



## **Corrective Action Plan (CAP)**

# **Emergency Management Program**

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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 – Emergency Management 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) Emergency Management Program (EMP) identified findings in the following various Management System sub-elements:

<b>Finding</b>	<b>NEB Element</b>	<b>NEB Sub-Element</b>
1	1.0 Policy and Commitment	1.2 Policy and Commitment Statements
2	2.0 Planning	2.1 Hazard Identification, Risk Assessment and Control
3		2.2 Legal Requirements
4		2.3 Goals, Objectives and Targets
5		2.4 Organizational Structure, Roles and Responsibilities
6	3.0 Implementation	3.2 Operational Control – Upset of Abnormal Operating Conditions
7		3.3 Management of Change
8	4.0 Checking and Corrective Action	4.3 Internal audit
9	5.0 Management Review	5.1 Management Review

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

- Confirmation that TransCanada's EMP addresses the identified hazards and risks associated with potential incidents or emergencies on our pipelines;
- Acknowledgement that company personnel, along with people living and working near our pipelines, are appropriately informed of and/or trained in, emergency management practices and procedures in the event of an emergency; and
- Confirmation that it has emergency response procedures in place for its facilities and that these procedures are tested through an annual schedule of emergency response exercises.

## **2. 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 gaps identified. This cross-functional and organizational review is a significant undertaking that will require time to design, develop and implement. To accomplish this, TransCanada proposes 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.

## **3. 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. The NEB determined that these documents did 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, incidents, hazards 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 to report.

### **3.2.1 CAP Schedule / Stage Gates for Implementation**

The documents will be updated by November 30, 2014 and communicated to employees and contractors by May 31, 2015.

### **3.2.1 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.

## **4. SUB-ELEMENT 2.1: HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL**

### **4.1 Finding**

TransCanada demonstrated that overall, its Emergency Management Program incorporates processes to assess risk, identify hazards, and introduce controls to mitigate them. The NEB also considers TransCanada's hazard identification and risk assessment process for the Keystone pipeline to be adequate as it identifies and verifies both highly sensitive receptors, and control points for the execution of emergency response activities to mitigate the consequences of an emergency event. Given, however, that this process and the similar processes for its gas carrying facilities were not demonstrated to be fully implemented, the NEB found TransCanada to be Non-Compliant with this sub-element.

### **4.2 Corrective Action**

TransCanada will formalize and implement a process for identifying, analyzing and consolidating an inventory of its hazards and potential hazards for the Protection Programs. TransCanada will also review, refine and implement a consolidated process

for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions.

TransCanada will further refine these processes by first compiling a hazard inventory that incorporates hazards previously identified in existing processes, then revise that hazard identification process by re-evaluating the inventory utilizing the refined process.

Following the documentation of these processes, TransCanada will develop and deliver awareness training for Protection Program stakeholders that will enable them to carry out the processes outlined. Existing program documents will be modified to reference the updated processes.

All processes noted above, including hazard identification and analysis, hazard inventories and risk assessment, 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.

#### **4.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

- Compile existing Hazard Inventories – September 30, 2014;
- Finalized process for identifying, analyzing and creating an inventory of Hazards – December 31, 2014;
- Finalized process for assessing risk – December 31, 2014;
- Process Training completion – March 15, 2015;
- Refined Hazards Inventory based on updated process – April 15, 2015; and
- Document changes completed – May 15, 2015.

#### **4.2.2 Benchmarks for Determining Success**

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

- Hazard Inventory populated using current processes for all Protection Programs;
- Hazard Identifications and analysis process developed and documented;
- Hazard Inventory process developed and documented;
- Risk Assessment process developed and documented;
- Training on updated processes provided to Protection Program stakeholders;
- Updated Hazard Inventory based on new processes developed; and
- Existing TransCanada documents updated to reference new processes.

### **5. SUB-ELEMENT 2.2: LEGAL REQUIREMENTS**

#### **5.1 Finding**

TransCanada demonstrated it is tracking, listing and conducting some internal notifications regarding its legal responsibilities as it related to regulatory changes. However, it did not demonstrate it has, or maintains, a complete list of legal requirements. It also did not demonstrate an effective process to ensure regulatory changes trigger necessary program changes or communication to all staff involved in the EMP. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

#### **5.2 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 EMP for NEB-regulated facilities and activities.

TransCanada will also implement a common process for identifying and managing changes to legal requirements applicable to the EMP 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.



### 5.2.1 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
- Relevant document changes completed – December 31, 2015.

### 5.2.2 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;
- Legislative monitoring process updated;
- Training on updated processes provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

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

### 6.1 Finding

TransCanada demonstrated that it is establishing and tracking aspects of its emergency management performance specifically related to training and the testing of equipment. However, TransCanada did not demonstrate a documented process for development, implementation, maintenance and review of the adequacy and effectiveness of goals, objectives and targets for the EMP. Also, while performance measures and targets exist for some components such as exercises and training, the NEB found that TransCanada has not established goals, objectives and targets for other EMP components such as consultation/continuing education and liaison with response agencies, response times and communications with stakeholders and the public. Based on all the foregoing, the NEB found TransCanada to be Non-Compliant with this sub-element.

## 6.2 Corrective Action

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

Once the training is complete, GOTs for the EMP will be set using the updated process. The program level GOTs will be documented and used as a basis for the development of subprogram level GOTs. 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 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.

Specifically for the EMP, the following will be completed:

- TransCanada will include a list of Objectives, Goals and Targets with Metrics and deliverable dates in its Annual Departmental Plan . This plan will be reviewed and approved annually by the Emergency Preparedness & Response (EP&R) Steering Committee in the first quarter of the year. TransCanada will review the results of annual goals each year in the first quarter and will produce, in partnership with the responsible entity, a CAP for any targets that were not met in the previous year. This CAP will then be reviewed and approved by the EP&R Steering Committee and communicated to the regulated facilities
- TransCanada will continue to work as a leader with industry partners to develop response time standards for emergency response and will develop an implementation strategy.
- All Emergency Response Plans will be amended to include a concordance table.

### **6.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

- Develop response standards for emergency response – December 31, 2014;
- Implementation strategy for standards – December 30, 2014;
- Implementation of standards completed – March 30, 2015;
- Revision of Emergency Response Plans to incorporate standards – October 31, 2015;
- Finalize GOTs setting process – February 13, 2015;
- GOTs Process training completion – April 30, 2015;
- Finalize program level GOTs – September 15, 2015; and
- Complete document changes – October 31, 2015.

### **6.2.2 Benchmarks for Determining Success**

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

- Emergency response standards developed and approved;
- Incorporate response standard for emergency response in program documentation and communicate to affected internal stakeholders;
- 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.

## **7. SUB-ELEMENT 2.4: ORGANIZATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES**

### **7.1 Finding**

TransCanada demonstrated it has a documented organizational structure for its EMP. However, TransCanada did not demonstrate that its annual organizational evaluation effectively assesses the external human resources needed to respond to an incident. The

NEB states that external resources play an important role in the event of an emergency and found that TransCanada's monitoring of external human resources is not sufficient to meet the Board's expectations. As such, the NEB found TransCanada to be Non-Compliant with this sub-element.

## **7.2 Corrective Action**

To address this finding, TransCanada will revise the exercise design element of the EMP to include and assess third-party resource readiness and capacity. In addition, TransCanada will execute a contract resource validation exercise on a worst-case oil discharge scenario and use findings to develop an action plan based on identified gaps. This exercise will be repeated on an alternating annual basis with the Corporate Exercise. To address the NEB Audit finding specifically, the contract resource validation exercise will be held in 2014 and again in 2015. It will then be completed every second year.

TransCanada will make the changes to the program document to include the third party assessment exercise as a requirement. Changes will also be made to the Corporate Emergency Management Program document during the next update cycle (November 2014).

### **7.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

- Updated program document to include evaluation of third party resources – November 30, 2014; and,
- Implement the updated program exercises to evaluate third party resources – March 31, 2015.

### **7.2.2 Benchmarks for Determining Success**

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

- Completed verification of adequate contractor resources.

## **8. SUB-ELEMENT 3.2: OPERATIONAL CONTROL – UPSET OF ABNORMAL OPERATING CONDITIONS**

### **8.1 Finding**

The NEB notes that TransCanada has developed processes and plans to identify the potential for upset or abnormal conditions as well as methods to test the adequacy of its contingency plans. However, at the time of the audit, 12 Tactical Response Plans (TRP) that were self-identified in January 2013 were still under development.

Additionally, the NEB did not observe any action items documented in the IIT database related to feedback received during exercise debriefs from external participants.

For these reasons, the NEB found TransCanada to be Non-Compliant with this sub-element.

## **8.2 Corrective Action**

TransCanada will complete the review of TRP's by September 2014 and integrate these 12 areas into its plans by end of the year. TransCanada will also enhance the exercise feedback process from external parties by creating a form for collecting feedback during the de-brief meeting that is held following exercises. The feedback forms will include a section for further follow-up by the Company to assist the Emergency Response Agency in their understanding of the exercise and emergency procedures or to capture other suggestions for improvement so that an issue can be created in the Incident and Issue tracking system for further follow up.

### **8.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

- Complete the outstanding 12 TRP reviews – October 31, 2014;
- Draft the 12 TRP documents and add them to the plans– December 31, 2014;
- EPRT will develop an external feedback form – June 30, 2014;
- Feedback form will be shared with a select group of emergency response agencies for their validation – August 30, 2014;
- Feedback form will be incorporated into the EMP (exercise section) and the use of IIT to capture actions will be reinforced – November 30, 2014;
- Feedback form and the use of IIT to capture actions will be presented to Regional Emergency Preparedness Coordinators (EPCs) at the annual EPC meeting – November 30, 2014; and
- Feedback form will be implemented in the field - December 31, 2014.

### **8.2.2 Benchmarks for Determining Success**

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

- Feedback form created; and
- Rollout and training completed.

## **9. SUB-ELEMENT 3.3: MANAGEMENT OF CHANGE**

### **9.1 Finding**

In the context of the EMP, the NEB noted integrated procedures that establish the process to identify a proposed change, the stakeholders involved, the steps to implement the change, and a target implementation date. However, the documents created by these procedures did not demonstrate that changes having an effect on emergency response planning were reflected in the EMP through an update to procedures or response plans.

In the context of broader management of change processes that could affect the EMP, 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, including new hazards or risks, changes in design, specifications, standards or procedures, 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.

### **9.2 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 process 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 now be implemented for the EMP.

#### **9.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

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

### **9.2.2 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.

## **10. SUB-ELEMENT 4.3: INTERNAL AUDITS**

### **10.1 Finding**

TransCanada was able to demonstrate that its quality assurance program is implemented on a scale that exceeds the NEB's expectations with respect to frequency. However, its implementation to measure performance relative to internal TransCanada requirements that are derived from statutory requirements does not meet the NEB's expectations.

The NEB is of the view that companies must have a process whereby the status of the program's compliance with the express statutory requirements can be verified. As a result, and given TransCanada did not demonstrate it has or maintains a complete list of legal requirements, 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 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 action is addressed in the Management Review CAP.

### **10.2.1 CAP Schedule / Stage Gates for Implementation**

The milestones for these corrective actions include:

- 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 subsection for legal requirements – July 31, 2015.

### **10.2.2 Benchmarks for Determining Success**

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

- 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 demonstrated that it is undertaking a significant number of management review activities consistent with the descriptions included in TransCanada's HSE Framework document. However, the NEB considers senior management's involvement and performance in particular areas to be critical. These include evaluating and managing the results of audits, and the results of compliance verification activities conducted by regulatory agencies. The NEB has made findings of non-compliance in other sub-elements dealing with the development of the scope of company audits, and the development and implementation of corrective action plans, which it views to properly fall within the care and control of senior management. In addition, TransCanada was unable to demonstrate a documented and comprehensive management review process of the EMP describing activities for adequately and effectively undertaking management reviews on a consistent basis and for ensuring continual improvement. As a result, the NEB found TransCanada to be Non-Compliant with this sub-element.

### **11.2 Corrective Action**

To address the finding for the Management Review sub-element, TransCanada will review its existing management review processes and establish and implement a consolidated and consistent process for conducting an annual management review. The review will consider the management system and each Protection Program to ensure continual improvement. The management review 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:

- Update reporting of EMP metrics to reflect revised GOTs – December 31, 2014;
- Develop criteria for prioritizing management actions for audit findings – December 31, 2014;
- Finalize process for annual Management Review – February 28, 2015; and
- 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 EMP metrics in place;
- Audit findings criteria for prioritizing management actions in place;
- Process for conducting an annual management review of the management system and each Protection Program established;
- Training on updated processes provided to Protection Program stakeholders; and
- Existing TransCanada documents updated to reference new processes.

## **12. MANAGEMENT REVIEW OF CAP OUTCOMES**

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 quarterly to ensure timely line of sight to the progress of the CAP and to identify required actions to ensure goals, objectives, and targets are met GOTs.

### **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 Corporate HSE Committee. The Corporate HSE committee is chaired by the Vice President of CS&E and comprised of Senior Leaders from O&E 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 businesses.

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

Internal audits of EMP will be completed on a minimum of three-year cycle to further identify areas requiring management action.

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

**Table 1: Communication Summary**

<b>MANAGEMENT TEAM</b>	<b>INFORM</b>	<b>REVIEW for ACTION</b>	<b>ACTION</b>
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