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May 26, 2016

Ms. Sheri Young  
Secretary to the Board  
National Energy Board  
517-10<sup>th</sup> Avenue S.W.  
Calgary, Alberta T2R 0A8

**Attention: Sheri Young, Secretary of the Board**

Dear Ms. Young,

**Re: National Energy Board (NEB) Onshore Pipeline Regulations, (OPR) Final Audit Reports.  
File OF-Surv-OpAud-E101-2014-2015 03**

As per the direction from the NEB letter dated 28 April, 2016, Enbridge submits the attached revision to its April 29, 2015 Corrective Action Plan (CAP). Appendix A summarizes the modifications made from the previous version. Appendix B contains the fully updated CAP.

If you have any questions please contact me at [redacted] or by e-mail at [redacted].

Sincerely,



## **APPENDIX A**

## INTRODUCTION

On March 31<sup>st</sup>, 2015, the National Energy Board (“NEB”) provided its Final Audit Reports (“Reports”) covering the Enbridge Safety Management, Environmental Protection, Integrity Management, Emergency Management, Crossings and Public Awareness Programs (“Programs”) to Enbridge Pipelines Inc. (“Enbridge”) and its Board-Regulated Subsidiaries. Within the Reports, the NEB directed Enbridge to provide a Corrective Action Plan (CAP) within 30 days of receiving the report.

On April 30, 2015 Enbridge submitted a CAP to the NEB and subsequently received a letter from the NEB, dated April 28 2016, approving the CAP subject to additional direction. As per the NEB’s direction, this document includes the proposed revisions to the Enbridge CAP for NEB approval.

## SUMMARY

Enbridge developed 29 unique CAPs to address all findings associated with the Reports and scope of the audit. The following table contains the full list of Enbridge CAPs along with a summary of the NEB’s CAP approval letter direction and Enbridge’s response.

| Enbridge CAP #  | CAP Topic  | NEB CAP Approval Letter Direction   | Enbridge Response Summary               |
|-----------------|--|-------------------------------------|---|
| 1.2MS-1         | Policy, Integrity Management Program                 | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 1.2EMP-1        | Policy, Emergency Management Program                 | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 1.2IMP-1        | Policy, Integrated Management System                 | Approved                            | N/A                                     |
| 2.1MS-1         | Hazard, Risk Evaluation and Control                  | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| <b>2.1IMP-1</b> | <b>H2S Hazard</b>                                    | <b>CAP Revision Required</b>        | <b>Revised CAP provided.</b>            |
| 2.2MS-1         | Master Compliance Registry                           | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 2.2PAP-1        | PAP Effectiveness                                    | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 2.3MS-1         | Explicit Goals                                       | Approved                            | N/A                                     |
| 2.3MS-2         | PAP/Crossings Objective/targets/performance measures | Approved                            | N/A                                     |
| 2.4MS-1         | Human Resource Need                                  | Approved                            | N/A                                     |
| <b>2.4EMP-1</b> | <b>Human Resource Need for Incidents</b>             | <b>CAP Revision Required</b>        | <b>Revised CAP provided.</b>            |
| 3.1MS-1         | Operational Activities                               | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 3.1IMP-1        | Geohazard Management Program                         | Approved                            | N/A                                     |
| 3.1IMP-2        | Mechanical Damage Management Program                 | Approved                            | N/A                                     |
| 3.2MS-1         | Contingency Plans                                    | Approved                            | N/A                                     |
| 3.3MS-1         | Management of Change                                 | Approved                            | N/A                                     |
| 3.4MS-1         | Training and Competency                              | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| <b>3.5MS-1</b>  | <b>Communications</b>                                | <b>CAP Revision Required</b>        | <b>Revised CAP provided.</b>            |
| 3.6MS-1         | Identification of Documents                          | Approved                            | N/A                                     |
| 3.6MS-2         | Documentation and Document Control                   | Approved                            | N/A                                     |
| 4.1MS-1         | Surveillance and Monitoring Program                  | Approved                            | N/A                                     |

|          |  |                                     |   |
|----------|--|-------------------------------------|---|
| 4.1MS-2  | Aerial Patrols                         | Approved                            | N/A                                     |
| 4.1ENV-1 | Environmental Program Self Assessments | Approved                            | N/A                                     |
| 4.1PAP-1 | Tracking of Results                    | Approved                            | N/A                                     |
| 4.2MS-1  | Investigation Process Implementation   | Approved                            | N/A                                     |
| 4.3MS-1  | Internal Audits                        | Approved + Additional NEB Direction | Committed to comply with NEB direction. |
| 4.4MS-1  | Records Management                     | Approved                            | N/A                                     |
| 4.4EMP-2 | Emergency Management Records           | Approved                            | N/A                                     |
| 5.1MS-1  | Management Review                      | Approved                            | N/A                                     |

## PROPOSED CAP REVISIONS

Enbridge has provided revisions to 3 of the 29 originally submitted CAPs.

The numbering system for the CAPs has been maintained for ease of reference to the originally submitted CAP.

### CAP 2.1 IMP-1 – H<sub>2</sub>S Hazard

#### 5.3 Finding 3

##### Program Level Finding

##### Integrity Management Program

- Enbridge did not demonstrate that it had adequately identified the potential hazard associated with hydrogen sulfide in its transported crude. While Enbridge routinely monitors its crude for constituents to determine compliance with its General Terms and Conditions, including total sulfur content, Enbridge did not monitor for dissolved hydrogen sulfide gas.
- [Enbridge did not demonstrate it complies with CSA Z662-11, Clause 9.10.1.5, and CSA Z662-11 Clause 16.2.1\(b\)](#)

##### Corrective Action

##### CAP 2.1 IMP-1 – H<sub>2</sub>S Hazard

Enbridge has not experienced, nor is aware of any failures within the liquids pipeline industry associated with H<sub>2</sub>S. Enbridge will complete a risk evaluation of H<sub>2</sub>S as a hazard, or potential hazard. Controls will be modified and/or developed and implemented based on the evaluation's outcome. [Enbridge has implemented a surveillance protocol to ensure compliance with the current version of CSA Z662.](#)

##### Milestone Dates

##### Milestone for CAP 2.1 IMP-1

- Add H<sub>2</sub>S as a hazard or potential hazard to the inventory – Q2, 2015
- Complete risk evaluation of H<sub>2</sub>S – Q3, 2015

- Complete modification and/or development and implementation new controls, as required – Q4, 2015
- Implement a surveillance protocol compliant with the current version of CSA Z662 - COMPLETE

### Corrective Action

\*See CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control under Section 5.4

### Milestone Dates

\*See Milestones for CAP 2.1 MS-1 under Section 5.4

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## CAP 2.4 EMP-1 – Human Resource Needs For Incidents

### 8.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

- Enbridge did not demonstrate that it had documented an evaluation of the human resource needs required during an actual response.

#### Corrective Action

##### CAP 2.4 EMP-1 – Human Resource Need for Incidents

Enbridge will develop and document an annual process that evaluates human resource needs required to respond in an emergency and as part of emergency planning. This process will ensure that Enbridge can demonstrate its human resources on a range of scenarios. are sufficient for a hypothetical high consequence scenario. This sScenarios will be derived from the system-wide hazard inventory and an annual risk assessment performed in each region. This process will include a method to evaluate the internal and external human resource requirements (numbers and skill sets) and human resource allocation within the region.

#### Milestone Dates

##### Milestones for CAP 2.4 EMP-1

- Document and approve process for evaluation of a hypothetical high consequence scenarios – Q4, 2015
- Apply process to an Enbridge operating region resulting in a documented evaluation of human resource needs required to respond to the scenarios – Q2, 2016

## CAP 3.5 MS-1 – Communications

### 13.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

The Board found deficiencies relating to Enbridge's Continuing Education and Liaison requirements.

#### Corrective Action

\*See CAP 3.5 MS-1 – Communications under Section 13.2

#### Milestone Dates

\*See Milestone for CAP 3.5 MS-1 under Section 13.2

### 13.2 Finding 2

#### Management System Level Finding

##### Common to all 6 Reports

Enbridge has established an external communication plan that identifies and is applied to the appropriate stakeholders. However:

- While Enbridge has been communicating internally, its practices are deficient. Enbridge has not developed a communication plan that met the Board's expectations.
- Enbridge has not established or implemented a communication process that meets the Board's management system process expectations.
- Operational information was not being communicated (Public Awareness & Crossing) – see CAP 3.1MS-1
- Communication of regulatory change required improvement (Public Awareness & Crossing) – see CAP 2.2MS-1
- Enbridge did not have a formal, documented communication plan that meets the requirements of CSA Z662-11 clause 3.1.2(d) (Integrity Management Program & Crossing)
- Enbridge did not demonstrate that it had an external communication process directly applicable to its continuing education program (Emergency Response)

#### Corrective Action

##### CAP 3.5 MS-1 – Communications

Enbridge will develop a management system level Internal and External Communication process that aligns with existing revised internal and external communication processes.

#### Milestone Dates

Milestones for CAP 3.5 MS-1

- Document and approve Internal and External Communication process – Q3, 2015
- Document and approve Implementation Plan for the Internal and External Communication process– Q3, 2015
- Complete execution of the Implementation Plan for the Internal and External Communication process – Q4, 2015

## **APPENDIX B**





# Corrective Action Plan (CAP)

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Submitted by Enbridge Pipelines Inc. and  
its National Energy Board – Regulated Subsidiaries  
to address non-compliant findings in the  
National Energy Board's  
*Final Audit Reports*

OF-Surv-OpAud-E101-2014-2015 03

**May 20, 2016**

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## 1 INTRODUCTION

On March 31<sup>st</sup>, 2015, the National Energy Board (“NEB”) provided its Final Audit Reports (“Reports”) covering the Enbridge Safety Management, Environmental Protection, Integrity Management, Emergency Management, Crossings and Public Awareness Programs (“Programs”) to Enbridge Pipelines Inc. (“Enbridge”) and its Board-Regulated Subsidiaries. Within the Reports, the NEB directed Enbridge to provide a Corrective Action Plan (CAP) within 30 days of receiving the report.

Enbridge recognizes the importance of the National Energy Board Onshore Pipeline Regulations (“OPR”) as they relate to management systems. Well documented management systems play an important role in maintaining and ensuring the health and safety of people and the protection of the environment. Independent audits of these systems also play an important role in ensuring accountability, as well as broadening perspectives as to how to improve processes within an organization.

The audit conducted in 2014 was recognized as one of the largest audits undertaken by both the NEB and Enbridge. In several communications and interviews with the NEB Auditors, they took the time to acknowledge our well-established programs and excellent operating history. It was also recognized that the improvements to Enbridge’s safety culture are among the most significant positive changes they have seen in all audits conducted since 2009.

The Reports acknowledge that Enbridge’s Integrated Management System (“IMS”) design has a scope broader than the OPR requirements and that most of the findings are due to our transition status from current state to a fully implemented IMS. To date, our carefully planned IMS development and implementation has progressed well, while building upon exceptional existing management programs for safety, security and environmental protection. As discussed with the NEB Auditors, properly documenting and embedding the processes into the culture of an organization as complex as Enbridge is an undertaking that requires considerable time (in years) and effort. As a priority, Enbridge has been careful to progress in a manner that is both timely and addresses the risk of disruption to our organization and activities. Rushing the change management process can result in the IMS not being fully embraced by the organization and/or causing attendant safety risks through the transition. Therefore, proper scoping, planning and implementation is required.

## 2 AUDIT FINDINGS & CORRECTIVE ACTION PLANS

The 2014 NEB Final Audit Reports were issued as 6 individual Reports covering the Enbridge Safety Management, Environmental Protection, Integrity Management, Emergency Management, Crossings and Public Awareness Programs (“Programs”). If a finding was found associated with Enbridge’s IMS, these were incorporated in multiple reports, often all 6.

All NEB findings from the audit were structured under 17 protocol elements as follows:

| NEB Element                        | NEB Sub-Element  |
|------------------------------------|--|
| 1.0 Policy and Commitment          | 1.1 Leadership Accountability                                    |
|                                    | 1.2 Policy and Commitment Statements                             |
| 2.0 Planning                       | 2.1 Hazard Identification, Risk Assessment and Control           |
|                                    | 2.2 Legal Requirements   |
|                                    | 2.3 Goals, Objectives and Targets                                |
|                                    | 2.4 Organizational Structure, Roles and Responsibilities         |
| 3.0 Implementation                 | 3.1 Operational Control - Normal Operations                      |
|                                    | 3.1 Operational Control - Normal Operations                      |
|                                    | 3.2 Operational Control - Upset or Abnormal Operating Conditions |
|                                    | 3.3 Management of Change   |
|                                    | 3.4 Training, Competency and Evaluation                          |
|                                    | 3.5 Communication  |
| 4.0 Checking and Corrective Action | 3.6 Documentation and Document Control                           |
|                                    | 4.1 Inspection, Measurement and Monitoring                       |
|                                    | 4.1 Inspection, Measurement and Monitoring                       |
|                                    | 4.2 Investigation and Reporting and Near-Misses                  |
|                                    | 4.3 Internal Audits  |
| 5.0 Management Review              | 4.4 Records Management   |
|                                    | 5.1 Management Review  |

Enbridge has developed 29 unique CAPs to address all findings associated with the Reports and scope of the audit.

| Enbridge CAP # | CAP Topic  |
|----------------|--|
| 1.2MS-1        | Policy, Integrity Management Program                 |
| 1.2EMP-1       | Policy, Emergency Management Program                 |
| 1.2IMP-1       | Policy, Integrated Management System                 |
| 2.1MS-1        | Hazard, Risk Evaluation and Control                  |
| 2.1IMP-1       | H2S Hazard   |
| 2.2MS-1        | Master Compliance Registry                           |
| 2.2PAP-1       | PAP Effectiveness                                    |
| 2.3MS-1        | Explicit Goals                                       |
| 2.3MS-2        | PAP/Crossings Objective/targets/performance measures |
| 2.4MS-1        | Human Resource Need                                  |
| 2.4EMP-1       | Human Resource Need for Incidents                    |
| 3.1MS-1        | Operational Activities                               |
| 3.1IMP-1       | Geohazard Management Program                         |
| 3.1IMP-2       | Mechanical Damage Management Program                 |
| 3.2MS-1        | Contingency Plans                                    |
| 3.3MS-1        | Management of Change                                 |
| 3.4MS-1        | Training and Competency                              |
| 3.5MS-1        | Communications                                       |
| 3.6MS-1        | Identification of Documents                          |
| 3.6MS-2        | Documentation and Document Control                   |
| 4.1MS-1        | Surveillance and Monitoring Program                  |
| 4.1MS-2        | Aerial Patrols                                       |
| 4.1ENV-1       | Environmental Program Self Assessments               |
| 4.1PAP-1       | Tracking of Results                                  |
| 4.2MS-1        | Investigation Process Implementation                 |
| 4.3MS-1        | Internal Audits                                      |
| 4.4MS-1        | Records Management                                   |
| 4.4EMP-2       | Emergency Management Records                         |
| 5.1MS-1        | Management Review                                    |

A summary of the corrective action and key milestones associated with each CAP have been aligned to all of the NEB findings. It should be noted that Enbridge has previously provided its comments relating to whether the findings are required under explicit wording in the Onshore Pipeline Regulations. This response should not be construed as an acknowledgment of non-compliance with the regulations, but rather an acknowledgment of the NEB Audit findings upon which Enbridge has prepared its CAP. Enbridge has re-prioritized its 2015 planned activities and initiatives to develop milestone timelines and sequencing of resources to successfully implement the CAPs and address the NEB Report findings while ensuring that Enbridge continues to manage the safety, security and environmental protection of its pipeline system. Enbridge will strive to meet all target timelines identified, but may have to adjust its schedule as CAPs are further developed, documented and implemented.

Below is a table linking the 29 Enbridge CAPs to the NEB findings in the Reports:

| NEB Protocol (Report Section) | Reference | Finding Type | NEB Audit Report*       | Enbridge CAP # | CAP Topic  |
|-------------------------------|-----------|--------------|-------------------------|----------------|--|
| 1.1                           | N/A       | N/A          | N/A                     | N/A            | N/A  |
| 1.2<br>(Section 4)            | Finding 1 | Program      | IMP                     | 1.2IMP-1       | Policy, Integrity Management Program                       |
|                               | Finding 2 |              | EMP                     | 1.2EMP-1       | Policy, Emergency Management Program                       |
|                               | Finding 3 | Mgmt. System | All                     | 1.2MS-1        | Policy, Integrated Management System                       |
| 2.1<br>(Section 5)            | Finding 1 | Program      | EMP                     | 2.1MS-1        | Hazard, Risk Evaluation and Control                        |
|                               | Finding 2 |              | EPP                     | 2.1MS-1        | Hazard, Risk Evaluation and Control                        |
|                               | Finding 3 |              | IMP                     | 2.1IMP-1       | H <sub>2</sub> S Hazard                                    |
|                               | Finding 4 | Mgmt. System | EMP, EPP, IMP, PAP, SMP | 2.1MS-1        | Hazard, Risk Evaluation and Control                        |
|                               | Finding 5 |              | EMP, EPP, IMP, SMP      | 2.1MS-1        | Hazard, Risk Evaluation and Control                        |
| 2.2<br>(Section 6)            | Finding 1 | Program      | CR, PAP                 | 2.2PAP-1       | PAP Effectiveness  |
|                               | Finding 2 |              | EPP                     | 2.2MS-1        | Master Compliance Registry                                 |
|                               | Finding 3 | Mgmt. System | All                     | 2.2MS-1        | Master Compliance Registry                                 |
| 2.3<br>(Section 7)            | Finding 1 | Program      | CR, PAP                 | 2.3MS-2        | PAP/Crossings Objectives, Targets and Performance Measures |
|                               | Finding 2 | Mgmt. System | CR, EMP, EPP, IMP, PAP  | 2.3MS-1        | Explicit Goals   |
| 2.4<br>(Section 8)            | Finding 1 | Program      | EMP                     | 2.4EMP-1       | Human Resource Need for Incidents                          |
|                               | Finding 2 | Mgmt. System | All                     | 2.4MS-1        | Human Resource Need  |
| 3.1<br>(Section 9)            | Finding 1 | Program      | IMP                     | 3.1IMP-1       | Geohazard Management Program                               |
|                               | Finding 2 |              | IMP                     | 3.1IMP-2       | Mechanical Damage Management Program                       |
|                               | Finding 3 | Mgmt. System | EPP, IMP, SMP           | 3.1MS-1        | Operational Activities                                     |
| 3.2<br>(Section 10)           | Finding 1 | Program      | EMP                     | 2.1MS-1        | Hazard, Risk Evaluation and Control                        |
|                               | Finding 2 | Mgmt. System | EMP, EPP, IMP, SMP      | 3.2MS-1        | Contingency Plans  |
| 3.3<br>(Section 11)           | Finding 1 | Program      | EMP, EPP, IMP           | 3.3MS-1        | Management of Change                                       |
|                               | Finding 2 | Mgmt. System | All                     | 3.3MS-1        | Management of Change                                       |
| 3.4<br>(Section 12)           | Finding 1 | Program      | EMP                     | 3.4MS-1        | Training and Competency                                    |
|                               | Finding 2 | Mgmt. System | EMP, EPP, IMP, PAP, SMP | 3.4MS-1        | Training and Competency                                    |
| 3.5<br>(Section 13)           | Finding 1 | Program      | EMP                     | 3.5MS-1        | Communications   |
|                               | Finding 2 | Mgmt. System | All                     | 3.5MS-1        | Communications   |
| 3.6<br>(Section 14)           | N/A       | Program      | N/A                     | N/A            | N/A  |
|                               | Finding 1 | Mgmt. System | EMP, EPP, IMP, SMP      | 3.6MS-1        | Documentation and Document Control                         |
|                               | Finding 2 |              | EMP, EPP, IMP, SMP      | 3.6MS-2        | Identification of Documents                                |
| 4.1<br>(Section 15)           | Finding 1 | Program      | EPP                     | 4.1ENV-1       | Environmental Program Self Assessments                     |
|                               | Finding 2 |              | PAP                     | 4.3MS-1        | Internal Audits  |
|                               | Finding 3 |              | PAP                     | 4.1PAP-1       | Tracking of Results  |
|                               | Finding 4 | Mgmt. System | CR                      | 4.1MS-2        | Aerial Patrols   |
|                               | Finding 5 |              | EMP, EPP, IMP           | 4.1MS-1        | Surveillance and Monitoring Program                        |
|                               | Finding 6 |              | EPP, IMP                | 4.1MS-2        | Aerial Patrols   |
| 4.2<br>(Section 16)           | N/A       | Program      | N/A                     | N/A            | N/A  |
|                               | Finding 1 | Mgmt. System | EMP, EPP, IMP, SMP      | 4.2MS-1        | Investigation Process Implementation                       |
| 4.3<br>(Section 17)           | Finding 1 | Program      | PAP                     | 4.3MS-1        | Internal Audits  |
|                               | Finding 2 | Mgmt. System | All                     | 4.3MS-1        | Internal Audits  |
|                               | Finding 3 |              | EMP, EPP                | 4.3MS-1        | Internal Audits  |
| 4.4<br>(Section 18)           | Finding 1 | Program      | EMP                     | 4.4EMP-1       | Emergency Management Records                               |
|                               | Finding 2 | Mgmt. System | EMP, EPP, IMP, SMP      | 4.4MS-1        | Records Management   |
| 5.1<br>(Section 19)           | Finding 1 | Program      | CR                      | 4.3MS-1        | Internal Audits  |
|                               | Finding 2 | Mgmt. System | All                     | 5.1MS-1        | Management Review  |

\* CR – Third Party Crossings, IMP – Integrity Management Program, EMP – Emergency Management Program, PAP – Public Awareness Program, EPP – Environmental Management Program, SMP – Safety Management Program

Consistent with our commitment to continual improvement and aligned with our understanding of the NEB’s expectations, Enbridge has created a CAP with relatively accelerated completion dates for interim and final milestones. The tables below demonstrate the targeted number of milestone commitments per quarter and number of CAPs that we anticipate completing. As can be seen in the table, Enbridge has already completed 9 of our milestones since the completion of the audit in late 2014.

|  | Q1,<br>2015 | Q2,<br>2015 | Q3,<br>2015 | Q4,<br>2015 | Q1,<br>2016 | Q2,<br>2016 | >Q2,<br>2016 | TOTAL |
|--|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------|
| # of Enbridge CAP Milestones Completed | 9           | 14          | 32          | 18          | 9           | 7           | 3            | 92    |
| # Enbridge CAPs Completed              | 0           | 2           | 4           | 14          | 3           | 4           | 2            | 29    |

### 3 CAP RESPONSE METHODOLOGY

Enbridge has developed internal standards and guidelines to ensure proper and successful implementation of processes within its IMS. These documents provide direction to Enbridge management system and governing process owners to ensure a consistent, effective and efficient implementation. Given that the majority of the 29 Enbridge CAPs are directly related to the IMS, Enbridge purposefully used wording in developing its milestones that align with these standards and guidelines.

The IMS standards and guidelines follow 3 high level steps:

- 1) Documented/modified and approved IMS process
- 2) Documented and approved Implementation Plan for the process
- 3) Completed execution of the Implementation Plan for the process

#### Step 1 – Approval Process

A new process/policy or modification to an existing process/policy must first be documented and formally approved before an Implementation Plan can be developed. New management systems, major revisions to governing processes and changes to functions or mandates require approval from our Integrated Management System Executive Committee. Revisions to existing management systems, and processes within a management system, require approval by the Management System Owner. Creation of new or changes to existing policies require approval of the LP President.

#### Step 2 – Implementation Plan

Effective implementation provides targeted information and training to those who have a role in applying or complying with the requirements of the IMS processes. The following five activities are undertaken as part of developing an Implementation Plan for an IMS process:

- Define the Change
- Stakeholder Analysis
- Change Management Approach
- Communications Plan



- Training Plan

Step two is completed upon receipt of approval of the Implementation Plan for any new process by the MSOs or the Governing Process Owner in IMS-01.

#### Step 3 – Execute the Implementation Plan

As part of execution of the Implementation Plan, records will be generated demonstrating its implementation. These records will form the basis of our evidence that will be provided to the NEB for compliance verification.

## **4 SUB-ELEMENT: 1.2 POLICY AND COMMITMENT STATEMENTS**

### **4.1 Finding 1**

#### **Program Level Finding**

##### Integrity Management Program

- Enbridge did not demonstrate that it had an explicit management system policy specific to the Integrity Management Program as required by OPR, sections 6.3(1) and (2).

#### **Corrective Action**

##### CAP 1.2 IMP-1 – Policy, Integrity Management

The NEB noted that Enbridge has developed various policies and commitment statements to ensure the safety and security of its employees and the public and protect the environment. However, these policies and commitment statements were not explicitly stated in a single Integrity Management Policy. Although the regulations do not explicitly require an Integrity Management Policy, Enbridge will develop a new Integrity Management Policy.

#### **Milestone Dates**

##### Milestones for CAP 1.2 IMP-1

- Document and approve Integrity Management Policy in IMS-01 – Q2, 2015
- Complete awareness and communication of the new Policy – Q3, 2015

### **4.2 Finding 2**

#### **Program Level Finding**

##### Emergency Management Program

- Enbridge did not demonstrate that it has a management system policy for its Emergency Management Program

#### **Corrective Action**

##### CAP 1.2 EMP-1 – Policy, Emergency Management

Enbridge has various principles and commitment statements for its Emergency Management Program.

Although the regulations do not explicitly require an Emergency Management Policy, Enbridge will develop a new Emergency Management Policy.

### **Milestone Dates**

#### Milestones for CAP 1.2 EMP-1

- Document and approve Emergency Management Policy – Q2, 2015
- Complete awareness and communication of the new Policy – Q3, 2015

## **4.3 Finding 3**

### **Management System Level Finding**

#### Common to all 6 Reports

Enbridge has developed many policies, processes, and principles to guide and support its various programs. However:

- Enbridge did not demonstrate that it had a single policy that explicitly describes internal reporting of hazards, potential hazards, incidents and near-misses and describes the conditions under which a person making a report will be granted immunity from disciplinary action that meets the Board's requirements.
- Enbridge did not demonstrate that its reporting and immunity policy was communicated as explicitly as expected by the NEB Auditors.
- Enbridge did not demonstrate that its immunity policy was adequate as it limited granting immunity to reporting compliance issues.

### **Corrective Action**

#### CAP 1.2 MS-1 – Policy, Integrated Management System

Enbridge was noted by the NEB as having policies and commitment statements for the internal reporting of hazards, potential hazards, incidents and near-misses as well as ensuring a person who makes a report is granted immunity from disciplinary action. These policies and commitment statements were, however, not explicitly in a single policy.

Enbridge will update its Integrated Management System Policy in IMS-01 to ensure it is clear that those who make a report is granted immunity from disciplinary action within one policy, instead of addressing it in multiple policies.

### **Milestone Dates**

#### Milestones for CAP 1.2 MS-1

- Update and approve Integrated Management System Policy in IMS-01 – Q2, 2015
- Complete awareness and communication of the new Policy – Q3, 2015

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

## 5.1 Finding 1

### Program Level Finding

#### Emergency Management Program

At the program level, Enbridge's hazard identification practices were considered to not reflect common hazard identification practices because:

- Enbridge has not developed a sequential stepped-approach of hazard and potential hazard identification, evaluation of risk and determination of controls.
- Also, Enbridge has not developed a program level risk evaluation process that addressed the OPR requirements.

### Corrective Action

\*See CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control under Section 5.4

### Milestone Dates

\*See Milestone for CAP 2.1 MS-1 under Section 5.4

## 5.2 Finding 2

### Program Level Finding

#### Environmental Protection Program

Enbridge has developed and implemented many practices for identifying, evaluating and managing its hazards and risks at the program level. However:

- Enbridge's program level processes for evaluating risk and developing controls had deficiencies relating to the development of controls.

### Corrective Action

\*See CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control under Section 5.4

### Milestone Dates

\*See Milestone for CAP 2.1 MS-1 under Section 5.4

## 5.3 Finding 3

### Program Level Finding

#### Integrity Management Program

- Enbridge did not demonstrate that it had adequately identified the potential hazard associated with hydrogen sulfide in its transported crude. While Enbridge routinely monitors its crude for constituents to determine compliance with its General Terms and Conditions, including total sulfur content, Enbridge did not monitor for dissolved hydrogen sulfide gas.
- Enbridge did not demonstrate it complies with CSA Z662-11, Clause 9.10.1.5, and CSA Z662-11 Clause 16.2.1(b)

## Corrective Action

### CAP 2.1 IMP-1 – H<sub>2</sub>S Hazard

Enbridge has not experienced, nor is aware of any failures within the liquids pipeline industry associated with H<sub>2</sub>S. Enbridge will complete a risk evaluation of H<sub>2</sub>S as a hazard, or potential hazard. Controls will be modified and/or developed and implemented based on the evaluation's outcome. Enbridge has implemented a surveillance protocol to ensure compliance with the current version of CSA Z662.

## Milestone Dates

### Milestone for CAP 2.1 IMP-1

- Add H<sub>2</sub>S as a hazard or potential hazard to the inventory – Q2, 2015
- Complete risk evaluation of H<sub>2</sub>S – Q3, 2015
- Complete modification and/or development and implementation new controls, as required – Q4, 2015
- Implement a surveillance protocol compliant with the current version of CSA Z662 - COMPLETE

## 5.4 Finding 4

### Management System Level Finding

#### Common to 5 of 6 Reports (Crossings Report is Compliant)

Enbridge has developed a governance management system process for identifying, evaluating and managing its hazards and risks. However:

- The governance level management system process did not align with the NEB auditor's interpretation of the OPR requirements.
- The process for developing a list of hazards and potential hazards within risk registers, as described in the governance management system processes, did not meet the NEB auditor's interpretation of OPR requirements.

## Corrective Action

### CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control

As identified by the NEB, Enbridge has numerous processes for the identification of hazards and potential hazards, complete risk evaluations and implement controls. The non-compliances identified by the NEB were associated with Enbridge not having a single process that ties all of these sub-processes together and a differing interpretation related to hazard and risk terminology between Enbridge and the NEB.

Enbridge developed and provided the NEB a single hazard inventory of the identified hazards and potential hazards.

Enbridge will further update its management system to contain:

- New definitions and wording aligned with the NEB audit report definitions of “hazard” and “risk”.
- A single process for identification and analysis of hazards and potential hazards.

- A single process for evaluating and managing risks related to normal and abnormal operating conditions, that evaluates inherent, current and residual risk.
- A single process for developing and implementing controls.

Enbridge will ensure that all updates to its management system align with processes contained within the Protection Programs.

Enbridge currently provides various opportunities to apply the hierarchy of controls through its existing processes (e.g. Process Hazard Analysis process, safe work permit, field level hazard assessment, etc.).

Enbridge will further establish and implement a process to apply the hierarchy of controls, as required, to effectively prevent, manage and mitigate risks identified within its inventory of identified hazards and potential hazards. This process will align with the identification of hazards, evaluating risks and developing and implementing control processes.

### **Milestone Dates**

#### Milestones for CAP 2.1 MS-1

- Hazard inventory - COMPLETE
- Modification of management system definitions and wording regarding hazard and risk. Include references to a single hazard inventory – Q2, 2015
- Document and approve hazard, risk evaluation and control management system processes – Q3, 2015
- Document and approve hierarchy of control process – Q3, 2015
- Document and approve Implementation Plan for hazard, risk evaluation and control management system processes – Q1, 2016
- Complete execution of the Implementation Plan for hazard, risk evaluation and control management system processes – Q2, 2016

## **5.5 Finding 5**

### **Management System Level Finding**

#### Common to 4 of 6 Reports (Emergency Management, Environmental Protection, Safety Management and Integrity Management)

Enbridge's has a governance process for developing and implementing controls to prevent, manage and mitigate the identified hazards and risks. However,

- Enbridge's process did not meet the Board's expectations with respect to the design of a process.
- There was insufficient evidence of clear requirements and directions for considering and applying the hierarchy of controls when developing controls.

**Corrective Action**

*\*See CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control under Section 5.4*

**Milestone Dates**

*\*See Milestones for CAP 2.1 MS-1 under Section 5.4*

## 6 SUB-ELEMENT: 2.2 LEGAL REQUIREMENTS

### 6.1 Finding 1

**Program Level Finding**Public Awareness & Crossings Programs

Enbridge has developed and implemented several practices to communicate its legal requirements (new or revised) across its entire organization, however,

- Enbridge did not demonstrate that it had an effective method for communicating new or revised legal requirements between the head office and regional field staff and consequently third-parties.

**Corrective Action**CAP 2.2 PAP-1 – PAP Effectiveness

Enbridge will ensure additional awareness and/or training and/or processes on regulations and regulatory change are developed for the Public Awareness Program personnel interacting with the public.

**Milestone Dates**Milestones for CAP 2.2 PAP-1

- Document and approve additional awareness/training of regulations and regulatory change – Q3, 2015
- Document and approve Implementation Plan for additional awareness/training of regulations and regulatory change– Q3, 2015
- Complete execution of the Implementation Plan for additional awareness/training of regulations and regulatory change – Q4, 2015

### 6.2 Finding 2

**Program Level Finding**Environmental Protection Program

At the program level, Enbridge has identified the majority of its legal requirements. Enbridge has developed a legal list and is undertaking activities to monitor compliance with its legal requirements. However:

- The program level legal list did not account for all of the compliance requirements. Specifically, it did not include information related to NEB regulatory requirements such as Orders, Certificates and other directions and undertakings.

**Corrective Action**

\*See CAP 2.2 MS-1 – Master Compliance Registry under Section 6.3

**Milestone Dates**

\*See Milestone for CAP 2.2 MS-1 under Section 6.3

**6.3 Finding 3****Management System Level Finding**Common to all 6 Reports

Enbridge has developed a number of governance and program level processes and practices for identifying and monitoring its legal requirements. The governance level process included requirements for development of compliance registers at both levels. However,

- Enbridge's governance management system level processes and compliance registers did not meet all of the OPR requirements with respect to its design and content.
- Also, Enbridge had not established and maintained a legal list as required by the OPR.

**Corrective Action**CAP 2.2 MS-1 – Master Compliance Registry

Since the completion of the audit, Enbridge has created a single list of legal requirements called the Master Compliance Registry (MCR) and has a new process to identify all new or changing legal requirements that are applicable to Enbridge in the matters of safety, security and protection of the environment.

Enbridge will implement the new process and formalize these changes within its management system.

**Milestone Dates**Milestones for CAP 2.2 MS-1

- Develop a complete list of legal requirements - COMPLETE
- Document and approve Identification of Legal Requirements process – Q2, 2015
- Completed execution of the Implementation Plan for identification of legal requirement process – Q2, 2015
- Formalization of MCR and legal requirement process into IMS-02 –Q3, 2015

## 7 SUB-ELEMENT: 2.3 GOALS, OBJECTIVES AND TARGETS

### 7.1 Finding 1

#### Program Level Finding

##### Public Awareness & Crossings Programs

Enbridge demonstrated that it had developed management practices that correspond to the Board's requirements and had implemented initiatives to address the issues. However:

- Enbridge did not demonstrate that it had established specific objectives, targets or performance measures that ensure that it is meeting the management outcomes required.

#### Corrective Action

##### CAP 2.3 MS-2 – PAP/Crossings Objectives, Targets and Performance Measures

Enbridge will develop specific objectives, targets and performance measures for the Public Awareness and Crossings Programs.

#### Milestone Dates

##### Milestones for CAP 2.3 MS-2

- Document 2015 objectives, targets and performance measures – Q2, 2015

### 7.2 Finding 2

#### Management System Level Finding

##### Common to 5 of 6 Reports (Safety Report is Compliant)

Although Enbridge had established and implemented a process for developing and setting, goals, objectives and targets. However:

- Enbridge did not demonstrate that it had established explicit goals related to its OPR section 6 obligations for the management system and program as required by OPR, section 6.3.

#### Corrective Action

##### CAP 2.3 MS-1 – Explicit Goals

Enbridge currently has 25 goals within its management system. These goals relate to the prevention of ruptures, liquid and gas releases, fatalities, injuries and the protection of the environment. These are contained in IMS-04, IMS-07 and IMS-09. A review and revision of these goals and the processes to create them will be undertaken to ensure they are explicit and aligned with the NEB audit report expectations.

#### Milestone Dates

##### Milestones for CAP 2.3 MS-1

- Complete review and revision of Enbridge goals and processes to create them – Q4, 2015



## 8 SUB-ELEMENT: 2.4 ORGANIZATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES

### 8.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

- Enbridge did not demonstrate that it had documented an evaluation of the human resource needs required during an actual response.

#### Corrective Action

##### CAP 2.4 EMP-1 – Human Resource Need for Incidents

Enbridge will develop and document an annual process that evaluates human resource needs required to respond in an emergency and as part of emergency planning. This process will ensure that Enbridge can demonstrate its human resources on a range of scenarios. Scenarios will be derived from the system-wide hazard inventory and an annual risk assessment performed in each region. This process will include a method to evaluate the internal and external human resource requirements (numbers and skill sets) and human resource allocation within the region.

#### Milestone Dates

##### Milestones for CAP 2.4 EMP-1

- Document and approve process for evaluation of scenarios – Q4, 2015
- Apply process to an Enbridge operating region resulting in a documented evaluation of human resource needs required to respond to the scenarios – Q2, 2016

### 8.2 Finding 2

#### Management System Level Finding

##### Common to all 6 Reports

Enbridge has established and implemented several mechanisms for reviewing its program workforce needs. However:

- Enbridge's evaluation of need practices did not specifically account for all staff (within a department and outside a department) with program responsibilities. Therefore, Enbridge did not demonstrate that the human resources allocated to establishing, implementing and maintaining its management system and meeting its OPR section 6 requirements are sufficient.

#### Corrective Action

##### CAP 2.4 MS-1 – Human Resource Need

Enbridge currently has various work force planning tools and formal/informal methods for evaluating human resource needs. Enbridge will formalize these current processes into a single annual documented evaluation of human resource need, which will be aligned with a revised Enbridge Strategic Planning process.

## **Milestone Dates**

### Milestones for CAP 2.4 MS-1

- Modify and approve Strategic Planning process – Q3, 2015
- Document and approve Implementation Plan for the modified Strategic Planning process – Q3, 2015
- Complete execution of the Implementation Plan for the modified Strategic Planning process – Q4, 2015

## **9 SUB-ELEMENT: 3.1 OPERATIONAL CONTROL-NORMAL OPERATIONS**

### **9.1 Finding 1**

#### **Program Level Finding**

##### Integrity Management Program

Enbridge's Geohazard Management Program addressed most of its geotechnical hazards. However:

- The program and the associated controls were not fully developed and implemented.
- The Program has not fully integrated and addressed all of the requirements for managing the threat of seismic activity.

#### **Corrective Action**

##### CAP 3.1 IMP-1 – Geohazard Management Program

Enbridge currently undertakes numerous activities related to slope management, river crossings, stress management and seismic load management.

Enbridge will update its Geohazard Management Program which includes the requirements for managing the threat of seismic activity.

## **Milestone Dates**

### Milestones for CAP 3.1 IMP-1

- Document and approve Geohazard Management Program – Q3, 2015
- Document and approve Implementation Plan for the Geohazard Management Program – Q3, 2015
- Complete execution of the Implementation Plan for the Geohazard Management Program – Q4, 2015

## 9.2 Finding 2

### Program Level Finding

#### Integrity Management Program

The auditors did not identify any issues with the current state of how the Mechanical Damage Management Program (MDMP) addresses the hazards due to mechanical damage. Enbridge's MDMP corresponds to the current industry practices and available technical methodologies. However:

- In terms of management system requirements, Enbridge's Pipeline Integrity Management System document (IMS-09) does not contain a documented process step for the MDMP.

### Corrective Action

#### CAP 3.1 IMP-2 – Mechanical Damage Management Program

Enbridge has a fully developed and implement Mechanical Damage Management Program (MDMP). Enbridge will ensure that the MDMP is referenced and integrated in IMS-09.

### Milestone Dates

#### Milestone for CAP 3.1 IMP-2

- Update IMS-09 to reference the MDMP – Q2, 2015

## 9.3 Finding 3

### Management System Level Finding

#### Common to 3 of 6 Reports (Public Awareness & Crossings Reports are Compliant, Emergency Management Report is Not Applicable)

Enbridge has implemented practices and processes that address the Board's requirements for coordinating, controlling and managing the operational activities of employees and other people working with or on behalf of the company at the program level. However,

- At the governance management system level, Enbridge has not established and implemented processes for coordinating, controlling and managing the operational activities of employees and other people working with or on behalf of the company that meet the OPR requirements.

### Corrective Action

#### CAP 3.1 MS-1 – Operational Activities

Enbridge currently has various processes to coordinate and control operational activities. Enbridge will develop a process to link significant processes together to ensure operational activities of employees and contractors are coordinated and controlled.

### Milestone Dates

#### Milestones for CAP 3.1 MS-1

- Document and approve Operational Activity process – Q3, 2015
- Document and approve Implementation Plan for the Operational Activity process – Q3, 2015
- Complete execution of the Implementation Plan for the Operational Activity process – Q1, 2016

## **10 SUB-ELEMENT: 3.2 OPERATIONAL CONTROL-UPSET OR ABNORMAL OPERATING CONDITIONS**

### **10.1 Finding 1**

#### **Program Level Finding**

##### Emergency Management Program

Enbridge developed controls that correspond to its hazards, risks, activities and locations. However:

- Enbridge has not utilized a sequential stepped approach for hazard and potential hazard identification, evaluation of risk and determination of controls. In the absence of a compliant controls development and associated hazard and risk identification and evaluation processes, Enbridge could not formally demonstrate or verify that its existing controls were adequate or, in the case of equipment and associated human resources, located in appropriate locations.

#### **Corrective Action**

*\*See CAP 2.1 MS-1 – Hazard, Risk Evaluation and Control under Section 5.4*

#### **Milestone Dates**

*\*See Milestone for CAP 2.1 MS-1 under Section 5.4*

### **10.2 Finding 2**

#### **Management System Level Finding**

##### Common to 4 of 6 Reports (Public Awareness & Crossings Reports are Compliant)

Enbridge has developed and documented many contingency plans. However:

- Enbridge has not established a management system or program level process for developing contingency plans that meets the Board auditor's expectations.

#### **Corrective Action**

##### CAP 3.2 MS-01 – Contingency Plan

Enbridge has numerous processes for developing contingency plans but does not have a single governance process that ties all of these together.

Enbridge will develop and implement a governing process for developing contingency plans for abnormal events that may occur during the course of construction, operation, maintenance and abandonment activities. Given that Contingency Plans are considered a control, the timing below is to ensure alignment between this CAP and the Enbridge CAPs associated with protocol 2.1.

#### **Milestone Dates**

##### Milestones for CAP 3.2 MS-1

- Document and approve Contingency Plan Development process – Q1, 2016
- Document and approve Implementation Plan for the Contingency Plan Development process – Q1, 2016

- Complete execution of the Implementation Plan for the Contingency Plan Development process – Q2, 2016

## 11 SUB-ELEMENT: 3.3 MANAGEMENT OF CHANGE

### 11.1 Finding 1

#### Program Level Finding

##### Common to Integrity Management, Emergency Management & Environmental Protection Reports

At the program level, Enbridge has implemented a number of practices for management of change applicable to its program. However:

- The program level processes did not meet all of the OPR requirements with respect to applicability and design.

#### Corrective Action

\*See CAP 3.3 MS-1 – Management of Change under Section 11.2

#### Milestone Dates

\*See Milestone for CAP 3.3 MS-1 under Section 11.2

### 11.2 Finding 2

#### Management System Level Finding

##### Common to all 6 Reports

- While Enbridge has implemented some aspects of an MOC, it did not demonstrate that it had established and implemented a process that meets all of the requirements of the OPR.

#### Corrective Action

##### CAP 3.3 MS-01 – Management of Change

Enbridge has reviewed and updated its IMS-01 Management of Change Process since the NEB audit and will implement this process to ensure alignment with existing management of change processes. A change management strategy for the implementation of this process was also created at the end of 2014.

#### Milestone Dates

##### Milestones for CAP 3.3 MS-1

- Review, approve and update IMS-01 Management of Change Process – Q2, 2015
- Document and approve Implementation Plan for the Management of Change Process – Q2, 2015
- Completed execution of the Implementation Plan for the Management of Change Process – Q4, 2015

## 12 SUB-ELEMENT: 3.4 TRAINING, COMPETENCE AND EVALUATION

### 12.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

- Enbridge has not formally identified, documented and managed the training and competency requirements associated with its specialized emergency response equipment.

#### Corrective Action

*\*See CAP 3.4 MS-1 – Training and Competency under Section 12.2*

#### Milestone Dates

*\*See Milestone for CAP 3.4 MS-1 under Section 12.2*

### 12.2 Finding 2

#### Management System Level Finding

##### Common to 5 out of 6 Reports (Crossings Report is Compliant)

Enbridge has established and implemented a management system for identifying and managing its training requirements. However:

- Enbridge has not established and implemented processes for identifying and verifying the competency requirements of its workers as required in the OPR. Enbridge had started to implement a new process for the identification and verification of worker competency. However, this new process remains Non-Compliant as it has not been established or implemented and that its governance management system process does not meet the Board's requirements.

#### Corrective Action

##### CAP 3.4 MS-1 – Training and Competency

As identified by the NEB, Enbridge was already working on initiatives that address this non-compliance.

The first is a management system level Workforce Competency and Qualification Process that was developed and approved in 2014. This process requires additional supporting processes to be documented and approved before it can be implemented. Implementation of this process will involve ensuring alignment of existing training and competency processes with the management system level process.

The second, was the development and implementation of regional operations competency requirements and verification. Since the completion of the audit, this initiative has been completed.

## Milestone Dates

### Milestones for CAP 3.4 MS-1

#### Workforce Competency and Qualification Process

- Documented and approved Workforce Competency and Qualification process – COMPLETE
- Complete the documentation of supporting processes for the Workforce Competency and Qualification process – Q3, 2015
- Develop and approve Implementation Plan for the Workforce Competency and Qualification process – Q4, 2015
- Complete execution of the Implementation Plan to train and inform stakeholders of the requirements for the Workforce Competency and Qualification process – Q2, 2016
- Implementation of the Workforce Competency and Qualification Process to align with existing stakeholders processes with safety critical positions – Q4, 2016

#### Regional Operations

- Designed and developed field verification requirements for safety critical Regional Operations personnel – COMPLETE
- Implementation of Regional Operations competency requirements and verification for safety critical regional operations personnel – COMPLETE

## 13 SUB-ELEMENT: 3.5 COMMUNICATION

### 13.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

The Board found deficiencies relating to Enbridge’s Continuing Education and Liaison requirements.

#### Corrective Action

\*See CAP 3.5 MS-1 – Communications under Section 13.2

#### Milestone Dates

\*See Milestone for CAP 3.5 MS-1 under Section 13.2

### 13.2 Finding 2

#### Management System Level Finding

##### Common to all 6 Reports

Enbridge has established an external communication plan that identifies and is applied to the appropriate stakeholders. However:

- While Enbridge has been communicating internally, its practices are deficient. Enbridge has not developed a communication plan that met the Board’s expectations.

- Enbridge has not established or implemented a communication process that meets the Board’s management system process expectations.
- Operational information was not being communicated (Public Awareness & Crossing) – see CAP 3.1MS-1
- Communication of regulatory change required improvement (Public Awareness & Crossing) – see CAP 2.2MS-1
- Enbridge did not have a formal, documented communication plan that meets the requirements of CSA Z662-11 clause 3.1.2(d) (Integrity Management Program & Crossing)
- Enbridge did not demonstrate that it had an external communication process directly applicable to its continuing education program (Emergency Response)

### **Corrective Action**

#### CAP 3.5 MS-1 – Communications

Enbridge will develop a management system level Internal and External Communication process that aligns with revised internal and external communication processes.

### **Milestone Dates**

#### Milestones for CAP 3.5 MS-1

- Document and approve Internal and External Communication process – Q3, 2015
- Document and approve Implementation Plan for the Internal and External Communication process – Q3, 2015
- Complete execution of the Implementation Plan for the Internal and External Communication process – Q4, 2015

## **14 SUB-ELEMENT: 3.6 DOCUMENTATION AND DOCUMENT CONTROL**

### **14.1 Finding 1**

#### **Management System Level Finding**

##### Common to 4 of 6 Reports (Public Awareness & Crossings Reports are Compliant)

Enbridge has established and implemented a process for controlling its operational program level documentation and had developed a new governance management system level document control process. However:

- The new governance process did not meet the OPR requirements nor had it been established and implemented.

### **Corrective Action**

#### CAP 3.6 MS-1 – Documentation and Document Control

Since the NEB Audit, Enbridge has developed and approved a Governance Document Control process. This process ensures Enbridge process documents are reviewed, revised, approved and controlled.

### **Milestone Dates**



Milestones for CAP 3.6 MS-1

- Document and approve Governance Document Control process - COMPLETE
- Document and approve Implementation Plan for the Governance Document Control process – Q3, 2015
- Complete execution of the Implementation Plan for the Governance Document Control process – Q4, 2015

**14.2 Finding 2****Management System Level Finding**Common to 4 of 6 Reports (Public Awareness & Crossings Reports are Compliant)

- Enbridge has not established and implemented a governance management system process for identifying the documents required for the company to meet its obligations under OPR section 6.

**Corrective Action**CAP 3.6 MS-2 – Identification of Documents

Enbridge will develop a process to identify the documents required for the company to meet obligations under OPR section 6.

**Milestone Dates**Milestones for CAP 3.6 MS-2

- Document and approve Identification of Documents process – Q3, 2015
- Document and approve Implementation Plan for the Identification of Documents process – Q3, 2015
- Complete execution of the Implementation Plan for the Identification of Documents process – Q1, 2016

**15 SUB-ELEMENT: 4.1 INSPECTION, MEASUREMENT AND MONITORING****15.1 Finding 1****Program Level Finding**Environmental Protection Program

At the program level, Enbridge's Environmental Management department had processes for inspecting, conducting surveillance and monitoring activities to evaluate the adequacy and effectiveness of the company's protection programs. However:

- Enbridge could not demonstrate that these activities were being consistently implemented and that the frequency associated with these activities was sufficient to actively monitor the environmental health of Enbridge's facilities.

**Corrective Action**CAP 4.1 ENV-1 – Environmental Program Self-Assessments

Enbridge will update the Environmental Review Standard (ENV-02) and the Field Environmental Inspection procedure (Book 8: 01-02-04) to ensure that Facility Environmental Health Checks are completed more frequently (ENV-02) and that environmental inspections (Book 8) address the entire facility footprint, and environmental inspections are consistently implemented.

### **Milestone Dates**

#### Milestones for CAP 4.1 ENV-1

- Modify and approve environmental inspection processes – Q3, 2015
- Document and approve Implementation Plan for modified environmental inspection processes – Q3, 2015
- Complete execution of the Implementation Plan for modified environmental inspection processes – Q4, 2015

## **15.2 Finding 2**

### **Program Level Finding**

#### Public Awareness Program

- Although Enbridge is monitoring and assessing the implementation of its Public Awareness Program, it has not established a process to monitor, manage and track the results of its assessments to conclusion.

### **Corrective Action**

*\*See CAP 4.3 MS-1 Internal Audits under Section 17.2*

### **Milestone Dates**

*\*See Milestones for CAP 4.3 MS-1 under Section 17.2*

## **15.3 Finding 3**

### **Program Level Finding**

#### Public Awareness Program

- Enbridge did not demonstrate a process by which Enbridge was comparing its Public Awareness Program activities and practices with the number of unauthorized activities over time to analyze, monitor and trend as to whether or not the deliverables from the Public Awareness Program had an impact on unauthorized activity. The Board would consider this type of analysis as a basic requirement of the expected Program analysis activities.

### **Corrective Action**

#### CAP 4.1 PAP-1 – Tracking of Results

Enbridge will develop a process to analyze the data it collects with respect to unauthorized activities. This will improve the monitoring and assessment of the effectiveness of the Public Awareness Program.

### **Milestone Dates**

#### Milestones for CAP 4.1 PAP-1

- Document and approve analysis process for unauthorized activities – Q3, 2015
- Document and approve Implementation Plan for analysis process for unauthorized activities – Q3, 2015
- Complete execution of the Implementation Plan for new analysis process for unauthorized activities – Q1, 2016

## 15.4 Finding 4

### Program Level Finding

#### Crossings Program

Enbridge has implemented an Inspection Program in accordance with the PCR, Part II relating to Crossings. However,

- Enbridge did not demonstrate the effectiveness of the ROW patrol and other inspection practices based on reporting practice and observed signage deficiencies identified during Board inspections conducted in support of this audit.

### Corrective Action

\*See CAP 4.1 MS-2 – Aerial Patrols under Section 15.6

### Milestone Dates

\*See Milestone for CAP 4.1 MS-2 under Section 15.6

## 15.5 Finding 5

### Management System Level Finding

#### Common to 3 of 6 Reports (Emergency Management, Environmental Protection & Integrity Management Reports)

- While Enbridge was undertaking many of the activities that would normally be undertaken as part of Surveillance and Monitoring Program, it had not developed or implemented them in a manner that meets the Board's Program requirements.

### Corrective Action

#### CAP 4.1 MS-1 – Surveillance and Monitoring Program

Enbridge was recognized by the NEB as having undertaken the activities that would normally form the Surveillance and Monitoring Program, but had not aligned them all together.

Enbridge will develop and implement a Surveillance and Monitoring Program aligning the appropriate existing activities and processes together into one Program.

### Milestone Dates

#### Milestones for CAP 4.1 MS-1

- Document and approve Surveillance and Monitoring Program – Q4, 2015
- Document and approve Implementation Plan for the Surveillance and Monitoring Program – Q4, 2015

- Complete execution of the Implementation Plan for the Surveillance and Monitoring Program – Q1, 2016

## 15.6 Finding 6

### Management System Level Finding

#### Common to Environmental Protection & Integrity Management Reports

Enbridge has developed and implemented practices for conducting regular aerial patrols of its facilities. However:

- Enbridge's patrol reports did not include requirements to develop records that demonstrate verification that each required condition and activity was surveyed or assessed during the ROW patrols. As such, Enbridge did not demonstrate that its Aerial Surveillance Programs comply with the requirements of OPR.

### Corrective Action

#### CAP 4.1 MS-2 – Aerial Patrols

Enbridge was recognized by the NEB as having a developed and implemented a right-of-way (ROW) Patrol Program for its facilities. Improvements to this Program were identified in the areas of training on environmental conditions, reporting signage issues and verification of patrols.

Since the audit was completed, Enbridge has created a new aerial patrol form and database. Enbridge will continue to review and improve its ROW Patrol Program.

### Milestone Dates

#### Milestones for CAP 4.1 MS-2

ROW Patrol:

- Documented and approved patrol form (aerial/ground) and patrol database - COMPLETE
- Complete execution of the Implementation Plan for new aerial patrol form and database – Q2, 2015
- Modify and approve ROW patrol form to include environmental conditions and verification – Q2, 2015
- Document and approve Implementation Plan for modified ROW patrol form – Q1, 2016
- Complete execution of the Implementation Plan for modified ROW patrol process – Q2, 2016

Signage:

- Document and approve Implementation Plan for pipeline ROW warning signage processes – Q3, 2015
- Complete execution of the Implementation Plan for pipeline ROW warning signage process – Q2, 2016

## 16 SUB-ELEMENT: 4.2 INVESTIGATING AND REPORTING INCIDENTS AND NEAR-MISSES

### 16.1 Finding 1

#### Management System Level Finding

Common to 4 of 6 Reports (Public Awareness & Crossings Reports are Compliant)

Enbridge has conducted investigations where required, or where hazards, potential hazards, incidents and near-misses have or could have resulted in the safety of the public, company employees and the pipeline being significantly compromised. At the governance level, Enbridge's IMS-01, section 4.10 Event Investigation Processes, dated 11-December 2013 had been documented and included in its Governing Policies and Processes Management System manual and that key activities were being implemented within its programs. However:

- These processes were identified as "In Progress" and therefore not established and implemented.

#### Corrective Action

CAP 4.2 MS-1 – Investigation Process Implementation

Enbridge will implement the developed section 4.10 in IMS-01.

#### Milestone Dates

Milestones for CAP 4.2 MS-1

- Document and approve Implementation Plan for section 4.10 in IMS-01 – Q2, 2015
- Complete execution of the Implementation Plan for section 4.10 in IMS-01 – Q4, 2015

## 17 SUB-ELEMENT: 4.3 INTERNAL AUDITS

### 17.1 Finding 1

#### Program Level Finding

Public Awareness Program

Enbridge demonstrated that its Public Awareness Program is subject to various reviews and assessments. However:

- Enbridge was not tracking or managing the recommendations arising from the reviews and assessments through to resolution.

#### Corrective Action

\*See CAP 4.3 MS-1 Internal Audits under Section 17.2

#### Milestone Dates

\*See Milestone for CAP 4.3 MS-1 under Section 17.2

## 17.2 Finding 2

### Management System Level Finding

#### Common to all 6 Reports

Enbridge is undertaking many of the activities that are normally associated with Quality Assurance Program. However,

- Enbridge has not organized the quality assurance activities within a Program as required by the OPR.
- Enbridge was not able to demonstrate that it has undertaken audits consistent with the OPR requirements.
- Also, Enbridge's process for conducting audits did not meet the Board's expectations.

### Corrective Action

#### CAP 4.3 MS-1 Internal Audits

Enbridge will develop and implement an Assurance Program in IMS-01 that aligns with the NEB audit report expectations. As part of this overall Program, Enbridge has developed inspection, internal audit and corrective and preventative action processes in its IMS. Enbridge is currently reviewing and modifying these processes to align with the NEB Auditor's expectations of an Assurance Program and will implement the Program and supporting processes.

### Milestone Dates

#### Milestones for CAP 4.3 MS-1

- Document and approve Assurance Program – Q3, 2015
- Document and approve Implementation Plan for the Assurance Program – Q3, 2015
- Complete execution of the Implementation Plan for the Assurance Program – Q4, 2015

## 17.3 Finding 3

### Management System Level Finding

#### Common to Emergency Management & Environmental Protection Reports

Enbridge has not established and implemented a management system process for taking corrective and preventive actions at both the management system and program levels that meets the OPR requirements. The Board notes that the requirement to have a process to take corrective and preventive action is included in many of the sub-elements within the Board's audit protocol and the OPR. The Board therefore requires the corrective action plan developed to address the deficiencies identified for this sub-element to explicitly include all sub-element and OPR requirements, where corrective and preventive actions are referenced.

### Corrective Action

\*See CAP 4.3 MS-1 Internal Audits under Section 17.2

### Milestone Dates

\*See Milestone for CAP 4.3 MS-1 under Section 17.2

## 18 SUB-ELEMENT: 4.4 RECORDS MANAGEMENT

### 18.1 Finding 1

#### Program Level Finding

##### Emergency Management Program

- At the program level the Board found record management process deficiencies with respect to design and implementation.

#### Corrective Action

##### CAP 4.4 EMP-1 Emergency Management Records

Enbridge will update IMS-07 Section 4.6 to include the Emergency Management Program Records summary table and implement.

#### Milestone Dates

##### Milestones for CAP 4.4 EMP-1

- Modify and approve IMS-07 section 4.6 – Q3, 2015
- Document and approve Implementation Plan for the modified IMS-07 section 4.6 – Q3, 2015
- Complete execution of the Implementation Plan for the modified IMS-07 section 4.6 – Q4, 2015

### 18.2 Finding 2

#### Management System Level Finding

##### Common to 4 of 6 Reports (Public Awareness & Crossings Reports are Compliant):

Enbridge had developed a draft governance Records Management Process as part of its integrated management system. However:

- Due to the draft nature of the process, Enbridge did not demonstrate that it has established and implemented a management system process that meets the OPR requirements.

#### Corrective Action

##### CAP 4.4 MS-1 Records Management

Enbridge has developed and approved Records Management Process in IMS-01. Enbridge will implement this process.

#### Milestone Dates

##### Milestones for CAP 4.4 MS-1

- Documented and approved Records Management Process – COMPLETE
- Document and approve Implementation Plan for the Records Management Process – Q3 2015
- Complete execution of the Implementation Plan for the Records Management Process for Emergency Management Department – Q4 2015

- Complete execution of the Implementation Plan for the Records Management Process for Pipeline Integrity and Safety Departments – Q1 2016
- Complete execution of the Implementation Plan for the Records Management Process for Land Services and Environment Departments – Q2, 2016
- Complete execution of the Implementation Plan for the Records Management Process for Risk Management and Operations Services Departments – Q3, 2016
- Complete execution of the Implementation Plan for the Records Management Process in Regional Offices – Q4 2016

## 19 SUB-ELEMENT: 5.1 MANAGEMENT REVIEW

### 19.1 Finding 1

#### Program Level Finding

##### Crossings Program

- Enbridge has not conducted audits consistent with the requirements of the OPR and CSA Z662-11.

#### Corrective Action

\*See CAP 4.3 MS-1 Internal Audits under Section 17.2

#### Milestone Dates

\*See Milestone for CAP 4.3 MS-1 under Section 17.2

### 19.2 Finding 2

#### Management System Level Finding

##### Common to all 6 Reports

Enbridge has developed processes for and undertaken activities relating to its Management Review responsibilities. However:

- Enbridge's management review processes do not meet all of the NEB Audit report findings.

#### Corrective Action

##### CAP 5.1 IMS-01 Management Review

Enbridge has a developed, approved and implemented management review process in IMS-01. Enbridge will review and modify this process and implement the changes to address the findings.

#### Milestone Dates

##### Milestones for CAP 5.1

- Modify and approve the Management Review process – Q2, 2015
- Document and approve Implementation Plan for the Management Review process – Q3, 2015
- Complete execution of the Implementation Plan for the Management Review process – Q4, 2015