National Energy Board



Office national de l'énergie

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National Energy Board Onshore Pipeline Regulations (OPR) Final Audit Report of the TransCanada Emergency Management Program

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TransCanada PipeLines Limited and National Energy Board-Regulated Subsidiaries (TransCanada) 450-1st Street SW Calgary, Alberta T2P 5H1

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Canada



Executive Summary

NEB-regulated companies must demonstrate a proactive commitment to continual improvement in safety, security, and environmental protection. Pipeline companies under the Board's regulation are required to incorporate effective and implemented Management Systems into their day-to-day operations. These systems include the tools, technologies and actions needed to ensure that pipelines are safe, and remain that way over time. Emergency management programs enable pipeline companies to respond efficiently and effectively in the event of an emergency situation.

This report documents the Board's comprehensive audit of TransCanada's Emergency Management Program as it applies to its NEB-regulated subsidiaries and pipeline facilities. The audit was conducted using the *National Energy Board Onshore Pipeline Regulations* (OPR) as amended on 21 April 2013. The OPR, among other things, requires companies to have an effective and well-documented emergency management program as a key component of their Management Systems. The OPR was promulgated with no implementation grace period for the Board's regulated companies.

The Board's audit was conducted following its Audit Protocol, which identifies five Management System elements. These five elements are further broken down into 17 subelements. Each sub-element reflects a number of regulatory requirements. The NEB requires companies to be compliant with one hundred percent of the regulatory requirements of a subelement being assessed. If a company's program is found to be deficient with respect to any regulatory requirement, the entire sub-element will be found in Non-Compliance.

The Board's audit finds TransCanada has developed an emergency management program that addresses the identified hazards and risks associated with potential incidents or emergencies on its pipelines. The documents and records reviewed during this audit demonstrate that TransCanada is ensuring company personnel, along with people living and working near pipelines, are appropriately informed of and/or trained in, emergency management practices and procedures in the event of an emergency. TransCanada has also demonstrated both 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, conducted across all of its operational regions.

The audit also identified a number of Non-Compliant findings, the majority of which fall into three general categories:

• the lack of documented processes that correspond with the Management System requirements as required by the recently updated OPR;

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- the development and implementation of effective processes related to ongoing, internal evaluation of the compliance to legal requirements, and the adequacy and effectiveness of its Emergency Management Program; and
- full implementation of existing processes particularly regarding the integration of external resources that play a role in TransCanada's emergency response.

The Board has determined that no enforcement actions are immediately required to address the Non-Compliant findings identified in this audit. Within 30 days of the Final Audit Report being issued, TransCanada must develop and submit a Corrective Action Plan for Board approval detailing how it intends to resolve Non-Compliances identified by this audit. The Board will assess the implementation of the corrective actions to confirm that they are completed in an expedient manner, and on a system-wide basis. The Board will also continue to monitor the overall implementation and effectiveness of TransCanada's Management Systems through targeted compliance verification activities as a part of its on-going regulatory mandate.





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1.0 Audit Terminology and Definitions

Audit: A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

Compliant: A program element meets legal requirements. The company has demonstrated that it has developed and implemented programs, processes and procedures that meet legal requirements.

Corrective Action Plan: Addresses the Non-Compliances identified in the Audit Report and explains the methods and actions which will be used to "correct" them.

Finding: The evaluation or determination of the adequacy of programs or elements in meeting the requirements of the *National Energy Board Act*, Part II of the *Canada Labour Code*, and their associated regulations.

Non-Compliant: A program element does not meet legal requirements. The company has not demonstrated that it has developed and implemented programs, processes and procedures that meet the legal requirements. A corrective action must be developed and implemented.

Procedure: A documented series of steps followed in a regular and defined order allowing individual activities to be completed in an effective and safe manner. The procedure will also outline roles, responsibilities and authorities required for completing each step.

Process: A systematic series of actions or changes taking place in a definite order and directed towards a result.

Program: A documented set of processes and procedures to regularly accomplish a result. The program outlines how plans and procedures are linked, and how each one contributes towards the result.



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2.0 Abbreviations

CAP: Corrective Action Plan CLC: *Canada Labour Code Part II* COHSR: Canada Occupational Health and Safety Regulations EM: Emergency Management EP: Environmental Protection GOT: Goals, Objectives and Targets HS&E: Health Safety & Environment IIT: Incident and Issue Tracking NEB: National Energy Board NGTL: Nova Gas Transmission Ltd. OPR: *National Energy Board Onshore Pipeline Regulations* SM: Safety Management TOPs: TransCanada Operating Procedures TransCanada: TransCanada PipeLines Limited and its NEB regulated subsidiaries TQM: TransCanada Québec & Maritimes Pipeline Inc.





3.0 Introduction: NEB Purpose and Framework

The NEB's purpose is to promote safety and security, environmental protection, and efficient energy infrastructure and markets in the Canadian public interest within the mandate set by Parliament in the regulation of pipelines, energy development and trade.

To evaluate a regulated company's compliance with its regulations, the NEB undertakes Management System audits of its regulated companies. The NEB requires that each company demonstrate the adequacy and implementation of the methods the company has selected and employed in order to proactively identify and manage hazards and risks to achieve Compliance.

Following the audits, companies are required to submit and implement a Corrective Action Plan to address all findings of Non-Compliance. The results of the audits are considered as a part of the NEB's risk-informed life cycle approach to compliance assurance.

4.0 Background

TransCanada operates approximately 42,000 km of federally regulated pipeline from British Columbia to Quebec. In order for the audit of TransCanada to reflect the way it runs its operations, the NEB audited each program separately. Therefore, this audit is one of a series of six program audits having been undertaken by the Board with respect to NEB-regulated facilities operated within TransCanada's organization. The audits are titled:

- TransCanada Integrity Management Program Audit; (Final Audit Report released February 2014)
- TransCanada Safety Management Program Audit;
- TransCanada Environmental Protection Program Audit;
- TransCanada Emergency Management Program Audit;
- TransCanada Third Party Crossings Program Audit; and
- TransCanada Public Awareness Program Audit.

These audits identified that TransCanada operates its facilities using a common organizational and technical management structure for all of the facilities noted. Some of the findings are therefore similar in each audit, and the individual audit reports reflect this. During the audit, the Board reviewed and evaluated a sample set of facilities based on the individual activities, as well as the associated hazards and risks, as reflected in the individual audit reports. To evaluate its Emergency Management Program, the Board also attended some of TransCanada's planned emergency response exercises.



5.0 Audit Objectives and Scope

The objective of the audit was to determine the adequacy and effectiveness of TransCanada's Emergency Management Program. The requirements against which TransCanada was audited are contained within:

- National Energy Board Act;
- The National Energy Board Onshore Pipeline Regulations;
- Canada Labour Code Part II (CLC);
- *Safety and Health Committees and Representatives Regulations* made under Part II of the CLC;
- *Canadian Occupational Health and Safety Regulations* made under Part II of the CLC; and,
- TransCanada's policies, programs, practices and procedures.

In utilising the OPR, the Board notes its amendment on 21 April 2013, which clarified the Board's expectations for establishing and implementing a formal Management System and Emergency Management Program. These amendments were preceded by consultation between the Board and its regulated companies, and accordingly the OPR was not promulgated with an implementation grace period. As a result, the audit of TransCanada's Emergency Management Program was conducted using the amended OPR.

The scope of the audit included the following companies that hold certificates to operate in Canada:

- TransCanada PipeLines Limited;
- TransCanada Keystone Pipeline GP Ltd.;
- Trans Québec & Maritimes Pipeline Inc. (TQM);
- Foothills Pipe Lines Ltd.; and
- NOVA Gas Transmission Ltd. (NGTL).

These subsidiaries hold the certificates for TransCanada's NEB-regulated facilities, which include the Canadian Mainline (operating under TransCanada PipeLines Limited), Keystone Pipeline (operating under TransCanada Keystone Pipeline GP Ltd.), TQM Pipeline System (operating under Trans Québec & Maritimes Pipeline Inc.), Foothills System (operating under Foothills Pipe Lines Ltd.), and the Alberta System (operating under NGTL). For more TransCanada facility information, refer to Appendix II of this report.



6.0 Audit Process and Methodology

TransCanada and its NEB-regulated subsidiaries operate approximately 42,000 kilometres of federally regulated pipeline across the country. TransCanada and its subsidiaries operate these facilities using a common organizational and technical Management System. Accordingly, and in order to complete an assessment of its Management System in a reasonable timeframe, the Board elected to audit and assess a representative sample of TransCanada and its subsidiaries utilizing a risk-informed approach that included a review of previous compliance history.

The Board chose to use NGTL and the Alberta System as its representative sample. The Board also included areas of the TransCanada system presenting unique potential hazards to assess system-specific hazards. Due to the unique hazards introduced to an emergency management program by the transportation of liquids including oil, the specific processes, plans and procedures applicable to the Keystone pipeline were also reviewed.

TransCanada has divided its Canadian facilities and assets into five operational regions. These regions are the Wildrose Region, Rocky Mountain Region, Central Region, Northern Ontario Region and Eastern Region. As TransCanada applies the same Emergency Management Program across all of its systems, any findings and corrective actions required will be applied across all of TransCanada's systems and subsidiaries. The NEB will verify the implementation of any corrective actions with subsequent compliance verification activities at each subsidiary once TransCanada's Corrective Action Plan has been approved by the Board, and implemented.

TransCanada's utilization of one set of policies and procedures for its Emergency Management Program also guided the implementation of the Board's audit process. Interviews and document review on the Emergency Management Program were conducted at the Head Office in Calgary, Alberta. Site visits were conducted at select NGTL facilities, and two field emergency response exercises were observed. During these site visits, activities were evaluated for each Management System element through interviews with a number of personnel at various levels, as well as document and record review.

7.0 Audit Activities

The audit involved Board review of TransCanada company documents, interviewing company representatives at all levels of the organization, and conducting field verification of compliance with NEB requirements at selected sites. Information gathered was then synthesized using the Board's established Audit Protocol.

On 19 June 2013, an opening meeting was conducted with representatives from TransCanada in Calgary, Alberta to discuss the Board's audit objectives, scope and process. A schedule for conducting the staff interviews and site verifications was also developed at this meeting. Throughout the audit, daily summaries with action items were provided to TransCanada.



On 24 October 2013, the Board held an audit Pre-Close-Out meeting with TransCanada to discuss additional information that could be of value to the Board prior to compiling its draft audit report. An audit Close-Out meeting was held on 6 November 2013.

For a list of TransCanada representatives interviewed, refer to Appendix III. For a list of documents and records reviewed, refer to Appendix IV.

Emergency Management Program Audit Activities

- Audit Opening Meeting (Calgary, AB) 19 June, 2013
- Head Office Interviews (Calgary, AB) 19- 29 August 2013
- Field verification activities for the Emergency Management Program Audit:
 - Interviews Rocky Region, Airdrie Alberta 16-17 September 2013
 - Interviews Wildrose Region, Spruce Grove, Alberta 19 September 2013
 - Field exercise Eastern Region, Maple Compressor station and Vaughan, Ontario – 25 September 2013
 - Interviews Eastern Region, Maple Compressor station 26 September 2013
 - Field exercise Rocky Region, Stettler, Alberta 2 October 2013
 - Interviews Head office, Calgary 3 October 2013
 - Interviews Central Region, Winnipeg, Manitoba 4 October 2013
- Audit Pre-Close-Out Meeting of Information Gaps (Calgary, AB) 24 October 2013
- Audit Close-Out Meeting (Calgary, AB) 6 November, 2013

8.0 Program Summary

TransCanada's Emergency Management Program applies to all TransCanada corporate entities and the operation of all TransCanada natural gas and oil pipelines and associated facilities in Canada, as well as the United States and Mexico. It is implemented out of TransCanada's head office in Calgary by its Emergency Management Team.

The Emergency Management Team is responsible for:

- program development;
- review and maintenance;
- establishing emergency management criteria;
- development of emergency management training;
- managing the response structure;
- communications and reporting;
- ensuring compliance with regulatory requirements; and



• conformance with TransCanada processes and procedures.

The Emergency Management Team provides emergency management services to all TransCanada entities and reports to the Health Safety & Environment Committee of TransCanada's Board of Directors.

The TransCanada Emergency Management Program includes elements for emergency management system standards, process implementation and maintenance, management review, communications, emergency preparedness, goals and objectives, inspections, third party audits, and other Management System elements. It also establishes the programs and procedures for hazard identification and assessment, emergency preparedness, emergency response exercises, training, mutual aid, reporting, compliance, as well as education, liaison and awareness for response agencies and the public.

In addition to receiving oversight by the Emergency Management Program, TransCanada's Keystone pipeline is subject to the TransCanada Emergency Response Program. As an oil transporting facility, it has its own emergency response procedures setting out the hazards, mapping, roles, response procedures, controls, response partners and other emergency management elements required for an effective emergency response in the event of an oil-related emergency.

TransCanada has also developed and implemented continuing education, liaison and awareness programs for the public, and first responders potentially involved in, or affected by, an emergency associated with its facilities. These programs are supported by TransCanada's corporate Public Awareness Program.

9.0 Summary of Findings

The Board's audit was conducted following its Audit Protocol, which identifies five Management System elements. These five elements are further broken down into 17 subelements. Each sub-element reflects a number of regulatory requirements. The NEB requires companies to be compliant with one hundred percent of the regulatory requirements of a subelement being assessed. If a company is found to be deficient with respect to any regulatory requirement, the entire sub-element will be found Non-Compliant. A Corrective Action Plan will be required in order to demonstrate to the Board that appropriate actions will be taken to achieve full Compliance.

The following summary represents a high-level overview of the Board's audit findings for TransCanada's Emergency Management Program based on information provided for the audit. Details of how each of the audited elements impacts the Emergency Management Program and a full description of the Board's assessment for each of its Management System sub-elements can be found in Appendix I of this report.



Element 1.0 - Policy and Commitment

Sub-element 1.1 - Leadership and Accountability

The position of accountable officer was introduced into the OPR in April of 2013. The Board is satisfied that TransCanada has appointed an accountable officer and outlined the responsibilities of this position in accordance with the regulations and submission deadlines. Subsequent NEB compliance activities will verify the adequacy and effectiveness of the process implementation once a full planning cycle has been completed. As a result, the Board finds TransCanada's to be Compliant with this sub-element.

Sub-element 1.2 - Policy and Commitment Statements

TransCanada demonstrated that it has established and implemented a Health Safety & Environment Commitment Statement and Code of Business Ethics 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 Board 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 Board finds TransCanada to be Non-Compliant with this sub-element.

Element 2.0 - Planning

Sub-element 2.1 - Hazard Identification, Risk Assessment and Control

TransCanada demonstrated that overall, its Emergency Management Program incorporates processes to assess risk, identify hazards, and introduce controls to mitigate them. The Board 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 Board finds TransCanada to be Non-Compliant with this sub-element.





Sub-element 2.2 - Legal Requirements

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 Emergency Management Program. As a result, the Board finds TransCanada to be Non-Compliant with this sub-element.

Sub-element 2.3 - Goals, Objectives and Targets

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 its Emergency Management Program. Also, while performance measures and targets exist for some components such as exercises and training, the Board found that TransCanada has not established goals, objectives and targets for other Emergency Management Program 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 Board finds TransCanada to be Non-Compliant with this sub-element.

Sub-element 2.4 - Organizational Structure, Roles and Responsibilities

TransCanada demonstrated it has a documented organizational structure for its Emergency Management Program. However, this structure did not in the Board's view, demonstrate that TransCanada's annual organizational evaluation effectively assesses the external human resources needed to respond to an incident. The Board believes external resources play an important role in the event of an emergency and finds that TransCanada's monitoring of external human resources is not sufficient to meet the Board's expectations. As such, the Board finds TransCanada to be Non-Compliant with this sub-element.

Element 3.0 - Implementation

Sub-element 3.1 - Operational Control-Normal Operations

The Board expects companies to have ongoing preparatory processes in place that function during normal operating conditions to develop and maintain effective emergency management programs, and implement continual improvement initiatives. Based on the information provided, the Board found TransCanada's processes for developing and implementing corrective, mitigative, preventive and protective controls associated with the hazards and risks of its



operations to meet its expectations. As a result, the Board finds TransCanada to be Compliant with this sub-element.

Sub-element 3.2 - Operational Control-Upset or Abnormal Operating Conditions

The Board 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, these processes and plans were not, in the Board's view, fully implemented or effective to meet the Board's expectations. As a result, the Board finds TransCanada to be Non-Compliant with this sub-element.

Sub-element 3.3 - Management of Change

In the context of the Emergency Management Program, the Board 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 Emergency Management Program through an update to procedures or response plans.

In the context of broader management of change processes that could affect the Emergency Management Program, 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 Board finds TransCanada to be Non-Compliant with this sub-element.

Sub-element 3.4 - Training, Competence and Evaluation

TransCanada demonstrated effective processes for developing and implementing competency requirements and training programs. For internal training, TransCanada has developed documented emergency management role training profiles and competency requirements for each role in the Emergency Management Program. There are requirements for regional and corporate employees with a potential emergency role to complete emergency training modules as set out in the emergency management role training profiles. Having all the required training is a key performance indicator in each employees' documented annual performance agreement. TransCanada also provides experiential training to external parties through their participation in TransCanada's field and table top exercise program. As a result, the Board finds TransCanada to be Compliant with this sub-element.



Sub-element 3.5 - Communication

TransCanada demonstrated a process relating to external and internal communication requirements that meets the Board's expectations. For external communication, TransCanada's Emergency Management Program has implemented a plan directed at its external stakeholders, including first responders and adjacent landowners and has integrated some of the outreach components of its Emergency Management Program with its Public Awareness Program for the purposes of communication, consultation, and liaison with, first response agencies and other services that may have a response role in the event of a TransCanada pipeline incident. TransCanada also uses several methods to communicate emergency management information across its organization. As a result, the Board finds TransCanada to be Compliant with this sub-element.

Sub-element 3.6 - Documentation and Document Control

The Board found TransCanada's process relating to establishing and implementing effective processes for identifying and managing documents required to meet its expectations. This process creates a framework for the development and maintenance of the documentation necessary for TransCanada employees and contractors to efficiently and correctly conduct the operational and maintenance activities associated with TransCanada's facilities. As a result, the Board finds TransCanada to be Compliant with this sub-element.

Element 4.0 - Checking and Corrective Action

Sub-element 4.1 - Inspection, Measurement and Monitoring

TransCanada demonstrated that it has implemented effective processes for inspecting and monitoring its activities and facilities and for evaluating the adequacy and effectiveness of its Emergency Management Program. TransCanada also demonstrated that it has several processes for inspecting and monitoring its equipment, activities and emergency response plans related to its Emergency Management Program, and several methods to monitor and measure its performance. As a result, the Board finds TransCanada to be Compliant with this sub-element.

Sub-element 4.2 - Investigating and Reporting Incidents and Near-misses

This sub-element was examined through review of TransCanada's Incident and Issue Tracking process, its intended function, and how its function is demonstrated within the overall HS&E Management System. In addition, the Board assessed how the process is communicated to employees. TransCanada was able to demonstrate that it has a process in place to identify, track, analyze and resolve emergency management issues and incidents throughout its Incident and Issue Management Program that reflects the Board's expectations. As a result, the Board finds TransCanada to be Compliant with this sub-element.



Sub-element 4.3 - Internal Audit

TransCanada was able to demonstrate that its quality assurance program is implemented on a scale that exceeds the Board'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 Board's expectations.

The Board 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 Board finds TransCanada to be Non-Compliant with this sub-element.

Sub-element 4.4 - Records Management

The Board found TransCanada's process relating to generating, retaining, and maintaining records that document the implementation of the management system and its protection programs and for providing access to those who require them, to meet its expectations. As a result, the Board finds TransCanada to be Compliant with this sub-element.

Element 5.0 - Management Review

Sub-element 5.1 - Management Review

TransCanada demonstrated that it is undertaking a significant number of management review activities consistent with the descriptions included in TransCanada's Health Safety & Environment Framework document. However, the Board 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 Board 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 Emergency Management Program describing activities for adequately and effectively undertaking management reviews on a consistent basis and for ensuring continual improvement. As a result, the Board finds TransCanada to be Non-Compliant with this sub-element.

10.0 Conclusions

NEB-regulated companies must demonstrate a proactive commitment to continual improvement in safety, security, and environmental protection. Pipeline companies under the Board's regulation are required to incorporate effective and well-implemented Management Systems into their day-to-day operations. These programs include the tools, technologies and actions needed to ensure that pipelines are safe and remain that way over time.

Over the course of this audit TransCanada was required to demonstrate the adequacy and effectiveness of its Management System and Emergency Management Program. The Board reviewed documentation and records provided by TransCanada, conducted interviews with TransCanada staff and attended TransCanada's emergency response exercises. Based on this review, the Board finds TransCanada has developed and implemented an Emergency Management Program that addresses significant identified hazards and risks associated with potential incidents or emergencies on its pipelines.

Notwithstanding the scope of work being undertaken by TransCanada and its processes in place, the audit identified a number of non-compliant findings, the majority of which fall into three general categories:

- the lack of documented processes that correspond with the Management System requirements as required by the recently updated OPR;
- the development and implementation of effective processes related to ongoing, internal evaluation of the compliance to legal requirements, and the adequacy and effectiveness of its Emergency Management Program; and
- full implementation of existing processes particularly regarding the integration of external resources that play a role in TransCanada's emergency response.

The Board has determined that while no immediate enforcement actions are required to address these Non-Compliant findings, as per the Board's standard audit practice, TransCanada must develop and submit a Corrective Action Plan describing its proposed methods to resolve the noncompliances identified, and the timeline in which corrective actions will be completed. TransCanada will be required to submit its Corrective Action Plan for approval within 30 days of the Final Audit Report being issued by the Board. The Board will make its Final Audit Report and TransCanada's approved corrective action plan public on the Board's website.

The Board will assess the implementation of all of TransCanada's corrective actions to confirm they are completed in a timely manner and on a system wide basis until they are fully implemented. The Board will also continue to monitor the overall implementation and effectiveness of TransCanada's Emergency Management Program and management system as a whole through targeted compliance verification activities as a part of its ongoing regulatory mandate.

APPENDIX I

Emergency Management Program Audit Evaluation Tableⁱ

1.0 POLICY AND COMMITMENT

1.1 Leadership Accountability

Expectations: The company shall have an accountable officer appointed who has the appropriate authority over the company's human and financial resources required to establish, implement and maintain its management system and protection programs, and to ensure that the company meets its obligations for safety, security and protection of the environment. The company shall have notified the Audit Team of the identity of the accountable officer within 30 days of the appointment and ensure that the accountable officer submits a signed statement to the Audit Team accepting the responsibilities of their position.

References: OPR section 6.2

Finding:

Following the release of the amended OPR on 10 April 2013, the National Energy Board (Board or NEB) gave its regulated companies 30 days to submit written notice of both the identity of their accountable officers and the acceptance by these persons of the responsibilities attached to this position. On 10 May 2013, TransCanada submitted its written notice to the NEB indicating that its Executive Vice President of Operations and Major Projects had been appointed as accountable officer for TransCanada and all of its subsidiaries. In its submission, TransCanada confirmed that its accountable officer has the authority over the human and financial resources required to meet the Board's substantive expectations.

The Board notes that the legal requirement to appoint an accountable officer was introduced into the OPR in April of 2013 with the audit commencing in June 2013. As a result, this role at TransCanada had only been in effect for approximately two months and the accountable officer was not able to complete an annual planning cycle that would allow for the Board's evaluation of the substantive responsibilities attached to this position. In this context, the Board is satisfied in its assessment that TransCanada has appointed an accountable officer and outlined the responsibilities of this position to the Board in accordance with the regulatory requirements and submission deadlines. As a result, the Board finds TransCanada's to be Compliant with this sub-element.

Compliance Status: Compliant

1.2 Policy and Commitment Statements

Expectations: The company shall have documented policies and goals intended to ensure activities are conducted in a manner that ensures the safety and security of the public, workers, the pipeline, and protection of property and the environment. The company shall base its management system and protection programs on those policies and goals. The company shall include goals for the prevention of ruptures, liquids and gas releases, fatalities and injuries and for the response to incidents and emergency situations.

The company shall have a policy 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.

The company's accountable officer shall prepare a policy statement that sets out the company's commitment to these policies and goals and shall communicate that statement to the company's employees.

References: OPR section 6.3

Finding:

TransCanada's Health, Safety & Environment Commitment Statement (Commitment Statement) includes a principle stressing the conducting of business to meet or exceed all applicable laws and regulations and minimize risk to employees, the public and the environment. TransCanada demonstrated that the Commitment Statement is:

- signed by the accountable officer, and other officers of the company;
- posted at the regional offices visited as part of this audit;
- communicated to all employees by senior leaders, managers and program owners;
- communicated at the annual Safety Stand down meetings conducted at all regions and areas;
- reviewed by new employees as part of the onboarding process and also includes the review of the HS&E Management System; and
- reviewed during the annual Health, Safety and Environment Committee meeting.

The Commitment Statement outlines the leadership commitment and guidance for the 11 elements that make up TransCanada's HS&E Management System. Within the HS&E Management System, its Element 7 Emergency Preparedness and Response (Element 7) sets out TransCanada's approach to health, safety and environmental governance and the achievement of the Commitment Statement as it relates specifically to the company's

EM Program.

In addition to its Commitment Statement, TransCanada provided its Code of Business Ethics for review, which includes the requirement for TransCanada staff to report any actual or suspected violation of the law without fear of retaliation. TransCanada has also implemented an Incident Management Program to manage the reporting of violations, hazards and potential hazards that "encourages notification of all incidents". In the Board's view, these documents do not meet the Board's expectations because it is not explicit in these documents that there is a policy indicating that TransCanada staff who reported deficiencies, hazards or risks associated with the EM Program would be protected from disciplinary action.

TransCanada demonstrated that it has established and implemented an HS&E Commitment Statement, an Incident Management Program and Code of Business Ethics that include protection of the public, workers and the environment and, to certain extent, provides for immunity from disciplinary action. Following review and consideration, however, for the reasons noted above, the Board has determined that these documents do not demonstrate the existence of policies that meet the criteria outlined in expectations. As a result, the Board has determined that this sub-element is Non-Compliant.

Compliance Status: Non-Compliant

2.0 PLANNING

2.1 Hazard Identification, Risk Assessment and Control¹

Expectations: The company shall have an established, implemented and effective process for identifying and analyzing all hazards and potential hazards. The company shall establish and maintain an inventory of hazards and potential hazards. The company shall have an established, implemented and effective process for evaluating the risks associated with these hazards, including the risks related to normal and abnormal operating conditions. As part of its formal risk assessment, a company shall keep records to demonstrate the implementation of the hazard identification and risk assessment processes.

The company shall have an established, implemented and effective process for the internal reporting of hazards, potential hazards, incidents and nearmisses, and for taking corrective and preventive actions, including the steps to manage imminent hazards. The company shall have and maintain a data management system for monitoring and analyzing the trends in hazards, incidents, and near-misses.

The company shall have an established, implemented and effective process for developing and implementing controls to prevent, manage and mitigate the identified hazards and risks. The company shall communicate those controls to anyone exposed to the risks.

References: OPR section 6.5(1)(c),(d),(e),(f),(r),(s)

Finding:

Process and Documentation of Process

TransCanada's risk assessment and hazard identification process is rooted in Element 2 of its HS&E Management System: Risk and Regulatory Assessment. The process itself is comprised of, and enabled by, a number of tools including the HS&E Risk Assessment TransCanada Operating Procedure (TOP)², the Emergency Event Analysis (EEA) and the HS&E Risk Registry.

The HS&E Risk Assessment TOP applies to the identification and assessment of all hazards and risks associated with all TransCanada's operations in North America, and establishes TransCanada's internal conditions which trigger a risk assessment. These triggers include: a significant incident or

¹ Hazard: Source or situation with a potential for harm in terms of injury, ill health, damage to property, damage to workplace and environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring.

² This procedure is one of more than 200 operational procedures and related documentation managed and controlled by TransCanada as part of its TransCanada Operations Procedures Program. Further discussion of this program is found in the Board's assessment of sub-elements 2.2 Legal Requirements and, 3.6- Documentation and Document Control.

trend of similar incidents; a change in regulatory requirement or social condition; need identified through an audit, or, in the absence of these, the elapsing of 12 months since the last risk assessment. The HS&E Risk Assessment TOP requires that a risk assessment be conducted that will result in an HS&E Risk Registry and that will facilitate the proactive selection and implementation of controls to eliminate or mitigate identified or potential risks.

The EEA is used by regional staff to identify hazards and assess the risks posed by each hazard, to identify and prioritize the potential emergencies within each operational region³, and to identify the appropriate controls (response plans) to mitigate the hazards, risks and potential emergency events.

The HS&E Risk Registry is a hierarchical inventory of the identified health safety and environmental risks at an organizational level at TransCanada, and includes regulatory, operational and line of business risk.

Process Implementation - Gas

To assess TransCanada's process implementation for its gas facilities, the Board examined emergency management documents which identify hazards and risks, and which identify controls to mitigate the consequences of emergency events.

The first of these was the TransCanada Emergency Management System Corporate Program Manual (Manual)⁴, which constitutes TransCanada's emergency response plan. It includes a step to identify emergency events and conduct a risk assessment using the EEA, provides an overview of the identification of emergency events, and for emergency response planning purposes, provides the distances of the emergency planning zones (EPZ) established for gas pipelines in Canada. While the Board noted the presence of emergency event lists, response procedures and EPZ distances in both the Manual, and the emergency response plan for TransCanada's Keystone Pipeline System, TransCanada was not able to demonstrate that the HS&E Risk Assessment TOP or EEA were effectively implemented to develop them. In the absence of demonstrated reliance on established processes, the completeness of these lists, response procedures, and distances could not be verified.

The Board also noted that TransCanada's HS&E Risk Registry for the EM Program was incomplete. TransCanada stated that hazard inventories consisted of the EPZ, the lists of potential hazards, and the emergency events all listed in the Manual. However, the Board views the EPZ as not constituting, or contributing to, a hazard inventory, and the potential emergency events listed as not demonstrating an exhaustive list. While interviews referred to the IIT database for an inventory of hazards for emergency response for gas pipelines in Canada, the records reviewed did not

³ These regions include: Wildrose Region, Rocky Mountain Region, Central Region, Northern Ontario Region and Eastern Region. Further discussion of this program is found in the Board's assessment of sub-element 2.4 Organizational Structure.

⁴ Referred to internally by TransCanada staff as its "red book"

include the hazard inventory for emergency response and/or trends.

Based on the foregoing, TransCanada was not able to demonstrate that the processes established for risk assessment and hazard identification on its gas facilities relating to emergency management were effectively implemented. Similarly, TransCanada was not able to demonstrate that its inventory of hazards and potential hazards is being effectively maintained for its gas facilities.

Process Implementation - Oil

Document review confirmed that TransCanada implemented a hazard identification and risk assessment process specific to its Keystone pipeline. Review of this process indicated that it functions to identify 'highly sensitive receptors', such as special status species that could be affected by a spill, as well as 'high consequence areas', such as areas populated by people, drinking water intakes, and sensitive ecological resources. The process also prioritizes contributory pipeline segments based on potential hazards to these locales, and categorizes their hazard value based on their proximity, physical transport pathways and discharge volumes. The Board also reviewed the inventory of the pipeline segments that pose a potential hazard to sensitive Keystone locales, which included extensive material information such as kilometre posts, surface and subsurface transport pathways, and worst case spill volumes for specific waterways.

In addition to the document review, the Board conducted both head office and field interviews to further verify development and implementation of this particular process. Head office interviews indicated the EEA was used to identify that all above-ground facilities must have a site specific response plan. For the Keystone pipeline in Canada, it was confirmed that TransCanada's integrity program identifies and ranks highly sensitive receptors, and then tactical response plans are developed by Regions under the Keystone emergency response plan to address them. These interviews confirmed that the tactical response plans are still under development and the inventory of hazards is maintained in the IIT system. TransCanada indicated that it's Health Safety and Environment division is in the process of rolling out the risk assessment standard and the program is reviewing it for an implementation approach.

Field interviews noted that highly sensitive areas such as the Assiniboine River, which was identified via use of the EEA, are defined by staff at TransCanada's head office. These interviews also confirmed that the highly sensitive receptors identified, are also verified by TransCanada in the field, during which the further identification of strategic 'control points' occurs. These control points are assessed for their capacity to facilitate emergency response activities based on, among other things, the presence of adequate staging locations. While TransCanada has 68 established control points on the Keystone pipeline, the Board noted at the time of the audit, that 12 have not been fully assessed. As a result, the Board views TransCanada as having not verified that these control points are adequate to facilitate effective emergency response activities if an emergency event were to occur in their surroundings.

In short sum, the Board 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. The outstanding control point verification and tactical response plan development however indicate that this process has not been fully and effectively implemented in Canada.

Overall, TransCanada demonstrated that its EM Program indeed incorporates processes to assess risk, identify hazards, and introduce controls to mitigate them. However, given the above, and that TransCanada was unable to demonstrate at the time of the audit, both the full implementation of its risk assessment and hazard identification process, and the adequate maintenance of its hazard inventory insofar as these mechanisms relate to its gas facilities, the Board is not able to find TransCanada to be Compliant with this particular sub-element.

Compliance Status: Non-Compliant

2.2 Legal Requirements

Expectations: The company shall have 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. The company shall have and maintain a list of those legal requirements. The company shall have a documented process to identify and resolve non-compliances as they relate to legal requirements, which includes updating the management and protection programs as required.

References: OPR section 6.5(1)(g),(h),(i)

Finding:

TransCanada demonstrated that it tracks changes in legal requirements using various methods including its subscription to an online third party regulatory tracking and notification service, its own internal regular monitoring of government websites, and its participation in industry groups such as the Canadian Energy Pipelines Association (CEPA). Legislative changes are then entered into its IIT database as an 'issue', which is then delegated to the appropriate staff to action any changes required.

TransCanada provided a copy of its Legislative Monitoring Process document in support of its process for identifying and monitoring legal requirements. Last revised in 2011, this document outlines the steps TransCanada takes to monitor legislation for any regulatory changes that could impact its pipe, energy and gas storage in Canada. The document also outlines that the Director or Vice President of a business unit impacted by a regulatory change is accountable to ensure conformance of company standards and specifications with the regulatory requirements.

The process document formally indicates that it provides direction and describes the services and resources available for the review and management of identified regulatory requirements. It also includes a management of change process to affect changes where required. Substantively, however, the Board notes that the Legislative Monitoring Process is limited to listing legislation, and does not capture the legal requirements included in regulatory certificates. As such, the Board views its scope as not meeting the Board's expectations.

The Board notes further that while TransCanada's list of statutory legal requirements is established and maintained, this list includes broad references to statutory instrument titles as opposed to their specific provisions. The Board is of the view that this lack of specificity does not support an effective process for identifying and monitoring compliance with all TransCanada's legal requirements as specific provisions are often updated without an impact on the statutory enactment's title.

The audit also identified issues with the implementation of the Legislative Monitoring Process as documented, particularly the adequacy of the review it had undergone. Specifically, the Board's review of the document noted that, while it had a revision date within the bi-annual review period, the current version provided by TransCanada during the audit contained outdated information. One example was noted in "Appendix A – Register of Applicable Regulatory agencies for Canadian and Mexican Pipelines and Canadian Gas Storage" where contact information such as that for the

Alberta Energy Regulator, was out of date.

TransCanada also indicated that it has incorporated the management of its legal requirements directly into its operating procedures through the TransCanada Operations Procedures (TOP) Program. TransCanada implemented this program to manage and control it's over 200 operational procedures and their related documents. TransCanada also indicated that within the TOP Program database, it has included its list of legal requirements. According to TransCanada staff, the TOP database lists all of the relevant legislation associated with the TOP procedures as well as the legislative driver, the contact who is responsible for managing the TOP, and any changes that are required. The TOP database also lists the regulation, and has the functionality to allow staff to electronically access the listed regulations. According to staff, TOP owners in their respective business units are responsible for monitoring the legal requirements that will impact its procedures during annual reviews. During interviews, TransCanada identified that individual TOP owners are responsible for ongoing monitoring of any legal change that would impact their respective programs. While this TOP process may function to track changes to legal requirements and integrate them to some extent, the Board has determined that it is not effective to address changes that would affect the EM Program, again given the legislation it lists for consideration includes predominantly legislative titles absent reference to their particular provisions.

In addition to the Legislative Monitoring Process document, TransCanada referenced other documents to demonstrate its compliance with this element. These included its Emergency Management Corporate Program Manual, the Management System Framework Document, and the Occupational Safety and Emergency Management TOP Regulations List. However, the Board notes these documents do not establish the expected process for determining specific legal requirements that apply to the EM Program, and do not compile a complete list of regulatory requirements for the EM Program.

While TransCanada demonstrated that it is tracking, listing and conducting internal notifications regarding some regulatory changes, it did not demonstrate that it maintains a complete list of legal requirements or an effective process to ensure that regulatory changes trigger either program changes or communication to all staff involved in the EM Program. As a result, the Board finds TransCanada to be Non-Compliant with this sub-element.

Compliance Status: Non-Compliant

2.3 Goals, Objectives and Targets

Expectations: The company shall have an established, implemented and effective process for developing and setting goals, objectives and specific targets relevant to the risks and hazards associated with the company's facilities and activities (i.e., construction, operation and maintenance). The company's process for setting objectives and specific targets shall ensure that the objectives and targets are those required to achieve its goals, and shall ensure that the objectives and targets are reviewed annually.

The company shall include goals for the prevention of ruptures, liquid and gas releases, fatalities and injuries, and for the response to incidents and emergency situations. The company's goals shall be communicated to employees.

The company shall develop performance measures for assessing the company's success in achieving its goals, objectives, and targets. The company shall annually review its performance in achieving its goals, objectives and targets and the performance of its management system. The company shall document the annual review of its performance, including the actions taken during the year to correct any deficiencies identified in its quality assurance program, in an annual report, signed by the accountable officer.

References: OPR sections 6.3, 6.5(1)(a),(b), 6.6

Finding:

Audit activities verified that TransCanada has developed and implemented an internal program for the establishment and management of corporate commitments and priorities with respect to the EM program and HS&E management in general. The Board was also able to determine that TransCanada has implemented documented processes for communicating and monitoring the requirements derived from the commitments and priorities its program establishes.

The audit identified that TransCanada uses multiple and varied terminology to describe compliance with the Board's requirements relating to Goals, Objectives and Targets (GOT). While there was some consistency demonstrated by TransCanada with respect to its Peak Performance program, there was a lack of consistency in describing TransCanada's specific HS&E or EM Program GOT. During interviews at the management level, TransCanada staff articulated multiple terms interchangeably in their description of these GOT. Consequently, during the audit, and in order to advance the Board's assessment of this sub-element, Board auditors requested clarification from TransCanada via a table of concordance to confirm the appropriate linkages between TransCanada's varied internal terminology and the regulatory requirements. The Board did not find the materials provided by TransCanada as adequately constituting the table of concordance requested.

Notwithstanding, the Board reviewed applicable emergency management documentation to determine the collective GOT for the EM Program. TransCanada provided a concordance table specific to the EM Program and which referred to the TransCanada emergency response plan Section 2.9 table for GOT; however this table does not set out the overall GOT for the EM Program. The Board further examined the process at the HS&E Management System level, as well as the EM Program level. TransCanada's process for establishing, communicating, monitoring and review of the GOT for the HS&E Management System is describe under Element 3 of the HS&E Management System Framework. These GOT relate to the HS&E Management System overall and do not provide GOT specific to the EM Program.

The Board also examined many processes at the EM Program level however these processes did not set out the overall GOT for the EM program. For the EM Program, TransCanada has established a series of service standards and training/testing requirements. For example, during interviews TransCanada staff described the GOT under the EM Program, these include:

- field exercise once per year per operational region;
- table top exercise once per year per area;
- review and update emergency response plans annually;
- review and update the Command Post Kits twice per year; and
- annual mail out of information letter to response agencies.

These activities are tracked through the IIT system and by work order in the Avantis system and are reported to the NEB annually as part of its EM Program performance measures. Document review confirmed that TransCanada has also incorporated measureable standards into its response procedures. For example, the Oil Pipeline Leak Detection System Alarm Procedure and Leak Alarm Analysis Flowchart documents confirm that TransCanada has established some response parameters including a maximum of 10-minutes to shut-down an oil pipeline after an alarm is received. TransCanada did not demonstrate that it had documented process which included similar response standards for its gas pipelines.

During the audit, TransCanada demonstrated that it is establishing and tracking aspects of its EM performance specifically related to training and the testing of equipment. However, the Board was not provided with a documented process for development, implementation, maintenance and review of the adequacy and effectiveness of GOT for the EM Program. Also while performance measures and targets exist for exercises and training, TransCanada has not established GOT for other EM Program 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 Board finds TransCanada to be Non-Compliant with this sub-element.

Compliance Status: Non-Compliant

2.4 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have a documented organizational structure that enables it to meet the requirements of its management system and its obligations to carry out 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 documented structure shall enable the company to determine and communicate the roles, responsibilities and authority of the officers and employees at all levels. The company shall document contractors' responsibilities in its construction and maintenance safety manuals.

The documented organizational structure shall also enable the company to demonstrate that the human resources allocated to establishing, implementing and maintaining the management system are sufficient to meet the requirements of the management system and to meet the company's obligations to design, construct, operate or abandon its facilities to ensure the safety and security of the public and the company's employees, and the protection of property and the environment. The company shall complete an annual documented evaluation in order to demonstrate adequate human resourcing to meet these obligations.

References: OPR sections 6.4, 20, 31

Finding:

TransCanada's health safety and environment governance structure is outlined in its HS&E Management System documentation. This governance structure includes TransCanada's HS&E Committee of the Board that monitors practices and procedures, considers implementation and effectiveness, and makes recommendations to its Board on policies and procedures. The HS&E Committee meets monthly, validates HS&E performance and goals, reviews both incidents and incident trends. The HS&E MS Responsibility Matrix sets out responsibilities and accountabilities for the HS&E Management System for all employees. During interviews, TransCanada presented the lines of responsibility for the EM Program, which indicated that the Corporate EM Team reports to Directors and to the HS&E Committee of the Board.

TransCanada divides its Canadian facilities and assets into five operational regions. These regions are the Wildrose Region, Rocky Mountain Region, Central Region, Northern Ontario Region and Eastern Region. Each of these regions has a regional office, and area offices also exist where required. TransCanada uses a team approach to develop and implement the EM Program. The Emergency Management Team (EMT) comprised of emergency management technical specialists, is responsible for program development and maintenance, emergency management criteria, response structure, and protocols. The EMT is also responsible for EM Programs for all TransCanada corporate entities and business areas and operates from head office. The Emergency Preparedness Coordinators (EPC) implement the EM Program in each of the five operational regions. The EPCs collectively form the emergency preparedness team (EPT) and meet on a quarterly basis to review and evaluate the EM Program and activities and to plan for events such as exercises and engagement activities. Each regional area has an emergency preparedness team member.

In the event of an emergency, the TransCanada and Keystone emergency response plans set out the emergency response structure that follows the Incident Command System (ICS) which TransCanada adopted and implemented over the last four years. The ICS response structure works across the organization, from on-site Command Post to regional emergency operations centre (EOC), Corporate EOC (Calgary) and Houston EOC. The ICS response structure can invoke Unified Command which includes other agencies in the command structure, and this process has been tested in exercises. Training modules and exercises have tested the response structure across the organizational lines. The TransCanada and Keystone ERPs, as well as site specific ERPs incorporate the ICS structure. This structure includes defined roles for employees that may be involved in an emergency on the TransCanada systems. For employees identified as part of the emergency response, the required training is included in their role profiles.

With respect to the evaluation of need of resources for the EM Program, the Board places value on a company's management of availability of external resources that are accessible during an emergency. In the Board's view, for the EM Program, contract personnel and equipment play a crucial role in a company's ability to respond effectively to a given emergency. Therefore, the Board has determined that the ability to determine the amount of resources available is directly applicable to the company's ability to manage and mitigate conditions during an emergency that could adversely affect property, the environment or the safety of workers or the public.

During the audit, TransCanada demonstrated that it has implemented measures for testing the availability of its external resources during an exercise. For example, TransCanada staff in the Central Region spot check their contractor's capacity to furnish adequate resources by requesting them from the contractor on the days of exercises, without providing the contractor prior notice. An exercise conducted for the Keystone Pipeline demonstrated that on the date of the exercise, within 24 hours of TransCanada's request, there could be 40 contract staff and the required equipment on a given site. While the Board views this to be good practice conducted by regional staff, TransCanada did not demonstrate that this type of practice is based on, or linked to, a documented process that is applied in all regions.

TransCanada was able to demonstrate that it has a documented organizational structure for its EM Program and that its pre-qualification process formally acquires assurance from its emergency management contractor that it is able to meet TransCanada's resource needs. However, the limited testing of these assurances in the Central Region only does not adequately demonstrate to the Board that TransCanada's external human resources are sufficiently allocated across its system such that they will ensure adequate response to a worse case incident. As such, the Board finds TransCanada to be Non-Compliant with this sub-element.

Compliance Status: Non-Compliant

3.0 IMPLEMENTATION

3.1 Operational Control-Normal Operations

Expectations: The company shall have an established, implemented and effective process for developing and implementing corrective, mitigative, preventive and protective controls associated with the hazards and risks identified in elements 2.0 and 3.0, and for communicating these controls to anyone who is exposed to the risks.

The company shall have an established, implemented and effective process for coordinating, controlling and managing the operational activities of employees and other people working with or on behalf of the company.

References: OPR section 6.5(1)(e),(f),(q)

Finding:

Emergency management programs are established and implemented to address upset or abnormal operating conditions, accidental releases, incidents and emergency situations. Notwithstanding, the Board expects companies to have preparatory processes in place that function during normal operating conditions to develop and maintain effective emergency management programs, and implement continual improvement initiatives. The assessment of these preparatory processes and preparedness related controls follows.

TransCanada's HS&E Management System, Element 2: Risk and Regulatory Assessment describes the processes in place to anticipate, identify and evaluate HS&E risks and regulatory requirements, prioritize risks and regulatory requirements, mitigate exposures and provide direction in the event of an incident. During the audit, TransCanada demonstrated that it has an effective process in place for developing and implementing corrective, mitigative, preventive and protective controls associated with the identified hazards and risks. The controls include, among others, emergency response procedures, exercise programs, continuing education, liaison and outreach activities with response agencies, landowners and the public, mutual aid agreements, contracts with response providers, emergency management training programs, inspections and maintenance of emergency management equipment.

Although not directly included in the scope of this audit, TransCanada's process for managing and overseeing its contractors for the EM Program was included in the evaluation of the overall EM Program implementation only as far as it impacts TransCanada's ability to respond to an emergency event. In addition to pre-qualifying contractors through its contractor service provider, IS Networld, TransCanada implements a stringent internal procurement and review process. Emergency Management contractors are required to comply with TransCanada safety practices and procedures. This procurement process is managed by the TransCanada Supply Team and oversight of contractors is managed by TransCanada's Regional Offices. As part of the process, TransCanada reviews its contractor's procedures to verify they meet TransCanada's established requirements. Contractors are observed and evaluated during exercises. Performance is assessed for compliance with TransCanada requirements, issues are entered and ranked in

IIT and evaluation of contractor performance is tracked. Where performance does not meet TransCanada requirements, corrective actions are required by the contractor.

The Board determined that, in accordance with its expectations, TransCanada communicates controls to staff as well as external stakeholders who may be exposed to risks, through emergency management messaging distributed under its public awareness program. Messaging includes content in relation to safety, hazards associated with the TransCanada system, emergency situations, what to do in the event of an emergency, respective roles during an emergency, emergency response procedures, and contact information.

Based on the information provided by TransCanada during the audit, the Board did not identify any non-compliances with TransCanada's processes for developing and implementing corrective, mitigative, preventive and protective controls associated with the hazards and risks of its operations. Accordingly, the Board views these processes to meet its expectations, and as a result finds TransCanada to be Compliant with this sub-element.

The Board notes that the corrective actions implemented by TransCanada to address findings in sub-elements 2.1 and 2.2 will trigger the updating of the operational controls discussed in this section to introduce appropriate controls for any newly identified hazards, risks and legal requirements.

Compliance Status: Compliant

3.2 Operational Control-Upset or Abnormal Operating Conditions

Expectations: The company shall establish and maintain plans and procedures to identify the potential for upset or abnormal operating conditions, accidental releases, incidents and emergency situations. The company shall also define proposed responses to these events and prevent and mitigate the likely consequence and/or impacts of these events. The procedures must be periodically tested and reviewed, and revised where appropriate (for example, after upset or abnormal events). The company shall have an established, implemented and effective process for developing contingency plans for abnormal events that may occur during construction, operation, maintenance, abandonment or emergency situations.

References: OPR section 6.5(1)(c),(d),(e),(f),(t)

Finding:

The Board notes that TransCanada's ERP outlines its plans and procedures for identifying the potential for upset or abnormal operating conditions, accidental releases, incidents and emergency situations. TransCanada has established and implemented the overarching TransCanada and Keystone ERPs, and developed site specific ERPs to account for the unique circumstances of each of its above ground facilities including compressor stations and pump stations. As well, TransCanada has identified 48 sites along the Keystone Pipeline route as Highly Sensitive Receptors (HSR) as they are areas where unique hazards must be incorporated into a response plan. Therefore, these sites meet TransCanada's criteria for further analysis and development of site specific Tactical Response Plans (TRP). According to TransCanada policy, TRPs are to be developed and implemented for all HSR along the Keystone pipeline. The Board notes that at the time of the audit, 12 of the 48 TRP were still under development by TransCanada who indicated that it had not had sufficient time to complete all TRP from the time the TRP had been identified through the hazard identification and risk assessment study completed in January 2013, to the start of the NEB audit. TransCanada stated that, although the TRP were still in development, the Keystone ERP was fully in effect, and would provide for an effective response to an incident anywhere on the Keystone system, regardless of the development of a site-specific TRP. While the Board notes that TransCanada's standard response procedures should allow for response to an incident; the Board is of the view that the TRPs provide for a more timely and planned response for the sensitive areas. Therefore the Board requires that TransCanada complete the implementation of its Keystone ERP submitted and develop all required TRP.

Another method that TransCanada uses to identify potential circumstances for upset or abnormal conditions and develop and improve contingency plans is by conducting exercises. According to the TransCanada ERP, TransCanada conducts both table-top and full scale field exercises to test its plans, procedures and ERPs on an annual basis to ensure ongoing suitability and identify opportunities for improvement. Field exercises also provide a training opportunity for employees with emergency management roles, first response agencies, response partners and contractors.

TransCanada manages all records generated as a result of field exercises through the IIT process. The IIT process tracks any actions assigned to TransCanada staff based on learnings until the actions are resolved. Record review determined that TransCanada undertakes follow-up actions on items resulting from internal feedback on its exercises. However, record review indicated that feedback received from some external agencies,

stakeholders or other field exercise participants was not included or tracked by TransCanada. For instance, review of feedback from the paramedics that were present at an exercise indicated that not all paramedics were familiar with their roles during a TransCanada exercise and may not necessarily understand the ICS structure or the dangers of an incident. At the time of the audit, the Board did not observe any action items in IIT that related to this issue or any other feedback from external participants. The Board further noted there is feedback from fire departments listed in the exercise summaries but their concerns and feedback were not transferred or included in the IIT action list for follow-up by TransCanada. Also, TransCanada's Summary of Learnings from an exercise indicated that the first responders did not fully understand the hazards that were present and this should be explored. While the Board understands the IIT process to be an effective tool for TransCanada to capture the lessons learned and to manage follow-up actions required to address participant feedback, it noted that TransCanada's IIT records did not include all action items triggered by feedback from the external participants in the field and table top exercises. The Board considers this gap to be significant given the important role of external agencies and the impact their feedback could have on the ongoing preparation of responders for an emergency event.

In evaluating TransCanada's compliance for this sub-element, the Board notes 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, these processes and plans were not, in the Board's view fully implemented or effective to meet the Board's expectations. Accordingly, the Board finds TransCanada to be Non-Compliant with this sub-element.

Compliance Status: Non-Compliant

3.3 Management of Change

Expectations: The company shall have an established, implemented and effective process for identifying and managing any change that could affect safety, security or protection of the environment, including any new hazard or risk, any change in a design, specification, standard or procedure and any change in the company's organizational structure or the legal requirements applicable to the company.

References: OPR section 6.5(1)(i)

Finding:

In conducting its assessment of this sub-element, the Board considered the MOC process first as it integrates the EM program and more broadly, as it applies to the HS&E Management System that incorporates the EM program.

EM Program MOC

The Board reviewed several documented procedures and records related to MOC for the EM Program including the Management of Change form (MOC form) and the TransCanada Operating Procedure Management of Change Report (MOC report). These are two integrated procedures that establish the process to identify a proposed change, identify the stakeholders involved, the steps to implement the change and target implementation dates. The sample MOC forms completed for pipe integrity reviewed by the Board included changes that would have an effect on emergency response planning. However, following implementation of these changes, the list of TOP updates reviewed by the Board did not demonstrate updates being made to EM procedures or response plans, thereby reflecting the change being implemented in the EM Program.

HS&E Management System MOC

At the time of the audit, TransCanada identified that it had developed and implemented two separate MOC processes to manage and document changes that incorporate its EM Program. The first process was developed and implemented as part of its Integrity Management Program, and is captured in the MOC form (Integrity MOC). This Integrity MOC is asset based and therefore is triggered by changes to equipment or software. Changes are described and tracked using a standardized form that documents both description of the rationale for the change being managed, as well as internal and external stakeholder notifications that need to be considered under its process.

The second process used to manage changes in its protection programs leverages some of the functionality of the TOP database and the TOPs Framework Process. The TOP database contains the operating procedures and some related documents for each of the protection programs. The TransCanada ERP is considered a TOP internally, and as is therefore managed by this process.

As per the TOP Framework Process, when the TransCanada ERP owner modifies the Manual and reloads it into the database, the TOP database

automatically notifies a list of pre-identified internal stakeholders of the new version of the document in order to systematically solicit comments on the changes. Further, once changes have been finalized, the TOP management process automatically disseminates a monthly report for all employees outlining the TOP that have been modified during the previous period.

TransCanada staff indicted that these two processes ensures that changes to procedures are managed and communicated throughout its organization.

The Board notes that these processes do not include steps to proactively identify change that could affect safety, security or the protection of the environment. The Board has determined that by using the Integrity MOC and TOP framework processes, TransCanada has operationalized some aspects necessary for an MOC process by documenting and communicating of some types of change through document versioning, however, these processes are not adequate either separately or in combination to satisfy the OPR requirements.

In considering the MOC process as it integrates the HS&E Management System, during the audit, TransCanada staff indicated that, while the company considers its presently implemented MOC processes to be compliant with the Board's requirements, it has a project underway to implement an overarching and singular MOC process which will better meet the Board's requirements. This new MOC process is scheduled to be fully implemented by the end 2014. TransCanada staff provided an overview presentation of the new MOC. Initial review indicates that it could potentially address the OPR requirements.

During interviews TransCanada indicated that it has developed the new MOC as the result of a corrective action arising from an internal audit completed in 2009. While the Board acknowledges the improvements that the new process could represent, the Board notes that TransCanada's 2014 implementation date is approximately five years from identification through to correction. The Board has found it appropriate to address this issue in its evaluation of sub-elements 4.3 Internal Audits and 5.0 Management Review.

While TransCanada has implemented some aspects of an MOC process, at the time of the audit, 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 Board finds TransCanada to be Non-Compliant with this sub-element.

The Board notes that the corrective actions implemented by TransCanada to address findings in sub-elements 2.1 and 2.2 will trigger the updating of the MOC discussed in this sub-element.

Compliance Status: Non-Compliant

3.4 Training, Competence and Evaluation

Expectations: The company shall have an established, implemented and effective process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company with the training that will enable them to perform their duties in a manner that is safe, ensures the security of the pipeline and protects the environment.

The company shall have an established, implemented and effective process for verifying that employees and other persons working with or on behalf of the company are trained and competent, and for supervising them to ensure that they perform their duties in a manner that is safe, ensures the security of the pipeline and protects the environment. The company shall have an established, implemented and effective process for making employees and other persons working with or on behalf of the company aware of their responsibilities in relation to the processes and procedures required by the management system or the company's protection programs.

The company shall have an established, implemented and effective process for generating and managing training documents and records.

References: OPR section 6.5(1) (j),(k),(l),(p)

Finding:

During the audit, TransCanada demonstrated how it assigns, tracks and manages the training for staff involved in emergency response by utilizing its internal Learning Management System (LMS). Through the LMS, employees throughout the organization are notified when they are due to take or refresh training. In order to ensure that training is current and monitored, managers are also notified if any of their staff's training has expired.

With respect to the EM Program, TransCanada demonstrated an effective process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company with the training required for emergency response roles. For internal training, TransCanada developed documented emergency management role training profiles and competency requirements for each role in the EM Program. There are requirements for regional and corporate employees with a potential EM role to complete emergency training modules as set out in the emergency management role training profiles. Having all the required training is a key performance indicator in each employees documented annual performance agreement.

Training is provided in both classroom and on-line modules, and employees must pass a written exam for certain modules in order to determine competency requirements. Emergency management training also includes participation in table top, equipment deployment and field (full scale) exercises to test competency in designated ICS role(s). Internal feedback from exercises, incidents or issues is captured by IIT and can result in changes or updates to exercise program and training requirements.

TransCanada also provides training to external parties through its full scale and table top exercise program. Annual field exercises include the

participation of the local response agencies such as fire departments, police, EMS and other municipal emergency services. The Board observed TransCanada employees and other response agencies in their ICS roles during two field exercises, and no concerns were noted regarding the overall implementation of ICS structure. The Board did note in reviewing the feedback from exercises that feedback from these external parties regarding their roles in the exercises was not being tracked and evaluated through TransCanada's IIT process. The Board is of the view however that this issue relates to TransCanada's process to develop, revise and improve its contingency plans, and has addressed it in sub-element 3.2 Operational Control-Upset or Abnormal Operating Conditions.

Based on the information provided by TransCanada during the audit, the Board did not identify any non-compliances with TransCanada's processes for establishing and implementing effective processes for developing competency requirements and training programs. Accordingly, the Board finds TransCanada to be Compliant with its expectations for this sub-element.

The Board notes the corrective actions implemented by TransCanada to address findings in sub-elements 2.1 2.2, 2.4 and 3.2 of this report may trigger the updating of the training program to address any newly identified legal requirement, hazards and deficiencies noted by external parties regarding contingency plans.

3.5 Communication

Expectations: The company shall have an established, implemented and effective process for the internal and external communication of information relating to safety, security and environmental protection. The process should include procedures for communication with the public, company employees, contractors, regulatory agencies and emergency responders.

References: OPR section 6.5(1)(m)

Finding:

External Communication

TransCanada's EM Program has implemented an external communication plan directed at its external stakeholders, including first responders and adjacent landowners. TransCanada has integrated some of the outreach components of its EM Program with its Public Awareness program for the purposes of communication, consultation, and liaison with, first response agencies such as fire departments, police, emergency medical services, and other municipal emergency services that may have a response role in the event of a TransCanada pipeline incident. These programs are also integrated for the purpose of providing baseline emergency response messaging and safety information to landowners and the public that may be involved in an emergency.

TransCanada's Pipeline Public Awareness Program Manual (PA Manual) indicates that public awareness applies to all pipeline assets in Canada, and reaches emergency official and local public officials. The Public Awareness program maintains contact with affected public, emergency and public officials and stakeholders who may interact with TransCanada or who are directly impacted. The PA Manual sets out the process for baseline messaging and annual mail-out to emergency agencies in Canada, the US and Mexico. Supplemental information can be provided where requested. The PA Manual also includes baseline messages for Emergency Officials and supplemental safety and emergency information that can be provided on request.

As part of its plan, TransCanada also provides an annual letter and information package that describes the TransCanada emergency response program, planning, roles, hazards, contact information, and response procedures and roles to all response agencies along its pipeline systems. The information package includes a Material Safety Data Sheet for either sweet natural gas, or oil in the case of the Keystone pipeline. The Emergency Services Guide is provided to all response agencies and describes what to do in the event of a pipeline emergency. The TransCanada Emergency Response Guide for Natural Gas provides detailed information to response agencies. An annual mail-out also seeks to confirm agency contact information as well as the services that can be provided by the agency. Where no response from an agency is received by TransCanada, it attempts to make telephone contact with the agency. Where requested by an agency, TransCanada will meet or give a presentation on the TransCanada EM Program. TransCanada has also produced a video that details the TransCanada emergency management system, the hazards associated with the

pipelines, respective roles during an emergency, the response structure and contact information. The video is provided to agencies upon request. As part of the continuing education program, agencies are also invited to participate in the annual field exercise conducted in each of TransCanada's operational regions. The Board observed that all regions followed procedures for annual mail outs, follow-up contact and presentations to agencies, and for participation in field exercises. During the audit, TransCanada demonstrated that its regional offices were testing various methods looking to increase engagement and response from responding agencies.

Regarding external communication aimed specifically at the public and landowners, interviews and document review confirmed that TransCanada's EM Program includes the annual delivery of an emergency management information package that includes a calendar containing comprehensive emergency information including emergency contacts and phone numbers, and emergency management information brochures in French and English. The Board also notes that each of the five operational regions develops an Annual Public Awareness Detailed Plans and Integrated Public Awareness Regional Plans that lists outreach activities, resources, stakeholders, locations, status and responsibilities to be addressed as part of its continuing education program for emergency response.

Internal Communication

TransCanada uses several methods communicate emergency management information across its organization. The emergency management group holds monthly and quarterly meetings that include the EMT, regional EPCs and emergency management team members. Changes, staff feedback, reviews and updates to both the program and the EM Manual are managed through the TOPs document management framework. Findings from inspections and audits of the EM Program, learnings from emergency management exercises and related issues are communicated, tracked and resolved through the IIT Process.

Based on the information provided during the audit, the Board did not identify any non-compliances with TransCanada's process relating to external and internal communication requirements. Accordingly, the Board views these processes as meeting its expectations, and finds TransCanada to be Compliant with this sub-element.

3.6 Documentation and Document Control

Expectations: The company shall have an established, implemented and effective process for identifying the documents required for the company to meet its obligations to conduct 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 documents shall include all of the processes and procedures required as part of the company's management system.

The company shall have an established, implemented and effective process for preparing, reviewing, revising and controlling documents, including a process for obtaining approval of the documents by the appropriate authority. The documentation should be reviewed and revised at regular and planned intervals.

Documents shall be revised where changes are required as a result of legal requirements. Documents should be revised immediately where changes may result in significant negative consequences.

References: OPR sections 6.5(1)(i),(n),(o), 6.5(3)

Finding:

As noted previously, in order to manage and control its over 200 hundred procedures and their related operational documents, TransCanada has developed and implemented the TOP Program. The TOP Program Owner is the Vice President of Engineering and Asset Reliability. TransCanada has outlined the TOP Program in a framework document (TOP Framework), and according to it, the objective TOP Program is to create a framework for the development and maintenance of the documentation necessary for TransCanada employees and contractors to efficiently and correctly conduct the operational and maintenance activities associated with TransCanada's facilities. This document also clarifies the applicability of the TOP Program to all operating procedures when they are being created, revised, reviewed or retired.

TransCanada has also developed and implemented a database to house all of the TOPs documents. Available to staff at all locations through the corporate Intranet, the TOPs database has the functionality to generate a monthly report to track and alert internal stakeholders to any updates to TOPs and produces a monthly report listing the TOPs that have been updated.

The audit identified that the TOP Framework provides for planning, document development, alignment with management systems, review, measurement, analysis, control, audits and improvement of the TOP Program. The development and maintenance of both the TransCanada and Keystone emergency response plans, as well as the site specific response plans, is completed in accordance with the TOP Framework. TransCanada's Oil Pipelines Emergency Management System Manual and the Emergency Management System Manual complement the TOP Framework by providing the procedures for updating the both TransCanada Keystone emergency response plans, as well as and site specific

emergency response plans.

TransCanada uses the Avantis Work Order System to manage the assignment of tasks to field staff. This system automatically generates work orders for field staff based on issues and follow-up actions input from the IIT system. At the time of the audit, TransCanada provided the Avantis Work Order records that demonstrated the annual maintenance of emergency response plans and other emergency management system documents and elements. Records are controlled using its electronic data management system. The Board also observed the detailed records kept during the field exercises as well as EOC exercise documents and action plans.

Based on the information provided during the audit, the Board did not identify any non-compliances with TransCanada's process relating to establishing and implementing effective processes for identifying and managing documents. Accordingly, the Board views these processes as being meeting its expectations, and finds TransCanada to be Compliant with this sub-element.

4.0 CHECKING AND CORRECTIVE ACTION

4.1 Inspection, Measurement and Monitoring

Expectations: 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.

References: OPR sections 6.1(d), 6.5(1)(g),(s),(u),(v), 56

Finding:

During interviews, TransCanada indicated that it has established and implemented several processes for inspecting and monitoring its equipment, activities and emergency response plans related to its EM Program. Tier 1 and 2 planned inspections are scheduled using Avantis Work Orders for the review of TransCanada's EM Program equipment and activities, to be conducted monthly (M1), every three months (M3), every six months (M6) and annually (M12). These inspections include verification of the maintenance of the regional emergency operations centre kit (M6), emergency command post kits (M6), TransCanada, Keystone and site specific emergency response plans (M12), table top emergency response exercises (M12), equipment deployment exercises (M12), external field exercises (M12), corporate exercises (M24). Further, equipment inspections are also managed and assigned through the Avantis system, and include scheduled inspections for all five emergency trailers located in both Alberta and Saskatchewan.

TransCanada was able to demonstrate that it uses several methods to monitor and measure the performance of its EM Program. It also demonstrated that the records of the inspections are captured and maintained in its Electronic Document Management System (EDMS). In addition to the annual performance measures established by TransCanada for its EM Program, the actions resulting from the Tier 1, 2, 3 and 4 inspections and audits are

captured in scorecards and the IIT system to track their management and resolution. The scorecards are reported to program management, senior management and through the annual management review process, to executive leadership.

Based on the information provided during the audit, the Board did not identify any non-compliances with TransCanada's process relating to inspecting and monitoring its activities and facilities and for evaluating the adequacy and effectiveness of its EM Program. Accordingly, the Board views these processes to meet its expectations, and finds TransCanada to be Compliant with this sub-element.

The Board notes that the corrective actions implemented by TransCanada in respect of non-compliances for sub-elements 2.1 and 2.2 of this appendix may affect the processes described in this element.

4.2 Investigating and Reporting Incidents and Near-misses

Expectations: The company shall have an established, implemented and effective process for reporting on hazards, potential hazards, incidents and near-misses, and for taking corrective and preventive actions. This should include conducting investigations where required or where hazards, potential hazards, incidents and near-misses have or could have resulted in the safety and security of the public, company employees and the pipeline, and protection of property and the environment, being significantly compromised.

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 should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in 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.

References: OPR sections 6.5(1)(r),(s),(u), (w),(x), 52

Finding:

TransCanada has implemented an internal web-based Incident Management System (IMS) as a tool for incident notification, response, investigation, documentation, follow-up and sharing of information. The IMS includes links to the EM Program and to incident investigation processes, checklists, policies, guides, tools and regulations.

An integral component of the IMS is the IIT system, which is an internal web-based electronic database tool available to TransCanada employees that tracks internal and external compliance, reporting of incidents and near misses, and corrective actions. It is used to implement actions to address hazards and risks and features two types of notifications that are sent to pre-determined notification profiles (e-mail distribution lists). The profiles are for event notifications (incidents, issues) and action notifications sent to accountable parties. The IIT generates reports on incidents, events and causes, and can search events by categories including: classification counts (incidents by classification) spills, gas releases, hazard analysis and controls, and abnormal operations. A training module for IIT is presented to employees as part of the Learning Management System. EM Program activities such as field and table top exercises are also tracked through the IIT system. The lessons learned and follow-up actions from these activities are generated from IIT. The Board also noted TransCanada's established and implemented procedures for external reporting of incidents in accordance with regulatory requirements.

TransCanada was able to demonstrate that its process for reporting on hazards, potential hazards, incidents and near-misses, and for taking corrective and preventive actions with respect to the EM Program, was effective to meet the Board's expectations. Accordingly, the Board did not identify any

non-compliances with TransCanada's process and finds TransCanada to be Compliant with this sub-element.

4.3 Internal Audits

Expectations: The company shall have an established, implemented and effective quality assurance program for its management system and for each protection program, including a process for conducting regular inspections and audits and for taking corrective and preventive actions if deficiencies are identified. The audit process should identify and manage the training and competency requirements for staff carrying out the audits.

The company should integrate the results of its audits with other data in hazard identification and analysis, risk assessment, performance measures and annual management review, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

References: OPR section 6.5(1)(w),(x)

Finding:

Review of the documentation and records provided by TransCanada demonstrated that it has established and implemented an audit program to assess its management programs and provide quality assurance of same. This multi-level approach consists of:

- Tier 1 Conformance reviews;
- Tier 2 Inspections: Planned inspections;
- Tier 3 Internal system audits and targeted audits focused on maintenance and equipment suitability; and
- Tier 4 External audits and assessments.

Records provided by TransCanada during the audit demonstrated that the audit program is presently being implemented at a frequency exceeding the OPR requirements to audit on a maximum three-year interval. Review of TransCanada's audit program documentation and records of audits indicated that TransCanada's audits are not meeting the requirements for audits outlined in OPR section 53. Specifically, TransCanada could not demonstrate that the audits are being conducted to ensure that their pipelines are designed, constructed, operated and abandoned in compliance with the legal requirements outlined in that section. Review of the internal audit standard and audit specific internal audit protocols and records indicated that TransCanada focuses almost exclusively on evaluating the implementation of its existing programs, procedures and practices, as designed, as opposed to statutory compliance. TransCanada did provide records indicating that some of the content was covered during the external audit processes (Tier 4); however, TransCanada was unable to provide appropriate records of the external audit protocols or working files. As a result, it could not clearly demonstrate the content and extent of the review. Further, review of records outlining the direction provided by TransCanada to its external auditors outlined a focus on conformance to internal requirements or conformance to external ISO standards. While the Board encourages

the practice of comparing performance relative to international standards in order to improve audit programs, conformance to internal procedures and external ISO standards alone is not sufficient for a quality assurance program because it does not include all relevant legal requirements. Without an evaluation of compliance to its legal requirements, TransCanada has not established an audit program that can determine the adequacy and effectiveness of its management system.

TransCanada has also established and implemented a process for developing and implementing corrective and preventive actions if deficiencies are noted during Tier 3 audits. This process utilizes its IIT database for assignment, tracking and closeout for all internal audit findings that have associated corrective or preventative actions identified.

Findings from the Tier 4, third party audits are discussed, prioritized and managed at the senior management level. However, the Board noted deficiencies in relation to quality assurance and corrective and preventive actions. The Board was unable to view, as part of a process, how TransCanada and its management consistently evaluated and prioritized the findings, recommendations and the development of preventive and corrective actions resulting from the internal and external audits. While management must have some latitude to manage the results of findings, there must be proceduralized guidelines to consider and prioritize the findings to ensure timely statutory compliance and the safety of public, workers and the environment. The Board was unable to find clear direction to guide managers during the development of corrective and preventive action plans provided within the processes reviewed. This may have contributed to unacceptable implementation periods for some of the identified deficiencies contained within the audit documents provided by TransCanada. For example, TransCanada's 2009 audit identified the need to develop and implement an MOC process across the company. During the Board's 2013 audit (this audit) it was noted that the MOC process would not be fully implemented until after the beginning of 2014. This is a lag period of at least 5 years from identification through to correction. The Board clearly described its MOC requirements in its 2009 Audit Protocol. The Board is of the view that all findings related to compliance must be acted on in a timely manner by companies regardless of the internal evaluation of risk. As another example, the Board notes that one of the internal third party audits provided recommendations to management that they conduct third party audits of the internal programs to measure compliance. This recommendation is consistent with the Board's findings in this audit; however, as per records provided during the audit, TransCanada management decided not to act on the recommendation. Regardless of the third party audit recommendation to implement another third party review of compliance, an issue relating to compliance or assurance of compliance was identified during the audit. Review of TransCanada's internal audit processes indicated that there are no clear requirements to act on known or potential non-compliance findings during the management review of the audit results. This particular example could have led to compliant findings being made in other sub-elements in the Board's audit if TransCanada had acted on the recommendation.

While TransCanada was able to demonstrate that its quality assurance program is implemented on a scale that exceeds the Board's expectations with respect to frequency, the audits focused on conformance to internal requirements rather than compliance with statutory requirements. There was also a lack of guidance to enable senior management to prioritize and manage corrective and preventive actions for deficiencies identified in audits. This

4.4 Records Management

Expectations: The company shall have an established, implemented and effective process for generating, retaining, and maintaining records that document the implementation of the management system and its protection programs, and for providing access to those who require them in the course of their duties.

References: OPR section 6.5(1)(p)

Finding:

TransCanada has established a Business Information Management Program to manage the records that are generated either in support of, or by, its operational activities. The Records Classification System and Records Retention Schedule have been developed to address regulatory and business information retention requirements.

During the document review and site visits, the Board observed the Electronic Data Management System that TransCanada has implemented to manage its EM Program related records. This system adheres to the TransCanada records classification system and retention schedule.

The records management program includes the management of policies, procedures, guidelines, and documents related to departmental activities and functions. Document and records types include emergency response plans, records of command post kits, Tier 1 and 2 inspections, site specific plans, testing and exercise records, and emergency contact lists. Contact information for Emergency Responder agencies along TransCanada rights-of-way is managed in the Emergency Responder database by TransCanada's Regional Community Relations Representatives. Annual contact with these agencies is done with a fax-back form to confirm that TransCanada has the appropriate contact information on file. Agencies that do not respond to the request for confirmation are contacted by phone to ensure the information on file is correct.

Based on the information provided during the audit, the Board did not identify any non-compliances with TransCanada's process for effectively generating, retaining, and maintaining records that document the implementation of the management system and its protection programs, and for providing access to those who require them. Accordingly, the Board views this process to meet its expectations, and as a result finds TransCanada to be Compliant with this sub-element.

5.0 MANAGEMENT REVIEW

5.1 Management Review

Expectations: The company shall have an established, implemented and effective process for conducting an annual management review of the management system and each protection program and for ensuring continual improvement in meeting the company's 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 management review should 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.

The company shall complete an annual report for the previous calendar year, signed by the accountable officer, that describes the performance of the company's management system in meeting its obligations for safety, security and protection of the environment and the company's achievement of its goals, objectives and targets during that year, as measured by the performance measures developed under the management system and any actions taken during that year to correct deficiencies identified by the quality assurance program. The company shall submit to the Board a statement, signed by the accountable officer, no later than April 30 of each year, indicating that it has completed its annual report.

References: OPR sections 6.5(1)(w),(x), 6.6

Finding:

Interviews with TransCanada staff and review of the supporting documentation and records provided by TransCanada indicated that the company undertakes a significant amount of work in the oversight of its Health, Safety and Environmental programs.

The HS&E Management System document, dated 18 July 2011, provides a high level overview of processes for collecting applicable metrics, evaluating the HS&E Management System, developing recommendations, communicating findings to senior management, and for the implementation of program and management system modifications. Interviews indicated there are several processes that TransCanada utilizes for reviewing safety related performance including, a management scorecard, and a process for the review of audit findings. Review of the management scorecards indicated that they include and monitor a large number of program metrics. For emergency management, the annual scorecard is generated by the EMT and presented to the Corporate HS&E Committee. Review of documents and records indicates that the various reviews are being performed on a regular basis at several organizational levels within TransCanada, and that the information flows vertically and across the organization.

The HS&E Management System document also describes the HS&E governance structure for TransCanada. TransCanada's lead governance body in this area is the HS&E Committee of the Board of Directors (HS&E Committee), which monitors practices and procedures to ensure compliance with legislation, conformity with policies, procedures and programs, and the prevention and mitigation of losses. The HS&E Committee considers the

effectiveness of implementation of policies, procedures and programs and makes recommendations to the Board of Directors as a whole. The HS&E Committee meets separately with officers of the company that are responsible for these matters and on an annual basis, the HS&E Committee reviews its charter and recommends changes to the Governance Committee and the Board of Directors.

The TransCanada Corporate HS&E Committee is comprised of key company leaders representing each functional area within the Operations and Engineering sections. The Corporate HS&E Committee provides leadership to the HS&E policies, programs and procedures. It reviews, approves and monitors performance goals and targets, provides critical review of incidents, reviews and evaluates incident trends, directs changes in response to trends, engages with other companies on best practices, facilitates information sharing and learning, and provides information to the HS&E Committee of the Board of Directors. The Corporate HS&E Committee meets on a monthly basis to validate HS&E performance goals and targets, monitor performance, remove barriers to HS&E performance and to develop recommendations to the HS&E Committee of the Board of Directors.

In addition to the overall HS&E governance processes, TransCanada staff provided an overview and records describing the company's year-end Emergency Preparedness Meetings. These are comprehensive three day meetings involving the EMT, regional coordinators and team members for the purpose of conducting annual reviews of the EM Program. These annual reviews consider emergency management training activities, the results of exercises, reviews of actual responses to incidents, the status of IIT action items, review of the IIT incident trend analysis, Emergency Response Plan updates, CEPA initiatives, and the results of Tier 1 and 2 inspections. The program elements are rolled up into the scorecard each month, forwarded for management review and an annual scorecard is generated and forwarded to the HS&E Management Committee.

In reviewing this sub-element, the Board also takes into consideration senior management's involvement and performance in those activities which the Board views their active participation in to be critical. Specifically these include evaluating and managing the results of: internal inspection and monitoring programs, investigations of incidents, audits, and the results of compliance verification activities conducted by regulatory agencies. As noted above, TransCanada's senior management and Board of Directors are significantly involved in the direction and review of the company's HS&E related management system programs, including the EM Program. Yet, the Board 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.

Moreover, while the Board was able to confirm that TransCanada is undertaking a significant number of management review activities consistent with the descriptions included in the HS&E Management System document, TransCanada was not able to provide or demonstrate a documented and comprehensive management review process of the EM Program that described activities for adequately and effectively undertaking its management reviews on a consistent basis, and for ensuring its continual improvement as the Board expects. As a result of the foregoing, the Board finds TransCanada to be Non-Compliant with this sub-element.

ⁱ The "References" in this table contain specific examples of the legal requirements applicable to each element but are not exhaustive and do not represent a complete list of all applicable legal requirements audited to, which are found within the NEB Act and its associated regulations, as well as other applicable legislation, technical and other standards including the *Canada Labour Code* and CSA Z662, and any conditions contained within applicable certificates or orders enforced by the Board.

APPENDIX II

TRANSCANADA PIPELINES LIMITED AND NEB-REGULATED SUBSIDIARIES (TRANSCANADA)

MAPS AND SYSTEM DESCRIPTIONS

TransCanada PipeLines Limited and its subsidiaries included in the scope of this audit included specifically:

- TransCanada PipeLines Limited;
- TransCanada Keystone Pipeline GP Ltd.;
- Trans Québec & Maritimes Pipeline Inc.;
- Foothills Pipe Lines Ltd.; and
- NOVA Gas Transmission Ltd.

These subsidiaries hold the certificates for TransCanada's NEB-regulated facilities, which include the Canadian Mainline, Keystone Pipeline, TQM Pipeline System, Foothills System, and the Alberta (NGTL) System.

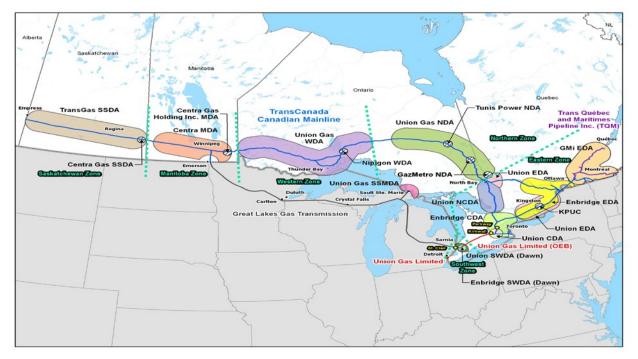


Figure 1: Canadian Mainline

The Canadian Mainline, shown in Figure 1, is a 14,100 km natural gas pipeline that extends from the Alberta/Saskatchewan border east to the Quebec/Vermont border and connects with other natural gas pipelines in Canada and the United States.

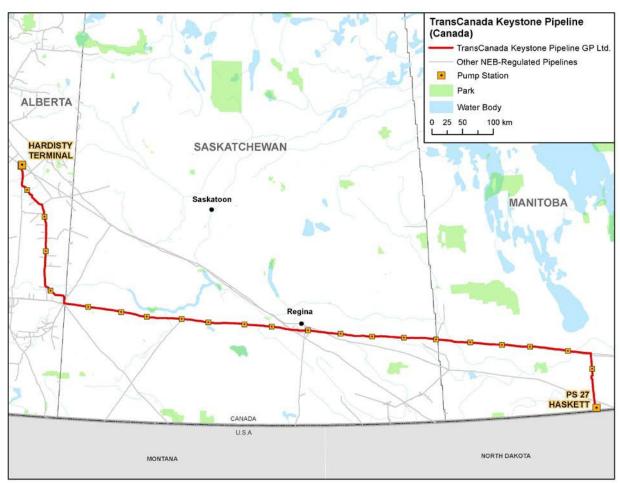


Figure 2: Keystone Pipeline

The Keystone Pipeline, shown in Figure 2, is a 1,251 km pipeline that transports crude oil from Hardisty, Alberta to the Manitoba/North Dakota border. The Keystone Pipeline continues into the United States.

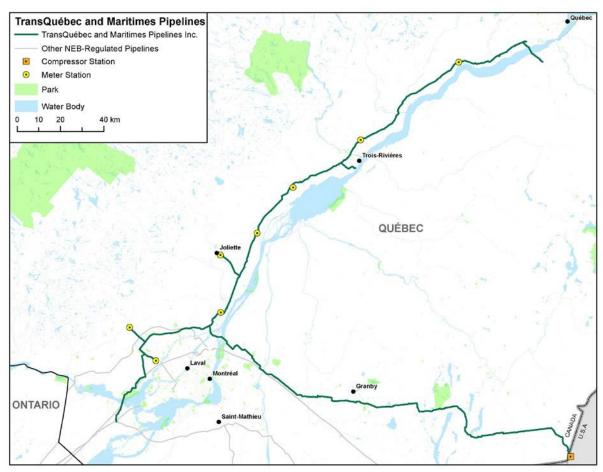
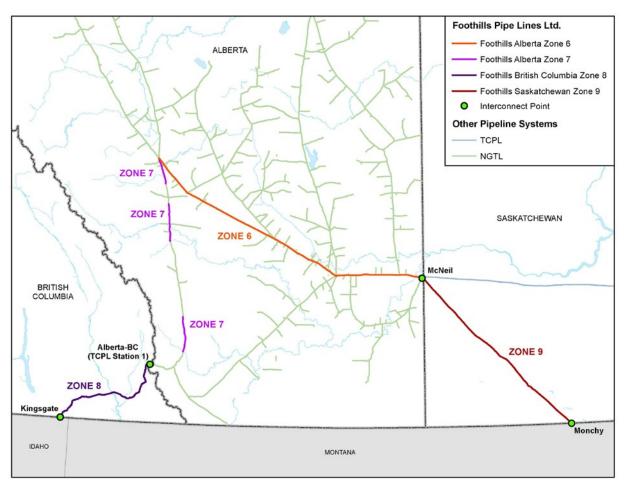


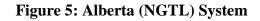
Figure 3: TQM Pipeline System

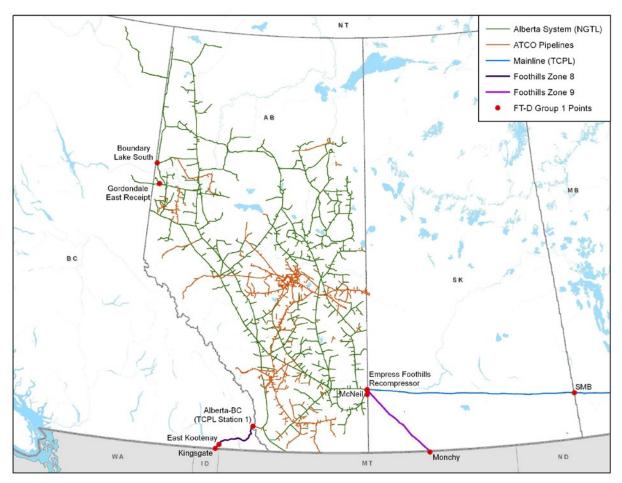
The TQM Pipeline System, shown in Figure 3, is a 573 km natural gas pipeline network in the Province of Quebec between Saint-Lazare, located west of Montreal, and Saint-Nicolas, located on the South Shore of Quebec City, and between Lachenaie, located East of Montreal, and East Hereford on the New Hampshire border.





The Foothills System, shown in Figure 4, is a 1,046 km natural gas pipeline system which carries natural gas from central Alberta to the United States.





The Alberta (NGTL) System, shown in Figure 5, is a 24,828 km natural gas system which gathers natural gas for use within the province of Alberta. It delivers to provincial boundary points for connection with TransCanada's Canadian Mainline and Foothills natural gas pipelines and with the natural gas pipelines of other companies.

APPENDIX III

TransCanada PipeLines Limited and NEB-Regulated Subsidiaries (TransCanada)

Company representatives interviewed – Emergency Management

Company Representative	Job Title
Interviewed	
Greg Lohnes	Executive Vice-President, Operations and Major
	Projects / Accountable Officer as per the NEB Act
Bryce Lord	Vice President of Canadian Gas Pipelines and Storage
	Operations
	Area Manager, Rocky Mountain House, Rocky
	Mountain Region
James Baggs	Senior Vice President Operation & Engineering
Vern Meier	Vice President, Pipeline Safety and Compliance
Andrea Jalbert	Vice President, Community, Safety and Environment
Robert Jacobucci	Vice President, Human Resources
	Health & Hygiene
	Director, Regulatory Compliance
	Public Awareness Program Manager
	Senior Regulatory Compliance Specialist
	Senior Emergency Management Specialist
	Senior Emergency Management Specialist
	Senior Advisor, HS&E Management Systems
	Manager, Regional Asset Reliability, Rocky
	Incident Response Specialist
	Incident Response Specialist
	Rideau Area Manager, Eastern Region
	EI&C Technician, Regional Emergency Preparedness
	Team Member
	Pipeline Technician, Regional Emergency Preparedness
	Team Member
	EI&C Technician, Regional Emergency Preparedness
	Team Member
	Emergency Response Coordinator
	Director, Central Region
	Manager, Occupational Safety and Emergency
	Management
	US Gas IMP Program Manager

APPENDIX IV

TransCanada PipeLines Limited and NEB-Regulated Subsidiaries (TransCanada)

Documents Reviewed – Emergency Management

Name	Path
Audits	NEB/Document Library/Daily Audit Observations - Requests for Information/2013-08-20
Committees	NEB/Document Library/Daily Audit Observations - Requests
commutees	for Information/2013-08-20
Daily Audit Observations 2013-08-20.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20
General	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20
Incident and Emergency	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20
Inventories	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20
Management Review	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20
Planned Inspection Form.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Planned Inspection Task Package.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Planned Inspection TOP.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Tier 3 Audit Handbook.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Tier 3 Audit Procedure.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Tier 3 Audit Report.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Tier 3 Audit Task Package.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
Tier 3 HSE MS Audit Protocol.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Audits
12591 - CDN Schedule A Scope of Work.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/General
General Emergency Response Plan	NEB/Document Library/Daily Audit Observations - Requests
template.pdf	for Information/2013-08-20/General
Site Specific Planning.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/General
TCPL Emergency Line Report August 5th to	NEB/Document Library/Daily Audit Observations - Requests
August 11th 2013.pdf	for Information/2013-08-20/General

TCPL Recap August 5th to August 11th	NEB/Document Library/Daily Audit Observations - Requests
2013.pdf	for Information/2013-08-20/General
TCPLTest Call August 5th to August	NEB/Document Library/Daily Audit Observations - Requests
11th_RSL.pdf	for Information/2013-08-20/General
TCPLTest Call August 5th to August	NEB/Document Library/Daily Audit Observations - Requests
11th_WMF.pdf	for Information/2013-08-20/General
WO-718617-1-EMS-Local-Plans-M12-	NEB/Document Library/Daily Audit Observations - Requests
LKLND-2012.pdf	for Information/2013-08-20/General
WO-726153-2-Tabletop-M12-2012-	NEB/Document Library/Daily Audit Observations - Requests
LKLND.pdf	for Information/2013-08-20/General
WO-741925-1-EMS-EOC-M06-2012-	NEB/Document Library/Daily Audit Observations - Requests
LKLND.pdf	for Information/2013-08-20/General
C08338 IMP - Classification v3.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
C08709 IMP Coordinator Access.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
C08710 Create-Edit Events in IIT.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
C08710 IMP - Report-Searches IIT.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
Copy of IIT Causation Table.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
Debrief-Carman Seal Failure-EOC Site.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
EMS Audit - LMS Report for RMR Employee	NEB/Document Library/Daily Audit Observations - Requests
- Aug 14 2013.pdf	for Information/2013-08-20/Incident and Emergency
EMS Program Training Requirements 2013 -	NEB/Document Library/Daily Audit Observations - Requests
EDMS No 007923809.pdf	for Information/2013-08-20/Incident and Emergency
FW_Carman PS Clean-up.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
FW_ Carman PS incident and our annual	NEB/Document Library/Daily Audit Observations - Requests
exercise for Central Region.pdf	for Information/2013-08-20/Incident and Emergency
FW_ Carman PS incident and our annual	NEB/Document Library/Daily Audit Observations - Requests
exercise for Central Region2.pdf	for Information/2013-08-20/Incident and Emergency
Guideline to Select Potential Severity.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
HSE Performance Update July _V1.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
IIT Causation Table.pdf	NEB/Document Library/Daily Audit Observations - Requests
_	for Information/2013-08-20/Incident and Emergency
IMP High Potential Guidelines.pdf	NEB/Document Library/Daily Audit Observations - Requests
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Incident ID 252620 Cormon Dumn	
Incident ID 253639 - Carmen Pump	NEB/Document Library/Daily Audit Observations - Requests
Station.pdf	for Information/2013-08-20/Incident and Emergency

Incident2012_Guide_EN.PDF	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
Issue2012_Guide_EN.PDF	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
NEB Audit_Environmental Noise_Snapshots	NEB/Document Library/Daily Audit Observations - Requests
from TOPs Database.pdf	for Information/2013-08-20/Incident and Emergency
Operation Tecumseh - 2012 Field Emergency	NEB/Document Library/Daily Audit Observations - Requests
Exercise - Rocky Mountain Region V1.1	for Information/2013-08-20/Incident and Emergency
(Final).pdf	
TransCanada High Potential Tracking.ppt	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Incident and Emergency
W08216 IMP - Incident Management	NEB/Document Library/Daily Audit Observations - Requests
Process_November 2011 update.pdf	for Information/2013-08-20/Incident and Emergency
Risk Registry from .pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Inventories
Policies.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-20/Management Review
Emergency Management and PA	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21
TOPs	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21
2012 Regional Plan Summary Final _Jan.21	NEB/Document Library/Daily Audit Observations - Requests
2013pdf	for Information/2013-08-21/Emergency Management and PA
BRC example.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21/Emergency Management and PA
Emergency Responder Process 4 w EMS	NEB/Document Library/Daily Audit Observations - Requests
(3).pdf	for Information/2013-08-21/Emergency Management and PA
Q4 Total Regional Reports Table (Jan 23	NEB/Document Library/Daily Audit Observations - Requests
2013) - Issued.pdf	for Information/2013-08-21/Emergency Management and PA
Audit Reportpdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21/TOPs
Contractor Safety Management	NEB/Document Library/Daily Audit Observations - Requests
Program_130816.pdf	for Information/2013-08-21/TOPs
Excavation Specificatio.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21/TOPs
field audit protocolAppendix	NEB/Document Library/Daily Audit Observations - Requests
D_13061.pdf	for Information/2013-08-21/TOPs
field audit protocolHSE Field	NEB/Document Library/Daily Audit Observations - Requests
Audit Protocol_13061.pdf	for Information/2013-08-21/TOPs
NCP4698-TCP-SA-PLN-001 Rev 1 SSMP-	NEB/Document Library/Daily Audit Observations - Requests
plan only.pdf	for Information/2013-08-21/TOPs
SSSPV12_12-14-1.pdf	NEB/Document Library/Daily Audit Observations - Requests
	for Information/2013-08-21/TOPs
Code of Business Ethics (COBE).pdf	NEB/Document Library/Emergency Management/1.2 Policy
	and Commitment Statements

Contractor Alcohol and Drug Policy.pdf	NEB/Document Library/Emergency Management/1.2 Policy
Conductor Anconor and Drug Foney.put	and Commitment Statements
Contractor Safety Management Guiding	NEB/Document Library/Emergency Management/1.2 Policy
Principles.pdf	and Commitment Statements
Contractor Safety Management Program	NEB/Document Library/Emergency Management/1.2 Policy
130816.pdf	and Commitment Statements
Harassment Free Workplace Policy.pdf	NEB/Document Library/Emergency Management/1.2 Policy
	and Commitment Statements
HSE Commitment Statement.pdf	NEB/Document Library/Emergency Management/1.2 Policy
	and Commitment Statements
Stakeholder Engagement Commitment	NEB/Document Library/Emergency Management/1.2 Policy
Guiding Principle .pdf	and Commitment Statements
CPS_Combined_ML_Ca_HSR_Analysis.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
Document2.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
General Emergency Response Plan	NEB/Document Library/Emergency Management/2.1 Hazard
template.pdf	Identification, Risk Assessment and Control
Hardisty HAZOP.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
HSR report Jan 2013.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
Initial_Canadian_HSRs_05022013.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
Safety Risk Matrix.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
Supplier Information Questionnaire.pdf	NEB/Document Library/Emergency Management/2.1 Hazard
	Identification, Risk Assessment and Control
AUC ERCB Incident Reporting Requirements	NEB/Document Library/Emergency Management/2.2 Legal
RACI.pdf	Requirements
Canadian Gas Storage Regulatory Reporting	NEB/Document Library/Emergency Management/2.2 Legal
Requirements RACL.pdf	Requirements
Copy of Excerpt from the Canadian Enviro	NEB/Document Library/Emergency Management/2.2 Legal
Legislation Monitoring Spreadsheet.pdf	Requirements
CPS Combined ML Ca HSR Analysis.pdf	NEB/Document Library/Emergency Management/2.2 Legal
	Requirements
CSE Strotogy Covernor of TODe Degulations	NED/Document Library/Emergency Management/2.2 Lage1
CSE Strategy Governance TOPs Regulations List.pdf	NEB/Document Library/Emergency Management/2.2 Legal Requirements
FW_ Ref. Canada Gazette Part I Amending	NEB/Document Library/Emergency Management/2.2 Legal
the National Energy Board Onshore Pipeline	Requirements
Regulations, 1999.pdf	Requirements
Initial Canadian HSRs 05022013.pdf	NEB/Document Library/Emergency Management/2.2 Legal
initial Canadian HSRS 05022015.pdf	Requirements
Keystone (Canada) Oil Pipeline Incident	NEB/Document Library/Emergency Management/2.2 Legal
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Reporting RACI.pdf	Requirements
NEB 2013 Gap Analysis.pdf	NEB/Document Library/Emergency Management/2.2 Legal
	Requirements
NEB OPR Gap analysis Version 2.pdf	NEB/Document Library/Emergency Management/2.2 Legal
	Requirements
NEB Regulated Pipeline Reporting	NEB/Document Library/Emergency Management/2.2 Legal
Requirements RACI.pdf	Requirements
Occupational Safety and Emergency	NEB/Document Library/Emergency Management/2.2 Legal
Management TOPs Regulations List.pdf	Requirements
Proposed Regulatory Change - Management	NEB/Document Library/Emergency Management/2.2 Legal
Systems March 2011.pdf	Requirements
Regulatory Monitoring Procedure V 0	NEB/Document Library/Emergency Management/2.2 Legal
20121213.pdf	Requirements
TOPs Process.pdf	NEB/Document Library/Emergency Management/2.2 Legal
	Requirements
2013 Key Focus Areas -Peak Performance.pdf	NEB/Document Library/Emergency Management/2.3 Goals,
	Objectives and Targets
Corporate Scorecard Folder - FINAL.pdf	NEB/Document Library/Emergency Management/2.3 Goals,
	Objectives and Targets
Objectives and Targets Overview.pdf	NEB/Document Library/Emergency Management/2.3 Goals,
	Objectives and Targets
score-card-web-pdf-2013.pdf	NEB/Document Library/Emergency Management/2.3 Goals,
	Objectives and Targets
07 18 13 JHSEC Meeting Action Items.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
2012 Performance Agreement	NEB/Document Library/Emergency Management/2.4
.pdf	Organizational Structure, Roles and Responsibilities
Emergency Responder Process 4 w EMS	NEB/Document Library/Emergency Management/2.4
(3).pdf	Organizational Structure, Roles and Responsibilities
EOC Manager Assessment.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
EE88531 Qualification	NEB/Document Library/Emergency Management/2.4
Completion - 2013 09 26.pdf	Organizational Structure, Roles and Responsibilities
Health Safety and Environment Management	NEB/Document Library/Emergency Management/2.4
System.pdf	Organizational Structure, Roles and Responsibilities
HSE Committee Mandate.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
JHSEC June Meeting Minutes.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
JHSEC Meeting Minutes July 2013.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
JHSEC Minutes Calgary July 2013.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
JHSEC Roles and Responsibilities.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities

Operation Tecumseh - 2012 Field Emergency	NEB/Document Library/Emergency Management/2.4
Exercise - Rocky Mountain Region V1 1	Organizational Structure, Roles and Responsibilities
(Final).pdf	
Quantum Emergency Response Schedule A -	NEB/Document Library/Emergency Management/2.4
Exhibit 1 2 (2) Oct 2013NA track changes	Organizational Structure, Roles and Responsibilities
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SM-13 2012 Update.pdf	NEB/Document Library/Emergency Management/2.4
	Organizational Structure, Roles and Responsibilities
Terry Dick PA Redacted.pdf	NEB/Document Library/Emergency Management/2.4
Tony Divis	Organizational Structure, Roles and Responsibilities
12591 - CDN Schedule A Scope of Work.pdf	NEB/Document Library/Emergency Management/3.1
12371 - CDN Schedule A Scope of Work.pdf	
	Operational Control - Normal Operations
C08338 IMP - Classification v3.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
C08709 IMP Coordinator Access.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
C08710 Create-Edit Events in IIT.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
C08710 IMP - Report-Searches IIT.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Emergency Management Corporate Program	NEB/Document Library/Emergency Management/3.1
Manual.pdf	Operational Control - Normal Operations
Emergency Management System	NEB/Document Library/Emergency Management/3.1
Maintenance.pdf	Operational Control - Normal Operations
EMS Audit - LMS Report for RMR Employee	NEB/Document Library/Emergency Management/3.1
- Aug 14 2013.pdf	Operational Control - Normal Operations
EMS Program Training Requirements 2013 -	NEB/Document Library/Emergency Management/3.1
EDMS No. 007923809 - Redacted.pdf	Operational Control - Normal Operations
EOC Manager Assessment.pdf	NEB/Document Library/Emergency Management/3.1
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	Operational Control - Normal Operations
Incident and Issue Tracking Reports.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Keystone ERP Part 1.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Keystone ERP Part 2.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Keystone ERP Part 3.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Keystone ERP Part 4.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Leak Detection Alarm Analysis Flow	NEB/Document Library/Emergency Management/3.1
Chart.pdf	Operational Control - Normal Operations
Natural Disaster Top.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations

Oil pipelines Emergency Management System	NEB/Document Library/Emergency Management/3.2
	Conditions
Maintenance.pdf	Operational Control - Upset or Abnormal Operating
Emergency Management System	NEB/Document Library/Emergency Management/3.2
	Conditions
Manual.pdf	Operational Control - Upset or Abnormal Operating
Emergency Management Corporate Program	NEB/Document Library/Emergency Management/3.2
	Conditions
	Operational Control - Upset or Abnormal Operating
2013_ER_Business Plan_Rev_3_Redacted.pdf	NEB/Document Library/Emergency Management/3.2
	Operational Control - Normal Operations
WO-762280-2-EMS-LAKELAND-2013.pdf	NEB/Document Library/Emergency Management/3.1
LKLND.pdf	Operational Control - Normal Operations
WO-741925-1-EMS-EOC-M06-2012-	NEB/Document Library/Emergency Management/3.1
LKLND.pdf	Operational Control - Normal Operations
WO-726153-2-Tabletop-M12-2012-	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
WO-726153-2-EMS-LAKELAND-2012.pdf	NEB/Document Library/Emergency Management/3.1
LKLND-2012.pdf	Operational Control - Normal Operations
WO-718617-1-EMS-Local-Plans-M12-	NEB/Document Library/Emergency Management/3.1
Process_November 2011 update.pdf	Operational Control - Normal Operations
W08216 IMP - Incident Management	NEB/Document Library/Emergency Management/3.1
System Procedure.pdf	Operational Control - Normal Operations
TransCanada Oil Pipeline Leak Detection	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
TransCanada High Potential Tracking.pdf	NEB/Document Library/Emergency Management/3.1
11th_WMF.pdf	Operational Control - Normal Operations
TCPLTest Call August 5th to August	NEB/Document Library/Emergency Management/3.1
11th_RSL.pdf	Operational Control - Normal Operations
TCPLTest Call August 5th to August	NEB/Document Library/Emergency Management/3.1
2013.pdf	Operational Control - Normal Operations
TCPL Recap August 5th to August 11th	NEB/Document Library/Emergency Management/3.1
August 11th 2013.pdf	Operational Control - Normal Operations
TCPL Emergency Line Report August 5th to	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
SMS Commodity Listing Aug 8.pdf	NEB/Document Library/Emergency Management/3.1
1 1	Operational Control - Normal Operations
SM-13 2012 Update.pdf	NEB/Document Library/Emergency Management/3.1
	Operational Control - Normal Operations
Profile of Support Departments.pdf	NEB/Document Library/Emergency Management/3.1
1 1	Operational Control - Normal Operations
Planned Inspection Form.pdf	NEB/Document Library/Emergency Management/3.1
Maintenance.pdf	NEB/Document Library/Emergency Management/3.1 Operational Control - Normal Operations
Oil pipelines Emergency Management System	

Maintenance.pdf	Operational Control - Upset or Abnormal Operating Conditions
SA-Cochrane Corridor-2013.pdf	NEB/Document Library/Emergency Management/3.2 Operational Control - Upset or Abnormal Operating Conditions
SA-College ResidentsCenovus - Fortis Office- 2012_Redacted.pdf	NEB/Document Library/Emergency Management/3.2 Operational Control - Upset or Abnormal Operating Conditions
Keystone ERP Revision List.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
Liquid IMP.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
MOC 13-052 Keystone HSR HCA CPS 2012 Updates.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
MOC 13-057 Worst Case Discharge Volume input parameter changes.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
SA-Cochrane Corridor-2013.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
SA-College ResidentsCenovus - Fortis Office- 2012_Redacted.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
TOP Management System Framework Document.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
TOPs Monthly Update Record Aug 2013.pdf	NEB/Document Library/Emergency Management/3.3 Management of Change
2012 Exercise Information Oct 28 2013xls.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
2013 Eastern planning and authorization form.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
2013 Exercise Information Oct 28th.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
2013 Operation Cloud Scenario v1 0.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
Behavioural Competency Library.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
Brad Nazar sign in sheets at Agassiz.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
Competency Matrix Worksheet.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
Copy of Central Region 5 Year Exercise Plan.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
EM TOP Review.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
EMS - Corporate Houston EOC Management Training Rev P1_Rileys.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation

EMS Program Training Requirements 2013 -	NEB/Document Library/Emergency Management/3.4
EDMS No 007923809 - Redacted.pdf	Training, Competence and Evaluation
Engineering Ladder Role Profile.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation
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Ferrey Tim EE88531 Qualification	NEB/Document Library/Emergency Management/3.4
Completion - 2013 09 26.pdf	Training, Competence and Evaluation
Ice exercise debrief.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
LMS Report.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
NATURAL GAS EXERCISES AND	NEB/Document Library/Emergency Management/3.4
DOCUMENTS	Training, Competence and Evaluation
OIL EXERCISES AND DOCUMENTS	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
Role Profile Mapping Worksheet.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
Spill Mgmt course outline.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
Spill Specialist Training August 13th.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
Subcontractor Requirements in ISN .pdf	NEB/Document Library/Emergency Management/3.4
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test questions.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation
Nat Gas Exercises-Issue ID 195803.pdf	NEB/Document Library/Emergency Management/3.4
T T	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 204555.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
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Nat Gas Exercises-Issue ID 204556.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
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Nat Gas Exercises-Issue ID 205413.pdf	NEB/Document Library/Emergency Management/3.4
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Nat Gas Exercises-Issue ID 206716.pdf	NEB/Document Library/Emergency Management/3.4
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Nat Gas Exercises-Issue ID 211148.pdf	NEB/Document Library/Emergency Management/3.4
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	EXERCISES AND DOCUMENTS

Nat Gas Exercises-Issue ID 221487.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
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Nat Gas Exercises-Issue ID 229423.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
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Nat Gas Exercises-Issue ID 235421.pdf	NEB/Document Library/Emergency Management/3.4
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Nat Gas Exercises-Issue ID 246845.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 248086.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250150.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250151.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250152.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250153.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250154.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250155.pdf	NEB/Document Library/Emergency Management/3.4
	Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 250156.pdf	NEB/Document Library/Emergency Management/3.4
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Nat Gas Exercises-Issue ID 251041.pdf	NEB/Document Library/Emergency Management/3.4
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Nat Gas Exercises-Issue ID 251964.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation/NATURAL GAS
	EXERCISES AND DOCUMENTS
Nat Gas Exercises-Issue ID 252614.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation/NATURAL GAS EXERCISES AND DOCUMENTS
Oil Exercises-Incident ID 209479.pdf	NEB/Document Library/Emergency Management/3.4 Training, Competence and Evaluation/OIL EXERCISES AND DOCUMENTS
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Ergonomic Product Standards and Process	NEB/Document Library/Presentations by TC Staff to
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