



OF-Surv-OpAud-Z034-2017-2018 01
29 March 2018

Mr. Andrew Mandyam
President
2193914 Canada Limited and
Niagara Gas Transmission Limited:
c/o Enbridge Gas Distribution Inc.
500 Consumer Road
North York, ON M2J 1P8
Email: [REDACTED]

Dear Mr. Mandyam:

**Notification of the National Energy Board's (Board or NEB)
Final Audit Report for: Enbridge Gas Distribution Inc.
(2193914 Canada Limited) and Niagara Gas Transmission Limited
(Enbridge Gas Distribution Inc.)**

The National Energy Board (NEB or the Board) has completed its Final Audit Report of Enbridge Gas Distribution Inc. (2193914 Canada Limited) and Niagara Gas Transmission Limited (Enbridge Gas Distribution Inc.) NEB regulated facilities.

The findings of the audit are based upon an assessment of whether Enbridge Gas Distribution Inc. was compliant with the regulatory requirements contained within:

- the *National Energy Board Act* and its associated regulations, including;
- the *National Energy Board Onshore Pipeline Regulations (OPR)*;
- any conditions contained within applicable Board certificates or orders issued by the Board (collectively referred to as, Legal Requirements).

This audit was focused on 12 legal requirements primarily on, but not limited to, OPR sections 32-35 and 6.5 (1) (c), (d), (e), (f) and (t) as well as relevant clauses within CSA Z662 as presented in Appendix 1.

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Enbridge Gas Distribution Inc. was required to demonstrate the adequacy and effectiveness of the methods it has selected and employed within its management system and programs to meet the regulatory requirements listed above. The Board has enclosed its Final Audit Report and associated Appendices with this letter. The Board will make the Final Audit Report public and it will be posted on the Board's website.

Within 30 days of the issuance of the Final Audit Report by the Board, Enbridge Gas Distribution Inc. is required to file a Corrective and Preventative Action Plan (CAPA), which describes the methods and timing for addressing the Non-Compliant findings identified through this audit, for approval.

The Board also will make the CAPA public and will continue to monitor and assess all of Enbridge Gas Distribution Inc.'s corrective actions with respect to this audit until they are fully implemented. The Board will also continue to monitor the implementation and effectiveness of Enbridge Gas Distribution Inc.'s management system and programs through targeted compliance verification activities as a part of its on-going regulatory mandate.

If you require any further information or clarification, please contact Niall Berry, Lead Auditor, at 403-471-1921.

Yours truly,

Original signed by L. George for

Sheri Young
Secretary of the Board

Enclosure

c.c.



National Energy
Board



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**Enbridge Gas Distribution Limited (2193914 Canada Limited):
Niagara Gas Transmission Limited:
Hazard and Risk Assessment as related to Emergency Management**

File:

OF-Surv-OpAud-Z034-2017-2018 01

29 March 2018



Executive Summary

In accordance with Section 49(3) of the *National Energy Board Act* (NEB Act), the National Energy Board (NEB or the Board) conducted a compliance audit of 2193914 Canada Limited Niagara Gas Transmission Limited, which are entities both owned and operated by Enbridge Gas Distribution Incorporated. (Enbridge Gas). This audit took place from 13 October 2017 to 29 January 2018.

This audit is one in a series of focused audits that the Board is conducting to examine aspects of company emergency management programs related to the identification and mitigation of hazards. The key objective of this audit was to verify that selected companies are developing fundamental components of their Emergency Management Programs in order to mitigate the hazards and associated risks of their facilities and activities. In particular, this audit examined the identification and control of hazards within a company's:

- Emergency procedures manuals;
- Emergency related contingency and/or site-specific plans; and
- Emergency exercise programs.

The Board conducted the audit of Enbridge Gas using the protocols attached in Appendix 1 of this report. During the audit, the Board assessed whether Enbridge Gas' documentation, processes and activities complied with the legal requirements contained within:

- The NEB Act;
- the *National Energy Board Onshore Pipeline Regulations* (OPR); and
- Canadian Standards Association (CSA) Z662-15 – *Oil and Gas Pipeline Systems* (CSA Z662-15).

The audit focused on 12 legal requirements primarily focusing on, but not limited to, OPR sections 32-35 and 6.5 (1) (c), (d), (e), (f) and (t), as well as relevant clauses within CSA Z662-15 as presented in Appendix 1. The Board did not identify any compliance issues within 10 of the legal requirements. The Board did identify two legal requirements where non-compliances were identified; the Board therefore requires that Enbridge Gas develop corrective and preventive action plans.

The non-compliances noted are:

- Enbridge Gas did not demonstrate that it has developed and implemented an explicit, systematic, documented process for identifying and analyzing all hazards and potential hazards that met the requirements of the OPR for its Emergency Management Program. (Refer to Appendix 1 Protocol Item AP-07).
- Enbridge Gas could demonstrate multiple hazard lists from its management programs but was unable to provide an inventory ensuring that the relevant hazards were addressed within the Emergency Management Program. (Refer to Appendix 1 Protocol Item AP-08).

The Board found Enbridge Gas' Emergency Management Program, manual, contingency plans and exercises addressed and controlled the majority and most significant of the company's emergency management related hazards and associated risk. The two findings of non-compliance are issues of inadequate documentation, and documented process as required by the OPR.

Within 30 days of the Final Audit Report being issued, Enbridge Gas must develop and submit a Corrective and Preventative Action Plan (CAPA plan) for Board approval. The plan must outline how Enbridge Gas intends to resolve the non-compliances identified by this audit to prevent recurrence and the timeline in which the corrective and preventative actions will be completed. The Board will verify that the corrective and preventative actions will be completed in a timely manner. The Board will continue to monitor the implementation and effectiveness of Enbridge Gas's management system and programs through targeted compliance verification activities as part of its ongoing regulatory mandate.

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1.0 Introduction

In accordance with Section 49(3) of the NEB Act, the Board conducted a compliance audit of Enbridge Gas. An overview of the audit process and an explanation of definitions and abbreviations can be found in Appendices II – IV.

1.1 Audit Objective

The objective of this audit was to verify that Enbridge Gas is developing key components of its required Emergency Management Program consistent with the hazards and associated risks of its facilities and activities for its federally regulated pipeline assets.

1.2 Audit Scope

The audit scope included the relevant requirements of the NEB's OPR primarily focusing on, but not limited to, OPR sections 32-35 and 6.5 (1) (c), (d), (e), (f) and (t) as well as relevant clauses within CSA Z662-15. The key components of the Enbridge Gas Emergency Management Program that were reviewed during this audit were:

- the existence of an Emergency Management Program that is applied;
- the emergency manual;
- contingency plans; and
- emergency exercises.

In addition, the audit examined the Emergency Management program in the context of Enbridge Gas's Management System. In particular, the scope of this audit included a review of the following requirements:

- Policies and Goals;
- Management of Change;
- Training and Competency;
- Document Control;
- Inspection and Monitoring
- Hazard Identification, Risk Assessment and Control;
- Hazard Inventory; and
- Contingency planning.

1.3 Audit Criteria

During the audit, the Board assessed whether Enbridge Gas's documentation, processes and activities within its Emergency Management Program complied with the relevant legal requirements contained within:

- The *National Energy Board Act* (NEB Act);
- The *National Energy Board Onshore Pipeline Regulations* (OPR); and
- Canadian Standards Association (CSA) Z662-15 – *Oil and Gas Pipeline Systems* (CSA Z662-15).

2.0 Audit protocol design.

The focused audit protocol used for this series of audits is based on the NEB OPR Management system requirements found in Section 6 of the OPR.

In the audit protocol (Appendix I), Enbridge Gas's Emergency Management program was audited against the relevant legal requirements to answer the question:

- Is the company developing key components of its required Emergency Management Programs to address the hazards and associated risks of its facilities and activities with a focus on its Manuals, exercises and contingency plans?

Audit Protocol (AP) questions were assigned a numbering system from AP-01 to AP-12.

As this is a focused audit, not all protocol items assessed the management system processes. AP 01 to 06 and AP 12 were assessed while ensuring that linkages between the emergency program and the management system process are in place. This audit did assess the management system processes in AP 07- AP 11 to ensure the Emergency Management Program had documented processes and were following those processes to identify, analyze and mitigate hazards and potential hazards. This was a detailed assessment of hazards identification and related requirements as per OPR section 6.5(1) (c) to (f).

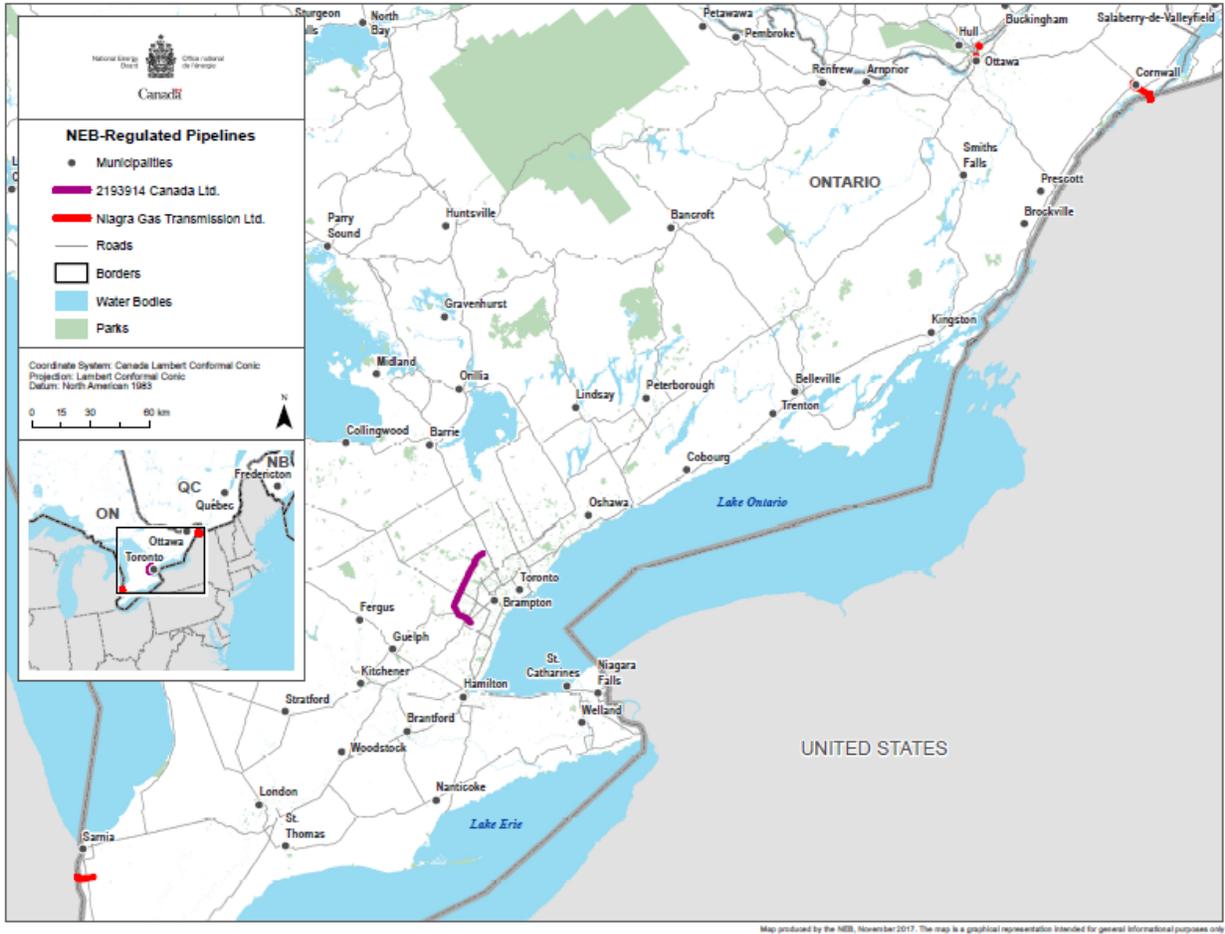
3.0 Company Overview

The Enbridge Gas Pipeline System

2193914 Canada Limited and Niagara Gas Transmission Limited are wholly owned subsidiaries of Enbridge Inc. and are operated by its wholly-owned subsidiary, Enbridge Gas Distribution Inc. (EGD). By virtue of this fact, 2193914 Canada Limited and Niagara Gas Transmission Limited make use of all safety programs, policies, procedures, communications and training used and enforced by EGD.

2193914 Canada Limited owns one NPS 24 pipeline located in the City of Mississauga, Brampton and Vaughan. Niagara Gas Transmission Limited owns four pipelines crossing either an international or interprovincial border. These pipelines include:

- Orleans Pipeline NPS 20 crossing the Ottawa River from Ontario to Quebec,
- Rockcliffe Pipeline NPS 16 crossing the Ottawa River from Ontario to Quebec,
- LINK Pipeline NPS 24 crossing the St. Clair River from Canada to United States of America, and
- Cornwall Pipeline NPS 12 crossing the St. Lawrence River from Canada to United States of America.



4.0 Audit Findings Assessment

5.0 Table 1: Audit Findings Assessment

Reference	OPR Requirement
AP01 1.1 Policy and Commitment Statement	OPR s. 32 (1): <i>A company shall develop, implement and maintain an emergency management program that anticipates, prevents, manages and mitigates conditions during an emergency that could adversely affect property, the environment or the safety of workers or the public;</i> No issues of non-compliance identified
	OPR s. 31 (1.1): <i>The company shall develop an emergency procedures manual, review it regularly and update it as required;</i> No issues of non-compliance identified
AP02 1.1 Policy and Commitment Statement	OPR s. 6.3 (1): <i>The company shall establish documented policies and goals for meeting its obligations under section 6, including (b) goals for the prevention of ruptures, liquid and gas releases, fatalities and injuries and for the response to incidents and emergency situations;</i> No issues of non-compliance identified
AP03 3.2 MOC	OPR s. 6.5 (1)(i): <i>establish and implement a process for identifying and managing any change that could affect safety, security or the 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;</i> No issues of non-compliance identified
AP04 3.3 Training and Competence	OPR s. 6.5 (1)(j): <i>establish and implement a process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company with the training that will enable them to perform their duties in a manner that is safe, ensures the security of the pipeline and protects the environment;</i> No issues of non-compliance identified

<p>AP05</p> <p>3.5 Documentation and Doc Control</p>	<p>OPR s. 6.5 (1)(o): <i>establish and implement a process for preparing, reviewing, revising and controlling those documents, including a process for obtaining approval of the documents by the appropriate authority;</i></p> <p>No issues of non-compliance identified</p>
<p>AP06</p> <p>4.1 Inspection Measurement and Monitoring</p>	<p>OPR s. 6.5 (1)(u): <i>establish and implement a process for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the programs referred to in section 55 and for taking corrective and preventive actions if deficiencies are identified;</i></p> <p>No issues of non-compliance identified</p>
<p>AP07</p> <p>2.1 Hazard ID</p>	<p>OPR s. 6.5 (1)(c): <i>establish and implement a process for identifying and analyzing all hazards and potential hazards;</i></p> <p>The audit found that the procedures and activities are not formally linked in a documented overview that would be considered explicit and systematic. Further, the NEB did not see an explicit and systematic documented process step referencing how outputs of the hazard identification activities were integrated or applied in the development and maintenance of the EM Program.</p> <p>Non-Compliant</p>
<p>AP08</p> <p>2.1 Hazard ID</p>	<p>OPR s. 6.5 (1)(d): <i>establish and maintain an inventory of the identified hazards and potential hazards;</i></p> <p>Enbridge could demonstrate multiple hazard lists from its management programs but was unable to provide an inventory ensuring that the relevant hazards were addressed within the emergency management program.</p> <p>Non-Compliant</p>
<p>AP09</p> <p>2.1 Hazard ID</p>	<p>OPR s. 6.5 (1)(e): <i>establish and implement a process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions;</i></p> <p>No issues of non-compliance identified</p>
<p>AP10</p> <p>2.1 Hazard ID</p>	<p>OPR s. 6.5 (1)(f): <i>establish and implement a process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks and for communicating those controls to anyone who is exposed to the risks;</i></p> <p>No issues of non-compliance identified</p>

AP11 3.2 Operational Control-Upset or Abnormal Operating Conditions	OPR s. 6.5 (1)(t): <i>establish and implement a process for developing contingency plans for abnormal events that may occur during construction, operation, maintenance, abandonment or emergency situations;</i> No issues of non-compliance identified
AP12 4.1 Inspection Measurement and Monitoring	CSA Z662-15 - clause 10.5.2.1; CSA Z662-15 - clause 10.5.2.4 No issues of non-compliance identified

Conclusion

The Board found Enbridge Gas' Emergency Management Program, manual, contingency plans and exercises addressed and controlled the majority and most significant of the company's emergency management related hazards and associated risk. The two Non-Compliance findings, presented in Table 1 and Appendix 1, were issues of incomplete process documentation required by the OPR.

6.0 Corrective Action Plan Submission

Enbridge Gas is required to develop a Corrective and Preventive Action Plan with timelines for completion to rectify the deficiencies noted in this report within 30 days of the date of this report.

The Board will post this Final Audit Report and the approved Corrective and Preventive Action Plan on its website.

Appendix I: Hazard and Risk Assessment Audit as they relate to Emergency Management – Audit Assessment Tables

<p>Topic: <u>National Energy Board Onshore Pipeline Regulations - Section 32 (1)</u></p> <p>NOTE: Given the scope of this audit, the elements and regulatory requirements examined will be related to the hazards and potential hazards that would initiate emergency or contingency responses.</p>		
<p>Regulatory Requirement: OPR s. 32 (1): A company shall develop, implement and maintain an emergency management program that anticipates, prevents, manages and mitigates conditions during an emergency that could adversely affect property, the environment or the safety of workers or the public</p> <p>32 (1.1): The company shall develop an emergency procedures manual, review it regularly and update it as required.</p>		
<p>Criteria Element 1:</p> <p>Requirements:</p> <ul style="list-style-type: none"> • The company must establish and implement an emergency management program that anticipates, prevents, manages and mitigates conditions during an emergency. • The company must establish and implement an emergency management procedures manual that anticipates, prevents, manages and mitigates conditions during an emergency. 		
<p>Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.</p>		
Item Number	Indicators of Compliance	Assessment*
AP-01	<p>Can the company demonstrate that they have developed, implemented, and maintains an emergency management program that anticipates, prevents, manages and mitigates conditions during an emergency?</p> <p>Can the company demonstrate that they have developed an emergency procedures manual?</p>	No Non-Compliances Identified.

Summary Assessment Notes

The emergency program that oversees the NEB regulated pipelines owned and operated by Enbridge Gas Distribution (EGD or Enbridge), Niagara Gas Transmission Limited (NGTL) and 2193914 Canada Limited (2193914) is integrated and held within the EGD's Integrated Management System.

EGD's Integrated Management System (Int-MS) describes how EGD manages its business safety and stewardship. Specifically, the Int-MS outlines high-level management expectations which are common across the organization.

The Int-MS requirements are cascaded into six management programs through documented management programs.

- Asset MP-01
- Emergency MP-02
- Environmental MP-03
- Health and Safety MP-04
- Integrity MP-05
- Security MP-06

Each program has its own manual and share common elements.

- Stakeholder engagement
- Leadership
- Planning (Including MOC and Risk)
- Resources, Competency, Awareness and Training
- Operation
- Performance Evaluation
- Improvement
- Documentation and Recordkeeping

The Emergency Management Program document MP-02 provides an overview and reference of the Program's processes, policies, and activities. Supporting documents such as emergency procedures, risk assessments, business procedures, process charts, forms etc. are not embedded in this document.

The Emergency Management Program provides the direction and governance for EGD's emergency management activities, which include:

- Establishing clear roles and responsibilities for achieving Emergency Management objectives and performance targets
- Providing an Emergency Management Program that aligns with applicable industry standards and achieves safe, environmentally responsible, and reliable operations
- Anticipating, recognizing, evaluating, and controlling emergency management hazards and risks
- Preparing EGD to respond to emergency situations

- Evaluating and continually improving the management of the program
- Measuring, monitoring, and reporting emergency management performance
- Demonstrating and reinforcing the priority of emergency management in all business activities

Referenced in the MP-02 is the Emergency Management Procedures Manual.

The emergency procedures developed by the Company have been prepared to:

1. Assist response personnel to determine and perform proper remedial actions in the event that an emergency occurs.
2. Ensure the safety of employees, customers and the public.
3. Maintain the continuity of supply to customers wherever possible.
4. Minimize the potential for damage to property or the loss of products and reduce the magnitude of the impact on the environment.

The Emergency Procedures Manual is an operational document that outlines procedures for emergency response.

The Emergency Procedures Manual is supported by the corporate Incident Support Team (IST) Manual and is part of an Emergency Management Program that integrates emergency management and business continuity.

The Board verified through document review that Enbridge has developed and maintains an Emergency Management Program and Emergency Management Plans. Together, these plans address the functional areas to anticipate, prevent, manage and mitigate conditions during an emergency. The audit also verified that Enbridge tests each level of documentation during its emergency exercises.

The Board also verified through document review that Enbridge reviews its emergency procedures manuals, including the Emergency Procedures Manual, on an annual basis and updates the manuals when and as required.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 2.3 - Goals, Objectives and Targets

NOTE: Given the scope of this audit, the elements and regulatory requirements examined will be related to the hazards and potential hazards that would initiate emergency or contingency responses.

Regulatory Requirement: OPR s. 6.3(1): The company shall establish documented policies and goals for meeting its obligations under section 6, including **(b)** goals for the prevention of ruptures, liquid and gas releases, fatalities and injuries and for the response to incidents and emergency situations.

Criteria Element 1: Requirement for the company to demonstrate that it has established documented goals for the prevention of ruptures, liquid and gas releases, fatalities and injuries and for the response to incidents and emergency situations.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-02	Can the company demonstrate that it has developed goals for meeting its obligations under the NEB OPR s. 6, including for the response to incidents and emergency situations?	No Non-Compliances Identified.

Assessment Notes

The Emergency Management Program is guided by the governing policies set out in the Int-MS. The Emergency Management Program governing policy is to ensure emergency management is embedded into the organization and that the business can mitigate, prepare for, respond to, and recover from all incidents and emergencies. The Int-MS lists goals to meet that policy included is a goal, to: *“Annually establish and communicate goals and performance measures for the prevention of ruptures, releases, fatalities and injuries, and for the response to incidents and emergency situations.”*

At the Emergency Management Program level Enbridge has set an overall goal to be an industry leading Centre of Excellence that specializes in Emergency Preparedness, Business Continuity, Response and Recovery.

Specific objectives and plans for each year are described in the Emergency Management Program’s Annual Report. These include number of emergency exercises held, training completed for EM, Incidents that required emergency investigations completed and response times compared to requirements. Enbridge utilizes a scorecard to track and highlight strategic goals for the department and to provide a measure of success.

During record review and interviews, Enbridge was able to demonstrate that it has developed goals for the response to incidents and emergency situations.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 3.3 – Management of Change

Regulatory Requirement: OPR s. 6.5 (1)(i): establish and implement a process for identifying and managing any change that could affect safety, security or the 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.

Criteria Element 1: Requirement for the company to establish and implement a process for identifying and managing any change that could affect safety, security or the protection of the environment, including any new hazard or risk.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-03	Can the company demonstrate that it has established and implemented a process for identifying and managing any change that could affect safety, security or the protection of the environment, including any new hazard or risk, as it relates to the ongoing development of Emergency Management Manuals, Contingency Plans and Emergency Management Exercises?	No Non-Compliances Identified.

Assessment Notes

As per Enbridge Integrated Management System, Section 3.3, Management of Change, EGD explained that it manages changes that could affect safety, security or the protection of the environment, including new hazards and risks.

For significant changes, EGD identifies the potential risks and hazards associated with the change and any required approvals before the introduction of those changes. These changes could trigger the use of a risk assessment to evaluate the impact of change on overall risk.

The Emergency Management Program MP02 refers to elements of the Int-MS management of change for reviewing, approval, sign-off for all documentation and updates.

A change is brought to the Emergency Management Program through inputs:

- Changes to legislation, standards, or guidelines
- Annual reviews
- Formal drills and exercises
- Responses to emergency situations
- Material change within the organization
- Corrective Action Plans and Summary Reports
- Conditions made under regulatory review
- NEB regulatory areas of improvements from audits

Depending on the input, a stakeholder group is convened to discuss any changes that need to occur. The changes are approved by the Management Program Representative and communicated to the business through a Directive. The business is trained on the change either through Emergency Program Office or the Technical Training department.

The Management of Change (MoC) Standard (IM-MOC-STA-001) further details the process and outlines the requirements for managing change at EGD.

The Board reviewed the Management of change form generated for the new plant type for potential risks and hazards as they relate to emergency management. This document includes the summary of impact assessment, proposed solution and signoff(s).

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 3.4 – Training, Competence and Evaluation

Regulatory Requirement: OPR s. 6.5 (1)(j): establish and implement a process for developing competency requirements and training programs that provide employees and other persons working with or on behalf of the company with the training that will enable them to perform their duties in a manner that is safe, ensures the security of the pipeline and protects the environment.

Criteria Element 1: Requirement for the company to establish and implement a process for developing competency requirements and training programs that provide employees and others 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.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-04	Can the company demonstrate that it has a process for developing competency requirements and training programs as required for, and within, the Emergency Management Program?	No Non-Compliances Identified.

Assessment Notes

The requirement to establish and implement a process for developing competency requirements and training programs for the Emergency Management Program are covered in the Section 4.2 and section 5.8.1.2 of the MP-02 document.

EGD mandates Incident Command System (ICS) training for those who will be required to take a leadership role in an ICS event.

Section 5.3 of the Emergency Procedures Manual outlines the required training and job shadowing required by on-call roles (e.g. Planning, Dispatch, Operations, etc.).

Section 32.2.1 of the Construction Manual requires that all employees who would need to respond to an emergency must be trained on the procedures and equipment and understand the hazards and mitigation.

The Enbridge Operator Qualification Program requires all employees who perform defined tasks in the field to receive specific task training and certification, which includes a test and an Abnormal Operating Condition section which tests their ability to think and react to an unusual situation. All employees who may need to respond to emergencies are trained in advance. Attendance (and automatic reminders for renewals) at these courses is tracked on a software

system. One of the courses required for any Supervisor who may be on call is the two-day 'Emergency Procedures Manual - On Call Supervisor Training'.

The Board verified through document review of the training matrix that the company has identified and established specified training requirements for persons expected to respond or support the response to an incident. In addition, Enbridge has specified detailed training and competency requirements for persons with specific EM responsibilities within the company.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 3.6 – Documentation and Document Control

Regulatory Requirement: OPR s. 6.5(1)(o): establish and implement a process for preparing, reviewing, revising and controlling those documents, including a process for obtaining approval of the documents by the appropriate authority.

Criteria Element 1: Establish and implement a process for preparing, reviewing and controlling documents.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-05	Can the company demonstrate that it has established and implemented a process for preparing, reviewing and controlling documents and that it uses the process for the Emergency Management Manuals and Contingency Plans?	No Non-Compliances Identified.

Assessment Notes

Document Control at Enbridge is governed by requirements found in Section 8.2 Control of Documents in the IM-01 document. Management Program Accountable Directors have responsibility to ensure that they approve communication and annual updates to their program document. Review dates are managed through SharePoint for the EGD IMS.

A new Documentation Standard was issued earlier in 2017. New documents are now created in adherence to this standard, and legacy materials are being transitioned into this new format.

In addition to these requirements for the Manuals, the procedures themselves have processes for preparing, reviewing, revising and controlling documents, including a process for obtaining approval of the documents by the appropriate authority.

Emergency Procedures Manual revision history is on page two of the document and it adheres to the document standard requirements.

At the time of the audit, Enbridge demonstrated that its Emergency Management documents were being subjected to the reviews and updates as required by its corporate document management process. In addition, records provided indicated that the document reviews were being managed as required.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 4.1 – 1 Inspection, Measurement and Monitoring

Regulatory Requirement: OPR s. 6.5(1)(u): establish and implement a process for inspecting and monitoring the company’s activities and facilities to evaluate the adequacy and effectiveness of the programs referred to in section 55 and for taking corrective and preventive actions if deficiencies are identified.

Criteria Element 1: Establish and implement a process for inspecting and monitoring the company’s activities to evaluate the adequacy and effectiveness of the Emergency Management Manuals, contingency plans and exercises and for taking corrective and preventive actions if deficiencies are identified.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-06	Can the company demonstrate that it has established and implemented a process for inspecting and monitoring the company’s activities to evaluate the adequacy and effectiveness of the Emergency Management Program and for taking corrective and preventive actions if deficiencies are identified?	No Non-Compliances Identified.

Assessment Notes

Section 6.0 Performance Evaluation of the IMS as well as Section C.0 Governance Framework detail the activities and process for Inspecting and monitoring the company’s programs and activities.

Inspection and monitoring of activities and facilities are detailed in subsection 6.2, Internal Audit. As detailed under the Quality Assurance Program and Quality Control Program, these programs provide information on adherence to Technical Policies, Standards and Procedures, and Operational Processes.

Results of these QA and QC Programs are collected, analyzed, and used to provide management information on the performance of their workers. Management review the performance of the IMS for continuing suitability, adequacy and effectiveness.

Input requirements for these management reviews is defined in 6.3.1 Input Requirements. Detailed information on how to systematically review the continuing suitability, adequacy, and effectiveness of EGD’s IMS and its Management Programs is detailed in supporting document IM-01-GUI-001, Management Review Guide.

Included in the Management Review Guide are detailed roles and responsibilities and the requirements around Inputs, including results of assessments / audits, results from incident investigations, assessment of program maturity and effectiveness, and identification of key risks and treatment plans.

The Board verified through document review that Enbridge is reviewing the program manuals and updating them as required. Emergency drills and full exercises are documented and debriefing is completed to identify any deficiencies or possible improvements.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 2.1 Hazards Identification, Risk Assessment and Control

Regulatory Requirement: OPR s. 6.5 (1)(c): establish and implement a process for identifying and analyzing all hazards and potential hazards.

Criteria Element 1: Requirement for the company to establish and implement a process for identifying and analyzing all hazards and potential hazards.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-07	Can the company demonstrate a process for identifying and analyzing all hazards and potential hazards?	Non-Compliant

Assessment Notes

The Enbridge IMS describes the overarching requirements for risk management at both the enterprise risk management level and at the management system program level.

The IMS has requirements for the Company to establish, implement and maintain inventory of hazards and risks. EGD’s Integrated Management System (“IM-01”), Risk Identification and Assessment.

IM-01, 3.1.1 Pipeline Safety Risk, EGD prevents, manages, and mitigates risks and hazards through the controls identified in Operational Processes, and through Technical Policies, Standards, and Procedures.

The emergency program document MP-02 anticipates risks to pipeline system safety that could result in an unintended release or abnormal operating conditions. Events that are at the highest risk of occurring drive the implementation of the Emergency Management Program. Incident report data, hazard assessment data, feedback from the business, and exercise results, are gathered to analyze and determine the highest risks.

The management develops exercise scenarios and training sessions based on the events that are at the highest risk of occurring. The identification and assessment of risk provides the types of hazards that EGD may face. The Emergency Management Program achieves these through multiple Operational Processes, through Technical Policies and through the Emergency Management Program including the Incident Investigation Program.

The NEB noted that Enbridge conducts various Hazard Identification activities through mandatory programs; however, Enbridge could not demonstrate a written, explicit, systematic process that would ensure that all hazards and potential hazards are identified, including those for the Emergency Management Program. In this case the procedures and activities are not formally linked together in documented process that would be considered explicit and systematic.

Further, the NEB did not see an explicit systematic documented process step referencing how outputs of the hazard identification various activities were integrated or used in the development and maintenance of the Emergency Management Program.

Enbridge is a mature utility that effectively manages the known hazards. Although Enbridge could demonstrate that it has linked hazards into its procedures and activities throughout its Emergency Management Program, it did not provide a documented process that explicitly describes how all of the hazard identification activities and their resulting inputs and outputs are systematically managed.

As a result of the assessment, the Board has determined that Enbridge is in non-compliance with OPR s. 6.5 (1)(c). The Board requires that a CAP be developed to address this non-compliance.

Topic: Management System Sub Element 2.1 Hazards Identification, Risk Assessment and Control

Regulatory Requirement: OPR s. 6.5 (1)(d): establish and maintain an inventory of the identified hazards and potential hazards.

Criteria Element 1: Requirement for the company to establish and maintain an inventory of the identified hazards and potential hazards.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-08	Does the company have and maintain an inventory of the identified hazards and potential hazards?	Non-Compliant

Assessment Notes

The Enbridge IM-01, 3.1.1 Pipeline Safety Risk, EGD prevents, manages, and mitigates risks and hazards through the controls identified in Operational Processes, and through Technical Policies, Standards, and Procedures.

Each of the Management Program's within the IMS have processes to establish inventories of hazards and risks. Management Program's perform risk management activities guided by the ERM Framework. Data inventories for the MP's are noted below:

MP-01 (Asset Management)

The process requires the maintenance of an inventory of the identified hazards and potential hazards through the risk register tool.

MP-02 (Emergency Management)

Receives input from its Incident Investigation operating program & associated process which stores the information in a database. Reports from the database are run each month on trends, emerging risks, and shared in monthly reports to the Executive Management Team, and quarterly to the EGD Safety and Reliability Committee, Executive Management Team.

MP-03/4 (Environment & EH&S)

The identified hazards are in a Risk Registry that is stored on a central drive and accessible to anyone who requires it.

MP-05 (Integrity Management)

For each pipeline, EGD documents the potential integrity threats to the pipeline.

Enbridge could demonstrate multiple hazard lists from its management programs, but was unable to point to an inventory that ensures that all the relevant hazards were addressed within the Emergency Management Program.

As a result of the assessment, the Board has determined that Enbridge is in non-compliance with OPR s. 6.5 (1)(d). The Board requires that a CAP be developed to address this non-compliance.

Topic: Management System Sub Element 2.1 Hazards Identification, Risk Assessment and Control

Regulatory Requirement: OPR s. 6.5 (1)(e): establish and implement a process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions.

Criteria Element 1: Requirement for the company to establish and implement a process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-09	The company must have a documented process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions.	No Non-Compliances Identified.

Assessment Notes

Per IM-01, 3.1.1 Pipeline Safety Risk (pages 45-46), EGD prevents, manages, and mitigates risks and hazards through the controls identified in Operational Processes, and through Technical Policies, Standards, and Procedures.

Each of the Management Programs (MP) within the IMS have processes to evaluate and manage the risks associated with the identified hazards.

MP-01 (Asset Management)

The process to evaluate and manage the identified hazards and potential hazards is through the risk register in a tool described in the risk registry process document. Included in this process is a responsibilities and competency requirements, preliminary assessment, full operational assessment, risk analysis and a Risk solution register.

MP-02 (Emergency Management)

The Incident Investigation operating program & associated process collects data in a sophisticated data base. The investigations module requires that each incident or near miss investigation go through a root cause analysis technique and also an analysis of their actual and

potential consequence rating. Reports from the data base are run each month on trends, emerging risks, and shared in monthly reports to the Executive Management Team, and quarterly to the EGD Safety and Reliability Committee, Executive Management Team.

MP-03/4 (Environment & EH&S)

The identified hazards are in a Risk Registry that is stored on a central drive and accessible to anyone who requires. The registry characterizes hazards, prioritizes by consequence and likelihood both raw and with controls in place.

Enbridge was able to demonstrate through interviews and document/record review that the process was linked into the Emergency Management Program.

The Board acknowledges that given the hazard identification and analysis process in AP 07 are Non-Compliant as noted above, the risk assessment process may be incomplete. It is the Board's view that when Enbridge fixes the noted non-compliances in AP 07, the existing process for evaluating and managing the risks associated with the identified hazards, including the risks related to normal and abnormal operating conditions, will be sufficient.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 2.1 Hazards Identification, Risk Assessment and Control

Regulatory Requirement: OPR s. 6.5(1)(f): establish and implement a process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks and for communicating those controls to anyone who is exposed to the risks.

Criteria Element 1: Requirement for the company to establish and implement a process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks and for communicating those controls to anyone who is exposed to the risks.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-10	The company must have a documented process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks and for communicating those controls to anyone who is exposed to the risks.	No Non-Compliances Identified.

Assessment Notes

Enbridge's process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks and for communicating those controls to anyone who is exposed to the risks is described in Operational Processes (OPs).

IM-01 Section 5.1 Operational Planning and Controls points to the use of OPs to plan, implement, and controls the processes needed to meet the requirements for their operations and implement the necessary risk management actions.

Use, roles, responsibilities of OPs are mandated by the Integrated Management System, as referenced in multiple areas within the IM-01 documentation.

Details on how to develop OPs are governed by Operational Process Standard, Operational Process Procedure and the Operational Process Toolkit. The Operational Process Standard includes defined roles & responsibilities, training requirements, process documentation, and procedures.

The following manuals are developed and maintained using the OP standard and are used to communicate the controls to anyone who is exposed to the risks described in Operational Processes:

- Construction and Maintenance Manual
- Planning, Design, and Records Manual
- Material Specifications Manual
- Regulation and Measurement Manual
- Quality Assurance Manual
- Customer Safety and Compliance Document Set
- National Energy Board Manual
- Regulation Location Manual
- Other Technical Policies, Standards, and Procedures
- Emergency Procedures Manual
- Health and Safety Manual

Enbridge was able to demonstrate that it has implemented a controls development and communication process to the NEB through interviews, documentation and records.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: Management System Sub Element 2.1 Hazards Identification, Risk Assessment and Control

Regulatory Requirement: OPR s. 6.5 (1)(t): establish and implement a process for developing contingency plans for abnormal events that may occur during construction, operation, maintenance, abandonment or emergency situations.

Criteria Element 1: Requirement for the company to establish and implement a process for developing contingency plans for abnormal events that may occur during construction, operation, maintenance, abandonment or emergency situations.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Indicators of Compliance	Assessment*
AP-11	The company must have a documented process to establish and implement a process for developing contingency plans for abnormal events that may occur during construction, operation, maintenance, abandonment or emergency situations.	No Non-Compliances Identified.

Assessment Notes

Enbridge is a large natural gas distribution company in southern Ontario and as such responds to gas line hits and leaks to the system daily from many causes. Being the case, Enbridge has over the years operationalized its emergency responses and has specific documented procedures for most if not all scenarios. All responders are required to not deviate from existing procedures. If a situation develops that is not covered or cannot be responded to through existing procedures, the following contingency process is initiated.

Construction & Maintenance (C&M) Manual stipulates and contains clear requirements that adherence to policies and procedures is mandatory and that any deviation requires approval from Engineering.

Changes or deviation to current policies and procedures can occur during:

- normal routine operations, or
- during emergency management.

Changes or deviation to current policies and procedures during emergency management are requested to the On-Call Engineer.

This operational process has been signed by the Manager of Pipeline Engineering and Chief Engineer, and is pending formal publication onto the IMS site. The process, formally documented in August 2017, has been in effect for several decades.

The operational process defines the triggers to start the process, defines the applicability of the process, defines the immediacy of the situation, defines escalation and approval requirements, and defines closure of requests. The operational process also defines how to initiate a change to the applicable manuals, once the emergency situation has been addressed.

Enbridge supplied documented evidence in records that the process has been used and is well established.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Topic: CSA Z662-15 –10.5.2 Pipeline Emergencies

Regulatory Requirement: OPR s. 4 (1): When a company designs, constructs, operates or abandons a pipeline, or contracts for the provision of those services, the company shall ensure that the pipeline is designed, constructed, operated or abandoned in accordance with the applicable provisions of

- (b) CSA Z276, if the pipeline transports liquefied natural gas;
- (c) CSA Z341 for underground storage of hydrocarbons;
- (d) CSA Z662-15, if the pipeline transports liquid or gaseous hydrocarbons; and
- (e) CSA Z246.1 for all pipelines.

Criteria Element 1: CSA Z662-15 - 10.5.2 Pipeline emergencies, clauses 10.5.2.1, 10.5.2.2, 10.5.2.3, 10.5.2.4.

Assessed Area: The outputs of the process as related to the development and maintenance of Emergency Management Manuals, contingency plans and Emergency Management exercises.

Item Number	Requirements	Assessment*
AP-12	<p>CSA Z662-15 - clause 10.5.2.1</p> <p>Operating companies shall establish emergency procedures that include</p> <ul style="list-style-type: none"> a) procedures for the safe control or shutdown of the pipeline system, or parts thereof, in the event of a pipeline emergency; and b) Safety procedures for personnel at emergency sites. <p>Note: Appropriate emergency procedures related to the pipeline, as determined in conjunction with community agencies, should be included.</p>	No Non-Compliances Identified.

	<p>CSA Z662-15 - clause 10.5.2.2</p> <p>Operating companies shall regularly consult and inform the public and agencies to be contacted during an emergency (e.g., police and fire departments), as appropriate, about the hazards associated with its pipelines.</p> <p>Note: If community emergency response plans exist, appropriate methods to consult and inform the public can be determined in conjunction with the community agencies.</p> <p>CSA Z662-15 - clause 10.5.2.3</p> <p>Operating companies shall prepare an emergency response plan and make relevant sections or information therein available to local authorities.</p> <p>Note: CAN/CSA-Z731 should be used as a guide for the preparation of emergency response plans.</p> <p>CSA Z662-15 - clause 10.5.2.4</p> <p>Operating companies shall have verifiable capability to respond to an emergency in accordance with their emergency procedures and response plans and shall demonstrate and document the effectiveness of such procedures and plans.</p>	
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Assessment Notes

CSA Z662-15 - clause 10.5.2.1

EGD has an Emergency Procedures Manual which contains plans and procedures for the safe control or shutdown of various parts of its pipeline systems in the event of an emergency.

Safety procedures for personnel at emergency sites are listed in Section 32 of the C&M Manual and also in the Health & Safety Manual. These are supplemented by the detailed training provided as covered in AP-04.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

CSA Z662-15 - clause 10.5.2.2

Enbridge conducts annual exercises along with Emergency Responders in the areas of the NEB regulated pipelines. During these exercises, there is a short educational session on natural gas awareness, and references to EGD's Emergency Agency Information Portal. This site is only available to emergency response agencies, not the public. It houses topics and information such as:

- Training programs offered by EGD,
- Safety notices,
- Reporting emergency events,
- High scale maps with critical lines ('Vital Mains which include NEB pipelines),
- Brochures and mini cards for emergency vehicles, and
- External Agency Information Manual.

The Enbridge public awareness program informs residents and businesses in the area of NEB regulated pipelines of the pipeline's presence, responsibilities regarding any construction or activities that could affect the pipeline and provide pipeline safety and emergency information.

Direct mail packages are sent to all landowners within a 200-metre zone from the NEB regulated pipelines. This package includes:

- Keeping in Touch brochure – this includes information on natural gas pipeline safety and emergency information
- Landowner letter – this includes a map of the pipeline, understanding of the Right-of-Way and NEB prescribed area
- Emergency number/Call before you dig magnet
- Natural Gas "scratch and sniff" brochure

General public safety is available through the public awareness program and Enbridge's online public web site: <https://www.enbridgegas.com/gas-safety/pipeline-safety.aspx>.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

CSA Z662-15 - clause 10.5.2.3

Enbridge conducts annual exercises along with Emergency Responders in the areas of NEB regulated pipelines. During these exercises, there is a short educational session on natural gas awareness, and references to EGD's Emergency Agency Information Portal. This site is only available to emergency response agencies, not the public. It houses topics and information such as:

- Training programs offered by EGD,
- Safety notices,
- Reporting emergency events,
- High scale maps with critical lines ('Vital Mains which include NEB pipelines),
- Brochures and mini cards for emergency vehicles,
- External Agency Information Manual.

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

CSA Z662-15 - clause 10.5.2.4

In addition to the exercises that are run each year to test the capabilities of Enbridge staff and equipment, Enbridge responds to tens of thousands of actual emergency calls each year. To date in 2017 this has included over 1200 pipeline hits where gas was released, and over 12,000 reports of outside gas escapes.

EGD must report their performance against a target of responding to emergencies within one hour, 90% of the time, to EGD's Provincial Rates Regulator (Ontario Energy Board). EGD has crews working 24 hours a day and 7 days a week and staff who are trained, equipped, and who respond to these actual emergencies within the prescribed timeframes. See AP -04

Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to this requirement.

Appendix II – Audit Process Overview

NEB Purpose and Audit 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. In order to assure that pipelines are designed, constructed, operated and abandoned in a manner that ensures: the safety and security of the public and the company's employees; safety of the pipeline and property; and protection of the environment, the Board has developed regulations requiring companies to establish and implement documented management systems applicable to specified technical management and protection programs. These management systems and programs must take into consideration all applicable requirements of the NEB Act and its associated regulations. The applicable Legislation and Regulations which come under the NEB's mandate, responsibilities and powers include:

- *National Energy Board Act* and associated regulations;
- *Canada Oil and Gas Operations Act* and associated regulations;
- *Canada Petroleum Resources Act* (sections 28 and 35) and associated regulations;
- *The Canada Labour Code, Part II*, and the *Canada Occupational Health and Safety Regulations*; and
- Any conditions contained within applicable certificates or orders issued by the Board.

To evaluate compliance with its regulations, the Board audits the management system and programs of regulated companies. The Board requires each regulated company to demonstrate that they have established and implemented adequate and effective methods for proactively identifying and managing hazards and risks. The Board's management system requirements are described within the NEB OPR sections 6.1 through 6.6.

Background

The NEB expects pipeline companies to operate in a systematic, comprehensive and proactive manner that manages risks. The Board expects companies to have effective, fully developed and implemented management systems and protection programs that provide for continual improvement.

As required by the OPR, companies must establish, implement and maintain effective management systems and protection programs in order to anticipate, prevent, mitigate and manage conditions that may adversely affect the safety and security of the company's pipelines, employees, the general public, as well as the protection of property and the environment.

During the audit, the NEB reviews documentation and samples records provided by the company in its demonstration of compliance, and interviews corporate and regionally based staff. The NEB may also conduct separate but linked technical inspections of a representative sample of company facilities. This review enables the Board to evaluate the adequacy, effectiveness and implementation of the management system and programs. The NEB bases the scope and location of the inspections on the needs of the audit. The inspections follow the Board's standard inspection processes and practices. Although they inform the audit, inspections are considered independent of the audit. If unsafe or non-compliant activities are identified during an inspection, they are actioned as set out by the Board's standard inspection and enforcement practices.

After completing its field activities, the Board develops and issues a Final Audit Report. The Final Audit Report outlines the Board's audit activities and provides evaluations of the company's compliance with the applicable regulatory requirements. Once the Board issues the Final Audit Report, the company must submit and implement a Corrective Action Plan to address all non-compliances identified. Final Audit Reports are published on the Board's website. The audit results are integrated into NEB's risk-informed lifecycle approach to compliance assurance.

Audit Objectives and Scope

This audit evaluated the company against the legal requirements and scope outlined in the main body of the audit report.

Audit Activities

On 13 October 2017, the Board informed Enbridge Gas of its intent to conduct this audit. Board audit staff then provided Enbridge Gas with an overview of the NEB audit process, the audit criteria, a request for documentation and a list of questions to answer relevant to the objectives and scope of the audit. The NEB conducted its assessment based on the responses provided by the company and the evidence gathered during the audit. Board audit staff was in contact with company staff on a regular basis to arrange and coordinate this audit. Enbridge Gas established a digital access portal for Board staff to review documentation and records.

On 19 October 2017, Board audit staff conducted an opening meeting with company representatives to confirm the Board's audit objectives, scope and process. Subsequent to the opening meeting, interviews were held at the company's office in North York, Ontario during the period 6-10 November 2017. Throughout the audit, Board audit staff provided company representatives with daily summaries, including action items where required.

On 19 October 2017, the Board held an audit pre close-out meeting with company representatives. At this meeting, Board audit staff and Enbridge Gas staff discussed potential non-compliances identified during the audit. At that time the company was provided with the opportunity to present additional evidence to rectify these potential non-compliances.

On 2 November 2017, a close-out meeting was held to provide Enbridge Gas with a description of the recommendations that Board audit staff would be bringing to the Board for decision.

Appendix III – Terminology and Definitions

(The Board has applied the following definitions and explanations in measuring the various requirements included in this audit. They follow or incorporate legislated definitions or guidance and practices established by the Board, where available.)

Adequate: The management system, programs or processes complies with the scope, documentation requirements and, where applicable, the stated goals and outcomes of the NEB Act, its associated regulations and referenced standards. Within the Board’s regulatory requirements, this is demonstrated through documentation.

Audit: A systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified activities, events, conditions management systems or information about these matters conform to audit criteria and legal requirements and communicating the results of the process to the company.

Compliant: The Company has demonstrated that it has developed and implemented programs, processes and procedures that meet legal requirements.

Corrective Action Plan: A plan that addresses the non-compliances identified in the audit report and explains the methods and actions that will be used to correct them.

Developed: A process or other requirement has been created in the format required and meets the described regulatory requirements.

Effective: A process or other requirement meets its stated goals, objectives, targets and regulated outcomes. Continual improvement is being demonstrated. Within the Board’s regulatory requirements, this is primarily demonstrated by records of inspection, measurement, monitoring, investigation, quality assurance, audit and management review processes as outlined in the OPR.

Established: A process or other requirement has been developed in the format required. It has been approved and endorsed for use by the appropriate management authority and communicated throughout the organization. All staff and persons working on behalf of the company or others that may require knowledge of the requirement are aware of the process requirements and its application. Staff has been trained on how to use the process or other requirement. The company has demonstrated that the process or other requirement has been implemented on a permanent basis. As a measure of “permanent basis”, the Board requires the requirement to be implemented, meeting all of the prescribed requirements, for three months.

Finding: The evaluation or determination of the compliance of programs or elements in meeting the requirements of the *National Energy Board Act* and its associated regulations.

Implemented: A process or other requirement has been approved and endorsed for use by the appropriate management authority. It has been communicated throughout the organization. All staff and persons working on behalf of the company or others that may require knowledge of the requirement are aware of the process requirements and its application. Staff has been trained on how to use the process or other requirement. Staff and others working on behalf of the company have demonstrated use of the process or other requirement. Records and interviews have provided evidence of full implementation of the requirement, as prescribed (i. e. the process or procedures are not partially utilized).

Inventory: A documented compilation of required items. It must be kept in a manner that allows it to be integrated into the management system and management system processes without further definition or analysis.

List: A documented compilation of required items. It must be kept in a manner that allows it to be integrated into the management system and management system processes without further definition or analysis.

Maintained: A process or other requirement has been kept current in the format required and continues to meet regulatory requirements. With documents, the company must demonstrate that it meets the document management requirements in OPR, section 6.5(1) (o). With records, the company must demonstrate that it meets the records management requirements in OPR, section 6.5(1) (p).

Management System: The system set out in OPR sections 6.1 to 6.6. It is a systematic approach designed to effectively manage hazards and reduce risk, and promote continual improvement. The system includes the organizational structures, resources, accountabilities, policies, processes and procedures required for the organization to meet its obligations related to safety, security and environmental protection.

(The Board has applied the following interpretation of the OPR for evaluating compliance of management systems applicable to its regulated facilities.)

As noted above, the NEB management system requirements are set out in OPR sections 6.1 to 6.6. Therefore, in evaluating a company's management system, the Board considers more than the specific requirements of section 6.1. It considers how well the company has developed, incorporated and implemented the policies and goals on which it must base its management system as described in section 6.3; its organizational structure as described in section 6. 4; and considers the establishment, implementation, development and/or maintenance of the processes, inventory and list described in section 6.5(1). As stated in sections 6.1(c) and (d), the company's management system and processes must apply and be applied to the programs described in section 55.

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

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

Process: A documented series of actions that take place in an established order and are directed toward a specific result. A process also outlines the roles, responsibilities and authorities involved in the actions. A process may contain a set of procedures, if required.

(The Board has applied the following interpretation of the OPR for evaluating compliance of management system processes applicable to its regulated facilities.)

OPR section 6.5 (1) describes the Board's required management system processes. In evaluating a company's management system processes, the Board considers whether each process or requirement: has been established, implemented, developed or maintained as described within each section; whether the process is documented; and whether the process is designed to address the requirements of the process, for example a process for identifying and analyzing all hazards and potential hazards. Processes must contain explicit required actions including roles, responsibilities and authorities for staff establishing, managing and implementing the processes. The Board considers this to constitute a common *5 w's and h approach* (who, what, where, when, why and how). The Board recognizes that the OPR processes have multiple requirements; companies may therefore establish and implement multiple processes, as long as they are designed to meet the legal requirements and integrate any processes linkages contemplated by the OPR section. Processes must incorporate or contain linkage to procedures, where required, to meet the process requirements.

As the processes constitute part of the management system, the required processes must be developed in a manner that allows them to function as part of the system. The required management system is described in OPR section 6.1. The processes must be designed in a manner that contributes to the company following its policies and goals established and required by section 6.3.

Further, OPR section 6.5 (1) indicates that each process must be part of the management system and the programs referred to in OPR section 55. Therefore, to be compliant, the process must also be designed in a manner which considers the specific technical requirements associated with each program and is applied to and meets the process requirements within each program. The Board recognizes that a single process may not meet all of the programs; in these cases it is acceptable to establish governance processes as long as they meet the process requirements (as described above), and direct the program processes to be established and implemented in a consistent manner, that allows for the management system to function as described in 6.1.

Program: A documented set of processes and procedures designed to regularly accomplish a result. A program outlines how plans, processes and procedures are linked; in other words, how each one contributes to the result. A company regularly plans and evaluates its program to check that the program is achieving the intended results.

(The Board has applied the following interpretation of the OPR for evaluating compliance of programs required by the NEB regulations.)

The program must include details on the activities to be completed, including what, by whom, when, and how. The program must also include the resources required to complete the activities.

Appendix IV - Abbreviations

AO: Accountable officer

AP: Audit Protocol

CAPA: Corrective and Preventative Action Plan

CSA Z662-15: CSA Standard Z662 entitled *Oil and Gas Pipeline Systems*, 2015 version

EHS: Environment, health and safety

ERP: Emergency Response Plan

Int-MS: Integrated Management System

MOC: Management of change

NEB: National Energy Board

OPR: *National Energy Board Onshore Pipeline Regulations*

SME: Subject Matter Expert

Appendix V: Documents and Records Reviewed

The following documents and records were reviewed as part of the audit:

- Integrated Management System IM-01
- Regulatory and Corporate Requirements List RL-01
- Emergency Management Program MP-02
- Construction and Maintenance Manual
- Emergency Procedures Manual (EPM)
- Gas Control Procedures Manual
- Annual filing of the Emergency Procedures Manual with the NEB
- Management of Change Form
- Exercise Planning Guide
- Management of Change example to revise EPM
- Training Records for ICS training and On Call Supervisory Training
- Emergency Response Exercise Evaluation for NGTL 2015
- Example of Emergency response equipment inspection
- Management Review Guide
- Operational Process Standard
- Operational Process Procedure
- Incident Investigation Process map
- Distribution Emergency Preparedness Process map
- Environment Health and Safety Manual
- Engineering On-call Process map
- Management of Change – Policies and Procedures – Engineering Memo and TA process map
- Proposal for Change form
- Emergency Agency Information Portal
- Public Awareness Program – Keeping in Touch Brochure
- Operational Risk Assessment Standard
- Risk Register Process
- Environment Health and Safety Hazard Inventory and Risk Registry
- Annual Report
- Operator Qualification Program

Appendix VI – Enbridge Gas Pipeline GP Ltd. - Company Representatives Interviewed

Company Representative Interviewed	Job Title
<ul style="list-style-type: none"> • [Redacted] 	[Redacted]
[Redacted]	[Redacted]

Appendix VII – Board Direction and Guidance on the Corrective Action Plan