



Corrective Action Plan (CAP)

Third Party Crossings Program

Submitted by TransCanada PipeLines Limited and
its National Energy Board – Regulated Subsidiaries
to address non-compliant findings in the
National Energy Board’s
Final Audit Report – Third Party Crossings Program

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1. AUDIT FINDINGS

The *National Energy Board Onshore Pipeline Regulations* Final Audit Report (March 31, 2014) on TransCanada PipeLines Limited's ("TransCanada") Third Party Crossings Program (Crossings Program) identified findings in the following various Management Systems sub-elements:

Finding	NEB Element	NEB Sub-Element
1	1.0 Policy and Commitment	1.2 Policy and Commitment Statements
2	2.0 Planning	2.2 Legal Requirements
3		2.3 Goals, Objectives and Targets
4	3.0 Implementation	3.3 Management of Change
5		3.4 Training, Competence and Evaluation
6	4.0 Checking and Corrective Action	4.1 Inspection, Measurement and Monitoring
7		4.2 Investigating and Reporting Incidents and Near-misses
8		4.3 Internal Audits
9	5.0 Management Review	5.1 Management Review

In addition to a number of improvement areas identified for the Crossings Program, there were also several positive observations including:

- Confirmation that TransCanada has developed and implemented a Crossings Program to identify, manage and apply controls to the hazards associated with third parties mechanically excavating and constructing near its facilities;
- TransCanada's management demonstrated that the company has properly resourced the Crossings Program and has involved itself in implementation and oversight at senior management levels; and
- Demonstrated an established process for communication with and education of third parties who request to work near the pipelines in order for this work to be done safely.

1. CAP RESPONSE METHODOLOGY

In developing this Corrective Action Plan (CAP), TransCanada considered the National Energy Board (NEB) findings, Onshore Pipeline Regulations (OPR), current practices, scope, resourcing requirements and implementation timelines. While preliminary milestones have been established to address all findings, the working teams formed will establish more detailed execution plans. The steps and timelines presented in this CAP are TransCanada's best estimate for the time to complete the work outlined, assuming approval of the CAP within 30 days from submission. TransCanada will notify the NEB in advance if at any time during the implementation of these improvement activities outlined in the CAP, significant changes to the plans are required.

Where findings were common across all five of the protection programs audited by the NEB (Protection Program), TransCanada will consider implementing broader systemic processes to address the identified gaps. This cross-functional and organizational review is a significant undertaking that will require time to design, develop and implement. To accomplish this, we propose the establishment of cross-functional working teams and governance committees to ensure organizational alignment and support. Intermediate deliverables have been established for these broader issues to measure progress on these CAPs. Once key corrective actions are implemented, an internal review will be undertaken to determine adherence and effectiveness of new processes and procedures. Therefore, some CAP milestones have been extended to allow for the review cycle.

Detailed below are brief summaries of the audit findings and TransCanada's proposed corrective action to address each finding.

2. SUB-ELEMENT 1.2: POLICY AND COMMITMENT STATEMENTS

3.1 Finding

TransCanada demonstrated that it has established and implemented a Health, Safety & Environment (HSE) Commitment Statement and Code of Business Ethics (COBE) that include protection of the public, workers and the environment and immunity from disciplinary action for employees that report any actual or suspected violation of the law. Following review, the NEB has determined that these documents do not demonstrate the existence of policies for the internal reporting of hazards, potential hazards, incidents and near-misses that includes the conditions under which a person who makes a report will be granted immunity from disciplinary action. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

3.2 Corrective Action

TransCanada has updated its HSE Commitment Statement to include language that clearly defines that employees are immune from retaliation resulting from reporting of

hazards, potential hazards, incidents and near misses.

TransCanada will revise the language in the COBE and the Incident Management Program to more clearly state that immunity from retaliation for reporting is provided for those who report issues, incident, hazard or near misses.

TransCanada will deliver a focused communication and awareness campaign to ensure that employees and in-house contractors are aware of the changes made and processes for reporting.

3.2.1 CAP Schedule / Stage Gates for Implementation

The documents will be updated by December 31, 2014, and communicated to employees and in-house contractors by May 31, 2015.

3.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Updated HSE Commitment Statement;
- Updated Incident Management Program Document;
- Updated COBE; and
- Executed awareness campaign.

3. SUB-ELEMENT 2.2: LEGAL REQUIREMENTS

4.1 Finding

TransCanada demonstrated that it is tracking, listing and communicating some of its legal requirements. However TransCanada did not demonstrate that it has an inventory of specific legal requirements or a process to ensure that regulatory changes trigger program changes or communication to all staff involved in the Crossings Program. Therefore, TransCanada did not demonstrate that it has an established, implemented and effective process for identifying and monitoring compliance with all legal requirements that are applicable to the company in matters of safety, security and protection of the environment as required by the Board's expectations. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

4.2 Corrective Action

To address the NEB's findings for the Legal Requirements sub-element, TransCanada will review, update, populate and maintain a list of regulatory requirements for the Crossings Program for NEB-regulated facilities and activities.

TransCanada will also implement a common process for identifying and managing changes to legal requirements applicable to the Crossings Program for NEB-regulated assets. The process will consolidate and improve upon existing legislative monitoring processes currently in use and will leverage the concordance table that will be developed.

Following the establishment of the processes and related documents, TransCanada will develop and deliver awareness training to Protection Program stakeholders that will enable them to carry out the processes outlined. Once the training is complete, existing program documents will be modified using the new process.

4.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Compile a comprehensive list of legal requirements for NEB-regulated facilities and associated activities – December 31, 2014;
- Develop a concordance table to align legal requirements with TransCanada’s facilities and associated activities – December 31, 2015;
- Develop a process for legislative monitoring – March 31, 2015;
- Process Training completion – September 30, 2015; and
- Completed relevant document changes – December 31, 2015.

4.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions;

- Concordance table developed and aligned to NEB Regulations;
- Updated legislative monitoring process;
- Training on updated processes provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

5. SUB-ELEMENT 2.3: GOALS, OBJECTIVES AND TARGETS (GOTs)

5.1 Finding

The NEB noted that the Crossings Program does not have developed goals, objectives

and specific targets relevant to its hazards and risks at the Program level. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

5.2 Corrective Action

TransCanada will review and standardize its processes for setting GOTs for all of its Protection Program. Following the establishment of the process, TransCanada will provide awareness training for Protection Program stakeholders that will enable them to carry out the outlined processes.

Once the training is complete, GOTs for the Crossings Program will be set using the updated process. The program level GOTs will be documented. This systematic approach will promote alignment of programs and corporate GOTs. Once all GOTs are developed, remaining document updates will proceed to ensure appropriate linkages are made to the new GOTs and references within existing documentation are correct.

The GOTs setting process noted above will be documented and housed in a corporate document controlled repository that will provide:

- Accessibility by program owners and program staff;
- Review by dates specified;
- Reference to document/process owner;
- Revision control; and
- Version control.

5.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Finalize GOTs setting process – February 13, 2015;
- Process training completion – April 30, 2015;
- Finalize program level GOTs – May 15, 2015; and
- Complete document changes – October 31, 2015.

5.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- GOTs setting process for Protection Programs is reviewed, standardized and
-

documented;

- Training on updated processes provided to Protection Program stakeholders;
- Program GOTs are incorporated into program documentation; and
- Program documentation is housed in a corporate document controlled repository.

6. SUB-ELEMENT 3.3: MANAGEMENT OF CHANGE

6.1 Finding

TransCanada has implemented some aspects of a Management of Change (MOC) program. However TransCanada did not demonstrate that it has an established and implemented a process for identifying and managing change that could affect safety, security or protection of the environment. This includes any new hazard or risk, any change in design, specification, standard or procedure, and change in the company's organizational structure or the legal requirements. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

6.2 Corrective Action

TransCanada is in the midst of implementing a revised MOC framework which provides a consistent methodology for the management of change. This framework reflects a more comprehensive approach beyond the use of the Pipe Integrity MOC and the TransCanada Operating Procedures (TOPs) MOC processes as reviewed during the audit.

The revised MOC process manages technical and physical changes, document change procedures, and variances and process changes for the Operations and Engineering (O&E) department. A pilot program for this process was completed and lessons learned were incorporated. It will be implemented for the Crossings Program.

6.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- MOC rollout and training to Crossings Program personnel for NEB-regulated facilities – October 31, 2014; and
- Internal audit of consistent use of process – April 30, 2015.

6.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- MOC rolled out on schedule;
- Training completed on updated processes provided to Protection Program stakeholders for NEB-regulated facilities; and
- Audit of consistent use of the process completed.

7. SUB-ELEMENT 3.4: TRAINING, COMPETENCE AND EVALUATION

7.1 Finding

TransCanada demonstrated that it has developed and implemented a process for identifying, tracking and managing training. However TransCanada's suite of training is incomplete for staff and contractors involved in the Crossings Program. The current training program does not include TransCanada's expectations for the identification, reporting and conduct of its employees and contractors should they encounter hostility from third parties while conducting Crossings activities. The training program does not include training for all potential hazards associated with the Crossings Program. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

7.2 Corrective Action

TransCanada's corporate security training material was updated in the fall of 2013. The update included a section on workplace violence which specifically outlined the process employees and contractors are to follow if they encountered a potentially hostile situation or experience workplace violence.

The training was rolled out across the Company in the later part of 2013. TransCanada's employees and contractors were given thirty days to review the training materials and complete the competency evaluation tasks. A third party administers the delivery of this training and has developed a tracking process. If an individual does not complete the training session on time then an e-mail reminder is sent to the individual. If the training is not completed in the second allotted time frame, then e-mail reminders are escalated to their direct Manager until the training is completed.

To ensure training has been completed, TransCanada will review and track completion of the corporate security training for personnel that support or are involved in the implementation of the Crossings Program.

In addition, TransCanada will identify individuals who have high levels of public contact and provide them targeted training specific to workplace violence to ensure they know the steps to take if they should encounter a hostile situation or workplace violence.

7.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Update Corporate Security training to include workplace violence – Completed;
- Confirm completion of employee training records of employees implementing the Crossings and Public Awareness Programs – May 30, 2014;
- Develop Target Corporate Security Training – September 30, 2014;
- Roll out targeted Corporate Security Training – December 31, 2014;
- Update employee training profiles to include targeted training – January 31, 2015; and
- Complete a competency evaluation for the targeted group for whom training was provided – December 31, 2015.

7.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Percentage of appropriate employees who completed the corporate security training; and
- Communication plan executed.

8. SUB-ELEMENT 4.1: INSPECTION, MEASUREMENT AND MONITORING

8.1 Finding

TransCanada demonstrated that it has established and implemented several types of inspections of third party crossings and has implemented them consistent with its internal planning. However, TransCanada did not demonstrate that it has established an adequate process for determining the adequate frequency for conducting its aerial patrols applicable to each operating region. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

8.2 Corrective Action

To address this finding, TransCanada will enhance its Crossings Program by establishing a formalized process for determining the frequency for aerial patrols based on population data, activity levels, historical encroachment, environmental issues and In-Line Inspection (ILI) data. TransCanada will document the rationale for patrol frequency by

pipeline corridor. Annually, TransCanada will review incident data and trends to evaluate the effectiveness of the patrol schedule, identify deficiencies, and provide input for the next program cycle. Any third party issues identified through the aerial patrol program and through the Unauthorized Activity Reports on a monthly and quarterly basis will be referred to the Public Awareness Program for consideration in the next program review cycle.

8.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Revise process for determining aerial patrol frequency based on specific factors stated above and incorporate this in the Mechanical Damage Threat Management TransCanada Engineering Procedure (TEP) – July 31, 2014;
- Perform analysis using the new process and document aerial patrol schedule and frequency rationalization by pipeline corridor – October 31, 2014;
- Annual review of program and process – October 31, 2015; and

8.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Enhanced process for determining patrol frequency completed;
- Updated process utilized and documentation of rationale for aerial patrol frequency by pipeline corridor completed; and
- Annual review completed.

9. SUB-ELEMENT 4.2: INVESTIGATING AND REPORTING INCIDENTS AND NEAR-MISSES

9.1 Finding

TransCanada demonstrated that it has a process in place to identify, track, analyze and resolve issues and incidents through its Incident and Issue Management Program. However, TransCanada did not provide an adequate sample of Incident and Issue Tracking records for the NEB to determine the current status of the effectiveness of the implementation of the Crossings Program. As a result, the NEB found TransCanada to be non-compliant with this sub-element.

9.2 Corrective Action

To address this finding, TransCanada will revise its recordkeeping procedures to better demonstrate compliance with Sub-Element 4.2. This will be accomplished by centralizing recordkeeping for the investigation and reporting of incidents and near misses related to unauthorized activities and correlating Crossing Program activities intended to address these issues. As well, TransCanada will document the review of these incidents in alignment with the Mechanical Damage Threat Management Program.

9.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Review procedures for investigating and reporting of incidents and near misses related to unauthorized activities and define a standard for a “complete record” for each incident that includes any referral to the Crossings Program – by July 31, 2014;
- Revise relevant procedures to include definition of “complete record” and document recordkeeping procedures – September 30, 2014;
- Document annual review of incidents and near misses related to unauthorized activities in alignment with the Mechanical Damage Threat Management Program. Next review to be completed – February 28, 2015; and
- Review implementation status and record completeness – December 30, 2014.

9.2.2 Benchmarks for Determining Success

The following measure will be used to benchmark the success of the corrective actions:

- Procedures revised and standard for complete record defined; and
- New recordkeeping procedures implemented.

10. SUB-ELEMENT 4.3: INTERNAL AUDITS

10.1 Finding

TransCanada demonstrated that its quality assurance program is implemented on a frequency that exceeds regulatory requirements. However, implementation of the program only measures performance relative to internal TransCanada requirements and does not include compliance relative to legal requirements. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

10.2 Corrective Action

To address the NEB's findings for the Internal Audit sub-element, TransCanada will implement an internal audit process for the Crossing Program. In addition, TransCanada will review audit procedures and protocols for incorporation of records of verification to legal requirements. This CAP will be implemented in conjunction with the CAP for Sub-element 2.2 and will incorporate regulatory requirements into the audit protocols. Accordingly the timetable for completion of this CAP is linked to the milestones for the CAP for Sub-element 2.2.

Further development of the process whereby management evaluates and prioritizes audit findings for corrective and preventive actions is addressed in the Management Review CAP.

10.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective action plans:

- Develop a process for auditing compliance to legal requirements at the sub-program level – January 31, 2015; and
- Implement changes to the audit process and plan to incorporate a sub-section for legal requirements – July 31, 2015.

10.2.2 Benchmarks for Determining Success

- Internal audit procedures and protocols revised to include assessment of compliance to legal requirements.

11. SUB-ELEMENT 5.1: MANAGEMENT REVIEW

11.1 Finding

TransCanada is undertaking a significant number of management review activities consistent with the descriptions included in its internal HSE Framework document. However TransCanada did not demonstrate that it has a documented and comprehensive process for reviewing the Crossings Program that describes activities for adequately and effectively undertaking its management reviews and for ensuring continual improvement as described in the Board's expectations. As a result, the NEB finds TransCanada to be Non-Compliant with this sub-element.

11.2 Corrective Action

To address the NEB's finding for the Management Review sub-element, TransCanada will review and consolidate its existing management review processes and incorporate

them into an annual management review of its Crossings Program. The review will be consistent with management system elements to ensure continual improvement and will include a review of any decisions, actions and commitments which relate to the improvement of the management system and protection programs and the company's overall performance.

11.2.1 CAP Schedule / Stage Gates for Implementation

The milestones for these corrective actions include:

- Develop reporting of Crossing Program metrics to reflect revised GOTs – December 31, 2014;
- Finalize process for annual Management Review - February 28, 2015;
- Complete proposed document changes - May 15, 2015.

11.2.2 Benchmarks for Determining Success

The following measures will be used to benchmark the success of the corrective actions:

- Quarterly reporting of updated Crossings metrics in place;
- Process for conducting an annual management review of the management system and each Protection Program established;
- Training on updated processes mentioned above provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

12. MANAGEMENT REVIEW OF CAP OUTCOMES

Regular updates to management on the progress of the CAP will be provided through regular reporting and progress reviews.

Responsible Vice President and Affected Directors and Managers

The progress of the CAP will be reported in the applicable Business Review Report to the Manager, Director, and Vice President levels of the responsible departments. The Vice Presidents and their Directors complete a formal quarterly review of information, which may include scorecards and summaries, to ensure timely line of sight of the progress of the CAP and to identify required actions to ensure GOTs are met.

Senior Management

The progress of the CAP will be communicated to the O&E Senior Governance Committee (SGC) through the O&E Scorecard. The SGC provides the highest level of management governance. At the SGC level, formal monthly management reviews are held to discuss key items of concern, including any material deviations from the CAP objectives and required actions to ensure objectives can be met. The SGC is led by TransCanada's Executive Vice President of Operations and Engineering and includes the Vice Presidents of Pipeline Integrity, Engineering and Asset Reliability, Canadian & Mexico Pipeline Operations, Pipeline Safety and Compliance and Community, Safety & Environment (CS&E).

The progress of the CAP will also be communicated to the HSE Committee. The committee is comprised of Senior Leaders from Operations & Engineering and Major Projects with advisors from CS&E Management. This committee addresses health, safety and environment issues related to the development, design, construction and operation of TransCanada business.

The findings and corrective actions along with interim dates and deadlines will be tracked and reported as noted above. A summary is provided in **Table 1**.

As required by the Crossings Program, internal audits of the programs in the Crossings Program will be completed on a three-year cycle to further identify areas requiring management action.

TransCanada will also provide quarterly updates to the NEB, or at otherwise agreed upon intervals, on the progress of corrective actions until completion of the CAP.

Table 1: Communication Summary

MANAGEMENT TEAM	INFORM	REVIEW for ACTION	ACTION
Accountable Officer	Quarterly Reviews	Quarterly Reviews	Action Items
Responsible VP	Business Review Report	Monthly Meetings Monthly Scorecard Reviews Performance Review	Meeting Minutes
Responsible Director Manager CAP Lead	Business Review Report	Performance Review	Meeting Minutes