



File OF-Surv-OpAud-P384-2016-2017 01  
10 May 2017

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[REDACTED]

Dear Mr. Balash:

**Final Audit Report for Plains Midstream Canada ULC (Plains)  
Aurora Pipeline Company Ltd. (Aurora)**

The National Energy Board (NEB or the Board) has completed its Final Audit Report of Plains and Aurora, collectively referred to as Plains in this audit. The audit focused on sub-element 4.2 *Investigation and Reporting Incidents and Near Misses* of the NEB Management System and Protection Program Audit Protocol.

A Draft Audit Report documenting the Board's evaluation of Plains was provided to Plains on 18 April 2017 for review and comment. Plains' reviewed the Draft Audit Report, but decided not to provide any comments. Since the Board had no comments to consider, no changes were made to the Draft Audit Report and its Appendices.

The findings of the audit are based upon an assessment of whether Plains was compliant with the regulatory requirements contained within:

- The *National Energy Board Act*;
- The *National Energy Board Onshore Pipeline Regulations*;
- The *Canada Labour Code, Part II*, and the *Canada Occupational Health and Safety Regulations*;

Plains was required to demonstrate the adequacy and effectiveness of the methods selected and employed within its management system and programs to meet the regulatory requirements listed above.

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

The Board will make the CAP public and will continue to monitor and assess all of Plains corrective actions with respect to this audit until they are fully implemented. The Board will also continue to monitor the implementation and effectiveness of Plains 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 Darryl Pederson, Lead Auditor, at 403-461-9953.

Yours truly,

*Original signed by*

Sheri Young  
Secretary of the Board

Attachment

c.c. 

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*National Energy Board*  
**Audit Report of Plains Midstream Canada ULC &  
Aurora Pipeline Company Ltd.**

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Mr. Jason Balasch  
President & Accountable Officer  
Plains Midstream Canada ULC & Aurora Pipeline Company Ltd.  
1400, 607 – 8th Ave S.W.  
Calgary, Alberta T2P 0A7

10 May 2017

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## Executive Summary

Companies regulated by the National Energy Board (NEB or the Board) must demonstrate a proactive commitment to continual improvement in safety, security and environmental protection. Pipeline companies under the Board's jurisdiction are required to incorporate adequate, effective and implemented management systems into their day-to-day operations.

This report documents the Board's audit of Plains Midstream Canada ULC and Aurora Pipeline Company Ltd. collectively referred to as Plains in this audit. The audit was focused on sub-element 4.2 *Investigation and Reporting Incidents and Near-misses* of the National Energy Board Management System and Protection Program Audit Protocol published in July 2013. The audit also sampled parts of the other management system elements which were relevant to the scope of this audit. The audit was conducted using the *National Energy Board Onshore Pipeline Regulations* (OPR) as amended on 19 June 2016 and the relevant sections of CSA Z662-15. The requirements of the *Canada Labour Code* (CLC), *Part II*, and the *Canada Occupational Health and Safety Regulations* (COHSR) were also referenced during the audit.

The Board conducted the audit using the audit protocols detailed in Appendices I and II. Appendix I covers these five components of sub-element 4.2: Reporting of Incidents and Near-Misses; Investigation; Developing and Implementing Corrective and Preventive Actions; Communication of Findings, Follow Up and Shared Learnings; and Analysis and Trending of Data Related to Incidents and Near-Misses. Appendix II covers other management system elements that were sampled and are relevant to the scope of this audit. These two Appendices comprise the body of the audit assessment of Plains.

At the time of the Board's audit of Plains' regulated facilities, it was evident that Plains had recently updated several of the processes and programs related to incident management. A number of the process and program documents reviewed as part of this audit were either new or updated in Q4 of 2016.

The Board found 4 non-compliances as outlined in Appendix I; and 3 findings of non-compliance in Appendix II. These non-compliances are described below.

### Appendix I – Incident Investigation Protocol

**Finding 1:** Plains did not have definition(s) for an incident that was reflective of all programs. This is non-compliant with OPR s.6.5(1)(r) and s.6.5(2).

**Finding 2:** Plains did not have an established process for its investigation procedure that included, guidance or direction for all Programs on how to complete an investigation and, nor a requirement for investigators to review the existing Plains hazard inventory and controls when investigating an incident. This is non-compliant with OPR s.6.5(1)(r).

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**Finding 3:** Plains' activities to implement the identified corrective and preventative actions were not easily discernable. Through a sampling of investigations records and database review it was not evident that preventative or corrective action was taken for all incidents. This is non-compliant with OPR s.6.5(1)(r).

**Finding 4:** Plains did not have a process that met the Board's definition of *Established* for communication of findings and learnings related to incidents and near-misses. This is non-compliant with OPR s.6.5(1)(m).

## **Appendix II – NEB Management System Protocol**

**Finding 5:** Plains does not have a process for developing competency requirements and training programs in relation to the scope of this audit. This is non-compliant with OPR s.6.5(1)(j).

**Finding 6:** Plains has not conducted an internal audit that includes the requirements of management system sub-element 4.2. This is non-compliant with OPR s.6.5(1)(w).

**Finding 7:** Plains does not have an effective process for the retaining and maintaining of records related to incident investigations. This is non-compliant with OPR s.6.5(1)(p).

Although Plains has been found non-compliant in the above noted instances, the Board found that Plains has activities for incident notification, reporting, investigation, corrective actions and learnings in place while corrective actions are developed and implemented. Additionally, Plains demonstrated ongoing revisions and updates to the incident investigation programs, procedures and processes.

Within 30 days of the Final Audit Report being issued, Plains must develop and submit a Corrective Action Plan for Board approval. The Corrective Action Plan must detail how Plains intends to resolve the non-compliances identified by this audit. The Board will verify that the corrective actions are completed in a timely manner and applied consistently across the NEB-regulated portion of Plains' system. The Board will also continue to monitor the overall implementation and effectiveness of Plains' management system and programs through targeted compliance verification activities as part of its ongoing regulatory mandate.

The Board will make its Final Audit Report and Plains' approved Corrective Action Plan public on the Board's website.

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## 1.0 Audit 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 comply with the scope, documentation requirements and, where applicable, the stated goals and outcomes of the NEB Act, its associated regulations and referenced standards. Within the Board's regulatory requirements, this is demonstrated through documentation.

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

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

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

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

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

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

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



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**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 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.



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**Practice:** A repeated or customary action that is well understood by the persons authorized to carry it out.

**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.*

## 2.0 Abbreviations

AO: Accountable officer

AOC: Abnormal operating condition

CAMP: Corrective Actions Management Program

CCO: Control center operator

CLC: *Canada Labour Code, Part II*

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

ERL: Emergency response line

IRIP: Incident Reporting and Investigation Program

MOC: Management of change

NEB: National Energy Board

OERS: Online Event Reporting System

OMS: Operations Management System

OPR: *National Energy Board Onshore Pipeline Regulations*

PINS: Plains Incident Notification System

Plains: Plains Midstream Canada ULC and Aurora Pipeline Company Ltd.

SCADA: Supervisory control and data acquisition

SIMP: Safety Incident Management Procedure

### 3.0 Introduction: 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, as well as the *Canada Labour Code, Part II*. The Board's management system requirements are described within the OPR, sections 6.1 through 6.6.

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.

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. This enables the Board to evaluate the adequacy, effectiveness and implementation of the management system and programs.

After completing its field activities, the Board develops and issues a Final Audit Report (this document). The Draft Audit Report is submitted to the company for its review and to provide the company the opportunity to submit its comments to the Board. The Board will take the company's comments into consideration before issuing the 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 the NEB's risk-informed lifecycle approach to compliance assurance.

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## 4.0 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.

This audit is focused on sub-element 4.2 ***Investigation and Reporting Incidents and Near-misses*** of the National Energy Board Management System and Protection Program Audit Protocol, which was published in July 2013.

The Board's Management System and Protection Program Audit Protocol has the following expectations for sub-element 4.2:

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

*The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.*

*The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment."*

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## 5.0 Audit Objectives and Scope

This audit objective was to evaluate the company against the applicable requirements specifically as they relate to incident and near-miss reporting and investigation, incident and near-miss data analysis and integration, and taking corrective and preventive actions. The audit verified that the company has developed and implemented the systems, programs and processes to meet the applicable legal requirements in order to ensure the protection of property and the environment and the safety and security of the public and of the company's employees.

The applicable regulatory requirements for this audit are contained within:

- the NEB Act and its associated regulations, including;
- the *National Energy Board Onshore Pipeline Regulations*;
- the *Canada Labour Code, Part II*, and the *Canada Occupational Health and Safety Regulations*; and

The audit scope was focused on sub-element 4.2 of the Board's audit protocol, and not all management system elements, per se, were in scope for a complete assessment in this audit. The following elements of the Board's audit protocol were included in the scope but only to assess the requirements directly relevant to incident and near-miss reporting, investigation, and taking corrective and preventive actions:

- 1.1 Leadership Accountability
- 1.2 Policy and Commitment Statements
- 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
- 3.3 Management of Change
- 3.4 Training, Competence and Evaluation
- 4.3 Internal Audit
- 4.4 Records Management
- 5.0 Management Review

The scope was inclusive of all NEB required Protection Programs including: safety, environment, integrity, emergency, security and damage prevention.

Included in Appendices I and II are the audit questions and NEB assessments pursuant to the audit. Appendix I is the first part of the audit assessment, which is solely focused on sub-element 4.2; that is, the incident and near-miss reporting and investigation, incident and near-miss data analysis and integration, and taking corrective and preventive actions.

Appendix II is the second part of the audit assessment, which evaluates some of the other elements of the Board's management system audit protocol. Only those management system elements considered to be the most relevant to the scope of the audit have been assessed, and the assessment of those elements was focused on incidents and near-misses.

## 6.0 Audit Process, Methodology and Activities

On 18 November 2016, the Board informed Plains of its intent to audit Plains' NEB-regulated facilities. Board staff then submitted the audit protocols (Appendices I and II) to Plains, requesting it to answer specific questions relevant to the scope of the audit and initial documentation requests. Appendix I is divided in five sections, with each section covering a partial component of the Board's expectations for sub-element 4.2. Each section lists the questions that have been asked to the company in order to demonstrate compliance. The NEB conducted its assessment based on the responses provided by the company and the evidence gathered during the audit. The same approach was used for the audit assessment summarized in Appendix II.

Board staff was in contact with Plains staff on a regular basis to arrange and coordinate this audit. Plains established a digital access portal for Board staff to review documentation and records.

On 9 December 2016, Board staff conducted an opening meeting with representatives from Plains in Calgary, AB to confirm the Board's audit objectives, scope and process. Subsequent to the opening meeting, interviews were held in Olds AB, Sarnia ON and at Plains' head office in Calgary between 17 January and 2 February 2017. The table below provides more details about the audit activities. Throughout the audit, Board audit staff gave Plains daily summaries with action items, where required.

<b>Summary of Audit Activities</b>
<ul style="list-style-type: none"> <li>• Audit opening meeting (Calgary, AB) – 9 December 2016</li> <li>• Calgary office interviews (Calgary, AB) – 17-18 January 2017</li> <li>• Field verification activities:               <ul style="list-style-type: none"> <li>• Interviews – (Olds, AB) – 19 January 2017</li> <li>• Interviews – (Sarnia, ON) – 2 February 2017</li> </ul> </li> <li>• Audit Closeout meeting (teleconference) – 10 March 2017</li> </ul>

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## 7.0 Audit Summary and Conclusions

During this audit, Plains was required to demonstrate the adequacy and effectiveness of its management system, programs and its processes as they relate to incident and near-miss reporting and investigation, incident and near-miss data analysis and integration, and taking corrective and preventive actions. The Board reviewed documentation and records provided by Plains and interviewed Plains' staff.

At the time of the Board's audit of Plains' regulated facilities, it was evident that Plains had recently updated a number of the processes, procedures and programs documents related to incident management. A number of the incident management process and program documents reviewed as part of this audit were either new or updated in Q4 of 2016.

Although Plains has been found non-compliant in the above noted instances, the Board found that Plains has activities for incident notification, reporting, investigation, corrective actions and learnings. Additionally, Plains demonstrated ongoing revisions and updates to the incident investigation programs, procedures and processes.

The OPR s.6.5(3) requires that companies document the processes and procedures required by the OPR s.6.5(1). Plains was found non-compliant for four (4) areas in Appendix I as they do not have appropriate definitions of incident, or fully documented and established processes for investigations, taking corrective and preventive actions, and communicating lessons learned. Plains was found to be non-compliant with several sub-elements in Appendix II, generally for areas that are not related to their incident investigation, reporting, corrective and preventative actions. Findings listed below are grouped according to Appendix I and II.

### Appendix I – Audit Protocol Part 1

**Finding 1:** *Plains did not have definition(s) for an incident that was reflective of all programs.*

The audit found that Plains does not have a definition(s) of incident that is applicable to all program areas required by the OPR. The Board identified program specific definitions for environment and process safety. The general definition of incident used by Plains' was not found to be adequate as it did not provide adequate guidance for employees. By process Plains is conducting internal reporting of incidents and near-misses, however this is not compliant with OPR s.6.5(1)(r) and 6.5(2) which requires documented processes.

**Finding 2:** *Plains did not have an established process for its investigation procedure that included, guidance or direction for all Programs on how to complete an investigation and, nor a requirement for investigators to review the existing Plains hazard inventory and controls when investigating an incident.*



The investigation procedure does not include a requirement for investigators to review the existing hazard inventory during an investigation to determine if the hazards were a part of the incident or near-miss had been previously identified or had existing controls in place that may have played a role in the incident.

The Board also found the investigation procedure is focussed on the safety program and does not contain a lot of guidance or detail as to how it can be applied to other program areas.

The audit verified that Plains is conducting investigations of incidents and near-misses. However, the documented process used does not meet the Board test of Established as it has not been in place for at least 90 days at the time of the audit. This is non-compliant with OPR s.6.5(1)(r).

**Finding 3:** *Plains' activities to implement the identified corrective and preventative actions were not easily discernable. Through a sampling of investigations records and database review it was not evident that preventative or corrective action was taken for all incidents.*

The audit verified that Plains was implementing various activities related to their corrective and preventative actions. However when the Board reviewed a sampling of incidents it was not possible to verify that the status of all corrective and preventative actions for each incident as the record keeping for evidence of closure for all incidents was not readily apparent. While Plains' had a process for implementing its corrective and preventative actions it was not well linked to its investigation procedure and not all of the steps appeared to be required by a formal documented procedure. This is non-compliant with OPR 6.5 s(1)(r).

**Finding 4:** *Plains did not have a process that met the Board's definition of established for communication of findings and learnings related to incidents and near-misses.*

The audit verified that Plains has a process for the communication of findings and learnings related to incidents and near-misses. However, the process is part of the documented incident investigation procedure which does not meet the Board's timeline for being considered Established at the time of the audit. This is non-compliant to OPR s.6.5(1)(m).

More details on the above non-compliant findings to OPR are available throughout Appendix I.

## **Appendix II – Audit Protocol Part 2**

**Finding 5:** *Plains does not have a process for developing competency requirements and training programs in relation to the scope of this audit.*

The audit identified that Plains did not have established competencies or a training program for those employees who would be considered lead investigators. Training was provided to employees but there was no indication that it was done as part of a designed training program and there were competency checks built into the process. As this audit was narrow in its scope, it did not review in detail all of the other training programs and competency requirements that Plains has for other work activities. This is non-compliant with OPR s.6.5(1)(j).

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**Finding 6:** *Plains has not conducted an internal audit that includes the requirements of management system sub-element 4.2.*

Plains did provide two recently conducted audits, one was an external COR audit conducted on their safety program and one that was an internal self-assessment on 27 operational areas and 8 functional groups at Plains'. However, the protocols for both of these audits did not include reviewing the management system components that make up sub-element 4.2 for all of Plains' program areas. As this audit was narrow in its scope, it did not review in detail all of the other clauses that make up the sub-element for Internal Audit. This is in non-compliance to OPR s.6.5(1)(w).

**Finding 7:** *Plains does not have an effective process for the retaining and maintaining of records related to incident investigations.*

The audit verified that Plains does generate, maintain and retain records. However, in relation to the incident and near-miss investigations, Plains did not demonstrate that they had a process to ensure all applicable records were traceable and trackable. This is in non-compliance to OPR s.6.5(1)(p).

More details on the above non-compliant findings to OPR are available in Appendix II.

Although Plains has been found non-compliant in the above noted instances, the Board is of the opinion that Plains has adequate activities in place while they update their existing programs, procedures and processes to reflect their management system.

As per the Board's standard audit practice, Plains must develop and submit a Corrective Action Plan describing its proposed methods to resolve the non-compliances identified and the timeline in which corrective actions will be completed. Plains will be required to submit to the Board for approval its Corrective Action Plan within 30 days of the Final Audit Report being issued by the Board.

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

The Board will make its Final Audit Report and Plains' approved Corrective Action Plan public on the Board's website.



# National Energy Board Incident Management Audit Protocol

## Appendix I – Evaluation of Sub-element 4.2

### 1.0 Reporting of Incidents and Near-Misses

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s. 6.5(1)(r), s.6.5 (2) and s.52(1) and CSA Z662-15 Clause 3.1.2 (h)(ii).

### 1.1 Internal Reporting

#### Question 1.1:

Describe the company's process for internal reporting of incidents and near-misses. The response should discuss the company's definition(s) and criteria for internally reportable incidents and near-misses.

#### NEB Assessment:

Interviews with Plains personnel and document review indicated that Plains has established an **Operations Management System (OMS)**, with the **Incident Reporting and Investigation Program (IRIP)** established to support the **OMS**.

The **IRIP** contains Plains processes for the internal reporting of incidents and near-misses. The **IRIP** outlines that Plains' leaders define and implement requirements for incident management, including reporting, investigation, and follow-up, with a focus on root cause analysis and prevention of recurrence. The **IRIP** further explains it applies to all Plains activities including design, construction, operation, maintenance and abandonment of operational assets. Document review performed by the NEB indicated the program contained roles, responsibilities and procedural steps for reporting, documenting, investigation and corrective actions. Additionally, the **IRIP** outlined it was applicable to all of their programs.



The **IRIP** document provides the following definitions:

- Incident: An undesired event, situation, or loss of control that causes personal injury, illness, equipment or property damage, adverse environmental impacts or other harm;
- Near-miss: An undesired event, situation or loss of control that does not cause personal injury, illness, equipment or property damage, adverse environmental impacts or other harm; and
- Hazard Identification Report: A hazard is defined as a source of potential (unquantified) harm that can occur to people, property, the environment, or to Plains, and if present can give risk to risk.

The **IRIP** allows programs to further define the incident definition to fit their specific requirements. The environment and process safety programs have further defined the definition to specifically fit their program areas, and according to the **IRIP** they are the only programs that have done this. Within the **Velocity** system (described below) a more detailed definition for security incidents can be found. However the same definition is not part of the **IRIP** process documentation, which is where employees would be expected to find the requirements to determine if an incident is reportable and what the process is to complete the next steps. The Board is of the opinion the definition as provided above is overly generic and does not provide adequate detail to describe the application to the management system and protection programs required by the NEB OPR.

For incident reporting, investigation, tracking and sharing lessons learned, Plains uses two systems; **Plains Incident Notification System (PINS)** and **Velocity EHS (Velocity)**. According to the **IRIP** documentation, **PINS** is used to promptly notify stakeholders of incidents and acts as a permanent record of notification, notification time, date and the individuals notified. **Velocity** is used for all aspects of incident management, including recording and tracking of corrective actions.

The **IRIP** document outlines requirements for internal incident reporting and also provides a breakdown of how incidents, near-misses, hazards and potential hazards are reported and initial assessment stage is to be completed. The NEB confirmed incidents can be reported by employees, contractors, visitors, and members of the public.

Through the investigation system, Plains categorizes and breaks down Incidents and Near-misses, and Other Occurrences into 16 categories. From an NEB perspective the following categories are noted: Injury including fatality, Property Damage, Security, Fire/ Explosion, Pipeline Contact, Abnormal Operating Condition, Unauthorized Activity Along Pipeline, Process Safety, Environmental Release, and Community Concern.

The Board has found Plains has a documented process for incident reporting, notification and performing investigations. The Board has found Plains management system and protection programs utilizes several definitions and are not clear as to the application of the definitions and do not provide effective guidance to employees.

#### Conclusion:

Plains has demonstrated that a process for reporting of hazards, potential hazards, incidents and near-misses has been documented. However, the definition of incident is too broad and lacks guidance for staff to apply.



The audit found Plains does not have a fully established, implemented and effective process for the internal reporting of incidents and near-misses. Based on the review conducted and considering the scope of this audit, the Board has identified a non-compliance with OPR s.6.5(1)(r) and s.6.5(2) in relation to Question 1.1 – Internal Reporting.

## 1.2 Reporting to the Board

### Question 1.2:

Describe the company's process for the reporting of incidents to the Board. The response should discuss the company's definition(s) and criteria for externally reportable incidents.

### NEB Assessment:

Plains **IRIP document** describes the regulatory requirements for reporting to both federal and provincial government agencies. This step is to be completed by the Environment and Regulatory Affairs Functional Group. Plains has divided external incident reporting into four categories:

- Safety Incidents;
- Environmental Incidents;
- Process Safety Incidents; and
- All other occurrences.

Each of the above categories contains a reference to another process, practice, procedure or guideline which contains additional details on what and how to report to external jurisdictions. All external notifications are attached to that specific incident file.

A review of Plains external incident reporting process includes details on Plains' assets, which regulatory jurisdiction they fall under, reportable criteria for that jurisdiction, and the method(s) by which Plains needs to report to that jurisdiction. For the NEB, the requirement to use the Online Event Reporting System (OERS), for incidents and unauthorized activity reports is provided.

The Board reviewed previous Plains incident notifications submitted through the OERS and noted that they have submitted incidents that meet the required OPR criteria.

### Conclusion:

Plains has demonstrated a process for reporting incidents to the Board. Roles and responsibilities have been outlined for use where required.

The audit verified Plains does have an established, implemented and effective process for the reporting of incidents to the Board. Based on the review conducted and considering the scope of this audit, the Board has not identified a compliance issue in relation to Question 1.2 – Reporting to the Board.



## 2.0 Investigation

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s.6.5(1)(r), s.52(1) and CSA Z662-15 Clause 3.1.2 (h)(ii), 10.3.6, 10.4.4.1 and Annex H.

### Question 2.0:

Describe the company's process for incident and near-miss investigations. Include in your response how the company identifies causes and contributing factors, including immediate and root causes.

### NEB Assessment:

Plains' **Incident Reporting and Investigation Program (IRIP)** outlines responsibilities for incident reporting and requirements for performing investigations. Plains has a database system, called **Velocity EHS (Velocity)**, for reporting, approvals, tracking, analyzing and following corrective actions to closure.

The **IRIP** document directs the user to the **Safety Incident Management Procedure (SIMP)** for process detail on incident investigations. Prior to the implementation of the **IRIP** and the publication of the **SIMP** documents, Plains had another process document titled the **Internal Incident Investigation and Reporting** process used for incident reporting and investigations. This document was retired once the **IRIP** and **SIMP** documents were released. A review of the now retired **Internal Incident Investigation and Reporting** process did not change the Board's opinion on findings related to incident investigations. The Board noted that Plains published **SIMP** on 17 January 2017. The Board has previously stated that for a process or other requirement to be considered Established it must meet all prescribed requirements and be in place for a minimum of 90 days. The full definition can be viewed in the Audit Report, section 1.0 Audit Terminology and Definitions. As this document was published after the audit had started, during the information gathering phase of the audit, it does not meet this requirement. The Board still reviewed and evaluated the document in its current state, but with the understanding that it does not meet the test of "Established".



A review of **SIMP** indicates it was written with a focus on ensuring health and safety incidents are properly reported, investigated and corrective actions are taken to prevent re-occurrence and can also be used for other incident types such as environmental spills, equipment damage, etc. The procedure provides incident investigators and investigation team member's information and direction on how to investigate incidents and near-misses. During interviews and according to the **SIMP**, the lead investigator has to have completed TapRoot® training. The rest of the investigation team does not need to have TapRoot® training to be a part of the team.

**SIMP** states that all incidents require a formal investigation. For incidents risk ranked as Low or Medium a single investigator can complete the investigation and systemic causes do not need to be considered and a formal investigation report is not always necessary. Depending on the severity and type of incident, an investigation team may be created and become part of the investigation. The investigation team would generally include the lead investigator, subject matter experts as required, and person who was involved in the incident. Incidents risk ranked as High and Very High, **SIMP** states a "...complete root cause analysis investigation using all applicable techniques needed to thoroughly investigate the incidents causes and develop a complete list of root causes and corrective actions." High and Very High risk ranked incidents are investigated and analyzed using the TapRoot® analysis method to identify the root cause(s) of the incident. Incidents rated as Low and Medium can be analyzed using TapRoot® if requested by senior management. Medium and Low risk ranked incidents can also have other root cause analysis methods used on them such as the 5 Whys method.

**SIMP** allows other programs and functional areas within Plains to use TapRoot® or another root cause analysis methodology for their respective incident investigations. However **SIMP** does not provide a process or other guidance for other programs, outside of the safety program, to follow when completing their own investigations.

**SIMP** contains a procedure for investigators to follow. This is done to ensure the consistency in the investigative process is maintained, with the goal to mitigate repeat occurrences. The procedure provides information on root cause analysis methodology, evidence collection, interview techniques, incident classification, determination of type and level of incident investigation, roles and responsibilities, template for witness statements, and details from CSA Z662 on records required for pipeline incidents. After a review of the procedure, the Board found it to be lacking detail and instruction on reviewing the original hazard assessment in relation to the hazard inventory and the implemented controls that failed, and did not prevent the incident or near-miss to take place.

Without the investigators reviewing the existing hazard inventory and the original hazards that apply to the specific incident, it does not direct the investigators to consider if the root cause is a failure of existing internal hazard analysis or if the existing controls were not adequate. The investigators' analysis may determine that the hazard and controls were adequate but were ineffectually applied or there may be a gap in how the hazard was initially assessed or the level of control that was applied. Appendix II, sub-element 2.0 is responsible for addressing the requirements for hazard assessments, risk assessment and controls. As part of an integrated management system, these sub-elements need to connect and provide feedback to one another as required.





The Board reviewed information for numerous incidents and near-misses from 2014 – 2016 in the **Velocity** database and specifically reviewed the root causes for several incidents. As described previously with respect to the program document, the Board did not identify where Plains links their investigations to their Hazard Inventory to determine if the incident root causes were linked to existing hazards, or if new hazards need to be added to the inventory.

Through interviews and a review of incident data, the Board identified it is possible for Plains to enter multiple categories for a single incident. As an example, one incident that was reviewed as part of this audit was entered into **Velocity** for process safety, abnormal operating conditions, and environmental reasons. Examples were also reviewed in **Velocity** for Near-misses and Hazard Identification.

During interviews with Plains staff in Sarnia ON, the Board was informed that Plains have created a specific Eastern Area procedure for use when investigating incidents. The Eastern Area procedure is called the **Incident Investigation and Corrective Action Procedure**. According to the **IRIP**, Functional Groups and Operational Areas can develop additional or expanded supporting processes and procedures if required, and if they meet the minimum requirements set out in the **IRIP**. This regional procedure does fit within the overall Plains' incident and investigation program. Board review of the documentation indicated that the various Process and Procedures are not integrated.

The Board found Plains is conducting investigations into incidents, identifying basic causes, casual factors, and root causes and areas where corrective actions can improve their safety and protection of the environment. However, the procedure is too new to be considered "Established" according to the NEB's definition for Established. The **SIMP** document does not require the incident investigators to evaluate the existing controls for adequacy to prevent a future similar incident or to look at the Hazard Inventory to determine if this incident involved a hazard that was previously identified or if this is a new hazard that needs to be added to the inventory. **SIMP** does not provide guidance for conducting investigations for programs outside of safety.

#### Conclusion:

Plains has demonstrated documentation that outlines a process for incident and near-miss investigation and includes some roles and responsibilities. However the Board does not consider the process established. It does not provide guidance to programs conducting investigations outside of the safety program, and it does not require the investigator to review the existing hazard inventory and controls to the incident under investigation.

The audit found Plains does not have an established, implemented and effective process for incidents and near-miss investigations. Based on the review conducted and considering the scope of this audit, the Board has identified a non-compliance with OPR s.6.5(1)(r) in relation to Question 2.0 – Investigation.





### 3.0 Developing and Implementing Corrective and Preventive Action(s)

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s. 6.5(1)(r) and CSA Z662-15 Clause 3.1.2 (h)(ii), 10.3.1, and 10.3.6

#### Question 3.0:

Describe the company's processes and procedures for developing and implementing all necessary corrective and preventive actions to address all of the incident causes and contributing factors.

#### NEB Assessment:

The Board found both the **Incident Reporting and Investigation Program (IRIP)** and the **Safety Incident Management Procedure (SIMP)** reference the **Corrective Actions Management Program (CAMP)** for the development and implementation of corrective actions and the prevention of recurrence associated with incidents and near-misses. The Board found the **CAMP** document provides a description of how Plains integrates multiple programs and actions to form a comprehensive corrective actions management approach. The **CAMP** document states that it is to be used for several purposes including: incident and near-miss investigations, internal and external audits, inspections and monitoring to name a few.

The Board found for incidents and near-misses, **CAMP** allows for consistent identification of corrective actions and lessons learned that result from incidents and incident investigations. Further it is designed to ensure findings from incident investigations are connected to the identification of corrective actions, assignment to a responsible person, given a deadline, recorded in a system, and tracked to completion.

The **Velocity** system contains fields where corrective and preventative actions for incidents and near-misses are entered, along with the ability to track the completion of the corrective or preventative actions. Through interviews, and as stated in several documents, Plains indicated that it is mandatory to have at least one preventative or corrective action entered in **Velocity** prior to closing an incident or near-miss.



The **CAMP** document outlines the key accountabilities and responsibilities from Plains' staff from the Executive Vice President down to Plains employees and contractors, and also provides a management program model that outlines the framework and various processes which are part of the corrective action program.

**CAMP** provides information on how the design of corrective actions should be considered once basic causes, casual factors and root causes have been identified. The document indicates that Management of Change and compatibility with normal operating conditions and existing corrective actions needs to be addressed. The document suggests all proposed corrective actions be reviewed by a qualified or competent person to reduce the opportunity for a new failure mechanism or hazard to be introduced.

Prior to the implementation of the corrective actions, **CAMP** requires "...the Responsible Person, in cooperation with affected Functional Group or Operational Area personnel, will determine if the selected corrective action(s) will correct the non-conformance, ensure satisfactory performance and prevent recurrence." Plains has defined the Responsible Person as "Individual assigned responsibility for closing out non-conformances; designated in KMI for each recorded corrective action." Any proposed corrective action can be rejected or deferred by the Responsible Person; however the reason for the rejection or deferral needs to be recorded in association with the corrective action.

The Board found the **CAMP** and **IRIP** documents indicated there is to be at least one corrective action for every incident, near-miss, and hazard ID. Through a review of incidents and near-misses, the Board identified at least one corrective or preventative action had been entered for each incident reviewed. However, it was not possible to determine based on the **Velocity** records provided if all corrective and preventative actions had been implemented for each incident reviewed.

The Board found the corrective action recommendations from the Lead Investigator associated with the root cause(s) were visible. However it was not possible to determine if all of the corrective actions had been implemented, deferred, or were still in the process of being implemented; and if not implemented, it was not possible to see why the corrective actions had not been implemented. It was not possible to determine if all incidents rated from Very High to Low had their corrective actions go through the **CAMP** process. During the audit, the Board selected and reviewed a sampling of incidents rated from Very High to Low from a variety of different programs from 2014 to 2016. The Board noticed corrective actions were still open on some incidents that date to 2015, and the details for all corrective actions were not readily available. Follow up information requests from the Board had to be submitted to receive all information on the status of investigations, to link to the applicable records for the status of the corrective actions and evidence uploaded to demonstrate closure of each corrective action. This series of actions did not appear to be happening in a consistent and documented manner.

#### Conclusion:

Plains has demonstrated that some parts of a process for developing and implementing corrective and preventative actions are in place. However, when reviewing records for past incidents, it was not possible to verify if all action items for all incidents had been implemented and to verify closure. Also, it was not possible to determine if all corrective actions from incidents rated from Low to Very High had all used the **CAMP** process.



The audit found Plains does not have a fully established, implemented and effective process for developing and implementing corrective and preventative actions. Based on the review conducted and considering the scope of this audit, the Board has identified a non-compliance with OPR s.6.5(1)(r) in relation to Question 3.0 – Developing and Implementing Corrective and Preventative Actions.

#### 4.0 Communication of Findings, Follow Up & Shared Learnings

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

The company shall have an established, implemented and effective process for the internal and external communication of information relating to safety, security and environmental protection. The process should include procedures for communication with the public; workers; contractors; regulatory agencies; and emergency responders - (from sub-element 3.5 Communication).

**Regulatory References:** OPR s. 6.5(1)(m) and CSA Z662-15 Clause 3.1.2 (h)(ii), (iii) and (vi), 10.3.6

#### Question 4.0:

Describe the company's processes and procedures to communicate the findings (cause and contributing factors) and corrective and preventive actions related to incidents and near-misses throughout the organization to ensure the company can prevent the occurrence of incidents due to similar causes. Also, describe the company's process for learning from such events.

#### NEB Assessment:

Plains **Incident Reporting and Investigation Program (IRIP)**, the **Safety Incident Management Procedure (SIMP)**, and the **Corrective Actions Management Program (CAMP)** all contain information on communications and lessons learned. The **IRIP** specifically references one document for the communications and lessons learned procedure, "Departmental procedures shall require operational shared learning to use the Lessons Learned Procedure found in the Safety Incident Management Procedure. The Health and Safety department has an established and controlled procedure for distributing and communicating shared learning." As previously discussed in Section 2.0 of Appendix I, the **SIMP** document does not meet the Board's test for being considered Established.



Plains' **SIMP** document states "Lessons learned describe the process used to determine when incident & near-miss investigation outcomes and associated learnings are shared with the organization. The purpose of distributing lessons learned documents are to educate workers on incidents & near-misses, contributing factors and corrective action with the overall intent to reduce the likelihood of similar incidents occurring." The document further explains lessons learned can come from internal incidents and near-misses, hazard identification reports, industry learnings and from regulators. The Board identified the **SIMP** document does contain direction on which incidents are selected for the development of lessons learned. Incidents, near-misses, and hazard identification that are risk ranked as High or Very High are considered as potential lessons learned and incidents with a lower risk ranking can also be considered if approved by Plains management.

Plains has developed a flow chart which lays out the details for the creation and distribution of lessons learned documents that includes who is responsible for each step in the work flow.

Both the **IRIP** and the **SIMP** documentation indicate not all incidents and near-misses have associated lessons learned communicated with them. **SIMP** indicates those lessons learned that are communicated require the following:

- A brief description of the incident;
- Causes of the incident; and
- Recommendations for improvement.

Lessons learned are in the form of safety bulletins, safety alerts, and formal PowerPoint presentations. They are communicated by e-mail communication to all Plains staff, and hard copies are posted at work sites in public areas such as lunch rooms and Health and Safety boards. Plains expects Departmental Managers and Supervisors to ensure lessons learned documents are provided and discussed in their respective work locations at events such as safety meetings, morning meetings and pre-job safety meetings. Examples of lessons learned were provided to the Board for review.

Through various activities Plains demonstrated that it is communicating findings and lessons learned. However, the process does not meet the Board's definition for Established as it has not been in place for a minimum of 90 days at the time the audit was conducted.

#### Conclusion:

Plains has demonstrated that a process for communication of findings, follow-up and shared learnings has been developed. However the **SIMP** document does not meet the Board test for Established at the time of the audit.

The audit found Plains does not have an established process for communication of findings, follow-up and shared learnings. Based on the review conducted and considering the scope of this audit, the Board has identified a non-compliance with OPR s.6.5(1)(m) in relation to Question 4.0 – Communication of Findings, Follow-up and Shared Learnings.



## 5.0 Analysis and Trending of Data Related to Incidents and Near-Misses

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of its reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s. 6.5(1)(s) and CSA Z662-15 Clause 3.1.2 (h)(ii).

### Question 5.0:

Describe the company's processes and procedures to collect, evaluate, monitor and trend the incident and near-miss data. Explain how and for what purpose the company uses this information.

### NEB Assessment:

The Board has found that Plains, through the **Incident Reporting and Investigation Program (IRIP)** and the **Health and Safety Metrics Analysis and Performing Reporting Process**, was able to demonstrate data is collected and retained on incidents and near-misses and users can sort and search various types of data that has been entered into the system. The **process** includes the use of both leading and lagging indicators to provide a balanced perspective on what is and is not working at Plains.

The data used for trending and analysis comes from the **Velocity** system. As previously described the **Velocity** system is linked with the **IRIP** and **Corrective Actions Management Program (CAMP)** which have been put in place to provide a consistent source of information for use in trending and analysis. According to the process the data is analyzed for relationships, patterns and trends using statistical analysis and comparisons to historical information. The process provides a list of reasons how and why analyzing the data may provide useful results. A few examples of this are as follows:

- Provide insight into program effectiveness and if changes brought about a desired result;
- Provide credible evidence to show stakeholders that the program is successful or unsuccessful; and
- Uncover factors that may be associated with changes in the dependent variable(s).



The process provides a list of metrics that are generated, who they are generated for (such as internal or external groups, senior executives, management or for Plains internal intranet site), the frequency the reports need to be generated, how the metric is calculated, and quality assurance checks on the reports. The Board was provided examples of these various reports for review. The process allows for Operational Areas and Functional Groups to collect additional data as they feel necessary.

The Board has found that a majority of the data available for trending and analysis is related to safety and vehicle incidents. However through an Information Request, Plains provided additional data to show trending and analysis done for a wider range of categories and programs.

Conclusion:

Plains has demonstrated they have an electronic database for the collection and storage of data and perform analysis and trending of this information. NEB confirmed the information is being shared within the company through to senior management and used for decision making purposes and roles and responsibilities have been outlined for the use of this process.

The audit verified Plains has an established, implemented and effective processes for analysis and trending of data related to incidents and near-misses. Based on the review conducted and considering the scope of this audit, the Board found no compliance issues in relation to Question 5.0 – Analysis and Trending of Data Related to Incidents and Near-misses.



# National Energy Board Incident Management Audit Protocol

## Appendix II – Incident Management Interaction with other Management System Elements

### 1.0 POLICY AND COMMITMENT

#### 1.1 Leadership Accountability

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

**Regulatory References:** OPR s. 6.2

#### Question 1.1:

Explain the role of the accountable officer and their responsibility and authority with respect to sub-element 4.2 ***Investigation and Reporting Incident and Near Misses***.

#### NEB Assessment:

As stated in Plains' **Operational Governance Process** "The main function of the Operational Governance Process is to organize operational, financial, risk management and reporting processes so that senior governance teams receive the information they need and business units can conduct their work in compliance with regulations and strategic goals."

Specific objectives are listed in the Plains' **Operational Governance Process**. The following are specific to the requirements for the Accountable Officer to have the authority over the human and financial resources linked to management system and the Board's requirements:

- Establish, implement and maintain the management system and the programs referred to in section 55 of the NEB OPR; and
- Ensure that Plains' activities are carried out in a manner that enables it to meet its obligations under section 6 of the NEB OPR.

#### Conclusion:

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Leadership and Accountability as it applies to the investigation and reporting of incidents and near-misses.





## 1.2 Policy and Commitment Statements

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

The company shall have a policy for the internal reporting of hazards, potential hazards, incidents and near-misses that include the conditions under which a person who makes a report will be granted immunity from disciplinary action.

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

**Regulatory References:** OPR s. 6.3 and CSA Z662-15 Clause 3.1.2(a).

### Question 1.2:

Describe the policies that the company has to address the above expectations as they relate to incident prevention, reporting and investigation.

### NEB Assessment:

The Board has found Plains' **Operations Policy** contains their commitment to conducting their activities in a manner that ensures the safety and security of the public, their workers, and the protection and stewardship of the environment. Specifically the policy states "...commit to fostering a safety culture that supports our journey to zero incidents while optimizing our response to and control of emergency situations. We commit to a reporting culture, requiring the reporting of hazards, potential hazards, incidents and near-misses without the fear of reprisal or disciplinary action."

Plains provided additional documentation in the form of their **Operations Management System Commitment Statement** and their **Health and Safety Commitment Statement**, both of which contained similar statements and direction as the **Operations Policy** to sustain a strong safety culture, and to conduct their work in a manner that protects the public and their employees.

### Conclusion:

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 1.2 - Policy and Commitment.





## 2.0 PLANNING

### 2.1 Hazard Identification, Risk Assessment and Control

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

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

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

**Regulatory References:** OPR s. 6.5 (1)(c),(d),(e),(f),(r),(s) and CSA Z662-15 Clauses 3.1.2 (f)(i), (h)(ii).

#### Question 2.1:

Explain how hazards identified through incident and near miss reporting are used to input the hazard identification process and the hazard inventory.

#### NEB Assessment:

During interviews with Plains' staff, they indicated that a process was established by the Operations and Risk Management group (ORM group) that set a minimum standard for all programs and areas to follow. The Board found that the Plains ORM group provided training to all Plains' groups and functional areas to assist in the consistency of development of all hazard inventories.

The **Hazard Prevention Program** states "Hazards can be identified retroactively through trend monitoring and incident and near-miss investigations, or proactively through monitoring and assessment activities." The Board was provided with examples of hazard inventories from functional groups and operational areas for review.

The **Operational Risk Management Process and Procedure** contains a risk register development procedure and contains a step-wise process for developing the register. The process indicates that contingency plans should be considered when implementing risk controls along with the circumstances under which the contingency plan would have to be implemented.



Conclusion:

A finding in Appendix I, section 2.0 Investigations, stated that the **SIMP** process does not require investigators to review the existing hazard inventory during an investigation. The Board does not believe a finding is required in this sub-element, as Plains' **Hazard Prevention Program** indicates that new hazards can be added to the hazard inventory through incidents and near-misses. From the perspective of this sub-element, the Board is of the opinion that the management system is linking new hazards and potential hazards to investigations into incidents and near-misses; correcting the finding in Appendix I section 2.0 will be sufficient.

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 2.1 Hazard Identification, Risk Assessment and Control.

## 2.2 Legal Requirements

**Expectations:** The company shall have an established, implemented and effective process for identifying, and monitoring compliance with, all legal requirements that are applicable to the company in matters of safety, security and protection of the environment. The company shall have and maintain a list of those legal requirements. The company shall have a documented process to identify and resolve non-compliances as they relate to legal requirements, which includes updating the management and protection programs as required.

**Regulatory References:** OPR s. 6.5 (1) (g),(h),(i).

Question 2.2:

Does your company have a legal list that contains the regulations and/or industry standards, any certificate or order conditions that the company has determined to be related to sub-element 4.2?

NEB Assessment:

The Board reviewed a document titled **Managing and Monitoring Regulatory Legislative Amendments and Updates** which provides the process for monitoring and assessing regulatory changes that may apply to Plains. The document states "A regulatory change constitutes any amendment to legislation, acts, regulations, or directives that may affect PMC's operations." The document indicates that its legal list encompasses legal requirements across Canada including both federal and provincial requirements and applicable standards. Plains provided a copy of their Legal List as referenced in the above procedure.

Conclusion:

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 2.2 – Legal Requirements.

## 2.3 Goals, Objectives and Targets

**Expectations:** The company shall have an established, implemented and effective process for developing and setting goals, objectives and specific targets relevant to the risks and hazards associated with the company's facilities and activities (i.e. construction, operations and maintenance). The company's



process for setting objectives and specific targets shall ensure that the objectives and targets are those required to achieve their goals, and shall ensure that the objectives and targets are reviewed annually.

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

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

**Regulatory References:** OPR s. 6.3, s.6.5(1)(a)(b), s.6.6 and CSA Z662-15 Clause 3.1.2 (h)(i).

Question 2.3:

- a) Does the company have goals, objectives and specific targets for the prevention of ruptures, liquid and gas releases, fatalities and injuries?
- b) Does the company have performance measures related to the goals, objectives and specific targets for the prevention of ruptures, liquid and gas release, fatalities and injuries?

NEB Assessment:

Plains indicated their goals are set through the **OMS Annual Planning Process**. The document states "This process includes goals for the prevention of ruptures, liquids and gas releases, fatalities and injuries and for the response to incidents and emergency situations, including corrective and preventative actions where deficiencies are identified." The document mapped out a process that included steps for planning (strategic and annual OMS planning), inputs from management review findings and assurance activity findings, deliverables such as goals objectives and targets and OMS annual plans, and the stakeholders involved in each step.

Documentation was provided to show dashboards of goals and objectives with quarterly score cards for various indicators. Indicators were both leading and lagging in nature, and Plains' staff indicated during interviews that they are moving towards including more leading indicators. Various meetings are held annually, quarterly and bi-weekly when the status on the various goals, objectives and targets may be discussed.

Conclusion:

The audit verified that Plains has goals, objectives, targets and performance measures for the prevention of ruptures, liquid and gas releases, fatalities and injuries. Plains tracks the relevant performance metrics and identifies where actions are required to improve performance. Based on the review conducted and considering the scope of this audit, the Board did not identify any issues of non-compliance in relation to Question 2.3 - Goals, Objectives and Targets.



## 2.4 Organizational Structure, Roles and Responsibilities

**Expectations:** The company shall have a documented organizational structure that enables it to meet the requirements of its management system and its obligations to carry out activities in a manner that ensures the safety and security of the public, company employees, the pipeline, and protection of property and the environment. The documented structure shall enable the company to determine and communicate the roles, responsibilities and authority of the officers and employees at all levels. The company shall document contractor's responsibilities in its construction and maintenance safety manuals.

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

**Regulatory References:** OPR s. 6.4 and CSA Z662-15 Clauses 3.1.2 (b),(c).

### Question 2.4:

- a) Has your company identified and staffed the positions necessary for meeting the requirements of sub-element 4.2 (i.e. incident reporting, investigation, implementing corrective actions, communication and learning)? If so, explain those positions and their roles and provide the names and titles of staff in these positions.
- b) How has the company communicated and documented its roles, responsibilities and authority for the above positions?

### NEB Assessment:

Plains' **Incident Reporting and Investigation Program (IRIP)** document states the Vice President Health, Safety, Environment & Regulatory has the mandate and authority for implementing the **IRIP**. The **IRIP** document further defines the accountabilities and responsibilities for the implementation of the **IRIP** from the Executive Vice President through to employees, contractors and visitors. The roles and responsibilities vary dependent upon the level staff is within the organization.

Plains' document **Organizational Health and Safety Roles and Responsibilities** provides a matrix that breaks down the department's core components, which includes a section on incident reporting and investigation. The matrix defines the responsibilities for each core component from the President through senior management to site management and site workers. The matrix includes the specific responsibilities of the Director of Health and Safety for incident investigation and reporting.

### Conclusion:

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 2.4 - Organizational Structure, Roles and Responsibilities.



### 3.0 IMPLEMENTATION

#### 3.1 Operational Control-Normal Operations

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

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

**Regulatory References:** OPR s. 6.5(1)(e),(f) and (q) and CSA Z662-15 Clause 3.1.2(f).

Question 3.1:

**The assessment of this sub-element is not included in the scope of this audit.**

NEB Assessment:

N/A

#### 3.2 Operational Control-Upset or Abnormal Operating Conditions

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

**Regulatory References:** OPR s. 6.5(1)(c),(d),(e),(f) and (t), and CSA Z662-15 Clause 3.1.2 (f).

Question 3.2:

**The assessment of this sub-element is not included in the scope of this audit.**

NEB Assessment:

N/A



### 3.3 Management of Change

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

**Regulatory References:** OPR s. 6.5(1)(i) and CSA Z662-15 Clause 3.1.2 (g).

Question 3.3:

- a) Does the company have a Management of Change (MOC) process that could be applicable to changes that could result from incidents or near misses?
- b) Describe how the company applies its MOC process to corrective and preventive actions in relation to sub-element 4.2 (as applicable)?

NEB Assessment:

Plains' **Corrective Actions Management Plan (CAMP)** document provides a model which incorporates the potential requirement for Management of Change depending on the corrective action that is being considered. The document further states "corrective actions that require the use of the MOC process must be prepared and a Gap Closure Plan submitted to the appropriate authority for review and approval determination."

Plains' **Management of Change process (MOC)** states "MOC is a formal system to evaluate and document changes before they are made and to ensure that the changes made do not adversely affect safety, security or protection of the environment, or result in release of highly hazardous material, including any new hazard or risk, or any change in design specification, standard or procedure and any change in PMC's organizational structure or the legal requirements applicable to PMC." Plains has divided their MOC process into several categories (technical, organizational, and administrative) depending on the type of MOC required. Plains provided documentation for review that demonstrated its MOC process could be applicable to changes that result from incidents or near-misses.

While reviewing incident investigations, the Board reviewed documentation where corrective and preventative actions indicated an MOC was required.

Conclusion:

Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 3.3 - Management of Change.



### 3.4 Training, Competence and Evaluation

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

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

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

**Regulatory References:** OPR s.6.5 (1)(j),(k),(l) and (p) and CSA Z662-15 Clause 3.1.2(c).

#### Question 3.4:

Describe the training for the company employees related to the reporting of incident and near misses, and the training for staff conducting investigations and developing corrective and preventive actions.

#### NEB Assessment:

Plains indicated that all employees, contractors, and site visitors are required to take Plains' General Safety Orientation training, which explains how to report incident and near-misses, hazards and potential hazards. Plains staff have also been provided with training on the **Incident Reporting and Investigation Program (IRIP)** document to provide additional details and instruction. The Board was provided with copies of the General Orientation and **IRIP** training for review as part of the audit. The Board found that competency evaluations are built into the training and the student must complete these as part of the training packages.

Based on information provided during interviews, staff that will act as investigators for incidents and near-misses, are required to take a 5 day TapRoot® training provided by a third party vendor. Interviews indicated that Subject Matter experts (SME's) can be brought into investigations as required to form a team for more complex or technical incident investigations. However, SME's do not require the TapRoot® training as they are not leading the investigation.

In the **Safety Training Program** document a series of tables of mandatory and optional training for different Plains operational groups has been provided. The tables break down various types of training for various groups of participants, i.e. field employees to Directors. Nowhere in the document is there a category for employees who will lead investigations and the training they need to take for their role.





The Board reviewed the training documents provided, and the **Health and Safety Training Process** stated “In a competency based training program, employees gain skills and knowledge they need to perform their work with a focus on functional competencies. Outcomes to be achieved as a result of training are stated clearly. While knowledge is important in a competency based program, it is equally important to be able to apply that knowledge at work. PMC considers functional competencies to be trainable.”

The Board has found there are no formalized and documented competency requirements for performing incident investigations. The **SIMP** document indicated other programs can use investigation methods other than TapRoot® to conduct their investigations; however there is no information as to training and competency requirements that these other investigation would methods require.

The Board requested the training records for a sampling of the employees that were interviewed as part of this audit. Only some of the Health and Safety employees interviewed, including senior level employees, had TapRoot® training. The Board could not determine if all employees, including those who would be reviewing the work completed during this important job task had an appropriate level of training.

Conclusion:

Plains was not able to demonstrate that they had training and competency requirements for employees as required under OPR s.6.5(1)(j).

The audit found that Plains does not have a fully developed and implemented competency and training program for their management system. Based on the review conducted and considering the scope of this audit, the Board identified a non-compliance in relation to Question 3.4 – Training, Competence and Evaluation.

### 3.5 Communication

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

**Regulatory References:** OPR s. 6.5(l),(m) and (q) and CSA Z662-15 Clause 3.1.2(d).

Question 3.5:

**This sub-element is partially assessed in Appendix I, section 4.0. The other aspects of this sub-element are not part of the scope of this audit.**

NEB Assessment:

N/A





### 3.6 Documentation and Document Control

**Expectations:** The company shall have an established, implemented and effective process for identifying the documents required for the company to meet its obligations to conduct activities in a manner that ensures the safety and security of the public, company employees, the pipeline, and protection of property and the environment. The documents shall include all of the processes and procedures required as part of the company's management system.

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

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

**Regulatory References:** OPR s. 6.5(1)(i),(n) and (o), s.6.5(3) and CSA Z662-15 Clause 3.1.2 (e).

Question 3.6:

**The assessment of this sub-element is not included in the scope of this audit.**

NEB Assessment:

N/A

## 4.0 CHECKING AND CORRECTIVE ACTION

### 4.1 Inspection, Measurement and Monitoring

**Expectations:** The company shall have an established, implemented and effective process for inspecting and monitoring the company's activities and facilities to evaluate the adequacy and effectiveness of the protection programs and for taking corrective and preventive actions if deficiencies are identified. The evaluation shall include compliance with legal requirements.

The company shall have an established, implemented and effective process for evaluating the adequacy and effectiveness of the company's management system, and for monitoring, measuring and documenting the company's performance in meeting its obligations to perform its activities in a manner that ensures the safety and security of the public, company employees, the pipeline, and protection of property and the environment.

The company shall have documentation and records resulting from the inspection and monitoring activities for its programs.

The company management system shall ensure coordination between its protection programs, and the



company should integrate the results of its inspection and monitoring activities with other data in its hazard identification and analysis, risk assessments, performance measures, and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s. 6.5(1)(g),(s),(u),(v),(w), s.53(1),s.54(1), and CSA Z662-15 Clause 3.1.2(h)(v).

Question 4.1:

**The assessment of this sub-element is not included in the scope of this audit.**

NEB Assessment:

N/A

#### 4.2 Investigations of Incidents, Near-misses and Non-compliances

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

The company shall have an established, maintained and effective data management system for monitoring and analyzing the trends in hazards, incidents and near-misses.

The company should integrate the results of their reporting on hazards, potential hazards, incidents and near-misses with other data in hazard identification and analysis, risk assessments, performance measures, and annual management reviews, to ensure continual improvement in meeting the company's obligations for safety, security and protection of the environment.

**Regulatory References:** OPR s. 6.5(1)(r),(s),(u),(w),(x) and s.52, and CSA Z662-15 Clauses 3.1.2(h)(ii), 10.3.6, and 10.4.4.

Question 4.2:

**This sub-element is assessed in Appendix I.**

NEB Assessment:

N/A

#### 4.3 Internal Audit

**Expectations:** The company shall have an established, implemented and effective quality assurance program for the management system and for each protection program, including a process for conducting regular inspections and audits and for taking corrective and preventive actions if deficiencies are



identified. The audit process should identify and manage the training and competency requirements for staff carrying out the audits.

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

**Regulatory References:** OPR s. 6.5(1)(w) and (x), s.55, and CSA Z662-15 Clauses 3.1.2(h)(v),(vi), and (vii).

Question 4.3:

Has your company conducted an audit that included and evaluated the requirements of sub-element 4.2?

NEB Assessment:

Plains provided two recently completed audits to the Board, a **Certificate of Recognition (COR) Basic Safety Program (BSP)** audit completed in November 2016 using the ENFORM BSP audit protocol, and a Plains internal **Operations 2015 OMS Assessment Report** completed in April 2016.

According to the Alberta Government Labour website "a **COR** shows that the employer's health and safety management system has been evaluated by a certified auditor and meets provincial standards. These standards are established by Occupational Health and Safety (OHS)." The Plains audit report stated the following "The audit consisted of a complete documentation review of existing health and safety program material and a cross-section of interviews of current employees." A COR audit is designed to focus on health and safety. For this sub-element the Board is looking for completed internal audits that are focused on the requirements of sub-element 4.2. This external audit is not designed to meet this requirement.

The second audit provided by Plains was an internal activity completed on 27 operational areas and 8 functional groups. The audit states "The objective of the Operations 2015 OMS Assessment Report is to provide Plains' Operations with an organization-wide view on assessed maturity and identified Gaps through OMS Assessments completed by Operational Areas and Functional Groups." The report outlines the OMS Assessments did not provide audit-level rigour or demand evidence that would yield objective and comprehensive results. As previously indicated, for this sub-element the Board is looking for completed internal audits that are focused on the requirements of sub-element 4.2. This internal assessment does not meet the Board expectation for an Audit.

Plains did provide their internal **Operations Assurance Program** document, which states "The Operations Assurance Program establishes the processes and activities needed to ensure Plains operations, facilities and activities are properly inspected, assessed and audited in order to evaluate adequacy and effectiveness, generate corrective and preventative action needed to address deficiencies, and proactively identify opportunities for improvement."

The Board found when reviewing the documents submitted by Plains for this focused audit, that the majority of the program and process documents did have a section related to quality assurance. However, the majority of the documents reviewed during this audit were published in Q4 of 2016, so it did not appear that Plains has had an opportunity to complete some of these assurance activities as described in the documents.

Conclusion:

Plains was not able to demonstrate that they had conducted internal audits on all programs as required under OPR s. 6.5(1)(w).

The audit found that Plains does not have a fully implemented internal audit and quality assurance program for their management system. Based on the review conducted and considering the scope of this audit, the Board identified a non-compliance in relation to Question 4.3 – Internal Audit.

**4.4 Records Management**

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

**Regulatory References:** OPR s. 6.5(1)(p), s.56 and CSA Z662-15 Clauses 3.1.2(e) and 10.4.4.1.

Question 4.4:

Describe how the company meets the record retention requirements set out in OPR s. 56 and CSA Z662-15 Clause 10.4.4.1.

NEB Assessment:

Plains provided their **Records Retention Policy** and their **Information Management Program** to demonstrate how they retain and manage records. The Records Retention Policy provides a breakdown of record retention time frames for various types of programs, and uses such as health and safety, pipelines & facilities, and regulator communications. The **Information Management Program** references a list of regulatory requirements, which includes the OPR and CSA Z662-15 among others, to determine their record and management system requirements.

The **Records Retention Policy** does contain direction on records relating to injuries requiring medical attention, investigation materials, and reports or other records concerning pipeline spills. It does not provide direction for incidents that could occur in all protection program areas and there is no link between this policy document and the **SIMP** document which contains the investigation procedure. Also the **Records Retention Policy** does not provide direction to the investigator as to what records are relevant and need to be uploaded to **Velocity** as part of the permanent record.

The Board has found that Plains has not demonstrated an established and implemented process for records management related to incident investigations. Through the documentation reviewed, there was no guidance provided to lead investigators to inform them of what relevant and required documents associated with an investigation are required to be retained and uploaded to the **Velocity** system to ensure they are traceable and trackable.



The Board has found that the Plains **Eastern Area Incident Investigation & Corrective Action Procedure** does contain some direction to guide investigators as to what documents are to be stored in **Velocity**. However it is not a corporate wide procedure and may not list all of the relevant documents to be retained.

Conclusion:

The Board has found that Plains has demonstrated they have an incident investigation database to track and store information incident investigation records.

The Board has found Plains was not able to demonstrate that they had an established and implemented process for records management related to incident investigation to ensure required records and associated material are traceable and trackable.

The audit found Plains does not have a fully implemented records management process. Based on the review conducted and considering the scope of this audit, the Board identified a non-compliance with OPR s.6.5(1)(p) in relation to Question 4.4 – Records Management.

## 5.0 MANAGEMENT REVIEW

**Expectations:** The company shall have an established, implemented and effective process for conducting an annual management review of the management system and each protection program and for ensuring continual improvement in meeting the company's obligations to perform its activities in a manner that ensures the safety and security of the public, company employees, the pipeline, and protection of property and the environment. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the management system and protection programs, and the company's overall performance.

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

**Regulatory References:** OPR s. 6.5(1)(w) and (x) and s.6.6, and CSA Z662-15 Clause 3.1.2 (h)(vii).

Question 5.0:

Describe the company process for conducting management reviews as it relates to sub-element 4.2.

NEB Assessment:

Plains provided their **Management Review Process** document which states "Plains requires an established, implemented and effective process for review of the management system and each



protection program and for ensuring continual improvement in meeting the company's obligations to perform its activities in a manner that ensures the safety and security of the public, company employees and protection of property and the environment." For this focused audit there are two key objectives from the process document that are applicable:

- Complete an annual report for the previous calendar year, signed by the accountable officer that describes the performance of the management system in meeting its obligations and the company's achievement of its goals, objectives and targets during that year, as measured by the performance measures developed; and
- Review the corrective and preventative actions taken during the year to correct any deficiencies identified by the quality assurance program and other methods.

The process document provides additional details on the requirements for management level meetings on various schedules, i.e. bi-weekly, quarterly, to discuss topics such as hazards, incidents and near-misses.

Plains provided their **2015 Operations Annual Report** for Board review which contained a significant amount of information. Related to this focused audit, the report provided information on incident investigation, corrective actions, trending and analysis and the annual report signed by the Accountable Officer.

Conclusion:

The audit verified that Plains has a process for conducting management reviews as it relates to sub-element 4.2. Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 5.0 - Management Review.



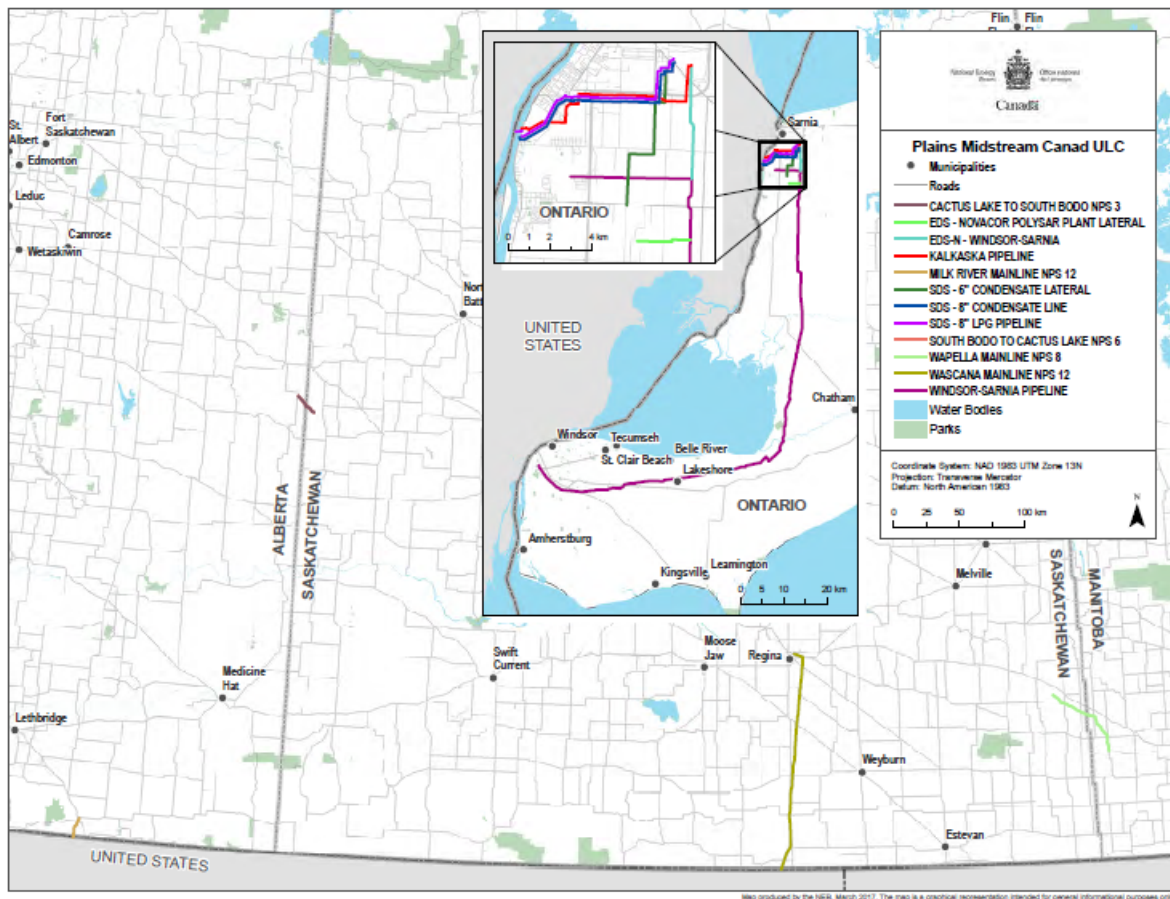
## APPENDIX III

### PLAINS MIDSTREAM CANADA ULC (Plains) AURORA PIPELINE COMPANY LTD. (Aurora) MAPS AND SYSTEM DESCRIPTION

Plains and Aurora, collectively referred to as Plains in this audit, is an indirect subsidiary of Plains All American (PAA) Pipeline, L.P. Plains specializes in the transportation, storage, processing and marketing solutions for crude oil, natural gas, and natural gas liquids (NGL's) and links petroleum producers with refiners and other customers via pipeline, truck and rail transportation. Plains also operate facilities for crude oil and NGL storage, separation of NGL from natural gas and fractionation of NGL into specification products.

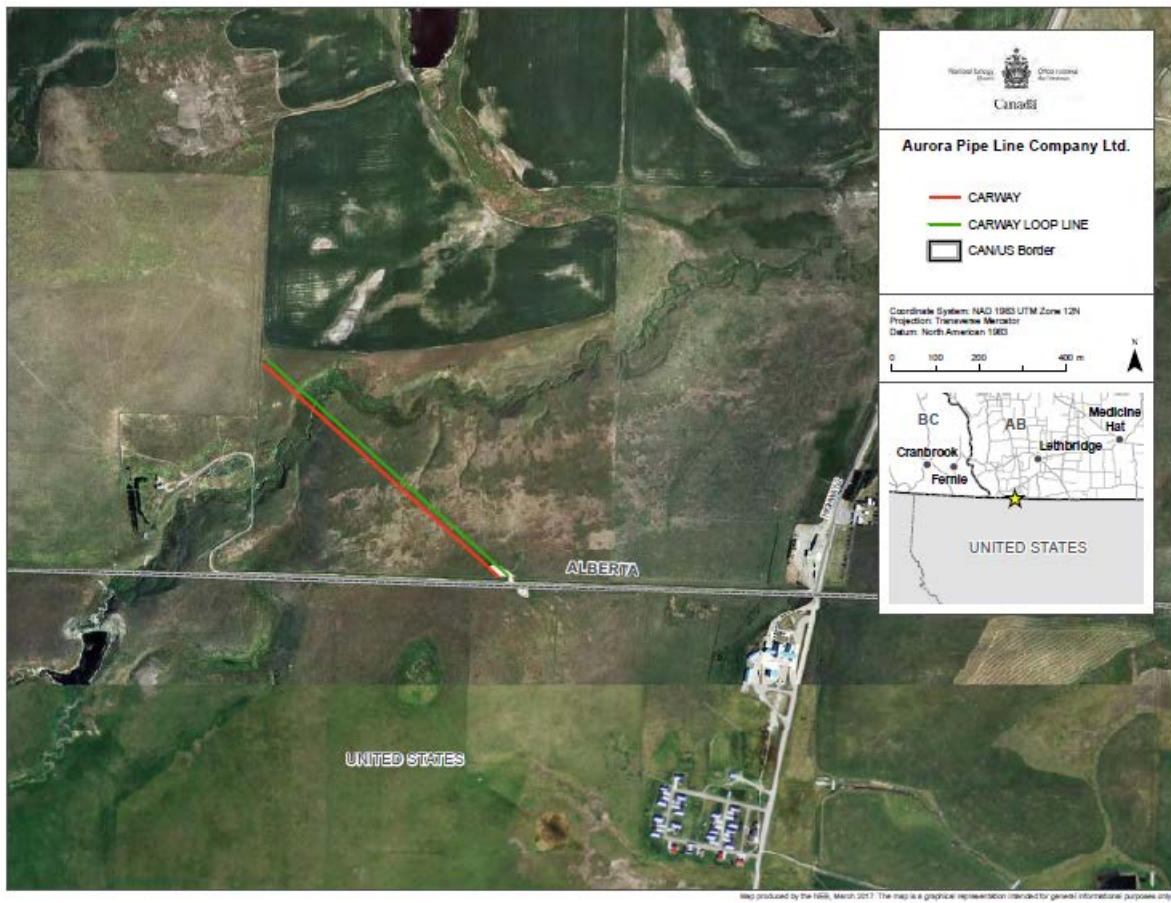
Plains is headquartered in Calgary, Alberta, with Canadian facilities located in four provinces and they conduct business in eight provinces. Plains has both provincially regulated and federally regulated pipelines. The Board currently regulates approximately 704 kilometers of their pipelines as well as their storage facilities in Windsor, Ontario.

Figure 1: Plains Midstream Canada ULC





**Figure 2 Aurora Pipe Line Company Ltd.**



**APPENDIX IV**  
**PLAINS MIDSTREAM CANADA (ULC)**  
**COMPANY REPRESENTATIVES INTERVIEWED**

<b>Company Representative Interviewed</b>	<b>Job Title</b>
██████████	Manager Health & Safety
██████████	Specialist, Assurance
██████████	Director, Health & Safety
██████████	Specialist, Health & Safety
██████████	Manager, Health & Safety Planning
██████████	Metrics Analyst, Health & Safety
██████████	Manager, OMS
██████████	OCC Manager
██████████	OCC Training Supervisor
██████████	OCC Specialist/ Console Supervisor
██████████	Console Supervisor
██████████	Process Safety Management – Specialist – Field
██████████	Process Safety
██████████	Health & Safety Advisor
██████████	District Manager
██████████	Environmental Advisor
██████████	Facility Team Lead

**APPENDIX V**  
**Plains Midstream Canada (ULC)**  
**Aurora Pipeline Company Ltd.**  
**DOCUMENTS & RECORDS REVIEWED\***

EA-SAF-44-0002A Eastern Area Incident-Accident Report Form.pdf
EA-SAP-44-0001 Incident Investigation Procedure.pdf
Incident Reporting at PMC for Office Personnel 2016.pptx
IR request Feb 15 2017.docx
NEB Investigation and Reporting Incidents and Near Misses Document Concordance.xlsx
ORM Process Including Risk Register Procedure.docx
Plains - Information Request Correlation Table - Feb 6 2017.docx
PMC - SAR Incident Investigation 101 Training [REDACTED] Jan 2015.pptx
Training record request Feb 8 2017.docx
Training Report Requested by NEB for IRIP Audit Feb 2017 v.2.xls
Accountable Officer Acknowledgement - Jan 2016 1.1.pdf
Accountable Officer Annual Report Notification 1.1.pdf
Management Review Process 1.1.pdf
Operational Governance Process 1.1.pdf
Operations Management System 1.1.pdf
Operations Policy 1.1.pdf
2015 Annual Planning Process.pdf
Environmental Protection Program.pdf
HSMP Commitment Statement.pdf
3.0 Developing and Implementing Corrective and Preventive Actions.docx
4.0 Communication of Findings, Follow Up and Shared Learnings.docx
Corrective Actions Closure Procedure.pdf
Corrective Actions Management Program.pdf
Hazard Prevention Program (1).pdf
Health and Safety Communications Process.pdf
Incident Reporting and Investigation Program (IRIP) - 4.0.pdf
5.0 Analysis and Trending of Data Related to Incidents and Near-Misses.docx
Health and Safety Metrics Analysis and Performing Reporting Process.pdf
PMC Q3 2016 Oversight HSE 31October2016.pdf
Weekly Executive Summary (08-Nov-2016).pdf
Formal Hazard Assessment (FHA) Process.pdf
Operational Risk Management Matrix.pdf

\* Document titles are shown as presented in the electronic portal from Plains Midstream Canada (ULC).

ORM Hazard Identification Guide (inventory).pdf
Copy of legal list.xlsm
Managing and Monitoring Regulatory Legislative Amendments and Updates 2.2.pdf
2016 Health and Safety Annual Plan.docx
Annual Planning Process 2.3.pdf
KPI OLT Scorecard Q3 v1.xlsx
Construction Safety Manual.pdf
Health and Safety Management Program (4).pdf
Incident Reporting and Investigation Program (IRIP) - 1.0.pdf
Organizational Health and Safety Roles and Responsibilities.pdf
Corrective Actions Management Program (1).pdf
3.1 Operational Control-Normal Operations.docx
3.2 Operational Control-Upset or AOC.docx
Management of Change Process.pdf
Contractor Safety Requirements.pdf
Health and Safety Training Process.pdf
IRIP presentation for safety meeting - Nov 2016 (1).pptx
Regina Site Specific Orientation - December 2014.pptx
Safety Training Requirements.pdf
Training Sign In and Knowledge Test and Answer Key for IRIP (1).docx
VFINAL - DD - PMC - General Orientation - Dec 7, 2015.docx
3.4 Training, Competence and Evaluation.docx
3.5 Communication.docx
3.6 Documentation and Document Control.docx
Purpose and Use of PMC Safe Operating Policies, Procedures, and Practices Manual.pdf
Review and Approval Process - Policies and Governance.pdf
4.1 Inspection, Measurement and Monitoring.docx
4.2 Investigations of Incidents, Near misses and Non-compliances.docx
OMS Assessment Guidance Questions 4.3.pdf
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