



File OF-Surv-OpAud-E092-2016-2017 01
9 December 2016

Mr. Duane D. Rae
President,
Accountable Officer
Express Pipeline Ltd.
250 – 6th Ave SW
Suite 1500, Bow Valley Square 4
Calgary, AB T2P 3H7
[REDACTED]

Dear Mr. Rae:

Final Audit Report for Express Pipeline Ltd. (Express)

The National Energy Board (NEB or the Board) has completed its Final Audit Report of Express. 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 Express was provided to Express on 10 November 2016 for review and comment. Express decided not to provide any comments on the Draft Audit Report. 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 Express 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*;

Express 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.

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.

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Within 30 days of the issuance of the Final Audit Report by the Board, Express is required to file 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 Express' corrective actions with respect to this audit until they are fully implemented. The Board will also continue to monitor the implementation and effectiveness of Express' 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 Ken Fortin, Lead Auditor, at 587-538-2150.

Yours truly,

Original signed by L. George for

Sheri Young
Secretary of the Board



National Energy
Board



Office national
de l'énergie

517 Tenth Avenue SW
Calgary, Alberta
T2R 0A8

National Energy Board
Final Audit Report of Express Pipelines Ltd.

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Express Pipeline Ltd.
Suite 1500, Bow Valley Square 4
250 – 6th Ave SW
Calgary AB
T2P 3H7

9 December 2016

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 Express Pipeline Ltd. (Express). 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 evaluated some 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 as well as the requirements of the *Canada Labour Code* (CLC), *Part II*, and the *Canada Occupational Health and Safety Regulations* (COHSR).

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 relevant to the scope of this audit. These two Appendices comprise the body of the audit assessment of Express.

The Board's audit of Express' regulated facilities found that Express has established processes for reporting incidents and near-misses, conducting investigations, developing corrective and preventive actions and learning from incidents. Most processes and procedures were appropriately documented, and records reviewed and interviews conducted demonstrated that they were implemented. Three findings of non-compliances related to documenting the process for taking corrective and preventive actions and for establishing and documenting the competency requirements of the investigation team members have been identified:

Finding 1: *Express did not have an investigation procedure reflecting current investigation practices at Express.* This is non-compliant with the OPR s. 6.5(3).

Finding 2: *Express process for taking corrective and preventive actions was not fully documented.* This is non-compliant with the OPR s. 6.5(3).

Finding 3: *Express has not established and documented the competency requirements for the investigation team members.* This is non-compliant with the OPR s. 6.5(1)(j).

Although Express has been found non-compliant in these three instances, the Board is satisfied that Express has adequate processes in place for learning from its incidents and near-misses, for identifying developing trends and for acting accordingly to prevent incidents.

Within 30 days of the Final Audit Report being issued, Express must develop and submit a Corrective Action Plan for Board approval. The Corrective Action Plan must detail how Express 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 Express system. The Board will also continue to monitor the overall implementation and effectiveness of Express' management system and programs through targeted compliance verification activities as part of its ongoing regulatory mandate.

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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.



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.



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

CCO: Control center operator

CIR: Call-in report

CLC: *Canada Labour Code, Part II*

COHSR: *Canada Occupational Health and Safety Regulations*

CPM: Computational pipeline monitoring

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

DNV: Det Norske Veritas

ECR: Emergency condition report

EHS: Environment, health and safety

E-P: Express-Platte

EPASS: Environmental Performance and Safety System

ERL: Emergency response line

Express: Express Pipelines Ltd.

IRT: Incident Review Team

IWOL: Incident without loss

MOC: Management of change

NEB: National Energy Board

OIR: Operational incident report

OMS: Operations Management System

OPR: *National Energy Board Onshore Pipeline Regulations*

SCADA: Supervisory control and data acquisition

SEL: Spectra Energy Liquids

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. The Board also conducts inspections of a representative sample of company facilities. This enables the Board to evaluate the adequacy, effectiveness and implementation of the management system and programs. The Board bases the scope and location of the inspections on the needs of the audit. The inspections follow the Board's standard inspection processes and practices. Although they inform the audit, inspections are considered independent of the audit. If unsafe or non-compliant activities are identified during an inspection, they are enforced as set out by the Board's standard inspection and enforcement practices.

After completing its field activities, the Board develops and issues a Final Audit Report (this document). 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.

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."

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
- 4.2 Investigations of Incidents, Near-misses and Non-compliances
- 4.3 Internal Audit
- 4.4 Records Management

5.0 Management Review

The scope was inclusive of all programs (safety, environment, integrity, emergency, security, 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 14 July 2016, the Board informed Express of its intent to audit Express' NEB regulated facilities. Board staff then submitted the audit protocols (Appendices I and II) to Express, 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 Express staff on a regular basis to arrange and coordinate this audit. Express established a digital access portal for Board staff to review documentation and records.

On 28 July 2016, Board staff conducted an opening meeting with representatives from Express in Calgary, Alberta to confirm the Board's audit objectives, scope and process. Subsequent to the opening meeting, interviews were held in Sherwood Park, Hardisty and at Express's head office in Calgary between 6 and 13 September 2016. The table below provides more details about the audit activities. Throughout the audit, Board audit staff gave Express daily summaries with action items, where required.

On 4 October 2016, the Board held an audit close-out meeting with Express. At this meeting, Board staff and Express staff discussed potential deficiencies identified during the audit. Express decided not to provide any further documentation after the close-out meeting.



Summary of Audit Activities

- Audit opening meeting (Calgary, AB) – 28 July 2016
- Field verification activities:
 - Interviews – Sherwood Park, AB – 6 September 2016
 - Interviews – Hardisty, AB – 7 September 2016
 - Inspections – Hardisty Area, AB – 7-8 September 2016
 - Hardisty Terminal
 - Ribstone Pump Station
 - Youngstown Pump Station
- Calgary office interviews (Calgary, AB) – 12-13 September 2016
- Audit close-out meeting (Calgary, AB) – 4 October 2016

7.0 Audit Summary and Conclusions

During this audit, Express 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 Express, conducted inspections and interviewed Express' staff.

The Board's audit of Express' NEB-regulated facilities found that Express has established processes for reporting incidents and near-misses, conducting investigations, developing corrective and preventive actions and learning from incidents. Most processes and procedures were appropriately documented and records reviewed and interviews held demonstrated that these processes and procedures had been implemented.

Express was found non-compliant for not having fully documented its process for taking corrective and preventive actions, which includes the investigation process, and for not having established and documented the competency requirements of the investigation team members.

The OPR s. 6.5(3) requires that companies document the processes and procedures required by the OPR s. 6.5(1). The audit found that almost all of Express' processes and procedures assessed in this audit were properly documented, except for two instances which are both part of the process required by the OPR s. 6.5(1)(r).

Finding 1: *Express did not have an investigation procedure reflecting current investigation practices at Express.*

The audit verified that Express has in practice an investigation process that allows the company to investigate its incidents and near-misses, and identify the necessary corrective and preventive actions. However, the current practice is not fully reflected in a documented process, which is non-compliant with the OPR s. 6.5(3). Express had already identified this gap and has undertaken work to address this issue, as demonstrated by the new draft investigation procedure provided. The Board is satisfied with the investigation practices at Express, and this finding is a matter of properly documenting these practices.

Finding 2: *Express process for taking corrective and preventive actions was not fully documented.*

The audit verified that Express has a process for developing and implementing corrective and preventive actions necessary to address the causes and contributing factors to an incident. Most of this process is properly documented; however, the part of this process where the recommended corrective and preventive actions from EHS or OIR forms are entered in the work order system is not documented. This is non-compliant with the OPR s. 6.5(3).

More details on the above non-compliant findings to the OPR s.6.5(3) are available in Appendix I, sections 2.0 and 3.0.

The third finding is that Express is non-compliant with the OPR s. 6.5(1)(j), which requires companies to establish and implement a process for developing competency requirements.

Finding 3: *Express has not established and documented the competency requirements for the investigation team members.*

The audit verified that Express has developed and implemented training programs for the company employees related to the reporting of incident and near misses, and has training requirements for staff conducting investigations and developing corrective and preventive actions. However, Express has not implemented a process for developing or documenting competency requirements for the investigation team members, which is non-compliant with the OPR s. 6.5(1)(j).

Although Express has been found non-compliant in these three instances, the Board is satisfied that Express has adequate processes in place for learning from its incidents and near-misses, for identifying developing trends and for acting accordingly to prevent incidents.

As per the Board's standard audit practice, Express 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. Express 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 Express' 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 Express' 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 Express' 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), 6.5 (2) and 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:

Express' incident reporting and investigation process is part of **Element 5.0 – Monitoring of the Express-Platte Operations Management System (E-P OMS)**. Sub-section 5.3, Incident Reporting and Investigation, gives an overview of the incident reporting and investigation processes used by Express.

Express categorizes incidents in four incident and near-miss types:

1. Environment, Health and Safety (EHS)
2. Operational - abnormal pipeline operations
3. Right of way
4. Other operational – that do not involve pipeline abnormal operations



Express uses the expression “Incident Without Loss” (IWOL) for “near-miss” and this report will use both terms with the same meaning intended.

1. EHS incidents / near-miss: Section 308 of **Express Canada Health and Safety Manual (ECHSM)** contains the documented process for the internal reporting of incidents. It defines incidents as “*any undesired event that results in an injury to a worker, or damage to equipment or the environment*”. The process describes the initial reporting of all incidents, including serious incidents and who is responsible for doing what, from the employees to supervisors, EHS Department, Director and Manager Operations, and to the Manager of Regulatory Affairs.

Section 320 of the ECHSM contains the documented process for the internal reporting of near-misses (IWOLs). Spectra defines IWOL as “*any undesired event which, under slightly different circumstances could have resulted in a loss*”.

All incidents and IWOLs are to be entered into a database named Environmental Performance and Safety Systems (EPASS) and some incidents, defined in sub-section 308 - 1.2 of ECHSM also need to be entered in the Injury or Incident Report form.

Express’ definitions of EHS Incident and IWOL are broad enough to include incidents as defined in the NEB OPR and to include near-misses as intended in the NEB OPR and accident, occupational disease or other hazardous occurrence required to be reported as per COHSR 15.3, 15.4(1) and 15.5.

The company provided an example record of Injury or Incident Report for a minor equipment damage incident that occurred on 12 July 2016.

2. Operational – Abnormal Operating Condition:

Express – Platte Pipeline System Maintenance Management Procedure 342 provides “*guidelines*” to “*Recognizing and Responding to Abnormal Operating Conditions (AOCs)*” and indicates all AOCs shall be documented following EPASS, Emergency Condition Report (ECR) and Operational Incident Report (OIR) protocols as appropriate.

Express has the following documented procedures for responding to AOCs and the internal reporting of AOCs:

Spectra Energy Liquids - Control Centre General Procedures Manual:

- **Procedure 3.6 Call-In Reporting**
- **Procedure 2.1.1.1 Emergency Conditions – General Response**
- **Procedure 2.1.5.1 Incoming Emergency Calls**
- **Procedure 2.1.5.2 Emergency Condition Report (ECR)**
- **Procedure 2.1.5.3 Emergency Response Line (ERL) Notification System**
- **Procedure 2.2.8 Operational Incident Report (OIR)**
- **Procedure 2.2.9 Odour Complaint Notification**
- **Procedure 3.7 Aerial Right-of-Way Patrol Calls**

Call-In Reporting Procedure 3.6 is for non-emergency and non-odour complaint situations and these calls are documented in **Call-In Reports (CIR)**. An example record of CIR for an aerial patrol right-of-



way report on 15 March 2015 was provided.

Notification and internal reporting of an emergency condition is documented in Procedure 2.1.1.1. Example of emergency conditions covered by this procedure includes: component malfunction or personnel error that could cause a hazard to people, property or the environment, operational failure causing a hazardous condition, natural disasters affecting pipeline facilities, credible security threat and third party damage that could or did affect safety of pipeline operations. This procedure is for the emergency phase of the incident and points to other specific emergency response procedures for leaks, fires and activations of emergency systems. Procedure 2.1.1.1 requires that emergency conditions be documented in ECRs and OIRs. Procedure 2.1.5.1 provides the instructions for receiving emergency calls and points to procedures 2.1.5.2 and 2.2.8 for documenting the emergency conditions in ECRs and OIRs, respectively. The OIR documents the basic factual information about the pipeline system operational incidents and is not an Incident Investigation Report. Sample records of OIRs and ECRs were provided.

Procedure 2.1.5.3 provides the instructions for internal notification of emergency conditions and certain non-emergency conditions. This procedure explains how to use the Emergency Response Line (ERL) notification system, which is an automated online notification tool, and the alternate notification procedure if the ERL system is not working.

Procedure 2.2.9 provides the instructions for responding and documenting an odour complaint phone call. If the odour complain reveals an emergency condition, then Procedure 2.1.1.1 is to be followed. An **Odour Complaint Report** (OCR) is completed for all odour complaints.

3. Right of Way (ROW):

Procedure 3.7 provides the instruction for handling and documenting the aerial patrol calls. This procedure refers to other procedures depending on the nature of the call. If this is a non-emergency and non-odour complaint, procedure 3.6 is to be followed. If this is an emergency condition, procedure 2.1.1.1 is then followed. For an odour complaint, procedure 2.2.9 is to be followed.

4. Other operational incidents not related to pipeline abnormal operations:

These are operations-related incidents that do not directly impact operations and are therefore not reportable to the Control Centre. This type of incident is reported according to Sections 308 and 320 of ECHSM.

Conclusion:

The audit verified that Express has an 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 did not identify compliance issues 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:

The company indicated in its response that the process for reporting of incidents to the Board is set out in **Express Canada Emergency Response Plan** (Express Canada ERP). Sections 2.9 and 2.8 of Express Canada's ERP shows that the Board and other agencies are in the Express Canada's ERP notification chart and contacts. Section 16.2 of the Federal Reporting Requirements of Express Canada's ERP lists the incident reporting requirements based on the NEB OPR incident definition. This section also identifies who is responsible for contacting the Board and provides some instructions on providing the preliminary and detailed incident reports.

The company explained that Express' Regulatory Affairs Manager participates in Express' Emergency Response Line (ERL) notification system and that the ERL Call Check List has a standing item for the notification of regulatory agencies. The company provided the **ERL Call Check List** which includes a check box for notifying regulatory agencies and requirements for notifying regulatory agencies based on the level of the emergency. Express also provided a record of an ERL call which demonstrated that notification of the Board for an incident that did not meet the NEB OPR definition for a reportable incident was effectively considered for that incident. Express decided not to report this incident to the Board since it did not have to.

An interview with Express' Regulatory Affairs Manager confirmed that he was aware of the reporting requirements under the NEB OPR, CLC and COHSR. From the sample of incident records reviewed during the audit, the reportable incidents, as defined in the NEB OPR and COHSR, have all been reported to the Board.

Conclusion:

The audit verified that Express has an adequate process for the internal reporting of incidents to the Board. 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 - 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), 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:

The **E-P OMS Manual** section 5.3 and Appendix E provide an overview of the incident / IOWL reporting and investigation process. The company explained in its response that "significant" incidents and IWOLs, as defined in Express' **Operational and EHS Significant Incident and Significant IWOL Communication Guide**, are investigated using the Taproot® method.

For incidents or near-misses that are not formally investigated with the Taproot® method, cause and contributing factors are identified by those directly involved in the incident or near-miss and Express management or EHS staff reviewing the reported incident or near-miss.

During the interviews, Express staff explained that the Director of Operations has the authority to decide to conduct an investigation. A team for the investigation will normally comprise representatives from EHS, management, engineering and integrity. The lead investigator assigned to the incident will be a person with the appropriate technical background based on the nature of the incident. At least one person among the investigation team would have the Taproot® training.

The company provided the **Express-Platte Procedure SMM 159 Incident Reporting and Investigation** but explained that this procedure is not representative of today's practices and they are working on a new investigation procedure which is still in a draft format. The SMM 159 procedure provided was last



revised in 2012. Express provided the draft of the new investigation procedure being developed. This new procedure describes the investigation process, including the level of investigation based on the severity of the incident (minor or significant), responsibilities, deliverables and training requirements. Also provided with this procedure is an **Incident Investigation Guide** which provides further guidance in responsibilities, investigation activities, information gathering, interviews, chain of custody, etc. The draft investigation procedure also identifies two areas that need to be developed: accountabilities and competency requirements for each role on the investigation team, as well as a procedure for entering corrective actions into IVARA or EPASS. The fact that Express does not have a documented investigation process that reflects current practices, and that the investigation process is a necessary component of a process for taking corrective and preventive actions, is non-compliant with the OPR s. 6.5(3), which requires the process required by OPR s. 6.5(1)(r) to be documented.

An internal investigation report was provided for an incident that was also reported to the Board (Incident 2015-073). The information that was reported to the Board was consistent with the information contained in Express' internal investigation. The investigation report identified cause and contributing factors to the incident and the necessary corrective and preventive actions. An inspection conducted at the site of the incident confirmed that the corrective and preventive action directly related to the piping and its supports have been implemented.

Conclusion:

The audit verified that Express has in practice an investigation process that allows the company to investigate its incidents and near-misses, and identify the necessary corrective and preventive actions. However, the current practice is not fully reflected in a documented process, which is non-compliant with the OPR s. 6.5(3). Express has already identified this gap and has undertaken work to address it, as demonstrated by the new draft investigation procedure provided.



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:

Express explained in its response that all incidents are analyzed to identify the conditions that caused the incident / IWOL that can be eliminated or mitigated to avoid the repeat of the occurrence, to identify new hazards that needs to be communicated and to identify whether a control centre operator error might have been a contributing factor. The result of that analysis constitutes the basis for identifying the corrective and preventive actions to address the cause and contributing factors. Express also explained that when Taproot® is used to investigate an incident or IWOL, the Taproot® methodology provides the structure to identify causes and guide the development of corrective and preventive actions.

Corrective and preventive actions are initially recorded as "recommendations" in the OIR for operational incident and in the Injury and Incident Report form for EHS incidents. Staff interviewed explained that recommendations for corrective and preventive actions are then entered into Express' maintenance management program named IVARA-Bentley for ensuring their implementation. For OIR recommendations, the Director of Operations is the last person to review and sign-off on the OIR and he also has the responsibility of contacting the Operations Maintenance Manager who will get the recommendations entered in the work order system (IVARA-Bentley). The interviewed personnel also explained that the Control Centre Administrator is ensuring that all OIR recommendations have been assigned a work order prior to closing the OIR. For EHS recommendations for corrective actions, the EHS staff or manager reviewing and signing off on the Injury or Incident Report form has the responsibility of contacting the Operations Maintenance Manager who will get the recommendations entered in the work



order system. NEB auditors were able to verify that this part of the process for ensuring that corrective actions are being entered in the work order system is being completed, as evidenced by the sample of records reviewed and by the responses provided during the interviews. However this part of the process is not being documented, which is non-compliant with the OPR s. 6.5(3), which requires the process required by OPR s. 6.5(1)(r) to be documented.

Work orders generated are assigned to individuals with specific actions to accomplish and due dates. Work orders are tracked to closure and management must sign-off on completed work orders. **Procedure – 116 of E-P Maintenance Management Procedures** was provided. This procedure provides instruction for initiating, completing and disposing of work orders. Some corrective actions may also trigger Express' Management of Change (MOC) process.

Express provided a sample of work order records demonstrating that corrective and preventive actions identified following incidents had been tracked and implemented.

Conclusion:

The audit verified that Express has a process for developing and implementing corrective and preventive actions necessary to address the causes and contributing factors to an incident. However, the part of this process where the recommended corrective and preventive actions from EHS or OIR forms are entered in the work order system is not documented. This is non-compliant with the OPR s. 6.5(3).



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:

Incidents and IWOLs entered in EPASS are reviewed on a monthly basis with Express field employees at the safety meetings to share learnings with employees. This is documented in **Express Canada Health and Safety Standards Manual**, Section 312. The company also explained in its response that selected OIRs and new hazards are also reviewed at these meetings. The company provided an example record of monthly safety meeting minutes (**Crew Safety Meeting Minutes**), which indicated review of incidents and near-misses were conducted.

OIRs are distributed to control centre operators and to management as identified in Procedure 2.2.8 and the OIR report template. The company also explained that selected OIRs are reviewed as part of control centre operator team meetings.



Express explained that they have quarterly governance meetings with a standing agenda item on incidents and IWOLs, where each program lead presents a status report which includes a section on incidents and IWOLs. Records of **Quarterly Program Status Reports** were provided for the first two quarters of 2016, which demonstrated that incidents and IWOLs were discussed at the meeting.

Express also uses safety bulletins to communicate corporate-wide on incident and IWOL causes and key learnings. An example record of a safety bulletin was provided.

Conclusion:

The audit verified that Express has processes for and is communicating the findings, corrective and preventive actions, and the learnings from its incidents and near-misses. Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 4.0 - Communication of Findings, Follow Up & 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:

Express submitted documents and records to demonstrate its processes and procedures for the collection, monitoring and analysis of trends for incidents and near-misses.

Express' Incident Review Team (IRT) evaluates and trends incidents and near-misses as outlined in the **Express OMS Procedure – Incident Review Team**. This team is composed of representatives from operations, the control centre, technical services and engineering. The IRT reports to the OMS Governance Team on a quarterly basis and any significant issues are reported in a meeting summary to the Accountable Officer. The reports are also reviewed at Express Safety Meetings and at Control Centre Meetings to communicate the incident results to Express employees.

The **Express OMS Procedure – Incident Review Team** refers to incident databases (EPASS and OIR) that are used to identify recurring incidents and/or recurring incident causes to develop recommendations for corrective actions to address negative trends. This procedure outlines the roles and responsibilities as well as the processes and activities required to fulfil the incident review procedure.

Express submitted its **SEL OMS – Management Summary – Quarterly Program Status Reports (2Q2015)** as records demonstrating the collection, monitoring and analysis of trends in incidents and near-misses. Section II of this report detailed the objectives and performance measures results. At a high level, the performance measures for 2015 to date were summarized. Section III Incidents contained a



summary of the Incident Review Team's quarterly update with comments on incident data within EPASS, IWOLs and the OIRs as well as comments on the incident trends and recommendations for corrective actions.

Express submitted its **Incident Review Team Q4 Update** to the OMS Team (28 April 2016) that contained a review of the EPASS events and OIRs. This OMS update contained comments on common contributing factors in the OIRs for 2016 to date and comments on the trends noted in the OIRs. As a final point in the update, it was stated that the IRT will develop a spreadsheet to track recommendations.

Conclusion:

The audit verified that Express has processes for and is collecting, evaluating, monitoring and trending incident and near-miss data. 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 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:

The Accountable Officer (AO) for Express has the ultimate responsibility for ensuring that incidents and near-miss events are properly and adequately reported to internal and external stakeholders. Additionally, the AO is accountable for ensuring that adequate human and financial resources are available to complete the required corrective and preventive actions.

The AO is informed about incidents and Incidents Without Loss (IWOL's) through Express teleconferences, scheduled weekly operation calls, weekly operations reports, OMS quarterly management summary reports and monthly management meetings.

In the **Express-Platte (E-P) Pipeline Operations Management System (OMS)** manual, Overview of the OMS Elements, Element 1 – Governance, it states that the Accountable Officer and the OMS governance team have overall accountability for design and effective implementation of OMS systematic management processes on the E-P pipeline. The Accountable Officer is the person responsible on the company's behalf for the company's management system and related protection programs. The Accountable Officer provides the leadership required to create, implement and continually improve an effective management system within the organization, and communicates the company's commitment to its policies and goals to



the company's employees.

For Incident Reporting and Investigation, Chapter 5.3 of the **Express-Platte Pipeline Operations Managements System** (OMS) manual, refers to the roles and responsibilities for overall management and points to Figure A in Appendix E. In this Figure, the Accountable Officer provides leadership to the Incident / IWOL Reporting and Investigation Processes.

Conclusion:

The audit verified that Express has established the role of the Accountable Officer who has the responsibility and authority with respect to sub-element 4.2 Investigation and Reporting Incident and Near Misses. Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues in relation to Question 1.1 - Leadership and Accountability.



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 Spectra Energy Liquids (SEL) document, **E-P OMS Operations Management System Policy**, under the Performance Principles, states that "*Incidents and performance trends will be reviewed to identify opportunities for improvement in our processes and to enhance our ability to anticipate problems.*" The document was signed by the President, Spectra Energy Liquids and dated 24 November 2015.

Express' document: **Environmental, Health & Safety Policy**, under the Stewardship Principles, states "*[w]e will strive to improve operations with a focus on preventing environmental and safety incidents and preserving public safety*". The document states that "*[t]his policy and these principles form the foundation of Spectra Energy's EHS Management System and are fundamental to the Corporation's long-term success.*" The EH&S document is signed by the President and Chief Executive Officer for Spectra Energy and is dated 21 April 2014.

Express' document, **Hazard and Incident Reporting: Non-Retaliation and Non-Retribution Policy** dated 1 August 2014, includes in its Statement of Purpose and Philosophy, that it "*expects its employees, contractors, suppliers and others to promptly report hazards, potential hazards, and incidents with or without loss*". The policy's aim is "*to promote the reporting of such information, free from fear of indiscriminate adverse actions, retaliation or retribution solely because of such reporting.*" The Policy includes the conditions under which a person who makes a report will be granted immunity from disciplinary action. Finally, the document includes a phone number and online link to the Spectra Energy



Ethics Line for the situations where an employee could feel uncomfortable reporting a Safety Concern through any of Express' other methods.

The expectation for adherence to the policy for non-retaliation and non-retribution was communicated to Spectra Energy Liquids employees via email from the President, Spectra Energy Liquids dated 15 December 2014. The email also stated the expectations for Express employees to include training on the policy as part of the Annual Compliance Training. Compliance training is conducted through Express' iComply System and employees are required to take annual refresher training and certification. One module of iComply focuses on the **Hazard and Incident Reporting: Non-Retaliation and Non-Retribution Policy** for employees.

Conclusion:

The audit verified that Express has the policies to address the above expectations as they relate to incident prevention, reporting and investigation. 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:

Hazards that are identified through **Operational Incident Reports (OIRs)** or EPASS incident reports can be recommended for addition to the hazard and risk register as outlined in the E-P OMS Manual. The OIR contains 14 probable contributing causes along with details if required.

The OIR contains sections for Recommendations from the Originator, Team Lead, Field Supervisor, Manager Operations, Manager Engineering, Director Customer Operations, Director Technical Services and Director Operations to ratify the report as it stands, to evaluate whether the Control Centre Operator (CCO) and OP/Tech actions were adequate (if applicable) and whether the procedures were effective. In the OIR, the Operational Incident Flow Chart includes a step for the Control Centre Administrator to ensure that the OIR is complete in the OIR database and sends all CCO's the information for the purpose of promoting shared learnings.

The Express E-P OMS Procedure, **Hazard and Risk Register Monitoring and Management Reporting** (1 July 2015), specifies the six step work flow requirements for identifying and documenting hazards, updating the hazard and risk register whenever significant new hazards are identified and reviewing the



hazard and risk register with appropriate levels of management. Following a SCADA communication outage incident at a pump station on 19 October 2015, a new hazard was identified: loss of control centre communication with remote facilities. Express provided minutes of the **3Q 2015 Quarterly Programs Summary Report**, dated 26-27 October 2015, indicating that the new hazard was to be added to the hazard and risk register. Express also submitted evidence that the new hazard had been included in the **Express-Platte OMS Hazard and Risk Register** in 2Q 2016.

In terms of EH&S hazards, Section 320 of the **Express Canada Health & Safety Standards Manual** refers to Workplace Hazard / IWOL Reporting. Express provided the E-P OMS Procedure, **Hazard Identification and Reporting** (1 October 2014) for identifying new hazards and adding the newly identified hazards to the risk register. A flowchart is included with the process, activity and responsibility as well as a template for hazard identification and reporting with instructions for completion. Express employees receive training on the process through KEEP, which is assessed under Question 3.4 for Training and Competency.

Conclusion:

The audit verified that Express has adequate processes and procedures to identify hazards through incident and near-miss reporting and that newly identified hazards are incorporated into its hazard and risk registry. 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:

Express has a legal list that contains the regulations and industry standards relevant to incident and near-miss reporting and investigation. The legal list submitted refers to the following regulations and standards and contains more detailed breakdowns of the relevant sections / clauses within the references and refers to a concordance table with Express programs and procedures:

- *National Energy Board Act* (R.S.C., 1985, c. N-7);
- *National Energy Board Onshore Pipeline Regulations* (SOR/99-294) amended 2016-06-19;
- *Transportation Safety Board Act* (SOR/2014-37);
- *Canadian Standards Association* (CSA Z662-15);
- *Canada Labour Code Part II*;
- *Canada Occupational Health and Safety Regulations*; and
- *Canadian Environmental Protection Act, 1999*.

Conclusion:

The audit verified that Express has identified the regulations and standards relevant to incident and near-miss reporting and investigation. 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, signed by the accountable officer.

Regulatory References: OPR s. 6.3, 6.5(1)(a)(b), 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:

Express provided its **2Q 2016 Quarterly Status Reports** of its Goals, Objectives and Targets for the Asset Integrity Program; Design and Construction Program; Emergency Management Program; Environmental Program; Safety Program and Security Program. These reports included priority risks, risk mitigation actions, action status and a summary of whether the actions were on track, required attention or were critical. The reports also contained key controls, targets, metrics and results year to date. In general, the performance measures for all programs were reported to be on track to the stated targets and metrics.

Conclusion:

The audit verified that Express has goals, objectives and targets and performance measures for the prevention of ruptures, liquid and gas releases, fatalities and injuries. Express tracks the performance metrics relevant to each of its OMS programs 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:

Express provided the organization charts for Spectra Energy Liquids (SEL), Alberta Operations and identified key personnel for the Management System. Express stated that the company has identified and staffed the positions necessary for meeting the requirements of Element 4.2.

Express referenced the **Express Canada Health & Safety Standards Manual**. Section 5.3, Incident Reporting and Investigation, which states that the Safety Program manages incident reporting and investigation. There are also references within this manual for Section 304 First Aid Reporting, Section 308 Incident Reporting, Section 310 Inspections/Investigations, Section 311 Medical Aid Reporting, Section 320 Workplace Hazard/Near Miss Reporting and Procedure 159 Incident Reporting and Investigation.



Express referred to its **OMS Handbook, Maintenance Manual Procedure 342**, and provided its **Express-Platte Pipeline Operations Managements System** (OMS) manual, Overview of the OMS Elements. Element 5, Monitoring, which in the description of Incident Reporting and Investigation, states that *"[i]ncident reporting and investigation supports continual improvement. Investigating incidents to identify causes provides the data necessary to enhance controls. Sharing lessons learned from incident investigations and reviews reduces repeat occurrences."*

Express referred to the **Control Room Management Plan**, Section 2.1 "Roles and Responsibilities of Control Center Operators." While Section 2.1 does not explicitly refer to incident management roles or responsibilities, it states that *"in addition to the defined roles and responsibilities, general knowledge and understanding of SEL operations procedures is required with emphasis on Normal, Abnormal and Emergency operating conditions"* which would include incidents and near-misses.

Express provided the **Control Center General Procedures Manual**, Section 2.2 Abnormal Operating Conditions. This document refers to the procedures to be followed to complete an **Operational Incident Report** (OIR) and also includes recommendations for corrective actions and follows up. This document appears to be adequate in detailing the Control Centre Operator's roles and responsibilities for incident reporting.

Express also provided the **Field OMS Refresher Training** (March 2016), which is a high level presentation on the OMS to Operations. The presentation includes a statement that Operations has key responsibilities in supporting OMS by identifying and reporting hazards and reporting incidents and IWOL's.

Conclusion:

The audit verified that Express has identified and staffed the positions necessary for meeting the requirements of incident reporting, investigation, implementing corrective actions, and communication and shared learning. 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 (g) 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:

Express has demonstrated that its Management of Change (MOC) processes and procedures apply to all OMS programs and is applicable to all changes that fall within the scope of the procedure. Any action and/or change that is developed as part of an incident investigation would typically be in the scope of the MOC process.

Express provided documentation on its MOC process. The **Spectra Energy E-P OMS Procedure Management of Change** dated 4 May 2016 is a high level overview of the MOC. The Purpose, Scope and Roles and Responsibility are stated in this document. Appendix 4.3 Definitions of Change Categories covers Physical Changes, Operational Changes, Procedural Changes, Organizational Changes and Other Covered Changes that could be interpreted to cover changes that might result from an incident investigation and determination of root and/or contributing causes and the resulting corrective and preventive actions.

Section 2.0 of the MOC document contains a flowchart to determine if a "Change" is covered by the MOC procedure and Table 1 contains a Screening Checklist to identify the nature / scope of the change. Appendix 4.1 is an example of an MOC form and instructions that includes the change description, justification, cost/materials, risk assessment and reviewers / approvers required to complete the MOC. Appendix 4.2 details the Roles and Responsibilities for the MOC.

Express provided an example record of a completed MOC form, dated 25 January 2016, for a change to the Pipeline Logic Control (PLC) in the event of a SCADA loss of communication at a pump station. Express provided an MOC Status Report that tracks MOC's and relates the MOC's to OIR's where applicable and to the Work Orders where applicable.

Conclusion:



The audit verified that Express has a Management of Change (MOC) process that is applicable to changes that could result from incidents or near misses. 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:

For Control Centre Operators (CCO), Express provided relevant sections from its **Control Room Management Plan** document (CRMP) that stated that as part of its onboarding and periodic requalification, CCO's are required to learn the specific procedures related to incident reporting, including when and how to report (OIR's). Section 2.6.2 of the CRMP speaks to operational incidents and the OIR's and the Emergency Condition Report (ECR). Section 2.7 of the CRMP deals with Training, and references the requirements of the United States (US) Code of Federal Regulations (CFR) 49 Part 195.446(h) that covers training for Control Room Management.

Section 2.7 of the CRMP also refers to the CCO Training Program modules: Orientation Module; Core Module; General Procedures for Operations and Emergencies; Desk Specific Operations Procedures; Supervisory Control And Data Acquisition (SCADA) Systems and Computational Pipeline Monitoring (CPM) Systems. To further explain the CCO Training Modules, Express provided a document detailing these areas of training and respective evaluation methods used. This document contains information on the modules: Orientation, Core, General Procedures for Operations and Emergency Conditions, Desk-Specific Operations Procedures, SCADA Systems, CPM (Leak Detection) Systems, Control Room Management Plan (CRM), Fatigue Risk Management (FRM), Tabletop Training, Operational Incident Report (OIR) Reviews, Recognizing and Responding to Abnormal Operating Conditions (AOC's), Operating Setups, Operator Qualification (OQ) Program and Requirements for a CCO to be "SEL



Qualified" to operate independently at a Pipeline Desk. This document appears to be targeted to the US requirements (49 CFR Part 195 for Hazardous Liquids) and the Pipeline Safety Operator Qualification (OQ) Program requirements. The modules of the CCO training program cover the necessary procedures for the scope of this audit as applicable to the role of the CCO.

Express provided its **Incident, Workplace Hazards, and IWOL Reporting Learning Packet** (July 2015) for Lesson 1, Incident Reporting. This learning packet contains questions requiring written answers. The questions are detailed and comprehensive.

Express provided its **Incident, Workplace Hazards, and IWOL Reporting Knowledge Evaluation** document (July 2015) intended as training for field operations personnel. This document is generally referred to as KEEP. The training module is a 15 multiple choice type of knowledge evaluations that is specific to incident reporting. Express also provided its IComply System screenshots as evidence of certification of employees for the Code of Business Ethics – employee training and awareness.

Express provided a training record for 10 employees for TapRoot® Root Cause Analysis. Training date was 21 July 2015. Express stated that its employees that could be part of incident investigation teams receive the TapRoot® training. TapRoot® is used to determine root causes, contributing factors and to provide guidance for the development of corrective and preventive actions. Documentation submitted for the two day TapRoot® training program covers various types of training for root cause failure analysis, trending techniques and developing corrective actions.

Interviews conducted with Express staff and the review of **Procedure SSM 159** and of the draft procedure for **Incident Investigation** indicated that Express has not established and documented the competency requirements for the investigation team members. The OPR s. 6.5(1)(j) requires, among other things, that companies establish and implement a process for developing competency requirements. Express has not implemented this process for the competency requirements of the investigation team; therefore, this is non-compliant with the OPR s. 6.5(1)(j). Express has already identified this gap and is working on addressing it, as demonstrated in the draft E-P OMS Procedure, Incident Investigation (5.3.100) it provided.

Conclusion:

The audit verified that Express has developed and implemented training programs for the company employees related to the reporting of incident and near misses, and has training requirements for staff conducting investigations and developing corrective and preventive actions. However, Express has not implemented a process for developing or documenting competency requirements for the investigation team members, which is non-compliant with the OPR s. 6.5(1)(j).



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), 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), 53(1), 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 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), 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:

Express submitted an excerpt from a DNV Integrity Program audit pertaining to the Element 4.2 requirements (**DNV Report No. PP147217, Rev 0**). The excerpt refers to the five criteria for the audit: process for reporting, data management system to monitor and analyze, notifying the Board, submitting Preliminary Incident Reports (PIR) and Detailed Incident Reports (DIR) to the Board.

The DNV audit determined that SEL has developed processes and procedures for the reporting of hazards, potential hazards, incidents and near-misses in accordance with the OPR and CSA Z662 requirements. The audit report also determined that at the OMS level, SEL has documented the procedures and tools for incident reporting and investigation.

The DNV audit summary stated that SEL demonstrated adequate and effective processes for the reporting, investigation, and analysis of incidents and near-misses and that SEL was in compliance with OPR 6.5(1)(s) and 52(1) and with CSA Z662-15 Clauses 10.3.6, 10.4.4.1 and 10.4.4.2. No recommendations in relation to sub-element 4.2 were included in the DNV audit report.

Conclusion:

The audit verified that Express has conducted an audit that included and evaluated the requirements of 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 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), 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:

Express has a records management system that follows its corporate records classification and retention schedules. The retention rules specify the length of time that the records should be kept and align with OPR s. 56 and CSA Z662-15 Clause 10.4.4.1. Express submitted its **Records Management Policy** and its **Electronic Communications Policy** that detailed the definitions and requirements for Express company records.

Throughout the audit, Express provided examples of records demonstrating compliance with CSA Z662-15, Clause 10.4.4.1, which requires records documenting damage incidents, incident response, investigations and the repairs and changes made.

Conclusion:

The audit verified that Express meets the record retention requirements set out in OPR s. 56 and CSA Z662-15 Clause 10.4.4.1. Based on the review conducted and considering the scope of this audit, the Board did not identify compliance issues 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 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:

Express conducts management reviews in accordance with its OMS Procedure, **Governance and the OMS Manual**. The OMS governance team is responsible for preparation and delivery of the annual management review typically scheduled at the end of Q1 on an annual basis. The annual review process is supported by quarterly OMS governance meetings where OMS program information is captured and summarized. Express submitted Management Review presentations for 8 April 2015, and relevant excerpts from the 4Q2014, 2Q2015, 3Q2015, 4Q2105, 1Q2016, and 2Q2016 SEL OMS - Management Summary - Quarterly Program Status Reports.

The **Express OMS Management Summary** follows a standard template for detailing the past incidents and reviewing objectives and performance measures. The incident reviews refer to some corrective and preventive actions (CAPA) resulting and/or the status of completion for the CAPA's.

Express provided the **2Q16 Quarterly Status Reports** for the OMS programs of Asset Integrity, Design and Construction, Emergency Management, Environmental Management, Safety and Security. These reports summarized the OMS program status on goals, objectives, targets, performance measures, results year to date and trends of the performance measures. The reports also detailed each program's results for control metrics, targets, results year to date and trends in the control metrics.



Express also submitted its **2015 NEB Annual Report for the Express Canada Pipeline System** (28 April 2016) signed by the Accountable Officer. This report detailed the company's OMS program level accomplishments for Safety, Asset Integrity, Environment, Security and Emergency Management as well as the company's efforts with respect to continuous improvement.

Conclusion:

The audit verified that Express has a process for conducting management reviews as it relates to sub-element 4.2 and has provided documentation of management reviews for all OMS programs. 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
EXPRESS PIPELINE LTD.
MAPS AND SYSTEM DESCRIPTION

Express operates an oil pipeline from Hardisty, Alberta to the Canada / US border as shown on Figure 1. The pipeline is of 24 inch diameter with a nominal capacity of 280 000 barrels per day. The pipeline starts at Express’ Hardisty terminal which has seven storage tanks, each having a storage capacity of 150 000 barrels. Express also has six lateral pipelines connecting its terminal with the other operators in the Hardisty area (see Figure 2). After the Hardisty Terminal, the Express pipeline has six pump stations before the border.

Figure 1: Express Pipeline – Mainline System

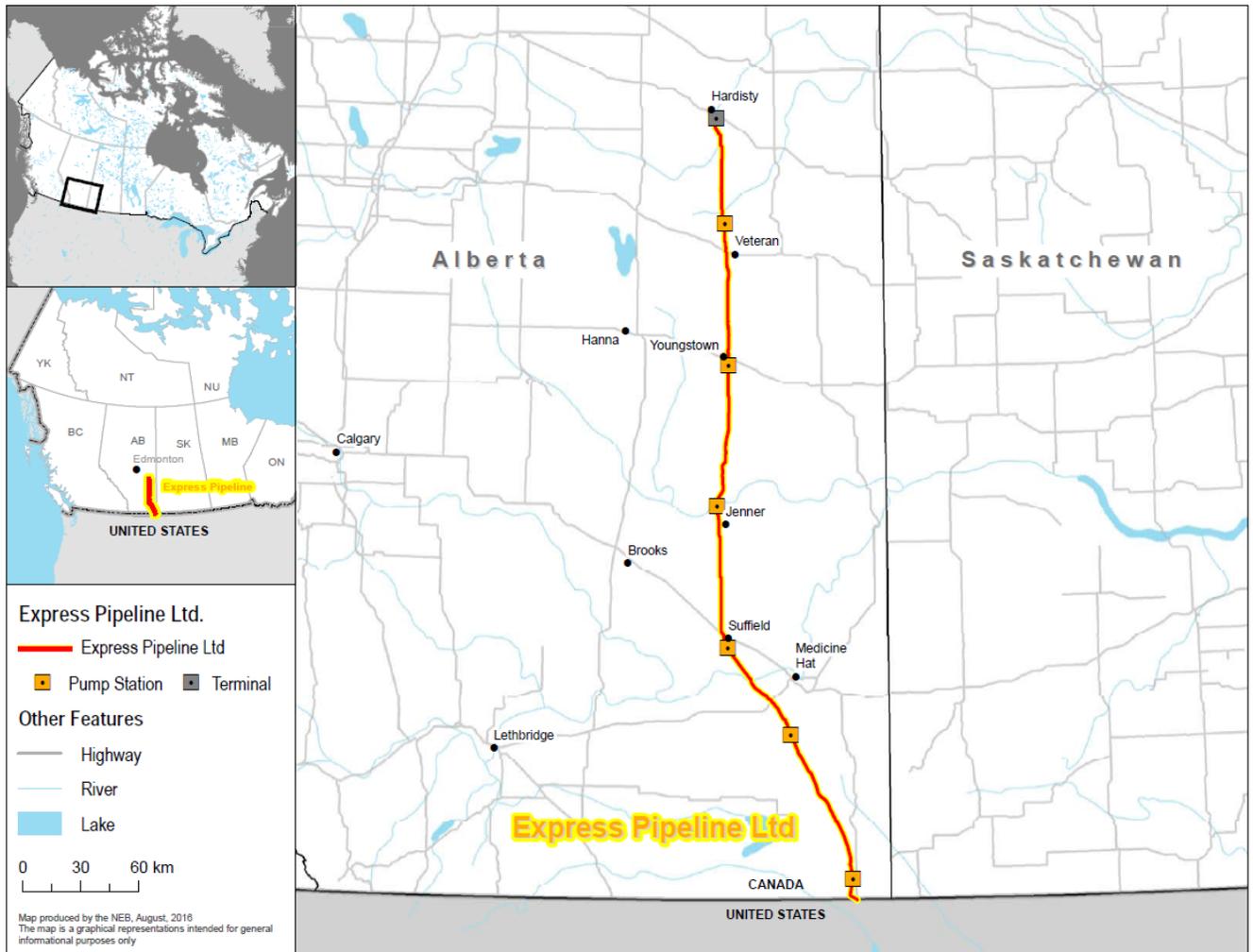
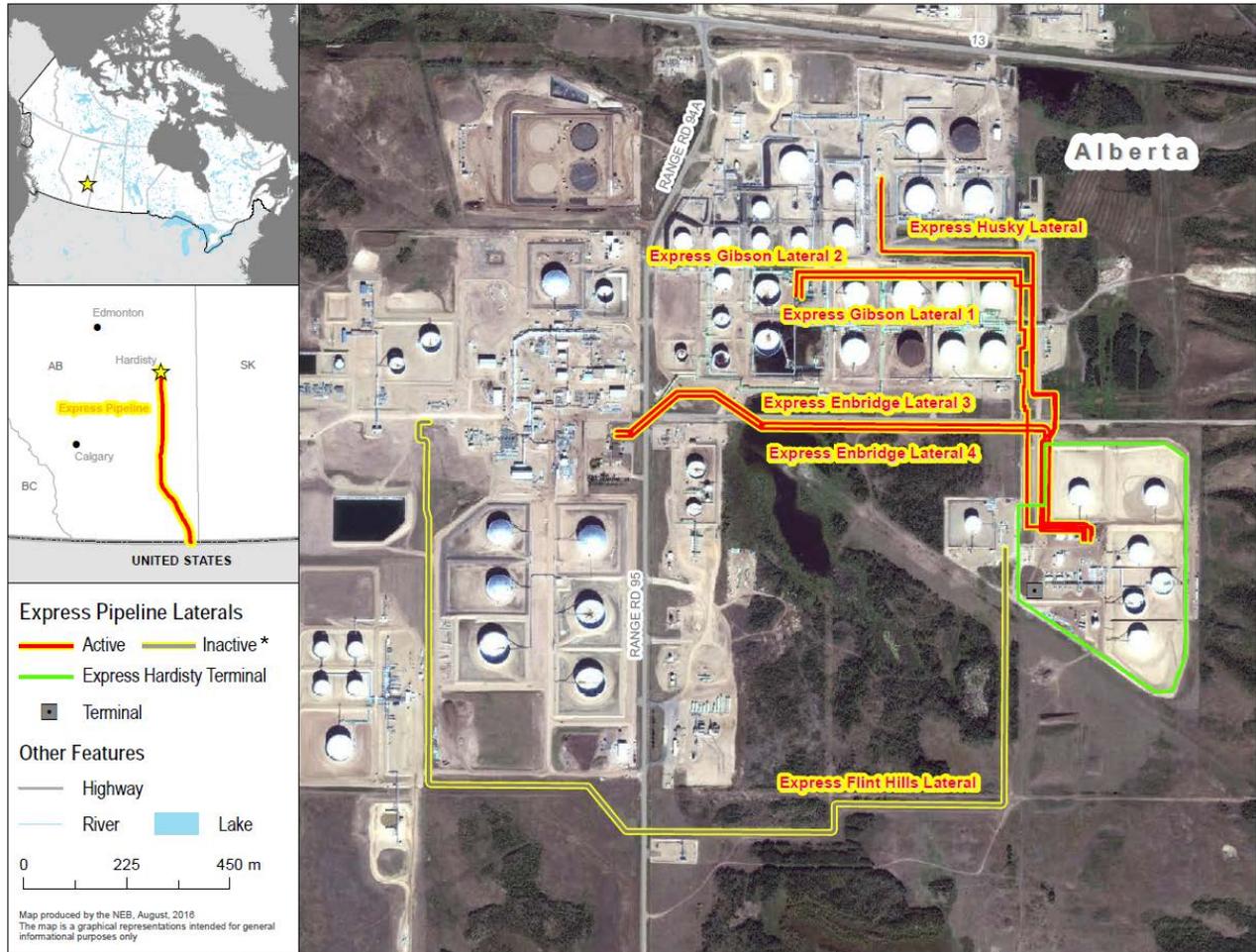


Figure 2: Express Pipeline - Hardisty Terminal and Laterals



*Express Flint Hills Lateral is currently inactive, purged of its product and filled with nitrogen.

APPENDIX IV
EXPRESS PIPELINE LTD.
COMPANY REPRESENTATIVES INTERVIEWED

| Company Representative Interviewed | Job Title |
|---|---|
| [REDACTED] | Control Room Team Lead |
| [REDACTED] | Senior Environmental Health & Safety Specialist |
| [REDACTED] | Supervisor, Alberta District |
| [REDACTED] | Field Technician |
| [REDACTED] | Director, Technical Services |
| [REDACTED] | Director, Customer Operations |
| [REDACTED] | Manager, Pipeline Integrity |
| [REDACTED] | Manager, Regulatory Affairs |
| [REDACTED] | Director Operations |
| [REDACTED] | Manager, Operations Services and EHS |

APPENDIX V
EXPRESS PIPELINE LTD.
DOCUMENTS REVIEWED*

| |
|---|
| MMP-342_Recognizing_and_Responding_to_AOCs |
| 3.6 Call-In Reporting (Rev. 4) |
| 2.1.5.1 Incoming Emergency Calls (Rev.4) |
| 2.1.1.1 Emergency Condition General Response (Rev.1) |
| 2.2.8 Operational Incident Report (OIR) (Rev. 2) |
| 2.1.5.2 Emergency Condition Report (ECR) (Rev. 3) |
| 2.1.5.3 Emergency Response Line (ERL) Notification System |
| E-P OMS Manual_2016 |
| Express Canada Health and Safety Manual_308 and 320 |
| 2.2.9 Odour Complaint Notification (Rev. 4) |
| 3.7 Aerial Right-of-Way Patrol Calls (Rev. 2) |
| Call-in Report CIR-045-AD-20150315 |
| Operational Incident Report OIR-020-AD-20150627 |
| Operational Incident Report OIR-028-AD-20150915 |
| Operational Incident Report OIR-043-AD-20141019 |
| Emergency Condition Report ECR-001-AD-20150627 |
| Emergency Condition Report ECR-005-AD-20141015 |
| Emergency Condition Report ECR-006-AD-20141019 |
| EHS Incident 07-12-2016 |
| Emergency Condition Report Listing July 1 2013 to June 30 2016 |
| Operational Incident Report Listing July 1 2013 to June 30 2016 |
| EPASS Incidents 2013-2016 |
| ERL Call Checklist June 2016 |
| 2.1.5.3 Emergency Response Line (ERL) Notification System (Rev.5) |
| Express Canada Emergency Response Plan_2016 |
| NEB Detailed Incident Report (INC2015-073) |
| Records of ERL Call (Gibson Incident) |
| E-P OMS Manual_2016 |
| Incident Review Team Procedure_2016 |
| Significant Incident and Significant IWOL Communication Guide |
| Control Centre 2.2.8 Operational Incident Report (OIR) (Rev. 2) |
| Gibson Incident Investigation Report_Final |
| Maintenance Management Procedure 116 - Maintenance Work Order |
| Gibson Safety Alert and work order |

*Document titles are shown as presented in the electronic portal from Express.

| |
|--|
| Work order for 3 party inspection of expansion joints Gibson, Hardisty |
| Work order for Gibson item 7 to communicate at August Safety meeting |
| Work order for installing new expansion joints with tie rods |
| Work order to replace and redesign pipe guides Gibson |
| Work order to replace hard piped PSV lines to incorporate flex hoses |
| Work order to set up 3rd pty training |
| Work order to set up inspections of expansions joints |
| E-P OMS Manual_2016 |
| 2.2.8 Operational Incident Report (OIR) (Rev. 2) |
| Significant Incident-IWOL Communication Guide |
| Express Canada Safety Manual - Procedure 312 |
| OMS Program Management Procedure - Safety_2016.docx |
| E-P OMS Manual_2016 |
| OMS Program Management Procedure - Safety_2016.docx |
| Safety Mtg Minutes - November 2015 |
| Gibson Safety Bulletin |
| Q12016 OMS Quarterly Governance Team Mgmt Report |
| Q2Q16 OMS Quarterly Governance Team Report.docx |
| Control Centre 2.2.8 Operational Incident Report (OIR) (Rev. 2) |
| Incident Review Team Procedure_2016 |
| Summary of IRT Report - Q1 Update 2016 |
| OMS 2Q2016 QuarterlyReport -IRT report example |
| E-P OMS Manual_2016 |
| E-P_OMS_Policy |
| Spectra Energy_EHS_Policy |
| NonRetaliation Policy |
| Non retribution policy comm_AO |
| iComply System |
| OIR-031-CC-20151019 |
| Hazard added to Register |
| OMS_Haz_Ident_Reporting |
| OMS_Reg_Monit_Reporting |
| Express Canada HS Manual - s320 |
| Legal Requirments List |
| 2016 GOTs |
| Controls Metrics |
| Organization Charts |
| E-P OMS Manual_2016 |
| Prog_Mgmt Procedure_Safety_2016 |
| 2.2.8 OIR (Rev. 2) |
| Field OMS Refresher Training |
| CRM Roles and Responsibilities |
| OMS_PROCEDURE-MOC |

| |
|---|
| Communications MOC-16-9 |
| MOC 16-9 assoc Work Orders |
| CRM Plan 2.6.2 and 2.7.2.3 |
| CR Training Program Section 4.0 |
| KEEP Module_Assessment |
| KEEP Module_Learning |
| Veriforce Taproot Completion |
| Field OMS Refresher Training |
| iComply System |
| IMP Audit_Final Report |
| Records Management Policy |
| Record Retention Rules |
| OMS 2015 Management Review |
| OMS Quarterly Review 4Q2014 |
| OMS Quarterly Review 2Q2015 |
| OMS Quarterly Review 3Q2015 |
| OMS Quarterly Review 4Q2015 |
| OMS Quarterly Review 1Q2016 |
| OMS Quarterly Review 2Q2016 |
| Annual Report Notification 2016 |
| CCO Meeting - Attendance May 12_2016.docx |
| CCO Meeting - Attendance May 17_2016.docx |
| CCO Meeting Notes May 12_2016 |
| CCO Meeting Notes May 17_2016 |
| Asset Integrity Program -- 2Q16_Quarterly Status Report |
| Design and Construction Program -- FINAL_2Q2016 Quarterly Status Report |
| Emergency Management Program -- Quaterly Status Report_2Q2016 |
| Environmental Program -- 2Q2016 Quarterly Status Report |
| Hazard and Risk Register_2Q16_Example |
| NEB Annual Report 2015_Signed |
| Safety Program -- 2Q16 Quarterly Status Report |
| Security Program -- 2Q16 Quarterly Status Report |
| Electronic Communications Policy |
| OIR-012-AD-20140314 incl WO |
| OIR-018-AD-20160612 incl WO OICA |
| OIR-037-AD-20151103 incl WO |
| OIR-044-AD-20141027 incl WO |
| OIR-2013-SR-71 |
| ENV02323 |
| ENV02606 |
| ENV02912 |
| INJ06034 |
| INJ06993 |

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| INJ07064 |
| INJ07149 |
| INJ08089 |
| INJ08093 |
| INJ09127 |
| SMM_Procedure_159_Investigation.doc |
| E-P OMS PROCEDURE - Incident Investigation_REVIEW DRAFT_v3.0 |
| TapRoot 2 day training agenda |