



File OF-Fac-Oil-E101-2014-11 04
19 October 2017

Mr. Guy Jarvis
President
Enbridge Pipelines Inc.
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Dear Mr. Jarvis:

**Notification of the National Energy Board's (Board or NEB)
Final Audit Report of Enbridge Pipeline Inc.**

On 25 April 2017, the Board informed Enbridge of its intent to audit their Enbridge Line 3 Replacement Project. The audit was focused on Enbridge's management system elements and sections of the *National Energy Board Onshore Pipeline Regulations (OPR)* which were relevant to the scope of the audit. The objective of the audit was to determine if Enbridge has established the necessary oversight measures to manage construction-related safety and environmental protection for construction of the Project.

The scope of the audit included relevant sections of the OPR for safety and environmental protection as they apply to the Project during the pre-construction phase. The regulatory requirements evaluated in this audit are detailed in the Board's audit assessment tables, attached to the report. The Board's findings were classified as Compliant, Non-Compliant, or Not Assessed.

The Board notes that of the 37 audit protocol items only one finding of non-compliance was identified during the audit.

While this focussed audit did not address all management system elements, the Board notes the corrective actions implemented by Enbridge from the Board's comprehensive management system audit from 2014-15 appears to have significantly contributed to the lack of findings in this pre-construction audit. Many of the processes, programs and management system elements that had been found to be non-compliant in the comprehensive audit and were reviewed as part of this focussed audit have now been corrected.

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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 Pipelines Inc. is required to file a Corrective Action Plan (CAP), which describes the methods and timing for addressing the Non-Compliant finding identified through this audit, for approval.

The Board will make the CAP public and will continue to monitor and assess Enbridges' corrective action with respect to this audit it is fully implemented.

The Board will also continue to monitor the implementation and effectiveness of Enbridges' 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 Barbara Wegernoski, Lead Auditor, at 403-299-3151.

Yours truly,

Original signed by

Sheri Young
Secretary of the Board

c.c. [REDACTED], Manager, Pipeline Compliance

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Board



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**Enbridge Pipeline Inc. (Enbridge)
Pre-Construction Compliance Audit Report
Enbridge – Line 3 Replacement Project
File: OF-Fac-Oil-E101-2014-11 04**

**Enbridge Pipelines Inc.
Suite 200, 425 – 1 Street SW
Calgary, AB T2P 3L8**

19 October 2017

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 Enbridge Pipeline Inc. (Enbridge) during the period from 25 April to 07 July 2017.

This report documents the Board's audit of Enbridge Line 3 Replacement project (Project). The audit was focused on Enbridge's management practices and sections of the *National Energy Board Onshore Pipeline Regulations* (OPR) which were relevant to the scope of the audit. The objective of the audit was to determine if Enbridge has established the necessary oversight measures to manage construction-related safety and environmental protection during construction of the Project.

The Board conducted the audit using the audit protocols attached in Appendix 1 of this report that are focused on safety and environmental protection as they apply to Enbridge's anticipated construction activities. The Board assessed whether Enbridge's documentation, processes and activities complied with the legal and other requirements under the Board's authority listed below:

- The NEB Act;
- The OPR;
- Any conditions contained within applicable Certificates or Orders issued by the Board; and
- Requirements of any applicable NEB Safety Advisories.

During the audit, a number of process and program documents within the scope of the audit were assessed for compliance. Many of these documents relate to Conditions attached to the approval of the project. Compliance to those Conditions are also being evaluated by the Board outside of this audit. As a result, this audit did not duplicate its assessment of these Conditions.

There were 37 protocol items listed in the audit protocol attached in Appendix 1. Of those, there were 34 in which the Board did not identify any compliance issues; 2 were not assessed and 1 was found to be non-compliant. The Board notes that Enbridge has already taken action to correct this non-compliance and commends them on Enbridge for its timeliness and initiative.

One of the protocol items which was not assessed during the audit is the subject of a separate planned compliance verification activity relating to security management. The second protocol item not assessed is related to communication. It is currently being reviewed by the Board as part of the corrective action plan from Enbridge's 2014/15 comprehensive Management System audit.

The one non-compliance is summarized as follows:

- Enbridge did not have a clearly documented process to communicate corrective actions and learnings to ensure employees or persons working on behalf of the company are informed in a manner which meets the requirements of the OPR s. 6.5(1)(r)(u) (Refer to Appendix 1 Protocol Item AP-Enbridge-23).

While this focussed audit did not address all management system elements, the Board notes the corrective actions implemented by Enbridge from the Board's comprehensive management system audit from 2014-15 appears to have significantly contributed to the lack of findings in this pre-construction audit. Many of the processes, programs and management system elements that had been found to be non-compliant in the comprehensive audit and were reviewed as part of this focussed audit have now been corrected.

The Board concludes that, at the time of the audit, Enbridge has established oversight measures to manage construction-related safety and environmental protection for the construction Project.

Enbridge will be required to file with the Board for approval, a Corrective Action Plan (CAP) that describes the methods and timing for addressing the non-compliance identified through this audit. The CAP shall be filed within 30 days of the Final Audit Report being issued by the Board.

The Board will continue to monitor the implementation and effectiveness of Enbridge's management system and programs through targeted compliance verification activities as a part of its on-going regulatory mandate.

The Board will post this Final Audit Report and the corrective actions taken to address the audit finding on its website.

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1.0 Introduction

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 Enbridge Pipeline Inc. (Enbridge) during the period from 25 April to 07 July 2017. An overview of the audit process and an explanation of definitions and abbreviations can be found in Appendices II, III and IV.

1.1 Audit Objective

The objective of this audit was to assure that Enbridge has established the necessary oversight measures to manage construction-related safety and environmental protection considerations for its Line 3 Replacement Project (Project).

As the audit was focussed on the pre-construction phase of the Project, the Board only required Enbridge to demonstrate that it had developed the necessary processes and activities for the Project. This audit did not test implementation as the construction activities had not yet been initiated at the time of the audit. The Board reviewed relevant processes, programs, and activities of the Project including:

- Integration of the Project with Enbridge's management system;
- Organizational Structure, Roles and Responsibilities;
- Competency, Training and Evaluation;
- Hazard Identification, Risk Assessment and Control;
- Communications;
- Inspection, Measurement and Monitoring;
- Quality Assurance;
- Management of Change Process; and
- Legal Requirements.

1.2 Audit Scope

The scope of the audit included relevant sections of the *National Energy Board Onshore Pipeline Regulations* (OPR) for safety and environmental protection as they apply to the Project during the pre-construction phase. The audit did not include Enbridge's Security Management Program as it will be reviewed by the Board through other, more appropriate, planned compliance verification activities. Protocol question 20 is related to a finding from the Board's comprehensive management system audit conducted in 2014/15 and is currently being evaluated through other Board activities. The audit scope did not include the decommissioning activities related to Enbridge's existing Line 3.

1.3 Audit Criteria

The Board assessed whether Enbridge's documentation, processes and activities complied with the legal and other requirements under the Board's authority listed below:



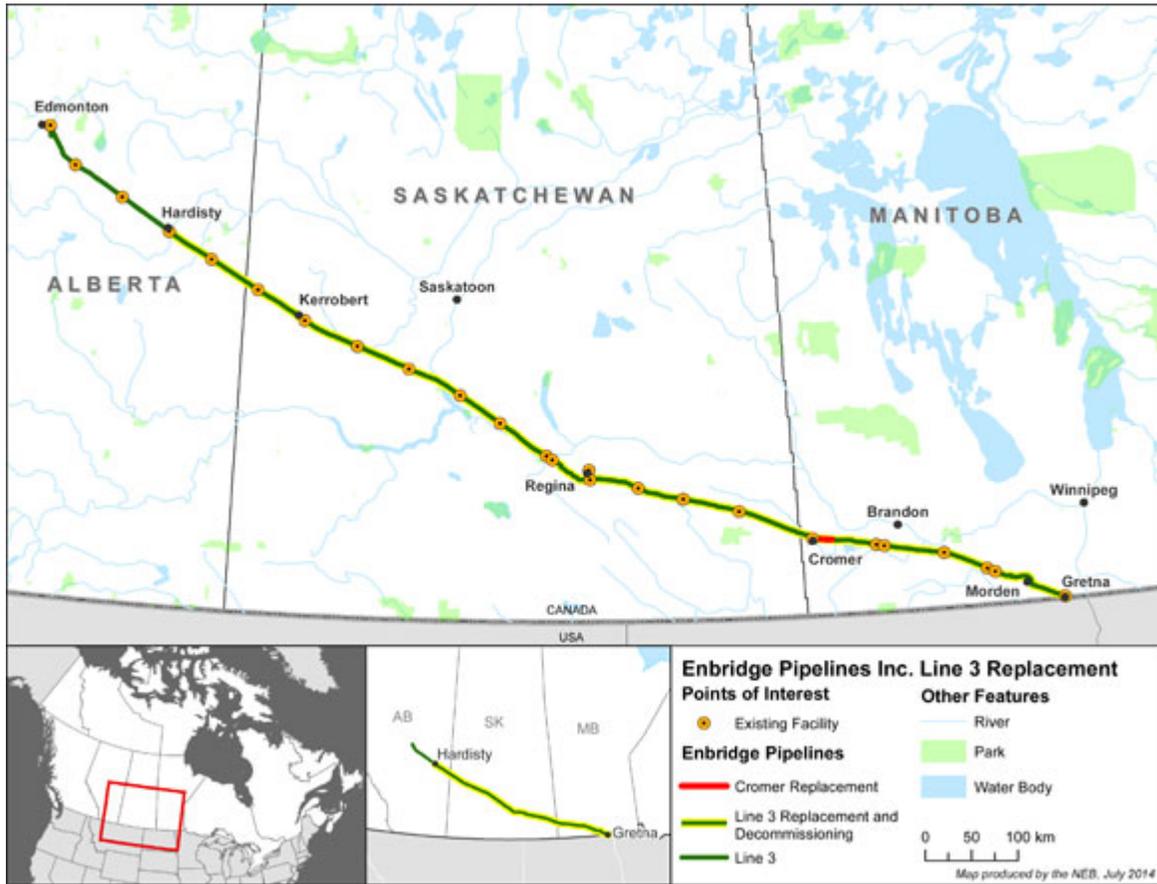
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- The National Energy Board Act;
 - The Onshore Pipeline Regulations;
 - Any Conditions contained within applicable Certificates or Orders issued by the Board;
and
 - Requirements of any applicable NEB Safety Advisories.

2.0 Project Overview

On November 5, 2014, Enbridge Pipelines Inc. submitted an application for the Line 3 Replacement project. The proposed project would include:

- Replacing the existing Line 3 pipeline, 863.6 mm (outside diameter) crude oil pipeline with a new, 914.4 mm (Outside diameter) crude oil pipeline;
- the addition of 55 new remotely operated sectionalizing valves;
- the installation of 18 new pump stations and associated infrastructure and equipment;
- the addition of 3 new storage tanks at the Hardisty Terminal;
- associated interconnection work at facilities; and
- the decommissioning of the existing Line 3 pipeline.

The majority of the Project would be situated adjacent to Enbridge's existing Mainline System corridor. The targeted in-service date is early 2019.



The Governor in Council approved the Project on 25 November 2016. A Certificate of Public Convenience and Necessity and other authorizations allowing the Project to proceed were issued and became effective on 1 December 2016. The Project is still subject to a number of Board Conditions being satisfied by Enbridge prior to, during, and post-construction.

3.0 Description of the Audited Processes and Activities

3.1 General

In this section of the audit report, the processes and activities the Board evaluated through document review and interviews will be discussed. The Board's assessment of compliance of the processes and activities will follow in Section 4.

3.2 Organizational Structure, Roles and Responsibilities

The overall Line 3 replacement Project is managed by two separate Project Directors: one leads the mainline construction; and the other the facility construction. Both report to the Vice President of Canadian MP Execution. Through organizational charts the Board was able to follow the reporting structure directly from Enbridge's Accountable Officer (AO) through to the Construction Managers and their direct reports. Each Director has their own dedicated Project team to meet their goals, objectives and targets.

The following are some examples of the members of their teams:

- Manager Construction;
- Manager Engineering Terminals;
- Manager Safety Program;
- Manager Engineering; and
- Manager Quality Assurance.

At the time of the audit all of the above positions were staffed. Roles and responsibilities had been developed for all of these positions at the time of the audit.

The Board was advised that the Project had already retained the majority of their inspectors at the time of the audit. Enbridge stated that the majority of the inspectors selected for this Project had previous work experience on Enbridge construction projects. Enbridge selected inspectors who had demonstrated their competency to Enbridge. In total Enbridge will have 9 construction spreads for the Project. At the time of the audit, the general construction contractors had been hired for spreads 1, 3 & 4 which will be started this summer. Work will also commence this year at some of the facilities and carry through for the next several years.

3.3 Integration with the Enbridge Management System

For existing pipeline operations, Enbridge has developed an Integrated Management System (IMS) which is its management system as per the requirements of the OPR 6.1. During the audit, the Board did not evaluate the entirety of the IMS as it was beyond the scope for this focused audit. Instead, the Board evaluated if Enbridge met the requirements of the OPR s. 6.1(c), which states: *A company shall establish, implement and maintain a management system that (c) applies to all the company's activities involving the design, construction, {emphasis added} operation, or abandonment of a pipeline and to the programs referred to in section 55.* Enbridge indicated that its IMS was designed and implemented to include all phases of a pipeline's life cycle.

The Enbridge IMS is designed with a governance level management system, IMS-01, which sets the minimum requirements for all subordinate management systems to follow. Examples of these processes include the following:

- Hazard and Risk Management;
- Legal Requirements;
- Goals, Objectives, Targets, and Performance Measures; and



- Management of Change.

As Stated in the IMS-01 document “*The Integrated Management System Governing Policies and Processes IMS-01 provides the Policies and Processes which govern Enbridge business. The Policy expectation and Process standards and requirements are embedded in the organization’s Management Systems. The IMS-01 applies to Enbridge Liquid Pipelines, Major Projects, and any entity executing activities...*” The Board notes this demonstrated how construction activities are to be integrated within Enbridge’s management systems.

Due to the scope of the audit, the Board focused on the IMS-04 Occupational Health & Safety management system and IMS-06 Environmental management system. During project specific document review and interviews conducted during the audit these two management system documents were a constant reference source for the protocol questions.

3.4 Competency, Training and Evaluation

Enbridge stated that, at the time of the audit, it had contracted the services of general construction contractors for the construction of the pipeline spreads anticipated for the 2017 year, and the start of facility construction. Part of the general contractor competency evaluation process will be carried out using ISNetworld.

Enbridge, as do many other oil & gas companies globally, use ISNetWorld as a contractor management company to manage the safety compliance of potential contractors. ISNetWorld collects safety, procurement, quality and regulatory information from contractors and suppliers and verifies its accuracy and reports on its results to the companies that have contracted its services.

During interviews, Enbridge stated that the majority of the Inspectors selected for the Project have previous experience with Enbridge and were specifically selected due to their past work performance and demonstrated competence. Enbridge has also specified the amount of past work experience an Inspector requires for various roles. The past work experience also must take into account supervisory experience for certain Inspector positions. At the time the Board was conducting its interviews for this audit, Enbridge had brought all of the Project’s Inspectors together for 3 days of mandatory training.

During interviews, Enbridge stated that as part of its quality assurance, oversight is done on all Activity and general Inspectors. Enbridge staff will review all inspection reports and send them to the Quality Coordinator if issues are identified.

The Project Safety management Plan states that “*The Contractor shall ensure that their employees are made aware of pertinent health and safety requirements and are suitably trained and competent in the proper work procedures pertaining to their duties. Where government certification is required, only workers properly licensed and having authority in the jurisdiction are to perform tasks. Competency must be verified and documentation records available at site.*”

The Project Safety Management Plan requires all contractors to provide their orientation package and training materials to Enbridge for review to ensure it meets Enbridge’s requirements. All field workers are required to attend both the contractor and Enbridge orientation training to ensure project information is consistent for everyone.



3.5 Hazard Identification, Risk Assessment and Control

During interviews Enbridge indicated they have developed an inventory of hazards, risk assessments and controls for the Project. Enbridge stated they had developed the inventory and controls from previous construction projects and had updated and revised it to fit this specific Project. During interviews with Enbridge staff they indicated when they are updating their hazard inventory and risk levels they always go back to inherent risk to determine if the residual risk after controls have been applied has changed.

Enbridge provided a series of documents from their IMS-01 management system document to demonstrate the processes it had in place to identify hazards and potential hazards. During the Project pre-construction phase, Enbridge developed a Pre-Project Hazard Analysis to look at hazards, potential consequences, control measures evaluate existing relevant Policy's, practices and procedures. From this Enbridge developed more refined hazard analysis. Enbridge also conducted process hazard analysis for facilities and the mainline construction project.

From the IMS-01 document Enbridge provided their Hazard and Risk Management Process, and the Hazard Identification Process. Enbridge indicated these process documents can be used should the Project identify new and additional hazards or potential hazards.

Enbridge provided risk registers for three main parts of the Project; the mainline construction, the terminal at Hardisty, and pump stations. Each risk register contained both the inherent risk, the residual risk and additional steps that would need to be considered to lower the risks further. Risks were broken down into various categories, some examples of which included environment, regulatory, and construction.

Enbridge stated that during pre-construction activities it conducted a Constructability Review of the Project. Information gained from this exercise was used by the construction group to work on and refine the controls for the project.

3.6 Communications

Through interviews and documentation review Enbridge stated changes regarding safety are communicated with all personnel at the daily morning meetings. Hazard Bulletins are another tool which can be used to communicate lessons learned stemming from incidents.

Enbridge's Construction Execution Plan contains information on roles and responsibilities for various field staff roles. Some examples include the various Inspector roles, Field Engineers, and Construction Managers.

During Interviews, Enbridge stated as the mainline construction project moves from one municipality or town to the next, they will meet with the local emergency services. Enbridge indicated they want to have open communications with the various communities as they move across the country.



During interviews Enbridge stated the Request for Proposals (RFPs) are used in the selection and hiring of general contractors. The RFP was used to relay important information to the contractors to make them aware of special conditions associated with the Project. Enbridge indicated the RFP's contained a variety of documents for the general contractors to review while preparing their bids. Two examples, of these documents include the Project Environmental Protection Plan (EPP) and the Canadian Association of Energy and Pipeline Landowners Associations (CAEPLA) CAEPLA agreement.

3.7 Inspection, Measurement and Monitoring

Enbridge has developed a Master Compliance Register, which is Enbridge's overall legal registry to meet the OPR requirements. From the Master Compliance Register, Enbridge has created a separate list of applicable regulations and Conditions for this project. From this Enbridge developed a project specific Project Compliance Record as a sub-set of the Master Compliance Register. At the time of the audit, Enbridge had developed controls, such as standards, plans, or specifications as necessary to address each regulatory requirement or Condition. Enbridge stated that by following this process it has reduced the field staff's need to interpret the regulations and Conditions in the field. Field staff only needs to follow and implement the controls that were developed for all of the regulatory and Condition requirements.

Enbridge stated during interviews and the Board verified through document review that it is monitoring the mainline pipe from fabrication facilities through to stringing and backfill. Enbridge indicated they are monitoring the pipe directly from the manufactures site, to pipe coating facility, and travel to field storage locations. As part of this process Enbridge stated it is trying a new technology for the tracking and monitoring of the mainline pipe. Each piece of pipe at the time of manufacture receives a bar code and it is then tracked until it is placed in the ground and backfilled. Enbridge indicated it is attempting to do this for all materials that will be buried in the ground on a trial basis.

The Project Safety Management Plan requires formal safety inspections to be conducted on a weekly basis, with the Contractor discussing the results of the Inspection at the next safety or tailgate meeting. The Plan reads "*All formal inspections must be posted for review by the Contractor's workers on site and forwarded to Contractor Project Manager responsible for the Project.*" Audits will be another tool used by Enbridge for monitoring construction activities. The Plan indicates a Safety Audit will be conducted on each major contractor at least once on each construction spread. To ensure objectivity, the audits are to be completed by a third party.

3.8 Quality Assurance

In this audit, the Board reviewed the quality assurance program from the perspective of the project establishment stage and the organizational structure.



According to Enbridge's Canadian Pipeline Field Inspection Guide, under Inspector Responsibility, "*The Quality Assurance function shall take precedence over the production function from the standpoint of activity inspection. The technical performance and specified standard requirements shall not be sacrificed to accommodate productivity and/or schedule and cost.*" According to the IMS-01 document "*Enbridge is committed to sound quality performance throughout the pipeline life cycle, defined as the design, procurement, construction, commissioning, operation, maintenance, retirement, and abandonment of pipeline and facility assets. Ensuring quality in conjunction with safety and environmental protection is of critical importance to the success of our business.*"

According to the organizational charts provided by Enbridge, both the mainline pipeline construction and the facility construction aspects of this project had Quality Assurance staff in place at the time of the audit. Enbridge also stated they had various Inspectors in place to perform quality assurance activities on the pipe from the manufacturer plant, to the coating facility and eventually until the pipe was buried in the ground. According to Enbridge every quality assurance report produced by these Inspectors is reviewed and evaluated at the home office.

3.9 Health and Safety Management Plan

The Board reviewed the Project Health and Safety Management Plan (HSMP) which is to be used by the construction contractors to develop their own Project Specific Plan (PSP). The general construction contractors are to develop a PSP and submit it to Enbridge for review and if it is deemed appropriate, acceptance. The Board found the Project HSMP to be ready for contractor development of their PSP. The establishment and implementation of the HSMP was one of the Project's Board Conditions being assessed through parallel compliance verification activities.

3.10 Environmental Protection Plan

The Board reviewed the environmental protection plan (EPP) for the mainline construction and facility construction. The EPP provides a number of mitigation measures to be used by Enbridge, contractors, and sub-contractors for all stages and aspects of the Project construction. The establishment and implementation of the EPP was one of the Project's Board Conditions being assessed, and was approved, through parallel compliance verification activities. The Board reviewed the EPP from the perspective of this audit only, not for Condition compliance reasons.

3.11 Emergency Response Plan

Enbridge provided one of the general construction contractor's Emergency Response Plan (ERP) along with site specific ERP for each facility where work will be undertaken.

During interviews with Enbridge staff, they indicated that as the mainline construction moves through various communities and municipalities the Enbridge Project safety staff and the general contractor will meet with the local emergency services. Enbridge also stated that it has had a significant amount of communication through town hall and open houses.

The submission of the ERP is one of the Board's approval Conditions for the Project. According to the Project specific Condition, the ERP was filed with the Board 2 months prior to the start of construction as part of Condition compliance. The Board reviewed the ERP from the perspective of this audit only, not for Condition compliance reasons.

3.12 Record Management

The Board verified through document review that the Line 3 Replacement Project Document Management Plan outlined how documents were to be managed throughout the Project life cycle. This includes both electronic and hard copy documents. The Plan "... outlines methods to ensure that the project information is controlled, available, filed, and retained according to Enbridge's regulatory and internal requirements."

3.13 Management of Change (MOC)

From the IMS-01 document, Enbridge's MOC process reads "*Enbridge recognizes that changes are inevitable and initiated during the course of design, construction, operations, and maintenance and abandonment activities.*" Enbridge's MOC is organized as one process with a series of specialized sub-processes beneath it. Examples of which include:

- Deviation Requests;
- Governance Document Change;
- Legal Requirements;
- Organizational Change; and
- Process Safety Information Change.

3.14 Legal Requirements

Enbridge stated that it has developed a Project Compliance Record for this specific Project, which was a sub-set of their larger Master Compliance Register. The Master Compliance Register contains all of Enbridge's legal requirements. Enbridge used the applicable regulations, and Conditions specific to this Project to develop the Project Compliance Register. The Board reviewed the Project Compliance Record and noted that it included all other applicable legal requirements such as referenced standards as specifically included in the OPR. During a demonstration of the Project Compliance Registry, Enbridge was able to demonstrate how each item in the Registry was linked to each of its respective controls that had been developed to ensure compliance.

4.0 Assessment of Compliance of the Audited Processes and Activities

4.1 General

In this section of the audit report, the Board's assessment of compliance of the processes and activities reviewed as part of the audit will be made. To determine compliance, the Board evaluated Enbridge's documents and records and conducted interviews with Enbridge staff and Project personnel on issues relevant to the audit scope and criteria. The objective of the audit was to review and evaluate the state of establishment of processes and activities for the Project.

The audit did not intend to test implementation of the various processes, programs, procedures and activities of the Project as it was still in the pre-construction stage at the time of the audit. Also, given that the audit only evaluated the establishment of pre-construction activities and processes (and not operational activities and processes), the definition of 'Established' in the attached list of Terminology and Definitions (Appendix III) provides further guidance.

There are three possible assessments which were made as part of this pre-construction audit:

- Compliant (see attached list of definitions);
- Not-compliant (see attached list of definitions); and
- Not Assessed

Audit Protocol (AP) questions were assigned a numbering system from AP-ENBRIDGE-01 to AP-ENBRIDGE-37.

There were two protocol items that the Board did not assess in this audit. One will be the subject of a separate planned verification activity to be conducted by the Board. The second is related to the Boards 2014/15 Comprehensive Management System audit of Enbridge, and is subject to its own ongoing Board evaluation.

4.2 Assessed as Compliant

The Board identified 34 compliant findings during the audit. For a more detailed assessment, refer to Appendix 1 as per the reference that follows each item.

- Enbridge demonstrated it has integrated the Project's construction safety and environmental protection considerations into their management system. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-01);
- Enbridge demonstrated it has a policy for the internal reporting of hazards and it has been provided to its employees and contractors. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-02);
- Enbridge provided an organizational structure that demonstrated effective oversight of the pipeline construction project and to meet the requirements of their management system. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-03);

- Enbridge demonstrated a process to ensure field staff with authority on the construction spreads are aware of the legal requirements to they can take appropriate action if issues arise. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-04);
- Enbridge demonstrated it has a process to manage multiple contractors over multiple construction spreads for both normal and abnormal construction conditions. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-05);
- Enbridge demonstrated a process to ensure the workload and geographic area of responsibility assigned to employees and inspectors is manageable under normal operating conditions and a contingency plan for abnormal conditions. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-06);
- Enbridge has authorized all Activity Inspectors to halt construction at a specific construction site or specific construction activity if they encounter unsafe work practices or issues with the potential to cause harm to the environment. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-07);
- Enbridge had established an inventory of jobs, occupations, task and activities for the Project; and defined and aligned the required skills, knowledge and training for each. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-08);
- Enbridge had established a process for contractor selection (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-09);
- Enbridge has established a training program to ensure employees were aware of identified hazards and controls and were knowledgeable of the process to identify and report hazards and incidents. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-10);
- Enbridge has established a process to assess and evaluate work competencies. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-11);
- Enbridge demonstrated it has identified hazards and potential hazards related to the Project. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-12);
- Enbridge demonstrated it has an inventory hazards and potential hazards for the Project. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-13);
- Enbridge demonstrated it has assessed the risks associated with the identified hazards. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-14);
- Enbridge has a process for management review of the Project's performance measures, hazards, risk and incident investigation results and lessons learned (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-15);



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- Enbridge's process to ensure the general contractors hazard assessments, once created, are reviewed on a regular basis and updated as required. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-16);
 - Enbridge demonstrated it has a process to develop and implement controls to prevent, manage, and mitigate the identified hazards and risks. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-17);
 - Enbridge demonstrated their intended process to ensure construction activities do not create a hazard to the public or environment. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-18);
 - Enbridge has established a process to communicate roles, responsibilities and authorities for worker safety and environmental protection to employees at all levels of the company and to others working on behalf of the company. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-21);
 - Enbridge has established a process to communicate management of change related items such as regulatory requirements, implementation of corrective and preventative actions stemming from incident investigations. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-22);
 - Enbridge has established a process to inform those who may access the construction sites but are not involved in the construction work to ensure their safety. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-24);
 - Enbridge has established a process to ensure employees and others who work on behalf of the company are aware of what constitutes a reportable incident both internally and to the Board. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-25);
 - Enbridge has established a process to communicate all special conditions associated with the construction project; all special safety practices and procedures necessitated by the Conditions to the contractor. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-26);
 - Enbridge demonstrated their intended process to communicate its emergency response practices and procedures to everyone who may be impacted by the construction activities. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-27);
 - Enbridge provided its intended process to test its emergency response communication plan. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-28);
 - Enbridge provided its intended activity to ensure alternative communication is available along the ROW where cell phone coverage is limited or intermittent. (Refer to Protocol Item AP-ENBRIDGE-29);

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- Enbridge has identified what monitoring activities will be carried out, the method, and their frequency for the Project. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-30);
 - Enbridge has identified a process to ensure issues of concern identified during the monitoring activities are properly addressed in a timely manner. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-31);
 - Enbridge has established a process for addressing deficiencies which require immediate attention. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-32);
 - Enbridge demonstrated a process to ensure appropriate corrective and preventative actions are put in place and followed up on (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-33);
 - Enbridge has established a process to monitor construction activities for all legal requirements, applicable Board Orders, Conditions and Safety Advisories. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-34);
 - Enbridge has established a process to manage changes that may occur during the Project. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-35);
 - Enbridge provided a Project Compliance Record to demonstrate how it is monitoring compliance for the Project. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-36); and
 - Enbridge provided its intended process to integrate compliance monitoring into the company's oversight model to ensure ongoing communication of requirements and resolution of non-compliances. (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-37).

4.3 Assessed as Non-Compliant

The Board identified 1 finding as non-compliant (NC) during the audit. For a more detailed assessment, refer to Appendix 1 as per the reference that follows the item.

NC Finding 1: Enbridge has a clearly established communication process to communicate corrective actions and learnings for safety related items; however this process was not clearly documented for environmental corrective action and learnings. This does not meet the requirements of the OPR s. 6.5(1)(r) and (u). (Refer to Appendix 1 Protocol Item AP-ENBRIDGE-23)

4.4 Not Assessed

The following protocol items were not assessed as they will be evaluated through other compliance verification activities outside of this audit:

AP-ENBRIDGE-19: Has the company established a security management program that anticipates, prevents, manages and mitigates conditions that could adversely affect people, property or the environment?



AP-ENBRIDGE-20: Has the company established a two-way communication process for information exchange between company management and employees, contractors and consultants, stakeholders and land managers and the NEB?

5.0 Conclusion

In consideration of the findings, the Board concludes that, at the time of the audit, Enbridge has established all of the necessary oversight measures to manage construction-related safety and environmental protection for the Project.

Throughout the audit, the Board noted that Enbridge had integrated the Project into its overall management system in accordance with the requirements of Section 6 of the OPR. The OPR explicitly requires a company to have a management system that “*applies to all the company’s activities involving the **design, construction, operation or abandonment of a pipeline and to the programs referred to in section 55***”(emphasis added). Through document review and interviews, the Board found evidence demonstrating that Enbridge had integrated this Project into their existing management system.

The scope of this audit focused on establishment of the required oversight of the Project, it did not look at the next stage which is implementation. The Board notes that Enbridge was able to demonstrate that it has developed and established plans, processes and activities for the Project. Now Enbridge must demonstrate that it can implement them appropriately for the entire construction phase of the Project’s life cycle. The Board will continue to monitor the implementation of Enbridge’s oversight of the Project to ensure what was described and demonstrated in this audit is fully implemented.

6.0 Corrective Action Plan Submission

The Board concludes that, at the time of the audit, Enbridge has established oversight measures to manage construction-related safety and environmental protection for the construction Project.

Enbridge will be required to file with the Board for approval, a Corrective Action Plan (CAP) that describes the methods and timing for addressing the non-compliance identified through this audit. The CAP shall be filed within 30 days of the Final Audit Report being issued by the Board.

The Board will continue to monitor the implementation and effectiveness of Enbridge’s management system and programs through targeted compliance verification activities as a part of its on-going regulatory mandate.

The Board will post this Final Audit Report and the corrective actions taken to address the audit finding on its website.

Appendix I: Pre-Construction Audit – Audit Assessment Tables

Topic: <u>Integration within the Management System</u>			
Regulatory Requirement: OPR s. 6.1: The company shall establish, implement and maintain a management system that (a) is systematic, explicit, comprehensive and proactive; (b) integrates the company’s operational activities and technical systems with its management of human and financial resources to meet its obligations under section 6;			
Criteria Element 1: The company is to have a management system that is systematic, explicit, comprehensive and proactive and integrates the company’s operational activities and technical systems with its management of human and financial resources to meet its obligations under section 6.			
Assessed Area: The Process is Established			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-01	Can the company demonstrate they have integrated the pipeline construction project’s safety and environmental protection considerations into their management system?	C	<p>Enbridge has a governance level management system which controls all program level management systems. The Integrated Management System (IMS) is the governance framework that describes how Enbridge conducts its business through a set of core processes. According to the IMS-01 – Governing Policies & Process Management System “<i>applies to Enbridge Liquids Pipelines, Major Projects and any entity executing activities on behalf of Liquids Pipelines.</i>” In addition, the IMS-01 document sets the minimum requirements for all subordinate management systems developed and implemented by Enbridge.</p> <p>In addition, the IMS-01 documentation “<i>sets out a number of governing processes in IMS-01 that set the high level processes that govern our various programs and processes. IMS-01, Governing Policies and Processes, establishes the expectations, broad responsibilities, key actions, accountabilities and minimum standards to support sustained and continuously improved performance across Liquid Pipelines and Major</i></p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

		<p><i>Projects. All of our management systems must adhere to these governing processes.”</i> For this audit, the Board focused on two management system programs, IMS-04 Occupational Health & Safety and IMS-06, Environmental Management System.</p> <p>The purpose of the Occupational Health & Safety Management System is stated as follows “<i>establishes responsibilities and accountabilities for managing Enbridge health and safety functions and provides the direction and governance for achieving Safety Excellence.</i>”</p> <p>Enbridge’s Environmental Management System states that “<i>the processes described herein are intended to build upon Enbridge’s IMS-01 and define the approach specific to managing environmental risk</i>”.</p> <p>Through review of these management system documents the Board identified the requirements of a management system as described in the <i>Onshore Pipeline Regulations</i> (OPR) has been met. These management system documents were used by Enbridge to develop project specific documents, such as the Project Safety Management Plan – Line 3 Full Replacement Project Mainline, the Construction Execution Plan, and the Environmental Guidelines for Construction. These project specific documents reference the processes, programs and activities as outlined in the management system documentation.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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Regulatory Requirement: OPR s. 6.3 (1): The company shall establish documented policies and goals for meeting its obligations under section 6, including (a) 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;

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

Criteria Element 1: The company is to have a policy in place during construction to allow for the internal reporting of hazards.			
Assessed Area: The Process is Established			
AP-ENBRIDGE-02	Does the company have a policy for the internal reporting of hazards and has it been provided to its employees and contractors?	C	<p>Enbridge's Integrated Management Policy is found in the IMS-01 document. The policy outlines Enbridge's commitment to an integrated management system approach applied for the lifecycle of its facilities and pipelines. In addition, the policy encourages the reporting and investigation of compliance issues, potential hazards, incidents and near misses and defines good faith reporting and how it will apply to any member of the Enbridge workforce.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
Topic: <u>Organizational Structure, Roles and Responsibilities</u>			
<p>Regulatory Requirement - OPR 6.4: The company must have a documented organizational structure that enables it to: (a) meet the requirements of the management system and meet its obligations under section 6 (of the OPR); (b) determine and communicate the roles, responsibilities and authority of the officers and employees at all levels of the company;</p> <p>Additional applicable requirements:</p> <ul style="list-style-type: none"> - National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (b),(c) 			
Criteria Element 1: The company shall have a documented organizational structure that enables it to meet the requirements of the management system and meet its obligations under section 6 (of the OPR).			
Assessed Area: The Process is Established			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<p>AP-ENBRIDGE-03</p>	<p>Has the company created an organizational structure to provide effective oversight of the pipeline construction project and to meet the requirements of the management system and meet its obligations under section 6 (of the OPR)?</p>	<p style="text-align: center;">C</p>	<p>Enbridge provided organizational charts which demonstrated the line of site from the Accountable Officer to both the Director Canadian MP Execution for the mainline construction part of the Project and the Director Facilities & Terminals for the facility construction portion of the Project.</p> <p>Additional organizational charts demonstrated Project oversight and control from the Project Directors down through Construction Managers and other field staff for the mainline construction work. Functional groups report to the Construction Managers. These organizational groups at the field level include the following:</p> <ul style="list-style-type: none"> • Inspection Group; • Environment Group; • Quality Assurance Group; • Safety Group; and • Engineering and Construction group. <p>Within the functional groups listed above, Enbridge has outlined the roles and responsibilities for staff involved in both the mainline construction work, the facilities, and terminal construction. According to the documentation provided, Enbridge will have the following positions established to maintain oversight and communication during the project,: Some examples include the following:</p> <ul style="list-style-type: none"> • Construction Site Inspector; • Quality Coordinator;
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*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<ul style="list-style-type: none"> • Manager, Program Safety; • Quality Inspection Coordinator; • Lead Environmental Inspector Or EI Coordinator; • Compliance Manager, Environment; and • Sr. Community Engagement Advisor. <p>Each of these position descriptions include responsibilities and reporting requirements for the project.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-04	Has the company established a process to ensure field staff with authority on the construction spread is aware of legal requirements so they can take appropriate action if issues arise?	C	<p>In order to manage and communicate its legal requirements at the field level Enbridge has developed a Project Compliance Record for this Project. Enbridge used the applicable regulations, and Project specific Conditions to develop this document. Then Enbridge stated it developed controls, such as standards, plans, or specifications as necessary to address each regulatory requirement or Condition.</p> <p>During interviews, Enbridge stated that its process has reduced the field staff's need to interpret the regulations and Conditions in the field. Instead, field staff follow the controls that were developed to address each regulatory or Condition requirement.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-	Has the company established a process to manage multiple contractors over multiple construction	C	<p>During interviews, Enbridge stated that its process dictates that a Safe Work permit is required prior the start of any work, regardless of what the general contractors may</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<p>05</p>	<p>spreads for both normal and abnormal construction conditions?</p>		<p>require for its own internal processes. Without the Safe Work permit no construction activities are allowed to proceed. Should an incident take place with a work crew, the Safe Work permit is invalid and one will be re-issued before work can begin again.</p> <p>According to interviews and process documentation provided, Enbridge will have its Inspectors in place with each contractor work crew. The Inspectors are assigned based on expertise and the type of work to be done. Enbridge stated that they will have 2 Safety Inspectors, 3 Environment Inspectors and one Environmental Coordinator on site for each active construction spread during construction. Activity Inspectors will also be present in accordance with their expertise to ensure quality of work. The Construction Execution Plan states <i>“Field organization emphasizes the links between the Environmental Inspectors and Safety Inspectors with the Chief Inspector. The Environmental Inspectors, Safety Inspectors and the Chief Inspector will communicate daily to report and resolve any potential safety and or environmental problems.”</i></p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>AP-ENBRIDGE-06</p>	<p>Has the company established a process to ensure the workload and geographic area of responsibility assigned to employees and inspectors are manageable under normal operating conditions and a contingency plan established to deal with abnormal conditions?</p>	<p>C</p>	<p>In the LP/MP Safety Manual Liquids Pipelines and Major Projects Appendices, it reads <i>“The degree of Contractor safety representation required for each project will be determined in advance of construction prior to award and identified in the bid documents. Each project is analyzed to determine the appropriate level of safety representation which is required to provide adequate field presence. The following factors shall be considered when making this decision:</i></p> <ul style="list-style-type: none"> • <i>Scope, complexity, and length of the Work</i> • <i>The geographical location of the Work</i> • <i>Total number of Contractor and Subcontractor workers on site</i>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<ul style="list-style-type: none"> • <i>The number of crews and how they are spread out</i> • <i>The risks/hazards associated with the Work.</i> • <i>The type and nature of work activities being performed”</i> <p>In the Project Safety management Plan, Enbridge has outlined its requirements and circumstances for additional contract staff and increasing its own staff <i>“Additional Contractor Safety Representatives for Pipeline Projects will be determined by a Hazard/ Risk Assessment every time the Contractor’s manpower is increased or where an increased hazard level is identified and agreed upon by Enbridge.” “Enbridge reserves the right based on a Hazard/Risk Assessment to increase the required Safety Representation for Pipeline Projects.”</i></p> <p>During interviews, Enbridge stated the number of Environmental Inspectors required is calculated based on the lengths of the construction spreads. The knowledge acquired from past construction projects as well as lessons learned and continual improvement are also factors considered.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>Regulatory Requirement - OPR 18(1)(d): The company shall authorize a person to halt a construction activity in circumstances where, in the person’s judgement, the construction activity is not being conducted in accordance with the manual developed under section 20 or is creating a hazard to anyone at the construction site.</p>			
<p>Criteria Element 1: The company is to authorize a person to halt construction activity in circumstances where, in the person’s judgement, the construction activity is not being conducted in accordance with the company’s construction safety manual or is creating a hazard to anyone at the construction site.</p>			
<p>Assessed Area: The Process is Established</p>			

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-EMBRIDGE-07	Has the company designated an authorized person to halt a construction activity in circumstances where, in the person's judgement, the construction activity is not being conducted in accordance with the company's construction safety manual or is creating a hazard to anyone at the construction site?	C	<p>During document review, the Board noted that Enbridge had documentation to clarify workers have the right, responsibility and authority to refuse any work if they believe it is unsafe or dangerous. The Construction Execution Plan states "<i>All Activity Inspectors will have the authority to prevent work from continuing when a significant non-compliance has occurred. If the non-compliance is not life threatening, contact the Chief Inspector or the Assistance Chief Inspector immediately to confirm the course of action.</i>"</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
Topic: <u>Competency, Training and Evaluation</u>			
<p>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;</p> <p>Additional applicable requirements:</p> <ul style="list-style-type: none"> - National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (b),(c) - Canada Labour Code Part II, Sections 124, 125. (1)(q),(z) 			
<p>Criteria Element 1: The company shall establish 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</p>			
<p>Assessed Area: The Process is Established.</p>			

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-08	Has the company established an inventory of jobs, occupations, tasks and activities for the construction project and established a process that defines and aligns the required skills, knowledge and training for each?	C	<p>During the document review, the Board identified several documents related to the various job, occupations, and roles and responsibilities for the Project. Some of the documents were more specific to Enbridge staff jobs or occupations and other documents were focused on Inspectors and staff of general contractors. At the time of the audit, Enbridge provided roles and responsibilities along with some of the activities these positions would be responsible for.</p> <p>Some examples of Enbridge specific jobs or occupations where the required skills and knowledge are defined are as follows:</p> <ul style="list-style-type: none"> - Director, Facilities and Terminals; - Manager/Supervisor, Facilities Engineering; - Project Engineer; - Manager, Quality Assurance; and - Manager, Program Safety. <p>Within the MP Pipeline Construction Inspector Pre-Qualification document, Enbridge lists the minimum qualifications for a variety of Inspector positions. This includes the minimum number of years of experience in the pipeline industry, construction industry and years of pipeline inspection experience. The document also provides a list of approved safety training providers that it will accept for various mandatory safety training courses.</p> <p>Enbridge's Canadian Pipeline Field Inspection document outlines the accountabilities,</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p>roles, responsibilities and competencies required for various project-related Inspector positions. In addition, this document also outlines the job tasks for each of the following type of inspectors:</p> <ul style="list-style-type: none"> • Chief Inspector; • Senior Welding Inspector; • HDD or HD Bore Inspector; and • Reclamation Inspector. <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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Regulatory Requirement - OPR s. 6.5(1)(k): establish and implement a 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.

Additional applicable requirements:

- National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (b),(c)
- Canada Labour Code Part II, Sections 124, 125. (1)(s),(z)

Criteria Element 1: The company shall verify employees and other persons working with or on behalf of the company are trained and competent.

Assessed Area: The Process is Established

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-	Has the company established a process for contractor selection to ensure they select and retain the services	C	Prior to contractor selection, Enbridge follows a pre-qualification process to ensure potential contractors meet the minimum Enbridge quality, technical and safety

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<p>09</p>	<p>of contractors with safe practices?</p>		<p>requirements. This process requires potential contractors to provide a series of documentation to ISNetworld where it can be reviewed. ISNetWorld is a contractor management company that manages the safety compliance for many oil & gas companies globally. ISNetWorld collects safety, procurement, quality and regulatory information from contractors and suppliers and verifies the accuracy and reports on its results.</p> <p>During the contractor selection process, meetings are held with potential contractors prior to contract award to explain safety requirements to the bidders to ensure there is no misinterpretation of expectations.</p> <p>A multi-disciplined team completes a blind technical evaluation of the bids. Part of the bid packages is the listing of key contractor personnel who are also reviewed by Enbridge. During interviews Enbridge stated this process was used for both the mainline construction work and the facilities and terminal construction work.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>AP-ENBRIDGE-10</p>	<p>Has the company established a training program to ensure employees are aware of the identified hazards and controls and knowledgeable of the process to identify and report hazards and incidents?</p>	<p>C</p>	<p>The Line 3 Replacement Project Safety Management Plan requires all contractors to provide its orientation package and training materials to Enbridge for review to ensure that they reflect Enbridge's requirements. Prior to beginning work, all field workers are required to attend both the contractor and Enbridge orientation training to ensure project information is consistent for everyone.</p> <p>The LP/MP Safety Manual states "<i>Regional, Department, Project and Contractor Management is responsible for ensuring: Workers are trained to assess potential and existing hazards specific to their work activities including hazard identification, assessment and control.</i>" A Safe Work Permit or Work Authorization is used to document hazards and risks for a specific work area. To ensure this is completed appropriately, the Manual states "<i>Safe Work Permit training is made available and</i></p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p><i>completed by workers who will be issuing Work Authorizations or Safe Work Permits.”</i></p> <p>The LP/MP Safety Manual provides the necessary steps for Incident Reporting, both as an Enbridge employee and as a contractor. The document also provides guidance on the steps to follow for investigations and incident classifications.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-11	Has the company established a process to assess and evaluate worker competencies?	C	<p>During interviews, Enbridge stated that the majority of the Inspectors were selected for the Project based on previous experience with Enbridge and demonstrated competence on past construction work.</p> <p>Enbridge stated that as part of its quality assurance, oversight is done on all Activity and general Inspectors. Enbridge staff will review all inspection reports and send them to the Quality Coordinator if issues are identified.</p> <p>The Project Safety Management Plan states that <i>“The Contractor shall ensure that their employees are made aware of pertinent health and safety requirements and are suitably trained and competent in the proper work procedures pertaining to their duties. Where government certification is required, only workers properly licenses and having authority in the jurisdiction are to perform tasks. Competency must be verified and documentation records available at site.”</i></p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
Topic: <u>Hazard Identification, Risk Assessment and Control</u>			
Regulatory Requirement - OPR s. 6.5(1)(c): establish and implement a process for identifying all hazards and potential hazards;			

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

Criteria Element 1: The company shall establish and implement a process for identifying all hazards and potential hazards.			
Assessed Area: The Process is Established			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-12	Has the company identified hazards and potential hazards related to the Enbridge pipeline construction project?	C	<p>Enbridge provided a series of documents to demonstrate its hazards and the processes in place to continue to identify hazards and potential hazards. As part of the Project pre-construction phase, Enbridge developed a Pre-Project Hazard Analysis to look at hazards, potential consequences, control measures and evaluate existing relevant Policy's, practices and procedures. Enbridge also conducted process hazard analysis for facilities and the mainline construction project.</p> <p>From the IMS-01 document Enbridge provided its Hazard and Risk Management Process, and the Hazard Identification Process. Enbridge indicated these process documents will be used should the Project identify new and additional hazards or potential hazards.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
Regulatory Requirement - OPR s. 6.5(1)(d): establish and maintain an inventory of the identified hazards and potential hazards;			
Criteria Element 1: The company shall establish and maintain an inventory of hazards and potential hazards specific to the project.			
Assessed Area: The process is established.			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

AP-ENBRIDGE-13	Does the company have an inventory of hazards and potential hazards related to the pipeline construction project?	C	<p>At the time of the audit, Enbridge provided its Hazard Inventory for review. Enbridge stated that the Inventory covers both operational and construction related phases of a pipelines life cycle.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>Regulatory Requirement - OPR s. 6.5(1)(e): establish and implement a process for evaluating and managing risks associated with the identified hazards including the risks related to normal and abnormal operating conditions;</p> <p>Additional applicable requirements:</p> <ul style="list-style-type: none"> - National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (f),(h)(vii) 			
<p>Criteria Element 1: The company shall establish and implement a process for evaluating and managing risks associated with the identified hazards.</p>			
<p>Assessed Area: The Process is Established</p>			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-14	Has the company assessed the risks associated with the identified hazards?	C	<p>Enbridge provided risk registers for three main parts of the Project; the mainline construction, the terminal at Hardisty, and pump stations. Each risk register contained both the inherent risk, the residual risk, and additional steps that would need to be considered to lower the risks further. Risks were broken down into various categories, some examples of which included environment, regulatory, and construction.</p> <p>Enbridge staff will be reviewing and evaluating the daily reports from the construction sites to look for lessons learned, process improvements and to ensure continuous</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p>improvement feedback is communicated internally.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>AP-ENBRIDGE-15</p>	<p>Has the company established a process for its construction activities where performance measures, hazards, risk and incident investigation results and lessons learned receive management review?</p>	<p>C</p>	<p>Enbridge provided its MP Major Project Report Guidelines document. The document has requirements for performance measures, metrics, and project safety updates. Enbridge provides management with a monthly Project update. Enbridge provide an example of a past Project update, however as construction had yet to start the amount of information within it was limited. In the Line 3 Environmental Plan, the document indicates that Enbridge will develop a Project scorecard with both leading and lagging criteria as part of the reporting.</p> <p>The Enbridge LP/MP Safety Manual provides direction on investigations and lessons learned. The manual states <i>“All Incidents and Near Misses shall be investigated to determine basic and root causes as well as system needs. The depth of investigation shall be dependent on the classification and severity of the Incident as well as the potential for loss. Learnings from investigations shall be used to determine corrective and preventative actions aimed at prevent recurrence.”</i></p> <p>Enbridge’s Quality Incident Response Procedure document states <i>“has been established to facilitate efficient and effective processes for quality incident notification, investigative steps to contain and correct the issue(s), detailed analysis to determine corrective and preventative actions and sharing of investigation outcomes to drive continual improvement.”</i> Dependent on the level of concern identified with the incident, management will conduct a review of the issue. The document also provides several different methods of providing lessons learned ranging from issuing bulletins to the preparation of a formal Lessons Learned document.</p> <p>During field work, Enbridge stated that the daily logs, which includes all incidents that meet its reporting criteria are reviewed and studied for trends.</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p>At the field level, Enbridge stated that an incident will stop the field work and the Project Director will be immediately called. Investigations will be done in parallel between both the responsible contractor and Enbridge. The severity of incidents has been classified by Enbridge on a scale from P0 to P4. Any incident deemed to be a P2 will require an Incident Review Meeting. Any incident classified as a P3 will involve the Vice President.</p>
<p>AP-ENBRIDGE-16</p>	<p>Has the company established a process that ensures that hazard assessments are reviewed and updated as required when there is a change in work scope or work conditions such as changes in lighting, changes in crew members, temperature, or encroaching work activities?</p>	<p>C</p>	<p>The Enbridge LP/MP Safety Manual requires workers to complete a Field Level Hazard Assessment (FLHA) prior to the start of work and it may need to be reviewed and updated during the shift if the scope of work changes. All workers involved in the same task are to sign off on the FLHA once it has been completed and any new workers who show up at the site are required to review the document and sign off on it. According to the LP/MP Safety Manual, the FLHA is to <i>“identify and control the field based hazards of the work being performed, and the site or environmental conditions that may adversely affect the work.”</i></p> <p>The Project Safety Management Plan requires the contractor to complete three types of hazard assessment:</p> <ul style="list-style-type: none"> • Project hazard Assessments • Task hazard assessments • Field level hazard assessments <p>For this protocol question, FLHA hazard assessment is applicable. The FLHA’s are completed prior to the start of work or when there is a change in the scope of the work. The FLHA must be reviewed and signed off by all employees involved in the scope of the work.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			for this item at the time of the audit.
<p>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;</p> <p>Additional applicable requirements:</p> <ul style="list-style-type: none"> - National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clause 3.1.2 (f) 			
<p>Criteria Element 1: The company has established a process to develop 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.</p>			
<p>Assessed Area: Process is established.</p>			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-17	Has the company established a process for developing and implementing controls to prevent, manage and mitigate the identified hazards and the risks?	C	<p>Enbridge stated during the pre-construction activities it conducted a Constructability Review of the Project. Information gained from this exercise was used by the construction group to work on and refine the controls.</p> <p>The Project EPP documents along with the Project Safety documents provide a significant number of controls for various situations and work requirements. These documents were provided to the contractors during the bidding process to make them aware of contents and what controls are available. The LP/MP Safety Manual provides additional information on critical tasks such as confined space entry and ground disturbance.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

Regulatory requirement: OPR s. 19: A company shall, during the construction of a pipeline, take all reasonable steps to ensure that (a) the construction activities do not create a hazard to the public or the environment.

Criteria Element 1: The company is to take all reasonable steps to ensure the pipeline construction activities do not create a hazard to the public or the environment.

Assessed Area: The Process is Established

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-18	Has the company established a process to ensure construction activities do not create a hazard to the public or environment?	C	<p>The Canadian Pipeline Field Inspection Guide requires each person working on the Project to assure they are aware of all of the applicable Enbridge Policies and expectations. The document reads “<i>As a condition of employment for an Inspector working for Enbridge, every individual is expected to adopt and uphold the Company’s Policies on Safety, Environment, Quality and Business Conduct.</i>” Some of these expectations include the following:</p> <ul style="list-style-type: none"> • Zero incidents, inclusive of formal Regulatory Audit non-compliances related to lack of enforcement or lack of familiarity with the Contract Documents or Safety and Environmental Policies, Practices and Procedures; and • Ensure the Contractor performs and maintains Hazard Assessments for all work activities. <p>During the audit, the Board reviewed a number of documents such as programs and plans that demonstrated Enbridge is taking steps prevent hazards to the public or the environment. Some examples of these documents include:</p> <ul style="list-style-type: none"> • Project Safety Management Plan;

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<ul style="list-style-type: none"> • Traffic Management Plans; and • Canadian Pipeline Construction Specification. <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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Regulatory Requirement: OPR s. 47.1: A company shall develop, implement and maintain a security management program that anticipates, prevents, manages and mitigates conditions that could adversely affect people, property or the environment.

Criteria Element 1: The company is to have a security management program that anticipates, prevents, manages and mitigates conditions that could adversely affect people, property or the environment.

Area Assessed: The process is established.

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-19	Has the company established a security management program that anticipates, prevents, manages and mitigates conditions that could adversely affect people, property or the environment?	NA	This protocol question will be assessed by other NEB compliance verification activities.

Topic: Communications

Regulatory Requirement - OPR s. 6.5(1)(m): establish and implement a process for the internal and external communication of information related to safety, security and protection of the environment;

Additional applicable requirements:

- National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (d),(g)(v)

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

- Canada Labour Code Part II, Sections 124, 125. (1)(q),(s),(w)			
Criteria Element 1: The company shall establish a process for the internal and external communication of information related to safety, security and protection of the environment.			
Assessed Area: The Process is Established			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-20	Has the company established a two-way communication process for information exchange between company management and employees, contractors and consultants, stakeholders and land managers and the NEB?	NA	As part of the Boards 2014/15 comprehensive management system audit of Enbridge, one of the findings was related to OPR 6.5(1)(m). Enbridge has submitted a Corrective Action Plan (CAP) along with responses to formal Information Requests related to this finding. However, the Board is still reviewing the information and has not made a final decision. As this finding is very similar to this protocol question, the Board will address it in the ongoing CAP review, which addresses Enbridge's entire management system.
AP-ENBRIDGE-21	Has the company established a process to communicate roles, responsibilities and authorities for worker safety and environmental protection to officers and employees and employees at all levels of the company and to others working on behalf of the company?	C	The Construction Execution Plan for the Project provides field level information to contractors and Enbridge staff during construction. The document contains information on roles and responsibilities for various field staff with some examples including various Inspector roles, Field Engineers, and Construction Managers. The document includes a Safety Management Plan with safety orientation and training. The Construction Execution Plan also has an Environmental Management Plan which describes the environmental protection measures to be used during the Project. Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.
AP-ENBRIDGE-22	Has the company established a process to communicate management-of-change related items such as changing regulatory requirements or the	C	Through interviews and documentation review Enbridge stated changes regarding safety are communicated with all personnel at the daily morning meeting and Hazard Bulletins which can be used to communicate lessons learned stemming from incidents. .

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

	<p>implementation of design changes or the implementation of corrective and preventive actions stemming from incident investigations?</p>		<p>Within the Environmental Protection Plan (EPP), a section addresses unforeseen conditions or circumstances that may arise during construction requiring the revision of specific mitigation measures. In addition, engagement with regulators regarding the revisions to the EPP may be required depending on scope and the potential for an environmental impact.</p> <p>During interviews, the Management of Change (MOC) process, located in the IMS-01 document, was discussed for other scenarios and how it would be applied to verify that the MOC as presented incorporated the OPR requirements. An example used during the interviews was the requirement to change a welding procedure or style.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>AP-ENBRIDGE-23</p>	<p>Has the company established a process to communicate corrective actions and learnings to ensure employees or persons working on behalf of the company are informed?</p>	<p>NC</p>	<p>Enbridge has established communication process to communicate corrective actions and learnings for safety related items; however this process was not clearly defined for environmental corrective action and learnings.</p> <p>The Project Safety Management Plan has a section on Weekly Safety Meetings which includes " <i>The Contractor is required to hold a Weekly Foreman's Meeting and document this meeting so that topics and lessons learned from the weekly meetings can be shared when the Foremen conduct similar meetings with their own crews. Topics covered will include project updates, all recent incidents including Near Miss Incidents. The Enbridge Safety Inspector will be invited to these meetings and may also have suitable material to submit for meeting discussion.</i>" During interviews Enbridge stated that these meetings are where corrective actions and learnings are communicated across the Project and down to all workers. The Board did not identify a similar scenario either through document review or during interviews where Environmental corrective actions and learnings would be passed across the Project and down to all workers.</p> <p>Based on the scope of the audit, the Board found Enbridge to be non-compliant with the</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			requirement of the OPR s. 6.1(r) and (u) at the time of the audit.
AP-ENBRIDGE-24	Has the company established a process to inform those who may have access to the construction site, but who are not involved in the construction of the pipeline of the practices and procedure that are to be followed for their safety?	C	<p>Enbridge's LP/MP Safety Manual requires all visitors to report to a designated security or site contact for clearance. The term Visitor is defined as non-Enbridge personnel, Contractors not performing an assigned work activity at the location. All visitors will be escorted by an Enbridge employee familiar with the site.</p> <p>A safety orientation will be provided to all visitors who arrive at a construction site. The orientations content may vary depending on the location of the site visit.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-25	Has the company established a process to make employees and others who work on behalf of the company aware of what constitutes a reportable incident to be reported internally and to the Board, and they have established a process to ensure these reports are submitted?	C	<p>Enbridge has provided in both safety and environmental documents, the requirements for the reporting of incidents both internally and to regulators.</p> <p>The environment incident reporting process references IMS-06, the environmental management system. The process description defines a 'minor spill' that is reportable internally and it also provides the NEB Event Reporting Guidelines definition of an incident to determine external reporting requirements. The process document outlines all of the steps that are to be taken from the person who initially identifies the incident through to the Project Director or Vice President for significant incidents.</p> <p>The Project Safety Management Plan has a section on Incident Reporting and Assessment. One of the requirements of the contractor is to have a site specific Emergency Response Plan and all employees are responsible to know their roles in an emergency. The document outlines the responsibilities for both the contractor and onsite Enbridge staff. A flow chart is provided to simplify the process and it includes all steps from the initial incident to reporting to the Project Director or Vice President if required.</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.
<p>Regulatory Requirement – OPR s. 18(1): If the company contracts for the provision of services in respect of the construction of a pipeline, the company shall (a) inform the contractor of all special conditions associated with the construction; (b) inform the contractor of all special safety practices and procedures necessitated by the conditions or features specific to the construction; (b.1) inform the contractor of the contractor’s responsibilities referred to in paragraph 6.5(1)(l) (of the OPR);</p> <p>Additional applicable requirements:</p> <ul style="list-style-type: none"> - National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clause 3.1.2 (d) 			
<p>Criteria Element 1: The company shall inform the contractor of all special conditions associated with the construction project; all special safety practices and procedures necessitated by the conditions or features specific to the construction; and inform the contractor of the contractor’s responsibilities referred to in paragraph 6.5(1)(l) (of the OPR).</p>			
<p>Assessed Area: The Process is Established</p>			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-26	Has the company established a process to communicate all special conditions associated with the construction project; all special safety practices and procedures necessitated by the conditions or features specific to the construction; and inform the contractor of the contractor’s responsibilities referred to in paragraph 6.5(1)(l) of the OPR?	C	Through document review Enbridge demonstrated what contractors have to go through as part of the selection process. A few of the steps include the contractor already having qualified to be on Enbridge’s Approved Supplier list, mandatory site visits to all facilities, and a Q&A session after the contractors have reviewed all of the documents and have visited the site. Enbridge provided 30 different documents that make up part of the information package contractors review prior to submitting their bids. As discussed earlier in these protocol questions, Enbridge provides the Health and Safety Management Plan and the EPP documents to all potential bidders. As an example the following are some of the additional documents that Enbridge supplied to bidders:

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<ul style="list-style-type: none"> • Heavy Equipment Camera Monitoring System; • Project Safety and Security Management Plan; • Contractor Safety Performance Scorecard; and • Waste Management Plan. <p>Once the general contractors are selected and prior to the start of the project, Enbridge had planned to have a safety kickoff program with the general contractors. According to the Construction Execution Plan the safety kick off program will do the following. <i>“Which will be provided to all field inspection and contractor field management personnel prior to commencing work on the ROW. This orientation will be provided to inspectors and contractor site management in advance of their mobilization on to the project. For those inspectors unavailable prior to mobilization their safety kickoff will be provided in the field. It is anticipated that the initial project safety kickoff will be held in conjunction with other training such as Supervisor Environmental Orientation, Scope and Contracting Strategy, Document Review, and Welding Seminars.”</i></p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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Regulatory Requirement - OPR s. 34: A company shall take all reasonable steps to inform all persons who may be associated with an emergency response activity on the pipeline of the practices and procedures to be followed and make available to them the relevant information that is consistent with that which is specified in the emergency procedures manual.

Additional applicable requirements:

- National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clause 3.1.2 (d)
- Canada Labour Code Part II, Sections 124, 125(1)(q),125(1)(s)

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<p>Criteria Element 1: The company shall establish a process for the internal and external communication of information related to emergency response activities specific to the pipeline construction project.</p>			
<p>Assessed Area: The Process is Established</p>			
<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-27	Has the company established a process to communicate its emergency response practices and procedures to everyone who may be impacted by the construction activities?	C	<p>For the construction phase of the Project Enbridge will require each contractor to have an Emergency Response Plan (ERP). Enbridge requires each ERP to include emergency numbers, guidelines for each type of potential incident, and flow charts outlining what to do by role. Enbridge provided the ERP's for all facilities and one contractor involved with the mainline construction work. During interviews Enbridge indicated field staff will visit with first responders as Project moves through various municipalities and towns to share the expected hazards with these groups.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-28	Has the company established a process to test its emergency response communication plan?	C	<p>During interviews, Enbridge stated it intends to test the mainline construction ERP through both a Table Top exercise and a crew level exercise. According to Enbridge documentation it is also planning an exercise at the Hardisty Terminal and a separate exercise for pump stations in 2017.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-29	Has the company identified all areas of the pipeline that may have limited or intermittent cell phone coverage, and has established a means to ensure alternate means of communication are made	C	<p>Enbridge stated it does not rely solely on cell phone coverage at its construction sites. Internet coverage is set up at construction sites and is used as the primary communication source. Cell phones are the secondary source. Enbridge occasionally</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

	available?		uses cell boosters in areas of weak service. Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.
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Topic: 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 (of the OPR), and for taking corrective and preventive actions if deficiencies are identified;

Additional applicable requirements:

- OPR 6.5(1)(p): establish and implement a process for generating, retaining and maintaining records that document the implementation of the management system and the programs referred to in section 55 (of the OPR) and for providing access to those who require them in the course of their duties;
- National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clauses 3.1.2 (h)(iv),(v),(vi);
- Canada Labour Code Part II, Sections 124, 125(1)(t)

Criteria Element 1: The company is to have 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 (of the OPR), and for taking corrective and preventive actions if deficiencies are identified

Assessed Area: The Process is Established

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-30	Has the company identified what monitoring activities are to be carried out; the method and frequency; and the records to be kept?	C	According to Enbridge's Canadian Pipeline Field Inspection Guide, under Inspector Responsibility, " <i>The Quality Assurance function shall take precedence over the production function from the standpoint of activity inspection. The technical performance and specified standard requirements shall not be sacrificed to accommodate productivity and/or schedule and cost.</i> "

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

		<p>The Project Safety Management Plan requires formal safety inspections to be conducted on a weekly basis, with the Contractor discussing the results of the Inspection at the next safety or tailgate meeting. The Plan states “<i>All formal inspections must be posted for review by the Contractor’s workers on site and forwarded to Contractor Project Manager responsible for the Project.</i>” Audits will be another tool used by Enbridge for monitoring construction activities. The Plan requires the Contractors to participate in audits as requested by Enbridge. A Safety Audit will be conducted on each major contractor at least once on each spread, anticipated to be completed at peak activity level. These audits will be done by a third party for objectivity. Enbridge indicated that an environmental audit had been considered but was not yet formally planned or scheduled.</p> <p>During interview and through document review Enbridge stated it is monitoring the mainline pipe production from the manufacturer through to stringing and backfill. Enbridge indicated it is directly monitoring the pipe from the manufactures site, to coating facility, and travel to field storage locations. Enbridge also indicated this is being done for all valves as well.</p> <p>As part of this process Enbridge stated it is trying a new technology for the tracking and monitoring of the mainline pipe. Each piece of pipe received at the time of manufacture a bar code and it is then tracked until it is placed in the ground and backfilled. Enbridge indicated it is attempting to this for all materials that will be buried in the ground on a trial basis.</p> <p>Enbridge indicated that every report and inspection document from the pipeline manufacturing monitoring work is reviewed and evaluated at the home office.</p> <p>The Line 3 Replacement Project Document Management Plan outlined how documents were to be managed throughout the Project life cycle, this includes both electronic and hard copy documents. The Plan “... <i>outlines methods to ensure that the project</i></p>
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*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p><i>information is controlled, available, filed, and retained according to Enbridge's regulatory and internal requirements."</i></p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
<p>AP-ENBRIDGE-31</p>	<p>Has the company established a process to ensure issues of concern found during monitoring activities are properly addressed in a timely manner?</p>	<p>C</p>	<p>From a quality assurance perspective, Enbridge supplied the following documents during the audit:</p> <ul style="list-style-type: none"> • • MP Quality Incident Response Procedure; • MP Quality Enhancement Report Procedure; • • MP Quality Bulletin Guidelines; • MP Quality Incident Leadership Review Guideline; and • MP Quality Incident Response Procedure Closure Form Guide. <p>These documents are applicable to Enbridge project activities, including engineering, procurement, construction, commissioning, and turnover stages. According to the MP Quality Incident Leadership Review document <i>"The review process also engages the Leadership of Enbridge, and the senior Leadership of the Engineering Consultants, Contractors and Supplier, to be active participants in the process of determine root causes and corrective actions to significant quality issues. The process focusses on maximizing the determination of lessons learned from the incident and subsequent broad sharing of the outcomes with the goal of preventing reoccurrences."</i></p> <p>In addition to the quality assurance documents provided, Enbridge also provided their Incident Investigation Standard. The purpose of this document is <i>"To determine the casual factors associated with incidents based on facts, and to implement controls to</i></p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			<p><i>prevent similar events from occurring.</i>” The document also requires all corrective actions to have targeted completion date and sponsors to ensure the work is done.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-32	Has the company established a process for handling deficiencies found during monitoring activities that require immediate attention?	C	<p>The documents listed in protocol question # 31 are applicable to this question as well. As part of using these procedures and guideline documents there is a ranking system that is used for each issue identified. The higher the ranked issue or concern the more immediate the attention that it will receive, up to and including the Vice President of Major Projects. Any safety issues or injuries will require the entire work crew to stop working.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
AP-ENBRIDGE-33	Has the company established a process to ensure appropriate corrective and preventative actions are put in place and followed up on?	C	<p>Enbridge’s IMS-01 document contains the Corrective and Preventative Action (CAPA) Process which defines the process for creating, administering, tracking, reporting and managing Corrective and Preventative Actions. The process states “<i>Commitments to Regulators should be treated as unalterable by the CAPA Owner.</i>” For high and medium impact level CAPA’s that are not progressing in a timely manner, they are to be raised to the Director level for further action.</p> <p>The Project Environmental Plan references the IMS-06 environmental management system. Within the IMS-06, if the event is a low impact event investigation, it follows the IMS-06 process standards which requires the investigation to be complete within 30 days. The IMS-06 document also requires any environmental event with a ranking higher than low impact is to follow the IMS-01 requirements.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

Regulatory Requirement - OPR s. 6.5(1)(g): A company shall, as part of its management system and the programs referred to in section 55, establish and implement a 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.

Additional applicable requirements:

- OPR 15: A company shall develop a quality assurance program for the purpose of ensuring that the pipe and component to be used in the pipeline meet the specifications referred to in section 14;
- National Energy Board Safety Advisory NEB SA 2016-01 - Pipeline Fittings Material Quality Assurance;
- National Energy Board Safety Advisory NEB SA 2016-01A – Pipeline Fittings Material Quality Assurance.

Criteria Element 1: The company is to have a process for identifying and monitoring compliance with all legal requirements including referenced standards, Board orders and Board conditions.

Assessed Area: The Process is Established

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-34	Has the company established a process to monitor construction activities for compliance to all legal requirements and applicable Board orders and conditions including the Board’s Safety Advisory NEB SA 2016-01 and NEB 2016-01A?	C	<p>Enbridge has developed a Master Compliance Registry, which is Enbridge’s overall legal registry to meet the OPR requirements. From the Master Compliance Register, Enbridge stated they used the specific applicable regulations and Conditions for this project and developed a project specific Project Compliance Record as a sub-set of the Master Compliance Register. Enbridge has developed a Project Compliance Record for this specific Project. At the time of the audit, Enbridge has developed controls, such as standards, plans, or specifications as necessary to address each regulatory requirement or Condition. The Board reviewed the Project Compliance Record and noted that it included all other applicable legal requirements such as referenced standards as specifically included in the OPR.</p> <p>During interviews, the Board asked Enbridge to demonstrate how the Boards Safety</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

		<p>Advisory's would be applied to this project, and then be considered for the Project Compliance Record. Enbridge staff was able to provide the demonstration.</p> <p>Enbridge described its supply chain management as related to the quality assurance aspects for the purchase of pipe and related materials. Enbridge explained how the Project Engineering team provides a material acquisition request that is then compared to the approved vendor list. The Quality Group would also review the proposal to determine what level of surveillance and inspection, i.e. onsite daily, monthly, inspector oversight, etc., would be required for the product that is to be purchased.</p> <p>During pipe production Enbridge has a large number of onsite inspectors to monitor the production and conduct Quality Assurance. These inspectors provide both daily and monthly reports to the home office where every report is evaluated. Inspectors follow the pipe from the manufacturing facility to the coating facility where they again closely monitor the coating process and provide Quality Assurance work. As previously discussed, Enbridge has placed a bar code on every piece of pipe and valve that will be going in the ground for this project on a trial basis. Enbridge anticipates being able to track each piece from date of manufacture until it is installed.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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Topic: 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 design, specification, standard or procedure and any change in the company's organizational structure or the legal requirements applicable to the company;

Additional applicable requirements:

- National Standard of Canada, CAN/CSA-Z662-15, Oil and gas pipeline systems, Clause 3.1.2 (g)

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

Criteria Element 1: The company is to have a process to identify and manage any change that could affect safety, security or the protection of the environment including any new hazard or risk, any change in design, specification, standard or procedure and any change in the company's organizational structure or the legal requirements applicable to the company.

Assessed Area: The process is established.

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-35	Has the company established a process to manage changes that occur during the pipeline construction project including design changes, regulatory changes and procedural changes?	C	<p>Enbridge provided its Master Compliance Register – Regulatory Management of Change process. The process is a sub-process of the IMS-01 Management of Change governance level process. The regulatory process <i>“is to establish and implement elements to ensure Enbridge implements appropriate compliance controls as required by new or revised legal requirements.”</i></p> <p>Enbridge's Management of Change document states <i>“Enbridge recognizes that changes are inevitable and initiated during the course of design, construction, operations, and maintenance and abandonment activities.”</i> Enbridge's IMS-01 Management of Change process contains sub- processes, examples of which include:</p> <ul style="list-style-type: none"> • Deviation Requests; • Governance Document Change; • Legal Requirements; • Organizational Change; and • Process Safety Information Change. <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

			for this item at the time of the audit.
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Topic: Legal Requirements

Regulatory Requirement: OPR s. 6.5(1)(g): establish and implement a 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; (h) establish and maintain a list of those legal requirements.

Criteria Element 1: The company is to have a process to identify and monitor legal requirements that relate to the project and have a list of those legal requirements including conditions for the project and have a process in place to demonstrate ongoing compliance.

Area Assessed: The process is established.

<i>Item Number</i>	<i>Indicators of Compliance</i>	<i>Assessment*</i>	<i>Assessment Notes</i>
AP-ENBRIDGE-36	Does the company have a concordance table or alternative in place to ensure it has incorporated compliance monitoring into how it oversees the project?	C	<p>Enbridge has developed a Master Compliance Registry, which is Enbridge’s overall legal registry to meet the OPR requirements. From the Master Compliance Register, Enbridge has created a separate list of applicable regulations and Conditions for this project and developed a project specific Project Compliance Record as a sub-set of the Master Compliance Register. At the time of the audit, Enbridge had developed controls, such as standards, plans, or specifications as necessary to address each regulatory requirement or Condition. During a demonstration of the Project Compliance Registry, Enbridge demonstrated how each item in the Registry was linked to each of its respective controls that had been developed to maintain compliance.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>

*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

<p>AP-ENBRIDGE-37</p>	<p>Has compliance monitoring been integrated into the oversight model to ensure ongoing communication of requirements and resolution of non-compliances?</p>	<p>C</p>	<p>Through documentation review and interviews Enbridge provided a series of processes and programs to demonstrate oversight and resolution of non-compliances. The Board noted that as it reviewed the Project specific documents, these documents were linked to the IMS-01 Governance level management system or to other management system documents such as IMS-06 the Environmental management system or IMS-04 Health and Safety management system. The organizational charts and the associated roles and responsibilities documents outline what level and type of oversight is required and how information is to be communicated through the project.</p> <p>Based on the scope of the audit, the Board did not identify any issues of non-compliance for this item at the time of the audit.</p>
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*Assessment Key: Compliant (C); Non-compliant (NC); Not Assessed (NA)

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;
- *Oil and Gas Operations Act* and associated regulations; and
- *Petroleum Resources Act* and associated regulations.

Additional regulatory requirements are contained within:

- 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 *National Energy Board Onshore Pipeline Regulations* (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 Board reviews documentation and samples records provided by the company in its demonstration of compliance and interviews corporate and regionally based staff. The Board also conducts separate but linked technical inspections of a representative sample of company facilities. This enables the Board to evaluate the adequacy, effectiveness and implementation of the management system and programs. The Board 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 25 April 2017, the Board informed Enbridge Pipeline Inc. (Enbridge) of its intent to audit the Line 3 Replacement Project from a pre-construction point of view. Board staff then provided Enbridge 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 staff was in contact with company staff on a regular basis to arrange and coordinate this audit. Enbridge established a digital access portal for Board staff to review documentation and records.

On 12 June 2017, Board Staff conducted an opening meeting with company representatives in Edmonton to confirm the Board's audit objectives, scope and process. Subsequent to the opening meeting, interviews were held at the company's office in Edmonton during the period 04 July to 07 July 2017. Throughout the audit, Board audit staff provided company representatives with daily summaries with action items, where required.

On 20 July 2017, the Board held an audit pre close-out meeting with company representatives. At this meeting, Board staff and Enbridge staff discussed the potential deficiency identified during the audit. At that time the company was provided with the opportunity to present additional evidence to rectify potential deficiencies.

Enbridge chose to decline the final meeting and the single finding of non-compliance was accepted.



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.

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 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

CAEPLA: Canadian Association of Energy and Pipeline Landowners Associations

CAP: Corrective Action Plan

CAPA: Corrective Action / Preventive Action

CEP: Construction Execution Plan

CLC: *Canada Labour Code, Part II*

CMP : Compliance Management Plan

COHSR: *Canada Occupational Health and Safety Regulations*

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

EHS: Environment, health and safety

EI: Environmental Inspector

EPL: Environment Project Lead

EPP: Environmental Protection Plan

ERP: Emergency Response Plan

HSMP: Health and Safety Management Plan

IMS: Integrated Management System

LP: Liquid Pipelines

MOC: Management of change

MP: Major Projects

NEB: National Energy Board

OPR: *National Energy Board Onshore Pipeline Regulations*

PSP: Project Safety Plan

QMP: Quality Management Plan

RFP: Request for Proposal

SME: Subject Matter Expert

SWP: Safe Work Permit

WA: Work Authorization

Appendix V: Documents and Records Reviewed

The following documents were reviewed as part of the Enbridge Pre-construction audit:

IMS Overview - NEB Line 3 Pre-Construction Audit - Final
Major Projects Overview - NEB Line 3 Pre-Construction Audit
NEB Opening Presentation - June 12 2017
IMS-01 Governing Policies and Process
IMS-04 Occupational Health and Safety Management System
LP_MP Safety Manual 1
IMS-06 Environmental Management System
Environmental Guidelines for Construction
Response to AP.01 Integration - Management System
Response to AP.02 Integration – Reporting Hazards
Roles and Responsibilities
Line 3 Replacement Org Chart
Enbridge Accountable Officer Org Chart
L3FR Terminals Organizational Chart
Facilities Job Descriptions
Response to AP.03 Structure – Job Descriptions
Response to AP.04 Org. Structure – Legal Requirements
Team Job Descriptions.
L3R Field Construction Org Chart Spreads 1-4
Construction Execution Plan
Response to AP.05 Org. Structure - Legal Requirements
Response to AP.06 Org. Structure - Inspectors
Response to AP.07 Org. Structure - Halt Construction
Schedule E-14 - Construction Inspector Pre-Qualification
Response to AP.08 Competency and Training - Task Inventory
IMS-04 OHS - Contractor Safety Management
Contractor Safety Management Program
Contractor Pre-Qualification Process
Field Inspection Guide - 1.5.5 Inspector Responsibility
Contractor Safety Pre-Qualification Form
Response to AP.09 Competency and Training - Contractor Selection
LP_MP Safety Manual
Project Safety Management Plan
LP_MP Safety Handbook
Annual Contractor Orientation Requirements



Response to AP.10 Competency and Training - Training Program
Response to AP.11 Competency and Training - Competency Evaluation
IMS-01 - Hazard and Risk Management Process
Process Hazard Analysis - Stations
Pre-Project Hazard Analysis
Canadian Major Projects Safe Work Guidelines
Traffic Accommodation Strategy - Alberta
Traffic Accommodation Strategy - Saskatchewan
Traffic Accommodation Strategy - Manitoba
Environmental Plan
Risk Management Plan
LP_MP Safety Manual
IMS-06 Environmental Management System
Project Safety Management Plan
Risk Register - Mainline
Risk Register - Stations
Risk Register - YP Terminal
Process Hazard Analysis - Mainline
Response to AP.12 Hazards and Risk - Hazard and Potential Hazard Identification
Project Hazard Analysis - Mainline - What-If
Project Hazard Analysis - Stations - HAZOP
Pre-Project Hazard Analysis
LP_MP Safety Manual
Response to AP.13 Hazards and Risk - Hazard Inventory
Process Hazard Analysis - Stations
Response to AP.14 Hazards and Risk - Risk Assessment
Project Management Plan
LP_MP Safety Manual
MP Major Projects Report Guidelines
Major Project Report Slide Templates
Monthly Project Report - June 2017
Response to AP.15 Hazards and Risk - Hazards, Risk and Incident Communication.
Response to AP.16 Hazards and Risk - Hazard Change Management
Canadian Major Project Safe Work Guidelines
OJ Emergency Response - 2017
Response to AP.17 Hazards and Risk - Controls
CAN Pipeline Field Inspection Guide - MP-CPCS-GUID-002
Project Safety Management Plan
Response to AP.18 Hazards and Risk - Public and Environmental Hazards



Project Management Plan
Mainline Project Management Plan
Communication - Project Communication
Communication - Roles, Responsibilities and Authorities
Environmental Protection Plan, Section 1.5
Communication - Regulatory and Design Change Management
Communication - Corrective Actions
Security Management Plan
Response to AP.24 Communication - Site Access Safety
Operations and Maintenance Manual Book 1 02-02-01 Incident Reporting CAN
Project Safety Management Plan - Mainline
Environmental Incident Reporting Process Description
Environment Incident Investigation Report
Response to AP.25 Communication - Reportable Incidents
Response to AP.26 Communication - Special Conditions
ERP, L3R - Spreads 1 and 2
ERP-8, L3R, Craik
ERP-9, L3R, Bethune
ERP-10, L3R, Richardson
ERP-11, L3R, Odessa
ERP-12, L3R, Glenavon
ERP-13, L3R, Langbank
ERP-14, L3R, Cromer
ERP-15, L3R, West Souris
ERP-16, L3R, Glenboro
ERP-17, L3R, St Leon
ERP, L3R - Spreads 3 and 4
ERP-18, L3R, Gretna
ERP-1, L3R, Hardisty Terminal
ERP-2, L3R, Metiskow
ERP-3, L3R, Cactus Lake
ERP-4, L3R, Kerrobert
ERP-5, L3R, Herschel
ERP-6, L3R, West Milden
ERP-7, L3R, Loreburn
Response to AP.27 Communication - Emergency Response
Tabletop Exercise Minutes and Report
Tabletop Exercise Report
Response to AP.28 Communication - Emergency Response Testing



Response to AP.29 Communication - Limited Cell Phone Coverage
Supply Chain Management Protocol
Enbridge PSC-001 - Pipeline Construction
Enbridge PCS-002 - Pipeline Welding
Enbridge PCS-003 - Non-Destructive Testing
Supplier Surveillance Manual ENB-QMS-MAN-024
Expediting Procedure - SCM-COR-MM-PROC-002
Logistics Procedure - MP-COR-MM-PROC-004
Material Receiving Procedure - SCM-COR-MM-PROC-001
Surplus Management Process - SCM-IR-PRCS-001
MP Quality Manual MP-QMS-QM-001
CAN Pipeline Field Inspection Guide - MP-CPCS-GUID-002
MP ITP Preparation Guideline - ENB-QMS-GUID-017
Response to AP.30 Inspection - Material and Equipment Quality Monitoring
MP Quality Incident Response Procedure - ENB-QMS-PROC-027
MP Quality Enhancement Report Procedure - ENB-QMS-PROC-022
MP Quality Bulletin Guidelines - ENB-QMS-GUID-005
MP Quality Incident Leadership Review MP-QMS-GUID-036
Incident Response Procedure Closure Form Guide
OMM Book 1 02-02-03 Incident Investigation
Response to AP.31 Inspection - Quality Corrective Actions
Incident Leadership Review Guideline MP-QMS-GUID-036
Response to AP.32 Inspection - Quality Immediate Action
Response to AP.33 Inspection - Corrective Action Follow Up
Response to AP.34 Inspection - Legal Requirements Monitoring
Response to AP.35 Management of Change
Compliance and Ethics Management System
MCR Regulatory Change Process
MCR Regulatory Management of Change Process
Project Compliance Management Process
Project Regulatory Commitment and Condition Management
Response to AP.36 Legal Requirement - Concordance
Response to AP.37 Legal Requirement - Resolution of Non-Compliance
Inventory of Hazard and Potential Hazard Categories
Response to IR.40 Hazards and Risk - Enbridge Hazard Inventory
LP_MP Safety Handbook for Contractor Personnel
Enbridge Environmental Orientation Video 2015
Enbridge Environmental Orientation Video Subject Matter
Response to IR.41 - AP.10 Competency and Training - Worker Orientations



Environmental Protection Plan - Facility
Response to IR.42 - L3FR Environmental Protection Plan - Facility
L3FR - Environmental Protection Plan - Mainline
L3FR - Environmental Protection Plan - Facility
Response to IR.44 - Public and Environmental Hazards - Environmental Inspection
Hazard Identification Process
Risk Analysis Process
Risk Evaluation Process
Response to IR.43 - AP.12 Hazard and Risk Management Processes
MP QCC RFI Procedure ENB-ENG-PROC-007
Contract Administration Procedure
Response to IR.49 - Communication - Regulatory and Design Change Management
L3FR Inspector Training Agenda - July 4 to 6 2017
Response to IR.45 - Competency and Training - Inspector Training
Response to IR.46 - Competency and Training - Contractor Leadership Training
L3 Pre-Mobilization CMT Readiness Session.pdf
Response to IR.47 - Hazards and Risk - Reporting
L3FR - Land and ROW Acquisition Plan
Land Services - Construction Support Process Document
Response to IR.48 Hazards and Risk - Land Services Controls
(01) 255-002 RFP - Appendix A final apr24kr
(03) Schedule A - General Conditions
(05) Schedule C - The Workfinal
(06) Schedule D - Commercial Terms
(07) Schedule E - Company's Policies and Procedures
HARDISTY CONTROL PLAN 2016
D-1.8-3375-10-0
LP-MP Safety Manual
MP Hand Injury Prevention Program
ELP-MP CDN Contractor DnA Policy
COAA DnA Guidelines
Heavy Equip Camera Monitoring System
Safe Communication While Driving Policy
Health and Safety Policy - Major Projects
Project Safety and Security Management Plan
Project Safety Plan Requirement
MP Safe Work Practice Open Blade
MP Work Practice Winter Footwear
MP Ground Disturbance Requirements



Contractor Safety Performance Scorecard
Insp and Test Plan (ITP) Prep Guideline.pdf
MP Contractor Proj Controls Reporting Reqmts
Schedule Management Plan for Contractors
L3RP-FacilityEPP-R1b-04-17-17
Waste Management Plan LP - Canada
ENB Water withdrawal and release notification
EHA Facilities Rev 4 Final proof
Field Checklist for diversion of water
Response to IR.50 - Communication - Special Conditions
L3FR Document Management Plan
Response to IR.51 - Inspection - Records Management
L3RP EPP Update_1 08-09-2017
L3RP PSMP Appendix 19 PSSMP Rev.1.9 July 28 2017

Appendix VI: Interviewee List

Company Representative	Job Title
██████████	Manger, Pipeline Compliance
██████████	Manager, Program Safety Canadian Mainline
██████████	Sr. Safety Coordinator, Facilities
██████████	Construction Manger
██████████	Specialist – Pipeline Compliance
██████████	Manager Environment - Canada
██████████	Environmental Analyst
██████████	Sr. Quality Coordinator
██████████	Quality Coordinator
██████████	Inspections Specialist Construction
██████████	Sr. Advisor, Regulatory Affairs
██████████	Manager, Facilities Engineer
██████████	Manger, Engineering Terminals
██████████	Manger Engineering Pipeline
██████████	Manager, Regulatory Compliance
██████████	Regulatory Compliance Advisor
██████████	Supervisor, SCM Enbridge
██████████ i	Manager, SCM Materials Management
██████████	Supervisor Project Services – Enbridge
██████████	Supervisor Project Integration

[REDACTED]	Manager, PMO, Value Engineering, Strategy and Analysis
[REDACTED]	Manager Project Controls Canada