance, the Board also noted that corrective actions related to patrol activities from the 2013 audit CAP remained outstanding. For example, contractor evaluation of competence and oversight

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	remains an issue in regards to the patrol activities. Also, the 2013 audit identified deficiencies with the implementation of corrective action and follow-up specifically related to issues noted by ROW inspections.		
	Objective/Outcome	Success Measure(s)	Work Package
	All patrol identified tracked and managed to resolution.	Updated Management Review process to include the activity to track Patrol activities and Corrective Actions. Patrol activities are tracked until completion. Corrective actions are tracked until completion.	Management Review Process
	Action(s)		Target Completion Date
	a. Update the management review process to include the roles and responsibilities to review the status of Audit identified corrective actions. b. Provide training on the management review process.		2018 Q1
TNPI Finding #	Finding Description		
4.3.2	Although patrol activities can be considered inspection activities, these activities should also be reviewed as part of a quality assurance program to verify that they are meeting established objectives and to verify that the procedures continue to be fit for purpose. Trans-Northern could not demonstrate that it has conducted any reviews related to evaluating the effectiveness of the patrol activities in meeting its objectives.		
	Objective/Outcome	Success Measure(s)	Work Package
	The patrol activities are assessed to ensure they have met stated objectives (adequate and effective).	Completed effectiveness assessment of the patrol activities.	Effectiveness Assessment Process
	Action(s)		Target Completion Date
	a. Implement the Effectiveness Assessment of the Patrols Program.		2018 Q1

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4.4 Records Management

Conclusion

Considering the scope of this audit, the Board determined that Trans-Northern has been documenting its patrol activities. However, the Board has determined that Trans-Northern did not demonstrate that it is managing its patrol records in accordance with the requirements. As a result, the Board has determined that Trans-Northern is non-compliant with NEB OPR 6.5 1(p). The Board requires Trans-Northern to develop a corrective action plan to address the described deficiencies.

TNPI Finding #	Finding Description		
4.4.1	Trans-Northern demonstrated that its various types of patrol activities are documented in patrol reports. During the audit, the Board noted that each location was managing the reports differently. For example, some of the aerial and ground patrol reports are scanned and kept on a shared drive. In other locations, the aerial patrols were kept at the office in hard copy only. The Board notes that Trans-Northern is in the process of improving its records management and access with the implementation of the ESRI database and its GIS components for tracking and trending issues.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol records are consistently managed as per program/procedural requirements.	Patrol procedures are updated to identify locations for records. Records captured as per updated procedures.	Records Management Process
	Action(s)		Target Completion Date
	a. Develop a records management plan for the Patrols Procedures. b. Provide training on the Patrols records management plan. c. Implement Patrols records management plan.		2018 Q2

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TNPI Finding #	Finding Description		
4.4.2	Trans-Northern has not conducted an assessment or review of its records management for patrol records to determine the adequacy and effectiveness of its current practices in meeting the requirements.		
	Objective/Outcome	Success Measure(s)	Work Package
	Patrol records are consistently managed as per a written records management plan.	Completed assessment of Patrols records management.	Effectiveness Assessment Process
	Action(s) a. Implement the Effectiveness Assessment process for the Patrol Records (upon implementation of the records management plan).		Target Completion Date 2018 Q1

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5.1 Management Review

Conclusion

Trans-Northern did not demonstrate that its management review process is adequately ensuring the continual improvement of its patrol activities by failing to require the evaluation of these activities and failing to ensure the resolution of deficiencies related to these activities. As a result, the Board has determined that Trans-Northern is non-compliant with NEB OPR s. 6.5 (1)(x). The Board requires Trans-Northern to develop a corrective action plan to address the described deficiencies.

TNPI Finding #	Finding Description		
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5.1.1	Despite this emphasis on ROW monitoring (for the identification of hazards and potential hazards to its pipelines), the Board noted that Trans-Northern Senior Management has failed to demonstrate adequate oversight of these activities to determine their effectiveness.		
	Objective/Outcome	Success Measure(s)	Work Package
	The patrol activities are assessed to ensure they have met stated objectives (adequate and effective).	Documented Management Review of the patrols activities.	Management Review Process
	Action(s)		Target Completion Date
	a. Update the Management Review process to include review of: <ul style="list-style-type: none"> - the status of completion of scheduled Patrol activities - the status of the assessment and resolution of any issues identified during Patrol activities b. Implement updated Management Review process.		2018 Q1
TNPI Finding #	Finding Description		
5.1.2	In the Board's view, this lack of oversight has contributed to several issues noted during the audit. For example: <ul style="list-style-type: none"> • corrective actions related to the communication and resolution of issues noted on patrol are only partially implemented, despite having been identified in 2013 by an internal audit; • signage and ROW maintenance issues were noted during the audit related inspections of areas that are patrolled daily; • environmental and integrity issues identified by patrol, are not being consistently included in the reporting and monitoring; and despite frequency of patrols and the expectations outlined in the procedures, there is no process in place to evaluate patrol activities to ensure their adequacy and effectiveness in meeting the intent of the regulations or Trans-Northern's procedures. 		
	Objective/Outcome	Success Measure(s)	Work Package
	All identified deficiencies of the Patrol activities have been identified, risk assessed, assigned and tracked to resolution.	Completed effectiveness assessment of the patrol activities (including review of compliance requirements, completed patrol activities,	Management Review Process

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		completed corrective actions, monitoring issue trends).	
		Action(s)	Target Completion Date
	a.	Document and Implement the Management Review Process including the review of: <ul style="list-style-type: none"> - the status of completion of scheduled Patrol activities - the status of the assessment and resolution of any issues identified during Patrol activities - review of the effectiveness assessment of the Patrol activities 	2018 Q1

Conclusion

Trans-Northern feels that this CAP response demonstrates a realistic plan for the response to the NEB's audit findings. TNPI has not only reviewed and addressed the individual findings and deficiencies identified but have consolidated them into comprehensive Work Packages that ensures closure activities are integrated and effective in addressing the root cause of the Audit findings.