

National Energy
Board



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National Energy Board Onshore Pipeline Regulations, 1999 (OPR-99)
Final Audit Report
**for Integrity Management, Safety, Environmental Protection, Emergency Management,
Crossings and Public Awareness Programs**

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Canada

Executive Summary

As part of its compliance verification program, the National Energy Board (NEB or Board) conducted an audit of SET-PTC's Integrity Management, Safety, Environmental Protection, Emergency Management, Crossings and Public Awareness Programs (Programs) as they apply to its pipeline facilities. These Programs, and their content, are required to be developed under the *National Energy Board Act* (NEB Act), the *Canada Labour Code* (CLC), and their associated regulations.

This audit is one of a series three audits being undertaken by the Board with respect to NEB regulated facilities operated within Spectra Energy's organization. The others are: the *National Energy Board Processing Plant Regulations* Audit of the McMahan Gas Plant and the concurrent audit of Spectra Energy's British Columbia pipeline facilities (Westcoast). These audits identified that Spectra Energy is operating its facilities using a common organizational and technical management structure for all of the facilities noted. The findings are therefore similar in each audit, and the individual audit reports reflect this. During the audit, the Board reviewed and evaluated each set of facilities based on the individual activities, as well as the associated hazards and risks, as reflected in the individual audit reports.

The audit identified that SET-PTC is implementing technical programs to manage and control the hazards associated with its pipeline facilities. The audit did, however, identify a number of non-compliant findings. The majority of the non-compliant findings relate to SET-PTC's lack of formal, proactive and systematic identification, review and management of its legal requirements, and its safety and environmental hazards, across its Programs. The audit identified that the majority of hazards had been included in SET-PTC's procedures and practices; however, these hazards were primarily identified by SET-PTC staff either through personal knowledge, or in the operating permits issued by other regulatory bodies, rather than through required systematic reviews and assessment processes. This has resulted in SET-PTC being unable to demonstrate that its Programs are compliant. Board is of the view that these non-compliance findings do not pose an undue hazard during the development and implementation of a CAP to address the deficiencies.

The Board notes that within the management system elements of its audit protocols there are conceptual linkages between sub-elements. As a result, a finding of non-compliance in a particular sub-element may necessarily result in multiple findings of non-compliance within each Program area. This is particularly evident in this audit due to SET-PTC's non-compliant hazard identification and assessment practices. Within the Appendices to this report, the Board has identified each of the linked sub-element findings to assist SET-PTC in implementing all necessary corrective actions to its Programs to ensure safety management and environmental protection.

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1.0 Introduction: NEB Purpose and 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.

To evaluate compliance with its regulations, the NEB undertakes audits of its regulated companies. Following the audits, companies are required to submit and implement a CAP to address and mitigate all findings of non-compliance. The results of the audits are applied to the NEB's risk-informed life cycle approach to compliance.

The NEB requires that each company be able to demonstrate the adequacy and implementation of the methods they have selected and employed to achieve compliance.

2.0 Audit Terminology and Definitions

Audit: A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

Corrective Action Plan: Addresses the non-compliances identified in the Audit Report and explains the methods and actions which will be used to "correct" them.

Program: A documented set of processes and procedures to regularly accomplish a result. The program outlines how plans and procedures are linked, and how each one contributes towards the result.

Process: A systematic series of actions or changes taking place in a definite order and directed towards a result.

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

Finding: The evaluation or determination of the adequacy of programs or elements in meeting the requirements of the NEB Act, Part II of the CLC, and their associated regulations.

Compliant: A program element meets legal requirements. The company has demonstrated that it has developed and implemented programs, processes and procedures that meet legal requirements.

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

3.0 Background

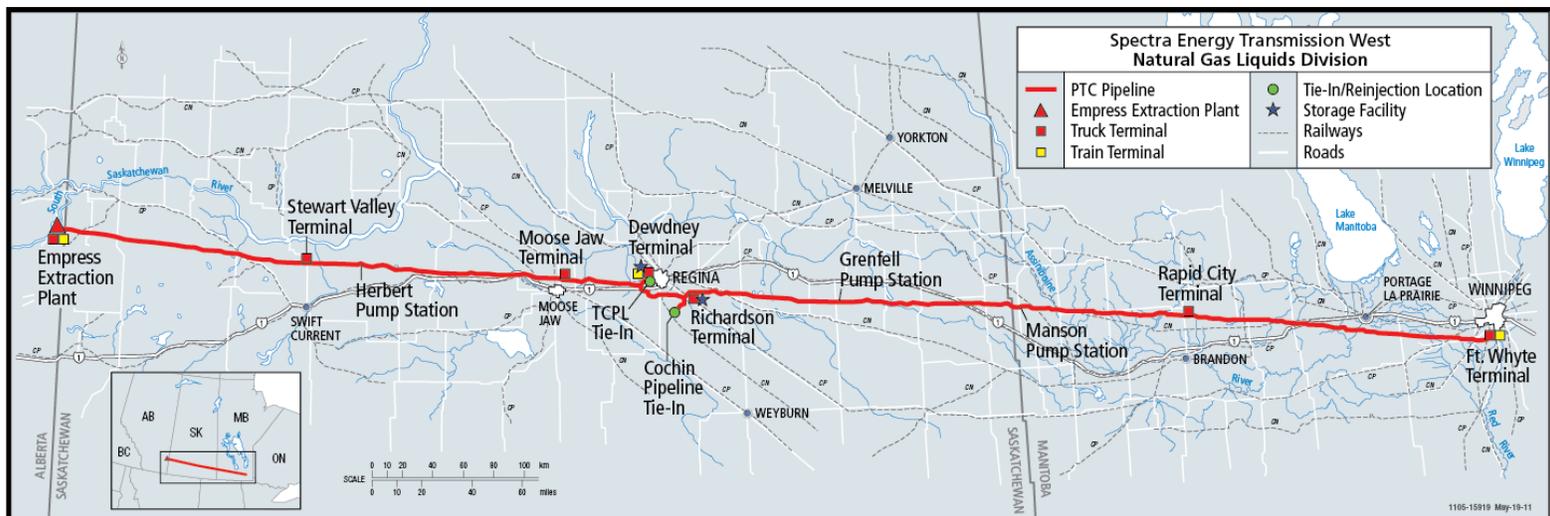
This audit is one of a series three audits being undertaken by the Board with respect to NEB regulated facilities operated within Spectra Energy's organization. The others are: the *National*

Energy Board Processing Plant Regulations Audit of the McMahon Gas Plant and the concurrent audit of Spectra Energy's British Columbia pipeline facilities (Westcoast). These audits identified that Spectra Energy is operating its facilities using a common organizational and technical management structure for all of the facilities noted. The findings are therefore similar in each audit, and the individual audit reports reflect this. During the audit, the Board reviewed and evaluated each set of facilities based on the individual activities, as well as the associated hazards and risks, as reflected in the individual audit reports.

SET-PTC holds the certificate and the assets for the SET-PTC pipeline system, which is owned and operated by Spectra Energy. Spectra Energy has ownership of several different pipeline systems in Canada and the United States. With respect to the SET-PTC pipeline system only, Spectra Energy sometimes refers to itself as Spectra Energy Transmission West, Spectra Energy Transmission BC or Spectra Energy BC Pipeline and Field Services. As such, the job titles of employees interviewed, as well as the titles of documentation reviewed, reflect these variations.

The SET-PTC pipeline system is shown in Figure 1, and runs from the Empress Plant near Burstall on the Alberta-Saskatchewan border, to Fort Whyte near Winnipeg, Manitoba. The pipeline is 933 km and transports natural gas liquids (propane and butane) to various SET-PTC shipping terminals and underground storage facilities. This OPR-99 audit included an assessment of SET-PTC's Integrity Management, Safety, Environmental Protection, Emergency Management, Crossings and Public Awareness Programs (Programs) as they apply to its pipeline system .

Figure 1 - PTC Pipeline System



4.0 Audit Objectives and Scope

The scope of the audit included an assessment of whether SET-PTC was fulfilling the requirements of:

- the NEB Act;
- the OPR-99;

- CLC Part II;
- *Safety and Health Committees and Representatives Regulations* made under Part II of the CLC;
- *Canadian Occupational Health and Safety Regulations (COHSR)* made under Part II of the CLC; and
- SET-PTC's policies, programs, practices and procedures.

SET-PTC was also required to demonstrate the adequacy and effectiveness of the methods selected and employed within its Programs to meet the regulatory requirements above.

5.0 Audit Process

| Audit Activities |
|--|
| <ul style="list-style-type: none"> • Audit Opening Meeting (Calgary, AB) – 23 November 2012 • Head Office Interviews (Regina, SK; Empress, AB) – 3 to 7 December 2012 • Field Verification: <ul style="list-style-type: none"> ○ Richardson Terminal, Integrity Program Dig (KMP706.547), and Grenfell Pump Station/Pig Launching and Receiving Facility (KMP506). ○ Empress PTC right-of-way (Eastern Region) and Manson/Rapid City Pump Stations. • Audit Pre-Close-Out Discussion (Calgary, AB) – 9 January 2013 • Final Audit Close-Out Meeting (Calgary, AB) – 15 January 2013 • Draft Audit Report issued 7 February 2013 • SET-PTC comments submitted to the Board 6 March 2013 |

The Board chose to audit SET-PTC by utilizing a risk-informed approach that included a review of previous compliance history. On 23 November 2012, an opening meeting was conducted with representatives from SET-PTC in Calgary, Alberta to discuss the objectives, scope and process of the audit, and to initiate the development of a schedule for conducting the audit site visits and staff interviews.

Daily debriefs were held at the end of each day of both head office interviews and field verification, to communicate issues to SET-PTC representatives. On 9 January 2013, an Audit Pre-Close-Out Discussion was conducted at SET-PTC's offices in Calgary, where the results of the audit, including an outline of the draft audit non-compliances, were presented to SET-PTC. At that time, the Board's auditors invited SET-PTC to provide any documentation that may mitigate, or negate, any non-compliances. A Final Audit Close-Out Meeting was held on 15 January 2013. SET-PTC offered no concerns with the Board's findings as they were presented.

The Board's Draft Audit Report was issued on 7 February 2013. On 6 March 2013, Westcoast submitted comments on the Draft Audit Report. These comments were reviewed by the Board and have been addressed, where appropriate, in the Appendices.

For a list of SET-PTC representatives interviewed, refer to Appendix VII. For a list of documents and records reviewed, refer to Appendix VIII.

6.0 Audit Results – Summary by Program Area

The audit identified a number of findings across the Programs that were evaluated. A summary of the findings in each Program area is as follows:

Integrity Management Program

SET-PTC demonstrated that it has an Integrity Management Program (IMP) for its pipeline facilities. However, SET-PTC has not met the Board's expectations for a complete, robust and fully implemented IMP. Of particular note were the non-compliances with respect to management system sub-elements 4.4 - Internal Audit and 5.1 - Management Review.

Review of the non-compliant sub-elements and SET-PTC's IMP, as implemented, indicates that the deficiencies generally do not reflect a complete system failure in any area. The audit identified that SET-PTC's IMP includes and mitigates the majority of possible hazards to the pipeline system.

For details associated with the assessment of the management system elements of the IMP, refer to Appendix I: SET-PTC Integrity Management Program Audit Evaluation Table.

Safety Program

SET-PTC demonstrated that it has an established Environmental, Health and Safety Management System (EHS MS) with some elements and processes that allow for continual improvement. The EHS MS contains procedures for identified work tasks typically encountered by SET-PTC personnel. SET-PTC holds various meetings and completes reports which monitor and document the EHS MS safety component. SET-PTC has also implemented a record retention process which includes: appropriate types of records to be retained; retention and disposition timeframes; and disposal methods.

Although SET-PTC's EHS MS has many of the elements required in a management system, SET-PTC has not met the Board's expectations for a complete, robust and fully implemented Safety Program.

For details associated with the management system elements of the Safety Program, refer to Appendix II: SET-PTC Safety Program Audit Evaluation Table.

Environmental Protection Program

The audit of SET-PTC's Environmental Protection (EP) Program revealed a number of non-compliant areas. The non-compliant sub-elements generally appear to be related to one of two basic deficiencies: a lack of formal and systematic procedures for the identification and evaluation of all legal requirements, as well as its environmental hazards and aspects; and a lack of professional environmental resources for the development and implementation of the EP Program.

The deficiencies identified do not reflect a complete system failure in any area. As SET-PTC's EP Program utilizes reaction-oriented initiatives, it captures and mitigates most of the environmental hazards and aspects resulting from SET-PTC's operations.

For details associated with the assessment of the management system elements of the EP Program, refer to Appendix III: SET-PTC Environmental Protection Program Audit Evaluation Table.

Emergency Management Program

Review of the Emergency Management (EM) Program for the SET-PTC pipeline facilities indicates that, while there are a number of non-compliant findings assigned, the company has a reasonably developed EM Program. The documents and records demonstrate that the company is ensuring that its staff, and potentially involved agencies, public and mutual aid partners, are appropriately informed and/or trained.

Review of the non-compliant findings made by the Board indicates that they are related to the formal development and consistent implementation of company-wide (Spectra Energy) management system procedures which apply to the SET-PTC EM Program.

The Board notes that the non-compliant findings in sub-elements 3.1 (Organizational Structure), and 4.4 (Internal Audits) have contributed to the non-compliant finding in sub-element 5.1 Management Review. In order to become compliant in these areas, senior management will need to develop and/or implement formal management processes to demonstrate that the EM Program continues to be adequately resourced, monitored and effectively reviewed.

For details associated with the assessment of the management system elements of the EM Program, refer to Appendix IV: SET-PTC Emergency Management Program Audit Evaluation Table.

Crossings Program

SET-PTC was able to demonstrate that it has established a Crossings Program to support the management of third party excavation and construction around its pipelines. However, there were findings of non-compliance in the policy, management of change, legal requirements and internal audit sub-elements due to a lack of formalized oversight of the Crossings Program, and a lack of integration within SET-PTC's EHS MS.

For details associated with the assessment of the management system elements of the Crossings Program, refer to Appendix V: SET-PTC Crossings Program Audit Evaluation Table.

Public Awareness Program

SET-PTC was able to demonstrate that it has established a Public Awareness Program to support the effective communication with third parties who live and work around its pipelines. Deficiencies noted in the PA Program do not relate to its implementation, rather to the lack of integration within the EHS MS. The findings of non-compliance for the policy, management of change, legal requirements, organizational structure and internal audit sub-elements denote a lack of formalized oversight over, and evaluation of, the program's continued ability to meet the Board's expectations.

For details associated with the assessment of the management system elements of the PA Program, refer to Appendix VI: SET-PTC Public Awareness Program Audit Evaluation Table.

7.0 Conclusions

The audit identified that SET-PTC is undertaking work to manage and control the hazards associated with its facilities, processes and activities. Notwithstanding this, the audit identified a number of non-compliant findings. The majority of the non-compliant findings relate to SET-PTC's lack of formal, proactive and systematic identification, review and management of its legal requirements, and its safety and environmental hazards across its Programs. The audit identified that the majority of hazards had been included in SET-PTC's procedures and practices; however, these hazards were primarily identified by SET-PTC staff either through personal knowledge or in the operating permits issued by other regulatory bodies, rather than through required systematic reviews and assessment processes. This has resulted in SET-PTC being unable to demonstrate that all its Program sub-elements are compliant. With respect to these findings, the Board is of the view that the processes presently used by SET-PTC have identified the majority, and most significant, of its hazards and risks. The Board is of the view that these non-compliance findings do not pose an undue hazard during the development and implementation of a CAP to address the deficiencies.

8.0 Audit Findings Table

For evaluation purposes, the NEB management requirements have been organized in a table format and include the following five elements and sixteen sub-elements:

- 1.0 Policy and Commitment
 - 1.1 Policy and Commitment Statements
- 2.0 Planning
 - 2.1 Hazard Identification, Risk Assessment and Control
 - 2.2 Legal Requirements
 - 2.3 Goals, Targets and Objectives
- 3.0 Implementation
 - 3.1 Organizational Structure, Roles and Responsibilities
 - 3.2 Management of Change
 - 3.3 Training, Competence and Evaluation
 - 3.4 Communication
 - 3.5 Documentation and Document Control
 - 3.6 Operational Control – Normal Operations
 - 3.7 Operational Control – Upset or Abnormal Operating Conditions
- 4.0 Checking and Corrective Action
 - 4.1 Inspection, Measurement and Monitoring
 - 4.2 Corrective and Preventive Actions
 - 4.3 Records Management
 - 4.4 Internal Audit
- 5.0 Management Review
 - 5.1 Management Review

These elements and sub-elements are arranged to match standard management system elements to aid in the evaluation of the requirements. The Programs were audited against each of these elements and sub-elements. The detailed findings of these assessments are provided in the audit evaluation tables appended to this OPR-99 Final Audit Report. A summary of these results is presented in the SET-PTC Audit Findings Table that follows.

The Board notes that within the management system elements of its audit protocols there are conceptual linkages between sub-elements. As a result, a finding of non-compliance in a particular sub-element may necessarily result in multiple findings of non-compliance within each Program area.

| SET-PTC Audit Findings Table | | | | | | |
|--|----------------------------------|---------------------|--|-----------------------------------|-----------------------|-------------------------------|
| Management System Element | I – Integrity Management Program | II – Safety Program | III – Environmental Protection Program | IV - Emergency Management Program | V – Crossings Program | VI – Public Awareness Program |
| 1.0 POLICY AND COMMITMENT | | | | | | |
| 1.1 Policy & Commitment Statement | Compliant | Compliant | Compliant | Compliant | Non-Compliant | Non-Compliant |
| 2.0 PLANNING | | | | | | |
| 2.1 Hazard Identification, Risk Assessment and Control | Non-Compliant | Compliant | Non-Compliant | Compliant | Compliant | Compliant |
| 2.2 Legal Requirements | Non-Compliant | Non-Compliant | Non-Compliant | Compliant | Non-Compliant | Non-Compliant |
| 2.3 Goals, Objectives and Targets | Non-Compliant | Compliant | Compliant | Compliant | Compliant | Compliant |
| 3.0 IMPLEMENTATION | | | | | | |
| 3.1 Organizational Structure, Roles and Responsibilities | Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Compliant | Non-Compliant |
| 3.2 Management of Change | Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant |
| 3.3 Training, Competence and Evaluation | Compliant | Compliant | Non-Compliant | Compliant | Non-Compliant | Compliant |
| 3.4 Communication | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant |
| 3.5 Documentation and Document Control | Compliant | Non-Compliant | Non-Compliant | Compliant | Non-Compliant | Compliant |
| 3.6 Operational Control-Normal Operations | Compliant | Compliant | Non-Compliant | N/A | Compliant | Compliant |
| 3.7 Operational Control-Upset or Abnormal Operating Conditions | N/A | Compliant | Compliant | Compliant | Compliant | Compliant |
| 4.0 CHECKING AND CORRECTIVE ACTION | | | | | | |
| 4.1 Inspection, Measurement and Monitoring | Compliant | Compliant | Non-Compliant | Compliant | Compliant | Compliant |
| 4.2 Corrective and Preventive Actions | Non-Compliant | Non-Compliant | Compliant | Compliant | Compliant | Compliant |
| 4.3 Records Management | Compliant | Non-Compliant | Non-Compliant | Compliant | Compliant | Compliant |
| 4.4 Internal Audit | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant |
| 5.0 MANAGEMENT REVIEW | | | | | | |
| 5.1 Management Review | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant | Non-Compliant |

9.0 Abbreviations

CAP: Corrective Action Plan

CLC: *Canada Labour Code Part II*

COHSR: Canada Occupational Health and Safety Regulations

EHS MS: Environment, Health and Safety Management System

EM: Emergency Management

EP: Environmental Protection

IMP: Integrity Management Program

NEB: National Energy Board

OMS: Operations Management System
Management Program

OPR-99: National Energy Board *Onshore Pipeline Regulations, 1999*

SET: Spectra Energy Transmission

SET-PTC: Spectra Energy Empress Management Inc. as General Partner and Agent for Spectra Energy Empress L.P. (SET-PTC)

APPENDIX I
SPECTRA ENERGY MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA ENERGY
EMPRESS L.P. (SET-PTC)
INTEGRITY MANAGEMENT PROGRAM AUDIT EVALAUTION TABLE

Introduction

Throughout this appendix, reference is made to a document related to the integrity program of SET_PTC's parent company, Spectra Energy, also referred to as Spectra Energy Transmission (SET). This document is titled the SET Empress L.P. Petroleum Transmission Company (PTC) Pipeline Integrity Program (SET-PTC PIP) and it refers to the PTC/Empress pipeline system in Saskatchewan. In addition, any italicized text corresponds to excerpts taken directly from SET-PTC documents.

Also, there was no separate Pressure Equipment Integrity Manual (PEIM) for SET-PTC at the time of the Integrity Management Program (IMP) audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the Integrity Management System (IMS) Pressure Equipment Integrity Manual (PEIM) which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

1.0 POLICY AND COMMITMENT

1.1 Policy and Commitment Statements

Expectations: The company shall have a clearly articulated policy and leadership commitment approved and endorsed by management (the Policy).

References:¹

OPR-99 Sections 4, 47 and 48

CSA Z662-11 Clauses 3.1.2(a) and 3.2

¹ Each "Reference" in this table contains specific examples of the "legal requirements" applicable to each element but are not necessarily a complete list of all applicable legal requirements.

Assessment:**SET-PTC PIP**

With respect to sub-element 1.1 Policy and Commitment, the SET-PTC PIP contains the management statement in Section 1 of the document as follows: *“The Pipeline Integrity Program (PIP) is a process for setting policy and expectations for all personnel involved in the operation and maintenance of the Empress L.P. – Petroleum Transmission Company (PTC) Pipeline and Spur Pipelines. Highly reliable pipelines and quality pipeline integrity practices are critical to the success of the pipeline business. Everyone who engages in the operation, maintenance and reliability of our assets has a personal responsibility for getting pipeline integrity right. Managers and all field personnel should follow this document in order to comply with Empress L.P. – PTC Pipeline integrity policy.”*

This policy and commitment statement is signed by the Vice President Operations and Engineering, General Manager NGL Midstream and Pipelines, and the Director of Operations Empress.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit, however the SET-PTC PIP policy and commitment statement applies to the PTC pipeline, and therefore covers the pressure equipment associated with the SET-PTC pipeline and facilities.

SUMMARY

Policy and commitment statements exist for the SET-PTC pipeline system. The Operations Management System (OMS) outlines the management commitment and the roles of Operations personnel. The OMS information is located on the SET-PTC intranet site called the Source; however, the SET-PTC policy and commitment document is not located on the Source.

Both management and employees contributed to the development of the OMS. The IMP policy and commitment fits into the hierarchy of the SET-PTC policy and commitments. The OMS is informally reviewed by management with employees but there is no formal communication plan for the various policy and commitment statements. The management system element of communication is reviewed and assessed under 3.4 Communication in this appendix.

Based on documents reviewed and interviews, the Company was able to demonstrate that it has policy approved and endorsed by senior management, which commits to continual improvement and is communicated throughout Spectra Energy.

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| <p>Compliance Status: Compliant</p> |
| <p>2.0 PLANNING</p> <p>2.1 Hazards Identification, Risk Assessment and Control²</p> <p>Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company shall assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company shall be able to implement control measures to minimize or eliminate the risk.</p> |
| <p>References:</p> <p>OPR-99 Sections 4 (2), 39, 40, 41</p> <p>CSA Z662-11 Clauses 3.1.2(f), 3.2(a), 3.2(b), 10.5.1.1(d) and 16.2</p> |
| <p>Assessment:</p> <p><u>SET-PTC PIP</u></p> <p>With respect to sub-element 2.1., Section 3.0 Scope, of the SET-PTC PIP states that <i>“the PIP attempts to consider all hazards that may cause significant damage or deterioration to the pipelines.</i></p> <p>Section 10.0 Pipeline Risk Assessment and sub-section 10.1 Risk Assessment Principles of the SET-PTC PIP contain a very general statement as follows: <i>“Risk assessment principles, in various forms, have been the foundation of integrity management. Risk assessments can vary in scope or complexity and use different methods or techniques. The ultimate goal of assessing risks is to identify the most significant risks in an effort to develop an effective and prioritized mitigation plan to maintain long term pipeline reliability and integrity.”</i></p> <p>Section 9.0 Integrity Elements lists the SET-PTC pipeline monitoring and inspection program elements and includes statements relevant to hazard identification and risks associated with the PTC pipeline and facilities.</p> |

² Hazard: Source or situation with a potential for harm in terms of injury of ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

While the statements quoted in the PIP section indicate that SET-PTC is cognizant of many of the hazards to its pipeline by way of its current monitoring and inspection programs, SET-PTC could not provide a documented hazard identification supporting the rationale for including or excluding industry recognized hazards and/or a documented risk assessment assessing the degree of risk associated with these hazards. A capital project is planned to obtain geo-referenced pipeline and facility data for the PTC pipeline, which would allow SET-PTC to perform a risk assessment with the commercial Dynamic Risk software. This capital project is scheduled for 2013.

Based on documents reviewed and interviews, SET-PTC was not able to demonstrate that it has a procedure to identify all possible hazards. SET-PTC was not able to demonstrate that it has assessed the degree of risk associated with these hazards.

Compliance Status: Non-Compliant

2.2 Legal Requirements

Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements which includes updating the management and protection programs as required.

References:

OPR-99 Sections 4, 6, 40 and 41(1)
CSA Z662-11 Clauses 3.1.2(h)(i) and 3.2

Assessment:**SET-PTC PIP**

The SET-PTC PIP does not include a section specifically detailing the applicable legal requirements; however Section 2.0 Introduction states that *“The PTC is committed to operating and maintaining its pipeline system in a responsible manner that complies with the*

requirements of CSA Standard Z662 and the National Energy Board – Onshore Pipeline Regulations.” Section 9.9.1 Guidelines for Over Pressure Protection states “The PTC pipelines and all systems delivering Liquefied Petroleum Gas (LPG) must meet the requirements of CSA Z662-07 Section 4.18.”

The date of the original SET-PTC PIP was December 2010, with the latest revision being July 23, 2011. CSA Z662-11 was published in June 2011, so that the SET-PTC PIP should have referenced the latest edition of CSA Z662. This omission is minor in nature since Clause 4.18 Pressure control and overpressure protection of piping is the same in both the 2007 and 2011 versions of CSA Z662. Other Clauses of CSA Z662 have substantively changed in the 2011 version, so that for accurate referencing to this standard, the PIP should reference the latest edition of CSA Z662.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013 SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

The SET-PTC PIP has no process for the identification and integration of its legal requirements other than references imbedded in its Introduction. SET-PTC does not have a procedure for reviewing and updating revisions to the legal requirements. However, SET-PTC personnel have representations on regulatory committees (e.g. Canadian Standards Association (CSA Z662-11 and CSA B51-09), technical committees, and the International Pressure Equipment Association, so that they have a mechanism for being informed on current and upcoming regulations and industry best practices.

The IMS PEIM for SET-PTC pressure equipment does not contain a section on legal requirements although some references are imbedded in section 2.5 (Definitions Terms and Acronyms) where there is reference to such standards as API 510 and ABSA AB-512. This indicates that SET-PTC is aware of the requirements for pressure equipment, but a formal process to identify and integrate its legal requirements has not been included in the SET-PTC PEIM.

Based on documents reviewed and interviews with staff, SET-PTC was not able to demonstrate that it has formally identified its legal requirements or fully integrated its regulatory obligations into its IMP.

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| <p>Compliance Status: Non-Compliant</p> |
| <p>2.3 Goals, Objectives and Targets Expectations: The company shall have objectives and quantifiable targets relevant to the risks and hazards associated with the company’s facilities and activities (i.e. construction, operations and maintenance). The objectives and targets shall be measurable and consistent with the Policy and legal requirements and ideally include continual improvement and prevention initiatives, where appropriate.</p> |
| <p>References: OPR-99 Sections 40, 47 and 48 CSA Z662-11 Clauses 3.1.2(h)(ii) and 3.2</p> |
| <p>Assessment:</p> <p><u>SET-PTC PIP</u></p> <p>With respect to the sub-element 2.3, the SET-PTC PIP does not contain a section on any specific, measureable goals, objectives and targets; however, in Section 4.0 Program Objectives, the SET-PTC PIP states that its general objectives are:</p> <ol style="list-style-type: none"> I. <i>“To operate and maintain a reliable pipeline system which is safe and is perceived to be safe by all stakeholders.”</i> II. <i>“To protect the public, employees, the environment, and property while maintaining a safe, efficient and reliable pipeline system.”</i> III. <i>“To identify, assess and mitigate risk to pipeline integrity.”</i> <p>Section 6.0 Responsibility, Leadership and Accountability states <i>“Those who have leadership roles in the PTC that includes pipeline integrity are automatically responsible for specific pipeline integrity management performance targets, which include (sub-section vii) measuring, reviewing and improving our pipeline integrity performance.”</i></p> <p><u>SET-PTC PEIM</u></p> <p>There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-closeout discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for</p> |

boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

In March 2012, the Board posted its Pipeline Performance Measures Reporting Requirements (<http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/pplnprfrmncmsr/pplnprfrmncmsrrprtngrgdnc-eng.html>) stating that operating companies are required to annually report on the new performance measures commencing in 2013. The requirement to report on the new performance measures is in addition to current reporting required under the *Onshore Pipeline Regulations, 1999* and the Pipeline Crossing Regulations, Part I and Part II. Part IV of the posted document specifies the reporting requirements for Integrity Management.

SET-PTC has not developed goals, objectives and quantifiable targets relevant to the risks and hazards associated with the PTC pipeline facilities and activities. This is a requirement of Spectra Energy as set out in Section 6.0 Responsibility, Leadership and Accountability, which states that *“Those who have leadership roles in the PTC that includes pipeline integrity are automatically responsible for specific pipeline integrity management performance targets, which include (sub-section vii) measuring, reviewing and improving our pipeline integrity performance.”*

Based on documents reviewed and interviews with operations staff, SET-PTC was not able to demonstrate that it was in compliance with the requirements of audit sub-element 2.3.

Compliance Status: Non-Compliant

3.0 IMPLEMENTATION

3.1 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company shall have clear roles and responsibilities, which may include responsibilities for the implementation of the management and protection programs.

References:

OPR-99 Sections 40, 47 and 48

CSA Z662-11 Clauses 3.1.1, 3.1.2(b) and 3.2

Assessment:**SET-PTC PIP**

Section 6 of the Empress L.P. – PTC Pipeline PIP dated August 10, 2011, details the Responsibilities, Leadership & Accountability for the Pipeline Integrity Program, which includes:

- *6.1 General Leadership & Accountability statement*
- *6.2 Personnel Responsibilities*
 - *6.2.1 President, Spectra Energy Transmission – West*
 - *6.2.2 Vice President of Operations, Spectra Energy Transmission – West*
 - *6.2.3 General Manager of Operations*
 - *6.2.4 Area Directors*
 - *6.2.5 Director of Operations Engineering*
 - *6.2.6 Regional and Other Managers in Operations*
 - *6.2.7 Team Leaders of Pipeline Operations*
 - *6.2.8 Director of (System) Integrity*

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

The SET-PTC PIP has included general statements for the responsibilities, leadership and accountability for the PTC pipeline. The recently submitted document, IMS PEIM, section 2.4 Organization, details the responsibilities, leadership and accountability for pressure vessels and pressure equipment for SET-PTC.

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of the audit element Organizational Structure, Roles and Responsibilities.

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| <p>Compliance Status: Compliant</p> |
| <p>3.2 Management of Change</p> <p>Expectations: The company shall have a management of change program. The program should include:</p> <ul style="list-style-type: none"> • identification of changes that could affect the management and protection programs; • documentation of the changes; and • analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements. |
| <p>References: OPR-99 Section 6 CSA Z662-11 Clause 3.1.2(g)</p> |
| <p>Assessment:</p> <p><u>SET-PTC PIP</u></p> <p>During the Board’s audit of the McMahon Processing Plant, Spectra provided its Management of Change (MOC) document dated 2010-11-02, which outlined a consistent approach for operations to ensure that changes to assets were appropriate and that the processes were documented to comply with all regulatory requirements. This MOC document outlined the triggers for invoking this process, the accountabilities, and responsibilities of various departments and personnel to ensure that changes were evaluated for all aspects to ensure that no new or additional hazards were being created with a specific change for any discipline.</p> <p><u>SET-PTC PEIM</u></p> <p>There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided its IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.</p> <p><u>SUMMARY</u></p> <p>The Spectra Energy BC Pipeline and Field Services Standard Operating Practice (SOP), reference number 23.1 deals with MOC. This SOP contains a brief description of the scope and purpose of MOC and provides a link to the MOC document on the Source website. While the SOP refers to BC Pipeline and Field Services, the MOC document applies to all Spectra Energy operations, including SET-</p> |

PTC. The recently submitted document, IMS PEIM, section 2.15 Management of Change, details the scope and MOC requirements and refers to the MOC process located on the Source website for pressure vessels and pressure equipment for SET-PTC.

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Compliant

3.3 Training, Competence and Evaluation

Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the requirements. The company shall determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 4, 18, 29 and 46
CSA Z662-11 Clauses 3.1.2(c), 3.2 and 10.2.1

Assessment:

SET-PTC PIP

Section 7 of the SET-PTC PIP refers to the training and qualifications for SET-PTC staff in general, and for the PIP. It refers to the Operations Management System (OMS) documentation located on the "Source" and the Learning Management System (LMS) on employee training and competency requirements.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January

2013, SET-PTC provided its IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

The training and competencies for SET-PTC personnel involved with the PIP were verified. A Pipeline Operator Qualification Training Program was rolled-out in 2012. This program will address all training and competency requirements noted in Section 7 of the SET-PTC PIP. The LMS will be used to managed and report out on employee status in this training program. Contractors who are granted Spectra Energy employee status and required to take this training, will also be tracked in the LMS.

For the SET-PTC pipeline and facilities, the SET-PTC PIP, Section 6.0 Responsibility, Leadership and Accountability, states in sub-section 6.2.9 for the PTC Pipeline Integrity Specialist, *“Ensure that employees and contractors directly involved with pipeline integrity activities are properly trained and that only appropriately trained personnel carry out integrity activities.”* Adherence to this requirement was confirmed during the audit inspections as described below.

The audit inspections were conducted during the maintenance pigging operation of the Cochin spur and an excavation of the PTC pipeline to investigate inline inspection anomalies. The training, competency and adherence to Spectra SOP’s were confirmed during both inspections. Specifically observed were: SOP 6.3 Pipeline Pigging, SOP 6.5 Pigging Facilities Inspection, SOP 16.3 Safe Pressures for Pipeline Excavation, SOP 17.1 Evaluation of Corroded Pipe, SOP 17.2 SCC Assessment and Repair , SOP 17.5 Records and Reporting, among others.

For the PTC pipeline excavation, the Spectra Energy Empress L.P. – PTC Pipeline Operations and Maintenance Activity Notification (October 10, 2011) to the Board for the excavation at KMP 706.510 was examined. Also, the final inspection report, which included the certifications of contract personnel involved in the pipeline excavation, was examined.

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Compliant

3.4 Communication

Expectations: The company shall have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons;
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 4, 18, 28, 29, 40, 47 and 48

CSA Z662-11 Clauses 3.1.2(d) and 3.2

Assessment:

SET-PTC PIP

With respect to communication, Section 6 of the Empress L.P. – PTC Pipeline PIP dated August 10, 2011, details the Responsibilities, Leadership & Accountability for the PIP with responsibilities relevant to communication.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided its IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

The recently submitted document, IMS PEIM, at sections 2.7 Management Responsibility and 2.7.3 Management Commitment states *“Communications regarding key learnings, events, or changes affecting the safety of pressure equipment will be transferred as necessary to the broader organization through an effective platform or media. Examples of these communications might include, but are not limited to, Incident Reporting, Information Bulletins, electronic mail, or informing the Management Representative and the*

AMT of relevant changes to legislation.”

SUMMARY

In response to an Audit Information Request, Spectra personnel stated:

“With respect to pipeline integrity, we do not have a documented communication plan however, the pipeline System Integrity group addresses communication through the following events:

- a. An annual SOP and Integrity Program review involving all directors, managers, team lead system integrity and other subject matter experts;*
- b. A monthly Pipeline Integrity Conference call chaired by System Integrity with invitations to directors, managers, team leads and field technicians;*
- c. The annual pipeline integrity workshop (typically 40 to 50 attendees);*
- d. Frequent integrity presentations to the Operations Steering Committee; and*
- e. Other special topic meetings initiated as required by System Integrity.”*

SET-PTC has demonstrated that it has several methods of ad hoc communication of relevant integrity related issues and the SET-PTC PIP clearly states the responsibilities and accountabilities for communication.

CSA Z662-11 Clause 3.1.1 states that “Operating companies shall develop, implement, and maintain a documented safety and loss management system for the pipeline system that provides for the protection of people, the environment and property.” Clause 3.1.2 states “The safety and loss management system shall include the following elements: (d) a communication plan that supports the effective implementation and operation of the safety and loss management system.”

SET-PTC was not able to demonstrate that it has an adequate, effective and documented communication process, and therefore did not demonstrate compliance with this audit sub-element.

Compliance Status: Non-Compliant

3.5 Documentation and Document Control

Expectations: The company shall have documentation and document control process that supports its management and protection programs. The documentation shall be reviewed and revised at regular and planned intervals. Documents shall be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative

consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.

References:

OPR-99 Sections 4, 27, 47, 48

CSA Z662-11 Clauses 3.1.2(e)(f), 3.2 and 10.5.1.1(a) to (d)

Assessment:

SET-PTC PIP

Section 8.0 of the SET-PTC PIP, Documentation, states that “*All asset and integrity data is located in the PTC in the Pipeline Integrity Filing System at the Richardson Terminal*” and that “*The PIP is maintained by the Pipeline Integrity Specialist and is located in the Richardson Terminal office.*” The SET-PTC PIP, Revision 1.2 dated July 23, 2011 contains the required document control components.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided its IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this Appendix, where applicable.

SUMMARY

Document review is an integral part of the audit process. SET-PTC provided numerous documents that illustrated its adherence to the requirements for documentation and document control.

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Compliant

3.6 Operational Control-Normal Operations

Expectations: The company shall establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process shall include measures to reduce or eliminate risks and hazards at their source.

References:

OPR-99 Sections 4, 27, 36, 37, 39 and 40
CSA Z662-11 Clauses 3.1.2(f), 3.2 and 10

Assessment:

SET-PTC PIP

For the PTC pipeline, one of the risks to be mitigated and prevented with respect to operational control-normal operations, is over pressure in the pipeline. Section 9.9 of the SET-PTC PIP deals with Over Pressure Protection.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

The audit was able to verify the documents and records indicating that 17 Pressure Safety Valves serving the PTC pipeline and facilities were regularly serviced and inspected on an interval of three years. The service records are being stored in VisionsTM software which is used to manage the servicing, inspection and surplus inventory records.

While the SET-PTC PIP contains a description and the requirements for overpressure protection, there was no SET-PTC PEIM document at the time of the audit. The SET-PTC PIP's section on overpressure protection applies to the pipeline and associated facilities. The recently submitted IMS PEIM section 2.19 adequately describes the requirements and responsibilities for overpressure protection and protective devices.

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| <p>Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>3.7 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 emergency events).</p> |
| <p>References: OPR-99 Sections 4, 32, 37, 40 and 52 CSA Z662-11 Clauses 3.1, 3.2, 4.18, 10.9.5</p> |
| <p>Assessment:</p> <p>The evaluation of this audit element in Appendix II – Safety and Appendix IV Emergency Management has verified that SET-PTC has developed and implemented an emergency preparedness and response plan. The Spectra Energy Standard Operating Practice 13.1 Emergency and Incident Response Procedures refers to the Emergency Management Manual located on the Source and outlines the initial actions that must be taken, the roles and responsibilities of the Emergency Response Team and the documentation that should be completed in response to an incident.</p> <p>The Integrity Management Program has no additional requirements for this management system sub-element.</p> |
| <p>Compliance Status: Not-Applicable</p> |

4.0 CHECKING AND CORRECTIVE ACTION

4.1 Inspection, Measurement and Monitoring

Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.

References:

OPR-99 Sections 4, 27, 28, 36, 37, 39, 47, 48, 53(1) and 54(1)
CSA Z662-11 Clauses 3.1.2(h)(i), 3.2, 9 and 10

Assessment:

SET-PTC PIP

Section 9.0 of the SET-PTC PIP, Integrity Elements details SET-PTC's inspection, measurement and monitoring program for pipeline integrity. These are: Corrosion Protection and Mitigation; Corrosion Coupons and Chemical Inhibitors, Pipeline Inspection by In-Line Inspection; Defect Assessments; Non-In-Line Inspectable Facility Piping; SCC Management; Right of Way Monitoring/Patrols; Above-Ground Pipeline Surveys; River Crossings; Geotechnical Surveys; and Pipeline Depth of Cover Monitoring.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

The recently submitted IMS PEIM sections 2.16.7 Inspection Procedures, 2.16.8 Inspection Plans, 2.16.10 Periodic Integrity Assessment, 2.16.10(a) Equivalent On-Stream Inspection and 2.17 Non-Destructive Examinations and Testing outlines SET-PTC's inspection, measurement and monitoring programs for pressure equipment.

SUMMARY

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Compliant

4.2 Corrective and Preventive Actions

Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:

- set criteria for non-compliance;
- identify the occurrence of any non-compliances;
- investigate the cause(s) of any non-compliances;
- develop corrective and/or preventative actions; and
- effectively implement the required corrective and/or preventative actions.

The company shall develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.

References:

OPR-99 sections 4, 6 and 52

CSA Z662-11 Clauses 3.1.2(g) and 3.1.2(h)(i), 3.2, 10.3.6, 10.4.4 and 10.5

Assessment:**SET-PTC PIP**

The SET-PTC PIP does not contain a specific section on Corrective and Preventive Actions, but does include however, Section 9.8 Incident Investigations, which states *“To avoid repeated incidents it is necessary to thoroughly understand what caused the event. In those instances where the cause is not obvious and when materials or components are available, a detailed analysis shall be conducted under the direction of the System Integrity. The results of these analyses shall be shared with all pipeline personnel involved with*

integrity activities.”. SET-PTC also provided information on its incident investigation and reporting processes and procedures.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided its IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

SUMMARY

While SET-PTC has demonstrated it has documented procedures to meet many of the Board’s expectations for this sub-element, it did not demonstrate that it has developed or implemented procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.

The audit was able to verify the SET-PTC’s incident data from 2005 to present and determine that there were identifiable trends in the systems (gathering and transmission pipelines), facilities and equipment and management system disciplines. SET-PTC should have analyzed this data to identify trends, systemic issues and opportunities for improvement of its IMP.

Based on documents reviewed and interviews with operations staff, SET-PTC was not able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Non-Compliant

4.3 Records Management

Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.

References:

OPR-99 Sections 4, 41 and 56

CSA Z662-11 Clauses 3.1.2(e), 3.2, 9.11, 10.4 and 10.5.1.1(c)

Assessment:**SET-PTC PIP**

While there was no specific section in the SET-PTC PIP dealing with records management, the audit was able to verify through interviews, document and record requests that SET-PTC has developed and implemented a records management process. The records management process ensures that the appropriate and required records are maintained and were readily available upon request.

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this Appendix, where applicable.

The recently submitted IMS PEIM section 2.16.5 speaks to the requirements for records of pressure equipment assets, and the design and implementation of an ABSA (Alberta Boilers Safety Association) qualified Owner's User Program which meets the requirements for a records management program.

SUMMARY

Based on documents reviewed and interviews with operations staff, SET-PTC was able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Compliant

4.4 Internal Audit

Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying out the audits. These audits shall be conducted on a regular basis.

References:

OPR-99 Sections 4, 53 and 55

CSA Z662-11 Clauses 3.1.2(c) and 3.1.2(h)(iii)

Assessment:**SET-PTC PIP**

The SET-PTC PIP Section 11.0 Audits, states “*PTC corporate auditors regularly conduct audits of operations and the programs used by operations. The detailed charter of the Spectra Energy Audit Services Department can be found on the Spectra Intranet. Additional targeted audits may be requested by senior management as required.*” [...]

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this appendix, where applicable.

The recently submitted IMS PEIM section 2.20 Internal Audits describes the scope, procedure and responsibilities for internal audits, but SET-PTC has not conformed with its own internal procedure which states that the “*Integrity Management System administered at Spectra Energy’s facilities are subject to an internal audit once per calendar year with no period greater than 18 months between audits.*”

SUMMARY

Contrary to SET-PTC’s internal procedure, there has not been an internal audit of the SET-PTC PIP since 2005. SET-PTC has completed Assurance Reviews; however, they do not examine evidence or documentation. Documents presented by SET-PTC at the audit pre-closeout discussion did not demonstrate:

- the methodology to determine appropriate audit frequency;
- whether subject matter experts are involved in internal audits; or
- that the audit results are incorporated into the IMP.

Based on documents reviewed and interviews with operations staff, SET-PTC was not able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Non-Compliant

5.0 MANAGEMENT REVIEW

5.1 Management Review

Expectations: The company shall formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.

References:

OPR-99 Sections 4, 40 and 55

CSA Z662-11 Clauses 3.1.2(h)(iii) and 3.2

Assessment:

SET-PTC PIP

Section 6.0 of the SET-PTC PIP outlines the Responsibilities, Leadership & Accountability for the Empress L.P. – PTC Pipeline Integrity Program. Section 6.1 states *“Those who have leadership roles in the PTC that includes pipeline integrity are automatically responsible for specific pipeline integrity management performance targets, which include: sub-section vii Measuring, reviewing and improving our pipeline integrity performance.”*

Section 8.2 Integrity Programs, Plans and Practices states that *“Each year the PTC Pipeline Manager will initiate a review of the Integrity Program. This review will consider any regulatory changes, audit results, suggested changes, industry practices and events. The results of this review will be provided to the Empress Operations Manager.”*

SET-PTC PEIM

There was no separate PEIM for SET-PTC at the time of the IMP audit. During the audit pre-close-out discussion held 9 January 2013, SET-PTC provided the IMS PEIM which described the quality assurance, inspection and continued safe operation requirements for boilers, pressure vessels and pressure piping as well as the inspection practices for the associated above ground equipment along the PTC pipeline. Information contained in this document has been included in this Appendix, where applicable.

SUMMARY

In response to the Draft Audit Report, SET-PTC provided the SET-West Occupational Steering Committee Short Term Incentive Pay (STIP) Scorecard for December 2012 (Scorecard) and commented that the Scorecard included Key Performance Metrics for Integrity and Measurement Compliance. The one performance metric described in the Scorecard was Cathodic Protection Effectiveness (Transmission). While the Scorecard describes one performance metric reviewed by management to monitor IMP performance, it was not adequate to demonstrate the required link between current management review processes and IMP performance, or that SET-PTC is conducting regular management review of its IMP to assess its continued suitability, adequacy and effectiveness.

There are ad hoc, non-formalized management reviews occurring; however, there are no documented processes for these (e.g., annual review of the PIP and SOPs, monthly IMP meetings, annual IMP workshops, etc.). Senior management review in this instance is not formally undertaken with a view to ensuring the suitability, adequacy and effectiveness of the SET-PTC PIP.

Based on documents reviewed and interviews with operations staff, SET-PTC was not able to demonstrate that it was in compliance with the requirements of this audit sub-element.

Compliance Status: Non-Compliant

APPENDIX II
SPECTRA ENERGY MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA ENERGY
EMPRESS L.P. (SET-PTC)
SAFETY PROGRAM AUDIT EVALAUTION TABLE

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| <p>1.0 POLICY AND COMMITMENT</p> <p>1.1 Policy and Commitment Statements</p> <p>Expectation: The company shall have a policy approved and endorsed by senior management (the Policy). It should include goals and objectives and commit to improving the performance of the company.</p> |
| <p>References:³</p> <p>OPR-99 Sections 4 & 47 Canadian Standards Association Z662-11 Clause 3.1.2(a) Canada Labour Code (CLC) Part II, Sections 125(1)(d)(i)-(ii),125(1)(z.09)</p> |
| <p>Assessment:</p> <p>1. SET-PTC has an Environment, Health and Safety (EHS) Policy which has been approved and adopted by Spectra Energy Transmission’s president and chief executive officer. The EHS Policy serves as the foundation for all EHS SET-PTC activities by establishing a clear vision of EHS performance shared by Spectra Energy Transmission (SET). The EHS Policy has been defined by senior management to demonstrate SET-PTC’s commitment to the protection of the environment, and the health and safety of its employees.</p> <p>The EHS Policy is applicable throughout SET-PTC’s EHS Management System (MS), which has been designed and implemented to ensure the five principles of the EHS Policy (Accountability, Stewardship, Standards, Performance and Communication) are achieved on a day-to-day basis.</p> |
| <p>Compliance Status: Compliant</p> |

³ Each “Reference” in this table contains specific examples of the “legal requirements” applicable to each element but are not necessarily a complete list of all applicable legal requirements.

2.0 PLANNING

2.1 Hazards Identification, Risk Assessment and Control⁴

Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company should assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company should be able to implement control measures to minimize or eliminate the risk.

References:

OPR-99 Sections 4(2) & 47

CSA Z662-11 Clauses 3.1 and 3.1.2

CLC Part II Sections 125.(1)(s)(z.03)-(z.05), 125(1)(z.13)-(z.16)

Canada Occupational Health and Safety Regulations, SOR/86-304, (COHSR) Sections 19.1(1), 19.3(1)-(2), 19.5(1)-(5)

Assessment:

The SET-PTC EHS MS includes a Hazard Management Program (HMP) which includes an Occupational Exposure Management Program as well as a task hazard analysis mechanism. The HMP also includes the development of a Critical Task Analysis Risk Evaluation Tool, a Workplace Exposure Assessment and Control Lists.

The HMP involves characterizing and ranking the relative risk of worker and/or company hazards for all SET-PTC Similar Exposure Groups (SEG). SEGs are groups of workers that have the same general exposure profiles because of the similarity and frequency of the tasks they perform, the materials and processes with which they work, and the similarity in the way they perform the tasks. SEGs are broken down by: (1) operating area; (2) job description; and (3) job tasks (including job tasks that utilize contractors).

A SET-PTC standard is in place for each critical practice (e.g., working at heights, lockout/tag out, ground disturbances, confined space and sour work). The SET-PTC Critical Practice Standards are reviewed by SET-PTC's Health and Safety Department every three years to ensure supervisors and workers receive relevant job-specific training. According to SET-PTC staff, the goal of Critical Practice Standards is to allow staff to develop the ability and skill to see beyond the usual concerns of any given task into possible side effects and consequences. SET-PTC has integrated this program training requirement for each critical practice along with

⁴ Hazard: Source or situation with a potential for harm in terms of injury of ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

recommended training tracked in SET-PTC's Learning Management System (LMS).

SET-PTC has developed a Self-Assessment Program. This program includes an updated inspection form available on the SET-PTC intranet website which directs the SET-PTC employee to assess area conditions rather than assess specific hazards. A corrective action plan is also included with the updated inspection form. Local area management delivered presentations on the program and updated EHS inspection forms.

SET-PTC has developed and implemented a Violence Prevention in the Workplace Policy and Program. SET-PTC employees receive Violence Prevention In the Workplace as well as EHS training when they are first hired and annually thereafter.

SET-PTC has implemented the Operational Steering Committee (OSC) Technical Risk Watch Report at the Operations Steering Committee and Area level. The objectives of the OSC Technical Risk Watch Report are to identify and manage technical risk, including:

- personal safety;
- process safety;
- reliability; and
- regulatory.

The goal is zero loss incidents, and to demonstrate mindful leadership principles of knowing, and managing risks to SET-PTC operations.

SET-PTC has initiated the Major Incidents Corrective Actions (MICA) Project, which will review all formalized functions that are implemented and being followed at SET-PTC. The MICA Project's objective is to standardize the following:

- job safety analysis ;
- planning;
- safe work practices;
- PPE; and
- safe work permits.

Subject matter experts from all SET-PTC business units have been resourced to support the MICA project. Also, the "Driven to be Safe" project has been initiated to standardize the defensive driving program throughout SET-PTC/PTC Pipeline operations.

SET-PTC's Contractor EHS Management Standard provides guidance for the registration, selection and oversight of all contractors performing work for SET-PTC. SET-PTC contracts ISNetwork (ISN) to manage contractor pre-qualification. SET-PTC has developed criteria for the pre-screening of contractors. The information requested from each contractor is used to evaluate general safety abilities. Safety information collected includes a contractor's Total Injury Frequency Rate, company Health and Safety Manual, safety citations from a regulatory body, as well as Worker's Compensation Board (WCB) rate sheets and WCB clearance letters. The contractor safety manuals are reviewed by a third party, to help eliminate the perception of bias. ISN is not used to determine contractor training competency. Upon completion of the contract, the contractor's performance is reviewed and documented.

Based on documents reviewed and interviews with operation staff, SET-PTC was able to demonstrate it was in compliance with the requirements of sub-element 2.1 Hazard Identification, Risk Assessment and Control.

Compliance Status: Compliant

2.2 Legal Requirements

Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements which includes updating the management and protection programs as required.

References:

OPR-99 Sections 4, 6 and 47
 CSA Z662-11 Clause 3.1.1
 CLC Part II Section 125(1)(v)
 COHSR Section 19.1(1)

Assessment:

SET-PTC's EHS Regulatory Change Monitoring Process, for health and safety regulation changes, was implemented 29 September 2009. SET-PTC contracts Templegate Information Services Inc. and Cyber Regs, subscription services for tracking legal initiatives and recent legal decisions (e.g., federal and provincial environmental initiatives, federal and provincial Occupational Health and Safety (OHS) initiatives, international initiatives, standards initiatives, other legal initiatives and recent legal decisions).

The SET-PTC EHS MS Manual requires the review and evaluation of contractor health and safety work and communication plans developed in advance of work, to ensure they are appropriate to the risks of the work, and ensure functional area integration for federal and provincial OHS requirements to ensure conflicts do not exist. A review of SET-PTC safety training is required to ensure that

federal legislative obligations are reflected in all safety training, and that identified conflicts are eliminated. The audit also found that the OPR, CLC and COHSR are not listed or referenced in the EHS Manuals.

The Scorecards are used to record voluntary regulatory instruments (Assurances of Voluntary Compliance or AVCs). However, it was noted that the Board Inspection Order (September 2012) was not recorded in the Scorecards.

Additionally, SET-PTC has not fulfilled its legal requirements set out in OPR.

Based on the deficiencies identified, the Board was unable to verify the EHS Regulatory Change Monitoring Process as an adequate mechanism to identify, integrate legal requirements into its EHS MS and resolve non-compliances as they relate to legal requirements.

Compliance Status: Non-Compliant

2.3 Goals, Objectives and Targets

Expectations: The company should have goals, objectives and quantifiable targets relevant to the risks and hazards associated with the company's facilities and activities (i.e., construction, operations and maintenance). The objectives and targets should be measurable and consistent with the Policy and legal requirements, and ideally include continual improvement and prevention initiatives, where appropriate.

References:

OPR-99 Section 47
CSA Z662-11 Clause 3.1.2(h) (ii)
COHSR Section 19.1(1)

Assessment:

Goals are tangible objectives for meeting SET-PTC EHS Policy and principles. The goals represent a shift from identifying EHS hazards to improving overall EHS performance by continually setting and reaching targets. Each member of SET-PTC's leadership, at a level of Director or above, develops and implements an annual personal Safety Action Plan. Formal staff goals for Active EHS Leadership (Leadership Safety Action Plans), which include: People Oriented Culture (Employee Recordable Injury Frequency, Employee Vehicle Incident Reporting and Contractor Recordable Injury Frequency); Physical Environment (Non-Recordable Incident Reporting and Recordable Incident Corrective Actions); and Environmental Impacts (Reportable Spills), are set to a yearly and a multi-year plan within the Spectra Energy (SET-PTC) EHS Blended Scorecard, an internal document used to determine individual goals and

targets. SET-PTC's 'Zero Incident Culture' assigns incident reporting responsibility to all SET-PTC employees and contractors.

Employees discuss objectives with their supervisor at the beginning of the year, at least once during the year, and again at the end of the year when the past year's performance is evaluated and objectives are established for the next year. Safety goals, targets and objectives have been identified for all staff and are included in individual job descriptions. Safety performance is included in the overall employee objectives and employees are provided recognition in meeting EHS performance objectives through a program known as Short Term Incentive Pay (STIP). The Accountability Management System and Performance Management goals and objectives are reviewed three times per year. STIP is linked to recorded injuries, vehicle incidents, contractor recordable incidents and environmental spills (considered a failure of process safety). Senior Management may not be eligible for Long Term Incentive Pay if targets are not met.

SET-PTC staff demonstrated there are formalized processes in place ensuring that safety performance was being regularly and formally reviewed, and revised on an on-going basis.

Based on documents reviewed and interviews with operation staff, SET-PTC was able to demonstrate it was in compliance with the requirements of sub-element 2.3 Goals, Objectives and Targets.

Compliance Status: Compliant

3.0 IMPLEMENTATION

3.1 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company should have clear roles and responsibilities, which may include responsibilities for the development, implementation and management of the management and protection programs.

References:

OPR-99 Section 47

CSA Z662-11 Clauses 3.1.1 and 3.1.2(b)

CLC Part II Sections 125(1), 125.1, 126, 134.1, 135(1), 135.1, 136 and 137

Assessment:

The SET-PTC Roles and Responsibilities Performance Standard 1.2 establishes the expectations for demonstrating management's

commitment and support to ensure the effective implementation of the EHS MS and improvement of EHS performance. Formal documentation for EHS roles, responsibilities and accountabilities for management, departments, employees and contractors includes: programs and procedures; job position descriptions; organization charts; roles; responsibilities; and authority matrices.

SET-PTC indicated that a formal organization review of the EHS & Operations Services groups was completed in 2012. This review did result in realigning the EHS from the Vice President (VP) Operations to a new VP of EHS & Risk Strategy. The Board views this as an improvement in the organizational structure as it will promote better oversight, improve impartiality and remove local influence in decision making and reporting of issues. However, review of the documentation provided on this organizational review indicated that this review was focused on the appropriate management structure, and did not consider whether there were adequate resources for SET-PTC's EHS to effectively function.

Compliance Status: Non-Compliant

3.2 Management of Change

Expectations: The company shall have a management of change program. The program should include:

- identification of changes that could affect the management and protection programs;
- documentation of the changes; and
- analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements.

References:

OPR-99 Section 6
 CSA Z662-11 Clause 3.1.2(g)
 CLC Part II Sections 125(1), 125(1) (z.05)-(z.06)
 COHSR Sections 19.5(4), 19.6(2)

Assessment:

The Board verified that a Management of Change (MOC) Program is in place which outlines the process for identifying, assessing and implementing procedural changes once they have been approved by the accountable individual (EHS MS Management of Change Performance Standard 2.7). There is also a collaborative process in place to review all Standard Operating Procedures against all regulatory requirements and best practices for all of SET-PTC. EHS is leading the process with the support of Senior Management and Regional subject matter experts.

SET-PTC demonstrated that it has a formal process and dedicated staff for managing changes to its assets. However, SET-PTC's MOC process, as demonstrated, is not considered compliant as it applies only to physical (asset) changes and not to changes required in practices or procedures that could result from:

- changes to legal requirements;
- the identification of new hazards; or
- results of monitoring, inspections or investigations.

Further, SET-PTC's MOC process only manages changes on a reactive basis (i.e., changes once the need has been identified). The Board expectation is that company MOC processes be proactive and formally linked to processes for the identification of changes that could affect the management and protection programs (e.g., Integrity Management, Safety, Environmental Protection, Emergency Management Programs, etc.).

SET-PTC has initiated a MOC Program review. December 2013 is the scheduled implementation of the revised MOC Program. As the MOC review is incomplete, the Board was unable to evaluate the results of the MOC review, relative to the deficiencies identified above. Accordingly, the Board was unable to verify that a fully-implemented MOC program was in place to identify, document and analyze changes that could affect the EHS MS, including introduction of new risks, hazards or legal requirements.

Compliance Status: Non-Compliant

3.3 Training, Competence and Evaluation

Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the requirements. The company should determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 18, 28, 29 & 47

CSA Z662-11 Clause 3.1

CLC Part II Sections 122.3, 125(1)(d)-(f), 125(1)(s), 125(1)(z.03)-(z.11), 125(1)(z.14)-(z.15), 125(1)(z.17)-(z.19)

Assessment:

SET-PTC's Performance Standard establishes the minimum expectations to ensure that:

- appropriate training is identified for all employees;
- employees are properly trained in, and understand, applicable EHS compliance standards, regulations, company policies and procedures, and best management practices; and
- employees perform their tasks, duties and responsibilities in a manner that protects the health and safety of SET-PTC employees, contractors, and the community.

SET-PTC's Training Program Charter provides guidance and support to meet regulatory and business training expectations. Employee competency assessment in the application of skills is the responsibility of the employee's leader or manager. The Accountability Management and Performance Management assessments determine employee competency and identify future training initiatives.

The SET-PTC Computer Based Training System contains a broad scope of safety based training modules and mechanisms.

Employee training records are stored in the LMS which generates monthly status reports for all leaders and groups, and annually assesses and communicates the status of the training programs and manuals. Employees are provided with any updates should additional training requirements be identified or should existing curriculums be changed. SET-PTC also supports its safety personnel to further their education and training to acquire and maintain Safety Professional Designations.

The SET-PTC's Training Program Charter met the requirements of this sub-element, the Board has identified in sub-element 2.2 (Legal Requirements) of this appendix that a review of SET-PTC's safety training is required to ensure federal legislation is reflected in the training and that identified conflicts are eliminated.

Compliance Status: Compliant

3.4 Communication

Expectations: The company should have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons;
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 28, 29, 30(b), 46, 47 and 56

CSA Z662-11 Clause 3.1.2(d)

CLC Part II Sections 124, 125(1)(q), 125(1)(s), 125(1)(z), 125(1)(z.01), 125(1)(z.03)

COSHR Sections 10.14, 11.5(2), 11.11, 12.10(1.1)(a)(ii), 12.10(1.2), 12.15, 13.11, 14.23, 17.6(1), 20.10, 19.1(1), 19.2(2), 19.6

Assessment:

SET-PTC was able to demonstrate that it employs many methods for communicating safety requirements with its internal and external stakeholders. Communication of safety information is done through safety stand down meetings; quarterly employee meetings and safety updates; daily tailgate meetings; daily and weekly safety reports; Health and Safety Newsletters; monthly safety and communication meetings; monthly reports to the EHS Corporate Group; contract management activities, pre-job meetings; its intranet sites; etc.

However, audit was unable to verify that the SET-PTC Internal and External Communication Performance Standard 6.0 (September 2006) is fully implemented throughout SET-PTC. Interviews of SET-PTC staff indicated that they were not always notified of received regulatory non-compliances (Board Inspection Order September 2012) that may impact on their operations. This lack of communication indicates that the Internal and External Communication Performance Standard is not consistently executed throughout SET-PTC.

The audit was unable to verify that SET-PTC meets the requirements of this sub-element and therefore have made a finding of Non-Compliant with respect to Communication.

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| <p>Compliance Status: Non-Compliant</p> |
| <p>3.5 Documentation and Document Control</p> <p>Expectations: The company should have documentation to describe the elements of its management and protection programs- where warranted. The documentation should be reviewed and revised at regular and planned intervals. Documents should be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.</p> |
| <p>References:</p> <p>OPR-99 Sections 27, 47 and 56 CSA Z662-11 Clauses 3.1.2(e),(f) and 10.5.1.1(d) CLC Part II Sections 125(1)(z.03)-(z.06), 125(1)(z.09), 125.1(d)-(e), 125.1(f), 135.1(9) COHSR Sections 1.5, 2.23, 4.6, 5.17, 5.18, 8.12, 8.14(4)-(7), 8.15, 10.3</p> |
| <p>Assessment:</p> <p>To develop or revise an EHS standard, SET-PTC's EHS Standard Development Committee reviews the following:</p> <ul style="list-style-type: none"> • EHS practices and procedures currently available within SET-PTC; • legislation applicable to SET-PTC; • CSA or other applicable industry standards; • Spectra Energy or Spectra Energy Transmission Policies; and • industry best practices. <p>Legal and Human Resources may be consulted as necessary during the development or revision of an EHS standard.</p> <p>EHS Safety Specialists communicate draft standards to the OHSE Workplace Committees for review and comment in a timely manner. The EHS Standard Development Committee reviews all comments, updates the standards if necessary and provides feedback to individuals or committees who provided the input. The EHS Standard Development Committee develops an Implementation Impact Assessment for each proposed standard. Revised (updated) standards including comments from OHSE Workplace Committees and the Implementation Impact Assessment are sent to the EHS Director for review, comment, and communication to the Operations Management Team (OMT). Standards are endorsed by the OMT before review by the OHSE Oversight Committee. Proposed changes to EHS Standards are reviewed by the OHSE Oversight Committee to determine if consultation is required. New EHS Standards are approved by the EHS Director for implementation.</p> |

SET-PTC's EHS Manuals do not reference OPR-99 requirements. Also, the audit found a number of performance standards and procedures that are either in draft status or out-of-date. For example:

- the Board requires that the On-Site SET-PTC Construction Manual be the same as the SET-PTC Construction Manual that is filed with the Board; and
- the Natural Occurring Radioactive Materials (NORM) Code of Practice indicates that it became effective on 22 October 1993 and that it was last reviewed 4 July 2008.

As the Board requires a regular review of all safety standards and procedures to ensure they are current and reflect revision dates, as well as all applicable requirements of the OPR-99, CLC Part II and COHSR, the Board finds SET-PTC to be non-compliant with respect to this sub-element.

Compliance Status: Non-Compliant

3.6 Operational Control-Normal Operations

Expectations: The company should establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process should include measures to reduce or eliminate risks and hazards at their source, where appropriate.

References:

OPR-99 Sections 27 - 49
 CSA Z662-11 Clauses 27 - 49
 CLC Part II Sections 125(1), 125.1
 COHSR Section 19.1(1)

Assessment:

The EHS MS contains procedures for identified work tasks typically encountered by SET-PTC personnel. The procedures reference industry standards and acknowledge compliance with applicable legislation.

Frontline supervisors review safe work permit practices with employees at operational and safety meetings. SET-PTC hazard assessment training for employees includes hazards and risks associated with tasks that are outlined in safe work permits.

It was confirmed in sub-element 2.1 of this appendix that critical task lists, risk assessment and job hazard analyses that have been

completed include various mitigating measures that form the basis of the EHS MS procedures and which would ensure operational control is maintained. Therefore, the Board finds SET-PTC to be compliant with this sub-element.

Compliance Status: Compliant

3.7 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 (example, after emergency events).

References:

OPR-99 Sections 32, 35 and 52
 CSA Z662-11 Clauses 3.1, 3.2, and 10.5.2
 CLC Part II Section 125(1)(o)
 COHSR Sections 17.4, 17.5, 19.1(1)

Assessment:

The audit verified that SET-PTC has developed and implemented an emergency preparedness and response plan. Interviews and document review verified that personnel safety issues such as the emergency evacuation and muster locations are discussed during orientations and fire evacuation procedures are posted. Emergency evacuation drills and mock exercises are held on a regular basis.

SET-PTC staff participates in the Liquefied Petroleum Gas Emergency Responders Corporation (LPGERC). The LPGERC's mission is to provide a level of service to participants that will encompass well trained and qualified people, quality equipment, knowledgeable advice and timely assistance to allow responders to deal effectively with a liquefied petroleum gas emergency.

Finally, safety issues are standard items on meeting agendas and are incorporated into 'review and learn discussions' for continual improvement purposes. Based on all of the foregoing, the Board finds SET-PTC to be compliant with this sub-element.

Compliance Status: Compliant

4.0 CHECKING AND CORRECTIVE ACTION

4.1 Inspection, Measurement and Monitoring

Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.

References:

OPR-99 Sections 36, 39, 47, 53(1) and 54(1)

CSA Z662-11 Clauses 10.2.2 and 10.14.1

CLC Part II Sections 125(1)(c), 134.1(4)(d), 135(7)(k), 136(5)(g), 136(5)(j)

COHSR Sections 4.5, 4.6, 5.10, 6.10(3), 10.18, 12.3, 12.14, 14.20, 14.21, 14.23, 15.6, 17.3, 17.9

Assessment:

SET-PTC holds various recurrent meetings and completes reports which monitor and document the EHS MS safety component, including:

- daily and monthly progress reports;
- daily and weekly safety inspection reports;
- daily tool box meetings;
- weekly all staff meetings;
- weekly fire drills;
- weekly behaviour-based inspections;
- OSC Safety Tours;
- incident reporting; and
- incident investigation (which, when required, are tracked in the Incident Investigation Reporting (IIR) system).

SET-PTC indicated that the Environment Performance and Safety System (EPASS) tracking system are expected to be in place

January 2013.

Document review confirmed that actions resulting from the above-listed activities are assigned and tracked to ensure all issues are addressed and reported. SET-PTC tracks the actions until completion and verifies their effectiveness.

The Accountability Management and Performance Management assessments determine employee competency and identify future training initiatives.

The audit found that SET-PTC has adequate processes in place to ensure safety-related incidents are investigated and that the appropriate measures are taken to correct or prevent further deficiencies in its execution of the EHS MS. Therefore the Board finds SET-PTC to be Compliant with this sub-element.

Compliance Status: Compliant

4.2 Corrective and Preventive Actions

Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:

- set criteria for non-compliance;
- identify the occurrence of any non-compliances;
- investigate the cause(s) of any non-compliances;
- develop corrective and/or preventative actions; and
- effectively implement the required corrective and/or preventative actions.

The company should develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.

References:

OPR-99 Sections 6 and 52

CSA Z662-11 Clauses 3.1.2(g),(h) and 10.5

CLC Part II Sections 125(1)(c), 125(1)(o), 125.1(f), 134.1(4)(d), 135(7)(e), 135(7)(j), 136(5)(g)

COHSR Sections 2.27, 7.3, 10.4, 10.5, 15.4, 19.1(1)

Assessment:

SET-PTC's Regulatory Incident Reporting Guidelines for On-Call Supervisors (Guidelines) is approved and communicated to control teams and on-call incident supervisors. The purpose of the Guidelines is to assist SET-PTC's On-Call Supervisors and On-Call Incident Supervisors in the external reporting of "regulatory reportable" incidents that occur in both its federally and provincially regulated facilities. This regulatory reporting practice was put in place to ensure timely notification of reportable occurrences to the appropriate regulatory agency regardless of where the incident occurs across the facilities. The Guidelines are controlled by the incident management program and are reviewed on an annual basis by all stakeholders to ensure their currency. The One-Window Reporting Procedures, embedded in the EHS Checklist, are reviewed on initial hiring, and annually thereafter. Evidence of this checklist review was found in the LMS.

SET-PTC has developed and implemented a comprehensive incident investigation process. The incident reporting and investigation process includes near misses, and includes contractors in incident investigations when appropriate. The investigation process identifies root causes. Incidents are analyzed to detect patterns or trends to anticipate and prevent future incidents. The incidents and accidents are recorded and reported as per policy. Best practices and lessons learned are shared with internal stakeholders and contractors who can benefit.

The audit found that the NEB Assurances of Voluntary Compliance (AVCs) are currently being tracked on the Scorecard; however, no targets for continual improvement have been established. Board Inspection Officer Orders and Board Orders are not tracked on the Scorecard and therefore it is unclear whether senior management is being made aware of such enforcement measures. As an example, a Board Inspection Officer Order was issued to Westcoast in September 2012; however there is no record of this enforcement measure being discussed at any of the senior management level meetings (Weekly OSC or Bi-Monthly Audit Review Meetings).

As there is inconsistency in the communication, tracking and resolution of non-compliances outlined in Board Inspection Orders, the Board finds SET-PTC to be non-compliant with respect to this sub element.

Compliance Status: Non-Compliant

4.3 Records Management

Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.

References:

OPR-99 Sections 47 and 56

CSA Z662-11 Clauses 9.11, 3.1, 10.5, and 10.4

CLC Part II Sections 125(1)(g)

COHSR Sections 1.5, 2.23, 2.24, 2.27(7), 4.6 5.17, 5.18, 6.10(7), 7.3(6), 8.18(3), 10.6, 10.15, 10.19(4), 11.12, 12.14, 14.23(4), 15.11, 16.13(2), 17.4(4), 17.8(2), 17.9(2), 17.10(2), 18.39, 18.40, 18.41, 18.42, 19.6(5), 19.8(2)

Assessment:

The Board confirmed through documentation and record review that SET-PTC has implemented a record retention process which includes appropriate types of records to be retained, retention and disposition timeframes and disposal methods. Copies of all records requested were made readily available.

SET-PTC has several repositories for safety-related information. The IIR system is used for tracking incidents. Hard copies of these incident records are maintained in the regional offices. The SET-PTC Document Management and Retention Standard are posted on the EHS website. An electronic communication, announcing this mechanism, was sent to all employees from Spectra Energy Records Management.

While all records requested were readily retrieved, it was indicated during interviews that the company lacked a formalized process for email correspondence retention. The company has established that all unfiled emails will be deleted after three months and those that have been moved to a folder are deleted after two years. Individual staff have established their personal method in ensuring that these records are maintained; however, the Board is concerned that, without a formal filing process, certain email correspondence which contain compliance information may be deleted and not easily accessible in the event of an investigation.

Based on documents reviewed and interviews conducted it was determined that SET-PTC has an inadequate records management strategy in place and is therefore found to be non-compliant with this sub-element.

Compliance Status: Non - Compliant

4.4 Internal Audit

Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying

out the audits. These audits shall be conducted on a regular basis.

References:

OPR-99 Sections 53 and 55

CSA Z662-11 Clauses 3.1.2 (c) and (h)(iii)

COHSR Section 19.7(1)(2)

Assessment:

The operation of SET-PTC's facilities and pipelines are subject to periodic audits by Spectra Energy Corporation's internal audit services and EHS audit groups.

SET-PTC's audit team in Calgary conducts audits on capital expansion projects, while safety audits are conducted by its Manager Internal Audits, based out of Houston, Texas. The audit cycle is determined by a comprehensive risk assessment. Local subject matter experts are contracted to ensure appropriate legislation is included in the protocol for the facilities being audited.

The Senior Management of Spectra Energy Corporation and its Board of Directors approve audit risk assessment methodologies and annual audit plans of Spectra Energy Corporation's internal audit services and EHS audit groups. Performance based audits are being conducted. TeamMate™ audit management software is being used to ensure action items are closed-out. TeamCentral,™ an audit management database, is used for tracking audit projects, issues and recommendations.

It was verified through interviews and document review that SET-PTC has an internal audit program to assess its EHS MS against its regulatory requirements. However, the audit found that the absence of an effective process to identify and integrate all of the legal operational safety requirements, previously referenced in Legal Requirements sub-element 2.2, could lead to incomplete EHS audit protocols and inaccurate internal audit findings. Furthermore, the specific discipline audits conducted are performance audits, not compliance or technical audits, and the Board was unable to confirm that SET-PTC has conducted an internal audit that included all management systems in its scope (i.e., Integrity, Safety, Environment, Emergency Management, Public Awareness and Crossings).

Based on documents reviewed and interviews with operations staff, SET-PTC was not able to demonstrate that it was in compliance with the requirements of this sub-element.

Compliance Status: Non-Compliant

5.0 MANAGEMENT REVIEW

Expectations: Senior management should formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.

References:

OPR-99 Section 55
 CSA Z662-11 Clause 3.1.2(h) (iii)
 COHSR Sections 11.2(4), 12.10(1.2), 19.6(3), 19.7(1)-(2)

Assessment:

SET-PTC's EHS MS Performance Standard 9.4 (Management System Review) establishes minimum expectations for conducting a Management System Review with senior management to determine whether changes to the EHS Policy, EHS goals and targets, or other elements of the EHS MS are necessary to ensure effectiveness of the EHS MS based on EHS audit results, EHS performance, changing business needs and/or stakeholder inputs. The Management System Review is conducted at least annually, preferably in the third quarter.

Management System Reviews may be conducted more frequently when:

- important new EHS regulatory or EHS issues arise;
- significant hazards/risks are identified; or
- previous audits/assessments have identified on-going deficiencies in the EHS MS.

Although the audit found there was a level of oversight provided, given the absence of rigor in the reporting and tracking of non-compliances, as well as the deficient audit process described in sub-element 4.4 of this appendix, the Board has determined that senior management review in this instance has not been undertaken with a view to ensuring the EHS MS's continuing suitability, adequacy and effectiveness. Accordingly, SET-PTC has been found to be non-compliant with this sub-element.

Compliance Status: Non-Compliant

**APPENDIX III
SPECTRA ENERGY MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA ENERGY
EMPRESS L.P. (SET-PTC)
ENVIRONMENTAL PROTECTION PROGRAM AUDIT EVALUATION TABLE**

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| <p>1.0 POLICY AND COMMITMENT</p> <p>1.1 Policy and Commitment Statements</p> <p>Expectations: The company shall have a policy approved and endorsed by senior management (the Policy). It should include goals and objectives and commit to improving the performance of the company.</p> |
| <p>References:⁵ OPR-99 Sections 4 and 48 CSA Z662-11 Clause 3.1.2(a)</p> |
| <p>Assessment: SET-PTC provided an adequate and up-to-date corporate Environment, Health and Safety (EHS) policy that meets the Board’s expectations. The Policy statement and accompanying documentation outline SET-PTC’s management principles and clear program objectives. The Environmental Protection Program (EPP) is guided by these documents.</p> |
| <p>Compliance Status: Compliant</p> |

⁵ Each “Reference” in this table contains specific examples of the “legal requirements” applicable to each element but are not necessarily a complete list of all applicable legal requirements.

2.0 PLANNING

2.1 Hazards Identification, Risk Assessment and Control⁶

Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company should assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company should be able to implement control measures to minimize or eliminate the risk.

References:

OPR-99 Sections 4(2) and 48
CSA Z662-11 Clauses 3.1 and 3.1.2

Assessment:

Through its EPP documents and records, as well as interviews with staff, SET-PTC was not able to demonstrate that it had met the Board's requirements with respect to this sub-element.

SET-PTC was able to demonstrate that it had identified some of its environmental hazards and aspects; however, in reviewing the documents provided, it would appear that the items identified and managed formally were, for the most part, limited to the requirements stated in its provincial operating permits.

During the audit, SET-PTC was unable to demonstrate that an active inventory of environmental hazards and aspects exists nor provide a procedure to proactively identify and manage new environmental hazards and aspects as they arise. During interviews with staff, the company indicated that environmental hazards and aspects are also identified through pre-job and ground disturbance checklists, project planning with consultants for new projects, and annual communications with landowners. Similarly, company staff interviewed indicated that, as part of their annual business planning, an informal risk analysis based on staff knowledge is completed on known areas of potential environmental concern. SET-PTC provided its Operational Steering Committee (OSC) Technical Risk Watch (Risk Watch) report for review. The objective of the Risk Watch, as listed on the cover page, is "to identify, communicate and manage technical risks, including Personal Safety, Process Safety, Reliability and Regulatory Risks. Goal is ZERO incidents with loss." While

⁶ Hazard: Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

it is unclear where environmental risks fit into the objective of the Risk Watch, the audit noted that an environmental risk (potential groundwater impacts to the City of Regina back up water supply) was identified, provided a risk ranking and mitigation measures were proposed. See also sub-element 5.1 Management Review.

While all of these sub-processes of the EPP will assist in the aspect identification process, all are reactionary and may preclude environmental hazards and aspects from being anticipated and/or proactively identified.

Compliance Status: Non-Compliant

2.2 Legal Requirements

Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements that include updating the management and protection programs as required.

References:

OPR-99 Sections 4, 6 and 48
CSA Z662-11 Clause 3.1.1

Assessment:

Review of SET-PTC's process for the identification and integration of its legal requirements indicated that the company's processes did not meet the Board's expectations.

Interviews with staff indicated that the company has contracts with several external providers in order to identify changes to legislative requirements. Environmental staff also reviews the various provincial and federal websites in order to stay current with proposed changes. Reviews of these changes are completed by the companies' Regulatory group with input from the various subject matter experts. The implications and integration of these changes are discussed at the weekly Operations Management Team (OMT) and Area Management Team (AMT) meetings and, if deemed significant, are elevated to senior management through the OSC. It was also stated that legislative changes would not go through Management of Change (MOC) as this process is focused on physical assets only.

Through several internal tracking mechanisms, SET-PTC staff provided records listing its legal requirements at various levels of detail. For example, an inventory of provincial permit environmental requirements were outlined and monitored in appropriate detail, whereas other inventories provided either had legislative requirements that were excluded (e.g., Part 8 of the OPR) or noted at a very high level.

Other than ensuring that reporting deadlines are being met, the company did not demonstrate how these legislative requirements were being integrated into its EPP. It was also unclear how or if these legal inventories provided are maintained to ensure that they are current.

The audit noted the lack of a description of the NEB OPR-99 EPP requirements and expectations that could be used in the development and evaluation of SET-PTC's Standard Operating Procedures (SOPs), as well as audit, inspection and investigation processes. As the Board's regulations are process and outcome focused, a clear interpretation and description of the EPP requirements in relation to SET-PTC's facilities and associated activities is required to ensure compliance.

Compliance Status: Non-Compliant

2.3 Goals, Objectives and Targets

Expectations: The company should have goals, objectives and quantifiable targets relevant to the risks and hazards associated with the company's facilities and activities (i.e., construction, operations and maintenance). The objectives and targets should be measurable and consistent with the Policy and legal requirements and ideally include continual improvement and prevention initiatives, where appropriate.

References:

OPR-99 Section 48
CSA Z662-11 Clause 3.1.2(h)(ii)

Assessment:

SET-PTC was able to demonstrate compliance with this element through documentation and records provided to the Board's auditors.

Company staff provided records indicating that, on an annual basis, senior management sets corporate goals, objectives and targets for the company that are applied and measured at each management unit on an on-going basis. The results are collected, measured and monitored by senior management as a monthly operational performance metric referred to as the SET-West OSC Monthly Scorecard (Scorecard). Interviews with company senior management indicated that off-site meetings occur throughout the year to formally discuss performance to date and implement corrective actions where required. General Managers and EHS advisors across the Spectra corporation also meet annually to discuss existing goals, objectives and targets as well as discuss what areas should be focused on for the upcoming year. It was also noted SET-PTC completes an annual plan that is specific to their business unit but aligns with the corporate strategies. Participation in the area plan development is wide spread across their business unit and once approved, it is

reviewed periodically during the calendar year.

SET-PTC staff indicated that senior management has identified seven program areas for measurement and improvement and have set what they would consider to be aggressive goals for improvement in these areas. One such area includes environmental performance and appears to relate back to the corporate Policy and purpose statements. Measures being tracked that may have environmental considerations include non-compliance with provincial permits, spills and releases, and public complaints. Through the Short-Term Incentive Pay (STIP) Program, SET-PTC has also established performance measures/targets for the various teams to achieve. Of note, permit non-compliances are one such measure; however, NEB non-compliances are not included in this program.

The audit noted that NEB Assurances of Voluntary Compliance (AVCs) are currently being tracked on the Scorecard; however, no targets for continual improvement have been established. Board Inspection Officer Orders and Board Orders are not tracked on the Scorecard and therefore it is unclear whether senior management is being made aware of such enforcement measures. As the Board expects that goals, objectives and targets be developed based on risk and hazards, and not the amount of non-compliances they incur, the company is in compliance with this sub-element. See also sub-element 5.1 Management Review.

Compliance Status: Compliant

3.0 IMPLEMENTATION

3.1 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company should have clear roles and responsibilities, which may include responsibilities for the development, implementation and management of the management and protection programs.

References:

OPR-99 Section 48

CSA Z662-11 Clauses 3.1.1 and 3.1.2(b)

Assessment:

Through interviews as well as document and record review, SET-PTC was able to demonstrate that all staff with environmental responsibilities has clear role and responsibility statements applicable to their positions within the environmental or organizational structure. The company, however, was not able to demonstrate that it had an organizational structure that would allow its EPP to effectively function.

It was noted that some SET-PTC operations staff have taken on environmental responsibilities which would normally be completed by an environmental specialist. Accordingly, the Board has concluded that SET-PTC has inadequate numbers of frontline environmental staff available to support its operations staff in ensuring compliance with the Board's expectations. As an example, pre-site environmental assessments in advance of integrity digs are completed by the pipeline integrity specialist. This specialist then decides whether a third-party environmental consultant is required to complete a formal environmental assessment. The SET-PTC environmental specialist is only involved in the integrity dig process if the project is significant and/or of abnormal nature (larger watercourse). Appropriate support could be achieved by conducting internal inspections, overseeing environmental consultants, providing training, and through process or procedural development. See also sub-element 3.4 Communications.

While the facilities associated with the SET-PTC pipeline are inspected periodically by the environmental specialist, the pipeline right-of-way (ROW) is not. SET-PTC currently has one environmental specialist to oversee the environmental aspects associated with the ROW, salt caverns and associated brine ponds (provincially regulated), and the Empress Gas Plant (provincially regulated). In interviewing this environmental specialist, it was indicated that approximately 25% of his time is dedicated to the ROW but this may vary due to projects and/or issues. Since SET-PTC does not have a complete inventory of its environmental hazards, it is unclear whether this allotment of time is appropriate to effectively manage its EPP. Further, due to the geographical scope of the SET-PTC pipeline (from Alberta/Saskatchewan border to Winnipeg, Manitoba), delegation of certain activities to operations staff does occur. An example of this would be the annual Vegetation Management Plan for the SET-PTC pipeline. The environmental specialist indicated that, while he is involved with the annual plan development, he is not involved with the implementation or evaluation of the effectiveness of the plan through inspections, as this is tasked with local operations staff. During Board inspections conducted in conjunction with this audit, an AVC was received to address vegetation or invasive plant management issues noted at several areas. During the inspection, it was apparent that a Vegetation Management Plan was being implemented, but that it was ineffective in managing several species of invasive plants. This issue, along with others identified in the Board's inspections that could be considered routine or standard practice issues, had been on-going for some time and should have been identified by an adequate inspection program. See also sub-element 4.1 Inspection, Measurement and Monitoring.

SET-PTC indicated that a formal organization review of the EHS & Operations Services groups was completed in 2012. This review did result in realigning the accountability for EHS from the Vice President (VP) Operations to a new VP, EHS & Risk Management. The Board views this as an improvement in the organizational structure as it will promote better oversight, improve impartiality and remove local influence in decision making and reporting of issues. However, review of the documentation provided on this organizational review indicated that this review was predominately focused on the appropriate management structure, and did not consider whether there were adequate resources for SET-PTC's EPP to effectively function.

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| <p>Compliance Status: Non-Compliant</p> |
| <p>3.2 Management of Change</p> <p>Expectations: The company shall have a management of change program. The program should include:</p> <ul style="list-style-type: none"> • identification of changes that could affect the management and protection programs; • documentation of the changes; and • analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements. |
| <p>References:</p> <p>OPR-99 Section 6 CSA Z662-11 Clause 3.1.2(g)</p> |
| <p>Assessment:</p> <p>SET-PTC demonstrated that it has a formal process and dedicated staff for managing changes to its assets. However, SET-PTC's MOC process, as demonstrated, is not considered compliant as it applies only to physical (asset) changes and not to changes required in practices or procedures that could result from:</p> <ul style="list-style-type: none"> • changes to legal requirements; • changes to industry standards or practices; • the identification of new hazards; or • results of monitoring, inspections or investigations. <p>Further, SET-PTC's MOC process only manages changes on a reactive basis (i.e., changes once the need has been identified). The Board's expectation is that company MOC processes be proactive and include requirements for the identification of changes that could affect the management and protection programs (e.g., Integrity, Safety, Environmental Protection, Emergency Management, etc.).</p> |
| <p>Compliance Status: Non-Compliant</p> |
| <p>3.3 Training, Competence and Evaluation</p> <p>Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and</p> |

procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the requirements. The company should determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 28, 29, 30(b), 46, 48 and 56
CSA Z662-11 Clause 3.1

Assessment:

Although SET-PTC was able to demonstrate that it has invested resources in developing and implementing a formal training process, the company was not able to demonstrate compliance with the Board's expectations regarding training and competency.

Through documentation and record review, and during interviews with staff, the company demonstrated that it has dedicated training staff that have developed a formalized training process within its Operations Management System. The process involves formal identification, assignment and monitoring of training requirements. The training program involves competency-based training and evaluation, where applicable. These formal processes and practices were appropriate in managing a training program to meet the Board's requirements. Environmental staff interviewed indicated that, through an individual's Performance Measure Plan, the interviewee has been able to partake in the identified training and professional development required for his position, as well as training in other non-core responsibilities (e.g., TapRoot, MOC and SAP processes). Interviews also indicated that supervisors complete annual technical competency assessments of their environmental staff.

Where the company was not able to demonstrate compliance was with respect to environmental training for its staff and contractor competency. During interviews throughout the organization, company staff identified that staff received training in regard to environmental aspects and controls as part of their on-boarding (new staff orientation) process. This training, *Our Environment: Our Responsibility* (OEOR), consists of several modules of which company staff are required to take depending on their role in the organization. At a minimum, all staff is required to take Modules 1 to 3 which provide an introduction to environmental responsibility and responsible actions. While a review of training records indicated that all SET-PTC employees have taken this training, there does not appear a requirement to renew this training as some personnel last took the training in 2006. As this was indicated by SET-PTC personnel to be the core of their environmental training, the Board expects that this training occur on a regular basis. The Board notes that the task specific environmental training, Modules 4 to 7, are required to be renewed every three years and a review of records

indicated that all SET-PTC employees are current with this training.

With respect to the assurance of contractor competence, SET-PTC staff indicated that this is being managed and assured by a third party service provider, ISNetworld (ISN) on its behalf. The interview indicated that ISN primarily manages safety histories, insurance and workman's compensation issues of contractors and does not evaluate the technical competency of the contractors. Operations staff also indicated that a post-job evaluation is conducted on the contractor upon completion and, if the review is unsatisfactory, this information is put on the contractor's file. As the company was unable to provide records of these evaluations or confirm that this practice was being implemented consistently, SET-PTC could not demonstrate how it ensures the competency of its contractors. It was also noted that contractors are not required to go through the OEOR training, nor do they go through a review of the various SOPs and Standards prior to commencing a job, and that SET-PTC relies solely on the contractor's professional qualifications.

Compliance Status: Non-Compliant

3.4 Communication

Expectations: The company should have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons; and
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 28, 29, 30(b), 46, 47 and 56

CSA Z662-11 Clause 3.1.2(d)

Assessment:

Upon review of SET-PTC's records and interviews with staff, SET-PTC was not able to demonstrate that it had met the Board's requirements with respect to this sub-element.

Environmental staff was able to demonstrate appropriate, on-going communication practices, procedures and activities between SET-PTC and its external stakeholders. The stakeholders involved included corporate and private individuals surrounding the facilities.

While the company was able to demonstrate the effectiveness of its communication process for sharing information between senior management and staff, there did not appear to be a communication process for the sharing of information between functional groups (i.e., pipeline integrity, EHS, etc.). As previously mentioned in this appendix, results from inspections (e.g., aerial, on the ground, etc.) that have environmental considerations are not formally shared with environmental staff. This transfer of information, whether positive or negative, would assist in confirming the environmental program is effective and could identify areas for improvement.

Compliance Status: Non-Compliant

3.5 Documentation and Document Control

Expectations: The company should have documentation to describe the elements of its management and protection programs- where warranted. The documentation should be reviewed and revised at regular and planned intervals. Documents should be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.

References:

OPR-99 Sections 27, 48 and 56
CSA Z662-11 Clauses 3.1.2(e),(f) and 10.5.1.1(d)

Assessment:

Through document and record review and interviews with staff, SET-PTC was not able to demonstrate compliance with this sub-element with respect to environmental protection.

SET-PTC demonstrated that it has a formalized process for the development, revision and management of EHS documentation. However, upon reviewing records, it was clear that this process is not consistently being followed. As one example, the SET-PTC Naturally Occurring Radioactive Materials (NORM) Standard is currently in use but has not been reviewed or updated since 2008. During interviews with SET-PTC staff, it was noted that SET-PTC has improved on its NORMs waste management practices; however, these procedural changes have not been incorporated into the Standard.

While it was evident that some operational groups are reviewing their SOPs and Standards on a regular basis, SET-PTC could not demonstrate that this was being consistently implemented across its organization.

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| <p>Compliance Status: Non-compliant</p> |
| <p>3.6 Operational Control-Normal Operations</p> <p>Expectations: The company should establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process should include measures to reduce or eliminate risks and hazards at their source, where appropriate.</p> |
| <p>References: OPR-99 Sections 27 - 49 CSA Z662-11 Clause 10.3.2</p> |
| <p>Assessment: During the audit, the company was not able to demonstrate compliance with this sub-element.</p> <p>Review of the company's implemented practices indicated that it has developed a significant amount of proceduralized controls for items contained in its provincial permits. Review of these procedures and accompanying records indicated that they were appropriate, and that they were being implemented as designed.</p> <p>However, as noted in sub-element 2.1 Hazards Identification, Risk Assessment and Control, and elsewhere, the company has significantly limited its formal environmental hazard identification and accompanying controls to its provincial permit requirements. While addressing provincial permits does address the majority of the significant issues, it does not ensure adequate control of all of the hazards, aspects and legal requirements that require attention.</p> |
| <p>Compliance Status: Non-Compliant</p> |
| <p>3.7 Operational Control-Upset or Abnormal Operating Conditions</p> <p>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 emergency events).</p> |

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| <p>References: OPR-99 Sections 32, 35 and 52 CSA Z662-11 Clauses 3.1, 3.2 and 10.5.2</p> |
| <p>Assessment: Review of SET-PTC's documents and records, as well as interviews with staff indicated that, notwithstanding the finding of non-compliance with sub-element 3.6 (Operational Control – Normal Operations), SET-PTC was able to demonstrate that it has appropriate controls to minimize, respond to, or mitigate, the environmental effects associated with upset or abnormal operating conditions of its operating processes. The formal procedures, including emergency management, that have been developed included the high-risk hazards that should be addressed. Further, it was noted that environmental-related processes and procedures included practices to be implemented if abnormal or upset conditions were detected or were occurring.</p> <p>SET-PTC was able to demonstrate that its staff is being trained and is implementing the procedures and practices as described in the documents. To further enhance their emergency management expertise, it was noted that SET-PTC employees participate in regional and national spill preparedness and response organizations.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.0 CHECKING AND CORRECTIVE ACTION</p> <p>4.1 Inspection, Measurement and Monitoring</p> <p>Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.</p> |
| <p>References: OPR-99 Sections 39, 48, 53(1) and 54(1) CSA Z662-11 Clauses 3.1.2, 10.9.2.5, 10.9.2.6 and 10.9.2.8</p> |
| <p>Assessment: SET-PTC was not able to demonstrate compliance with the Board's expectations.</p> |

During the audit, company staff indicated that there are a number of formal and informal ways that SET-PTC inspects and monitors its right-of-way and associated facilities. Document and record review, as well as interviews with staff, indicated that SET-PTC had developed and implemented appropriate monitoring and inspection practices and procedures for ensuring the safe operation of its pipeline and associated facilities. However, as noted elsewhere in this appendix, interviews with staff, and document review confirmed that the company has not developed or implemented an appropriate process for conducting the environmental portion of these inspections. It was indicated during interviews with environmental staff that bi-annual environmental inspections are completed and documented, and that necessary corrective action plans are sent to the AMT for implementation. However, in reviewing the records, these inspections have been focused on the facilities associated with the SET-PTC pipeline and do not include the ROW. The audit noted that there are various types of inspections completed by operations staff on the ROW such as pre-site inspections for new projects, annual above-ground surveys (100 km walked per year), bi-weekly aerial surveys, weekly vegetation inspections, weekly and monthly facility inspections, and quarterly valve inspections. While this list is comprehensive, SET-PTC could not consistently demonstrate that the operations staff completing these inspections is appropriately trained to assess the effectiveness of SET-PTC's EPP. In addition, records from these inspections do not clearly identify potential environmental aspects that could be observed. This could lead to certain, and significant, environmental aspects in being overlooked.

Compliance Status: Non-Compliant

4.2 Corrective and Preventive Actions

Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:

- set criteria for non-compliance;
- identify the occurrence of any non-compliances;
- investigate the cause(s) of any non-compliances;
- develop corrective and/or preventative actions; and
- effectively implement the required corrective and/or preventative actions.

The company should develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.

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| <p>References: OPR-99 Sections 6 and 52 CSA Z662-11 Clauses 3.1.2(g) and (h)</p> |
| <p>Assessment: SET-PTC was able to demonstrate, through document and record review, that it has developed and implemented appropriate incident investigation processes. SET-PTC was able to demonstrate that it has adequate processes in place to identify, develop and implement corrective and preventive actions that may be identified in its management or incident investigation processes.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.3 Records Management</p> <p>Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.</p> |
| <p>References: OPR-99 Sections 48 and 56 CSA Z662-11 Clauses 3.1, 9.11, 10.4 and 10.5.1.1</p> |
| <p>Assessment: During the audit, the company was not able to demonstrate full compliance with this sub-element.</p> <p>While all records requested were readily retrieved, it was indicated during interviews that the company lacked a formalized process for email correspondence retention. The company has established that all unfiled emails will be deleted after three months and those that have been moved to a folder are deleted after two years. Individual staff have established their personal method in ensuring that these records are maintained; however, the Board is concerned that, without a formal filing process, certain email correspondence which contain compliance information may be deleted and not easily accessible in the event of an investigation.</p> |
| <p>Compliance Status: Non-Compliant</p> |

4.4 Internal Audit

Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying out the audits. These audits shall be conducted on a regular basis.

References:

OPR-99 Sections 53 and 55
CSA Z662-11 Clauses 3.1.2(c) and (h)(iii)

Assessment:

During the audit the company demonstrated that it has two processes for conducting audits of its facilities. These processes were implemented by staff from Calgary, Alberta or in its head office in Houston, Texas. Interviews with the company indicated that the internal audits are completed to confirm program compliance and would not necessarily confirm legislative compliance. The Board examined these processes, and management thereof, and has determined the company would meet the Board's requirements provided that the EPP was in compliance.

During the audit, the company provided copies of internal audits conducted by its Houston-based EHS auditing group. Review of the internal audit records indicated that an appropriate process had been developed for conducting the audit and managing the results through to implementation of the corrective action plans for noted deficiencies. However, the Board was unable to confirm that SET-PTC has conducted an internal audit on its EPP.

Also, the audit process did not meet the requirements contained in the OPR-99. The OPR-99 requires that audits be undertaken to ensure compliance with relevant portions of the *National Energy Board Act*, the OPR-99 itself, any terms and conditions of any certificate or order issued by the Board and the company's EPP. Review of the company protocols indicated that the audit did not meet these requirements. The audit protocols and results did not contain itemized lists of the regulatory or certificate requirements, nor did they contain appropriate audit definitions of the Board's outcome-based program requirements to evaluate against.

Compliance Status: Non-Compliant

5.0 MANAGEMENT REVIEW

5.1 Management Review

Expectations: Senior management should formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.

References:

OPR-99 Section 55
CSA Z662-11 Clause 3.1.2(h)(iii)

Assessment:

Interviews and record reviews indicate that the EPP undergoes regular review by SET-PTC's area management, operations management and senior management teams. SET-PTC's senior management also holds meetings on a regular basis at different field locations to evaluate the operations of the pipeline and associated facilities.

While the Board acknowledges review of the EPP by senior management, based on the non-compliances identified in sub-elements 3.1 and 4.4, the Board is not satisfied that management review has been undertaken with a view to ensuring the EPP's continuing suitability, adequacy and effectiveness. The Board views compliance and findings for these sub-elements to rest with senior management. The Board expects senior management to ensure and demonstrate that there are appropriate human resources to operate its pipeline system. Further, the Board is of the view that senior management is responsible to ensure that the EPP is audited and internal inspections are completed on a regular basis.

Also, as previously mentioned in sub-element 2.1, the OSC Risk Watch report for SET-PTC is used "to identify, communicate and manage technical risks, including Personal Safety, Process Safety, Reliability and Regulatory Risks. Goal is ZERO incidents with loss." The Board is concerned about the lack of environmental focus in the program's objective which could lead to significant environmental risks/issues in being overlooked. In reviewing the risk assessment and the results of this process for the 2012 SET-PTC Risk Watch, it is clear that the highest risks are associated with potential business continuity issues (i.e., integrity of the system) whereas other risks, such as known environmental issues, are assessed a lower risk ranking. The Board views the safety of the public, and those people working in or around this pipeline system, of the utmost importance. However, known environmental issues, such as the potential risk of contamination to a groundwater supply, are equally important in ensuring the safety of the public and should have

the same risk assessment rigor applied.

As referenced in sub-element 2.3 this appendix, effort has been put forth by senior management to track and measure performance related to permit non-compliances. This includes having this measure built into the company's performance pay system (STIP). NEB AVCs have since been added to the company scorecard; however, no targets have been established for which the company can measure performance. Board or Inspection Officer Orders are not be tracked nor could SET-PTC demonstrate in the audit that these enforcement actions are discussed at the senior management level.

Compliance Status: Non-Compliant

APPENDIX IV
SPECTRA ENERGY MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA ENERGY
EMPRESS L.P. (SET-PTC)
EMERGENCY MANAGEMENT PROGRAM AUDIT EVALUATION TABLE

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| <p>1.0 POLICY AND COMMITMENT</p> <p>1.1 Policy and Commitment Statements</p> <p>Expectations: The company shall have a policy approved and endorsed by senior management (the Policy). It should include goals and objectives and commit to improving the performance of the company.</p> |
| <p>References:⁷</p> <p>OPR-99 Sections 4, 47 and 48 CSA Z662-11 Clause 3.1.2 (a)</p> |
| <p>Assessment:</p> <p>SET-PTC is part of the SET-West management structure, and as such, is covered by SET-West’s governance practices and policies.</p> <p>SET-PTC provided an adequate and up-to-date corporate Environment, Health and Safety Policy which meets the Board’s expectations. The Policy statement and accompanying documentation outline SET-West’s (and SET-PTC’s) management principles and clear program objectives. The Emergency Management Program (EMP) is guided by these documents. The review of SET-West’s overarching Emergency Management (EM) Manual indicated that the SET-PTC has developed EM-specific policy documents which build on the corporate policy documents. All staff members interviewed were aware of the existence and content of the appropriate policy documents.</p> |
| <p>Compliance Status: Compliant</p> |

⁷ Each “Reference” in this table contains specific examples of the “legal requirements” applicable to each element but are not necessarily a complete list of all applicable legal requirements.

2.0 PLANNING

2.1 Hazards Identification, Risk Assessment and Control⁸

Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company should assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company should be able to implement control measures to minimize or eliminate the risk.

References:

OPR-99 Sections 4, 33, 37, 39, 40, 47 and 48
CSA Z662-11 Clause 3.1.2(f),

Assessment:

During review of SET-PTC's EM manuals and interviews with staff, the company was able to demonstrate that it had identified and risk-assessed the hazards associated with its facilities. SET-PTC demonstrated that it had developed and implemented processes for the identification of its EM planning zones (EPZ) associated with the hazards posed by its pipeline and associated NEB regulated facilities. SET-PTC staff demonstrated that the hazard identification processes and EPZ were being utilized in the development of its other EM-related activities including its awareness, continuing education and liaison programs.

The SET-PTC facilities include other non-NEB regulated facilities such as truck loading, storage caverns and rail facilities. The EM hazards associated with these facilities were not evaluated on an individual basis or included in the Board's audit scope.

Compliance Status: Compliant

⁸ Hazard: Source or situation with a potential for harm in terms of injury of ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

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| <p>2.2 Legal Requirements</p> <p>Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements which includes updating the management and protection programs as required.</p> |
| <p>References:</p> <p>OPR-99 Sections 4, 6, 32, 40, 47 and 48</p> |
| <p>Assessment:</p> <p>EM development and implementation is centralized in SET-West's offices in Fort Saint John, British Columbia (BC). For clarity, these staff are referred to within this report as SET-West EM staff, where appropriate.</p> <p>Through record and document review, SET-West EM staff demonstrated that the company has developed and implemented adequate processes and activities for the identification and integration of the legal requirements related to its EM obligations.</p> <p>Further, the company is actively involved in the development and improvement of the various technical standards utilized by industry. This demonstrates SET-PTC's commitment to not only meeting its requirements, but also attempting to improve safety and response practices.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>2.3 Goals, Objectives and Targets</p> <p>Expectations: The company should have goals, objectives and quantifiable targets relevant to the risks and hazards associated with the company's facilities and activities (i.e. construction, operations and maintenance). The objectives and targets should be measurable and consistent with the Policy and legal requirements and ideally include continual improvement and prevention initiatives, where appropriate.</p> |
| <p>References:</p> <p>OPR-99 Sections 40, 47 and 48 CSA Z662-11 Clause 3.1.2(h)(ii)</p> |
| <p>Assessment:</p> <p>SET-PTC staff and SET-West EM staff were able to demonstrate compliance with this sub-element through documentation and records</p> |

provided to the Board's auditors. SET-West's corporate emergency management manual contains clear objectives for the EM program. SET-PTC sets annual targets related to its exercise program on an annual basis.

As well, review of SET-West's and SET-PTC's EM exercise documentation and records indicates that specific objectives are set, measured and managed for each exercise conducted. Similarly, staff provided documents and records indicating that SET-PTC routinely sets and measures objectives associated with its interactions with other response agencies.

Compliance Status: Compliant

3.0 IMPLEMENTATION

3.1 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company should have clear roles and responsibilities, which may include responsibilities for the development, implementation and management of the management and protection programs.

References:

OPR-99 Sections 40, 47 and 48
CSA Z662-11 Clauses 3.1.2 (b) & (h) and 10.5.2.4

Assessment:

SET-PTC was not able to demonstrate compliance with respect to organizational structure.

During document review and subsequent interviews with SET-PTC staff, there were questions regarding the long-term viability of the organizational structure as it relates to EM and awareness activities. While SET-PTC staff demonstrated that appropriate EM specialist support was available within the overall SET-West structure; the same could not be demonstrated for staff responsible for awareness, continuing education and liaison activities. It was identified that one of the two staff responsible for awareness, continuing education and liaison activities had recently departed the company. In reviewing the responsibilities left to the remaining staff member, it was noted that this individual would be responsible for an area spanning from Burstall, Saskatchewan (SK) through to Fort Whyte, Manitoba. As well, this staff member would be responsible for ensuring that 2000 resident, municipal and first responder contacts were undertaken on a three-year rotational basis, and that multiple third-party education activities would be undertaken on an annual basis. When questioned about the feasibility of this arrangement, the company was unable to demonstrate by way of a formal evaluation that the remaining resource would be adequate. The regional breadth and the responsibilities do not appear to correspond to

the staffing level. SET-West management provided some supporting documentation indicating that an evaluation of its organizational structure had been undertaken in 2012; however, review of this documentation indicated that it was focused on the management resourcing and structure.

Given that the staff resource loss occurred recently, the audit identified that SET-PTC had not yet fallen behind in its EM and Safety activities; however, as per CSA Z662-11, companies are required to demonstrate that they have an adequate organizational structure to support their safety and loss management systems. This issue is further described within sub-element 3.1 of the Crossings and Public Awareness Program Audit Evaluation Tables found in Appendices V and VI of this report.

With respect to EM specialist support, SET-PTC staff were able to demonstrate compliance with this sub-element through documentation and records provided to the Board's auditors. While SET-PTC was not able to demonstrate that it has a formal and repeatable process for evaluating the adequacy of its staff compliment in preparing for and responding to an emergency, the company was able to demonstrate that it currently has an adequate organizational structure and resourcing levels for its SET-PTC pipeline.

SET-PTC has:

- developed a compliment of facility emergency response plans (FERP);
- four dedicated emergency response professionals on staff;
- participated actively in industry committees and standard development; and
- undertaken a significant volume of work related to emergency response exercises and drills.

Further, SET-West and SET-PTC staff demonstrated that senior management routinely seeks information regarding EM professional resourcing. However, SET-West is advised that the updated OPR-99 presently in the parliamentary review process require companies to develop, implement and demonstrate formal resourcing management practices. Further, while present resourcing levels appear adequate, SET-West's proposed pipeline facilities related to the LNG expansion in BC, and the recent acquisition of the Board-regulated Express Pipeline, will require on-going monitoring and management of it operational resourcing across its systems, including SET-PTC.

Through document and record review, as well as interviews with staff, SET-West and SET-PTC were able to demonstrate compliance with respect to the Board's expectations regarding roles and responsibilities.

SET-PTC provided roles and responsibility statements and documents for all staff involved in the management, development and implementation of the EM programs. All company staff interviewed were able to clearly demonstrate knowledge of their involvement and expectations with the management of the program.

Companies must be able to demonstrate that they have a clearly defined organizational structure including documented roles and responsibilities for all staff who could be involved during an actual emergency (this differs from the internal company organization which organizes the company's day-to-day activities). SET-PTC was able to demonstrate that it meets the requirements with respect to having an appropriate EM structure including appropriately defined roles and responsibilities for staff involved in a response. The auditors reviewed EM response organization charts, role and responsibility statements and job descriptions. SET-PTC demonstrated that it trains its staff in the formal Incident Command System (ICS) at the BC Justice Institute. ICS is an internationally recognized organizational system for providing oversight and management of emergencies. SET-PTC staff receive ICS 100 through 300 training dependant on expected roles. As well, SET-PTC has developed formal documentation outlining its senior management-related roles and provided training on same.

While SET-PTC was able to demonstrate that it has developed an appropriate EM structure for application at its facilities it was not able to demonstrate that the level of resourcing of its program with respect to its awareness/liaison/continuing education activities was appropriate. This sub-element has therefore been assessed as Non-Compliant.

Compliance Status: Non-Compliant

3.2 Management of Change

Expectations: The company shall have a management of change program. The program should include:

- identification of changes that could affect the management and protection programs;
- documentation of the changes; and
- analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements.

References:

OPR-99 Section 6
CSA Z662-11 Clause 3.1.2(g)

Assessment:

During the audit of this sub-element, it was identified that SET-PTC follows the common SET-West corporate practices for management of this requirement. The evaluation therefore references SET-West in the record.

SET-West staff demonstrated that it has a formal process and dedicated staff for managing changes to its assets. However, SET-West's management of change (MOC) process, as demonstrated, is not considered compliant as it applies only to physical (asset) changes and not to changes required in practices or procedures that could result from:

- changes to legal requirements;
- changes to industry standards or practices;
- the identification of new hazards; or
- results of monitoring, inspections or investigations.

Further, SET-West's MOC process only manages change on a reactive basis (i.e., changes once the need has been identified). The Board expectation is that company MOC processes be proactive and formally linked to processes for the identification of changes that could affect the management and protection programs (e.g., Integrity Management, Safety, Environmental Protection, Emergency Management Programs, etc.).

With respect to the EM program MOC, on a less formalized basis the SET-West EM coordinator and staff, as well as SET-PTC staff, do proactively identify and manage changes to the EM program and documentation in an adequate manner. SET-West EM staff demonstrated that internal activities such as Leave-to-Open requests, decommissioning applications, incident investigations, etc., are routinely monitored to evaluate their impact on the EM program and that changes are made where required. However, as this practice is not fully proceduralized, and given the non-compliant finding associated with the formal company-wide MOC process, this sub-element is found to be non-compliant.

SET-West EM staff provided a draft Emergency Preparedness Management System that included requirements for management of change. This was being undertaken in anticipation of the Board's updated OPR requirements and the draft findings of the NEB Processing Plant Audit Report. While not reviewed because of its draft nature, this anticipatory work was viewed as a positive practice.

Compliance Status: Non-Compliant

3.3 Training, Competence and Evaluation

Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the

requirements. The company should determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 28, 34, 35, 46 and 56
CSA Z662-11 Clauses 3.1.2(ii) and 10.5.2.4

Assessment:

Through document and record review, as well as interviews with staff, SET-PTC was able to demonstrate compliance with this sub-element.

EM development and implementation is centralized in SET-West's offices in Fort Saint John, BC. For clarity, these staff are referred to within this report as SET-West EM staff, where appropriate. Further, SET-West has an EM specialist based in Edmonton, Alberta who specifically provides technical support with respect to the EM program and training.

The Board's auditors were able to review documented SET-West EM training requirements that were appropriate for the SET-PTC facilities audited.

The EM training program was being monitored on a regular basis by the SET-West EM coordinator, the SET-West Operations Steering Committee, and other senior SET-PTC management. SET-PTC staff receive EM information, guidance and training starting with the employee induction process and continuing throughout their employment with SET-PTC. As noted above in sub-element 3.1 Organizational Structure, Roles and Responsibilities, staff and management receive training in formal incident command practices and procedures which allows for an integrated response (with other first responders) utilizing a common, standardized structure. The Board's auditors were provided copies of SET-West's EM training handbooks and knowledge checklists used by instructors to ensure consistent learning practices.

EM training and competency requirements include, in addition to knowledge-based training for company personnel, the need to demonstrate an ability to respond to the various emergencies that may occur at the facilities. As well, the company must demonstrate that it has developed a program of continuing education and awareness for other first responders who may attend or manage emergencies involving the regulated facilities. The auditors were able to view documents and records detailing robust and all-inclusive continuing education, awareness and exercise programs involving SET-PTC and SET-West staff, local (e.g., municipal, fire and police

staff) as well as regional responders, and mutual aid organizations and companies. The records indicated that the company was conducting well-attended, regular, planned exercises with clear program, learning and coordination objectives. Further, SET-West has added 100% completion of the EM training and exercise programs to the Short-Term Incentive Pay (STIP) structure. Review of SET-PTC records indicated a 100% completion record with the final records for the year indicating staff attending the activities from all regions to assure target completion.

Additionally, review of records associated with the continuing education and awareness programs indicated that SET-PTC included post-activity review and learn exercises, which resulted in improvements to company plans, processes and procedures, where required.

The Board notes that, while this sub-element is presently found to be compliant, long-term compliance is jeopardized by not having a formal resource requirements review process to address the potential issues associated with recent staff departures. Also see sub-element 3.1 Organizational Structure, Roles and Responsibilities above.

Compliance Status: Compliant

3.4 Communication

Expectations: The company should have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons;
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 28, 29, 33, 34 and 35
CSA Z662-11 Clauses 3.1.2(d), 10.5.2.2 and 10.5.2.3

Assessment:

SET-PTC was not able to demonstrate compliance with this sub-element.

The company was able to demonstrate that it employs many methods for communicating its EMP with its internal and external stakeholders. Staff is provided with information regarding EM and health, safety and environment practices during induction

activities, and throughout an employee's tenure during employee competency training, safety meetings, EM exercises and drills, and routinely as part of the on-line information practices. Documents reviewed indicated that two-way communication of EM information was routinely being undertaken between and across all levels of the organization.

EM staff was also able to demonstrate appropriate, on-going communication practices, procedures and activities between SET-PTC and its external stakeholders. The stakeholders involved included:

- corporate and private individuals within the various planning zones;
- municipalities;
- responder agencies;
- provincial and federal organizations; and
- mutual aid partners.

Stakeholder communication practices were documented and, where applicable, included checklists and guidance for staff to ensure that critical information was being provided. Further, EM staff provided records indicating that SET-PTC undertakes internal and external effectiveness reviews of its communication, and awareness programs and activities. SET-PTC staff provided evidence of the formal review of the results of the surveys, and the implementation of corrective and preventive actions as well as suggested process improvements which were identified in the records.

Only one non-compliant issue was noted during the Board's audit of this sub-element. During the review of SET-PTC gas control notification process used by the public or internal parties to report a potential incident, it was noted that the procedure did not include standardized formal safety messaging to ensure the on-going safety of the caller. SET-PTC EM staff agreed that this would result in a better practice and indicated that they would begin the development of an updated practice regardless of this audit and reporting schedule. Although improvements were discussed, at the time of the audit, Westcoast failed to demonstrate the standardized formal safety messaging required.

Compliance Status: Non-Compliant

3.5 Documentation and Document Control

Expectations: The company should have documentation to describe the elements of its management and protection programs where warranted. The documentation should be reviewed and revised at regular and planned intervals. Documents should be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.

References:

OPR-99 Sections 27 and 32
 CSA Z662-11 Clauses 3.1.2(e) and 10.5.2.3

Assessment:

Through document and record review as well as interviews with staff, SET-PTC was able to demonstrate compliance with this sub-element with respect to EM.

SET-PTC provided copies of its EM manuals, plans and responder handbooks for review by the Board's auditors. SET-PTC and SET-West has developed appropriate documentation for the communication, development, implementation and management of its EM program, and for responding to and managing its potential emergencies.

EM staff demonstrated processes for ensuring that all critical EM documentation (EM plans, procedures, etc.) was being regularly and formally reviewed, and revised on an on-going basis. EM manuals and plans are kept in electronic format on SET-West's (and SET-PTC's) internal intranet site, and in paper format using controlled documentation practices.

Review of the documentation and associated records indicated that SET-PTC has been implementing its document management procedures on an on-going basis.

Compliance Status: Compliant

3.6 Operational Control-Normal Operations

Expectations: The company should establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process should include measures to reduce or eliminate risks and hazards at their source, where appropriate.

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| <p>References: N/A</p> |
| <p>Assessment: By definition, EM controls are considered to be controls for managing and responding to upset or abnormal operating conditions. Accordingly, the audit results for the entire EM program, including proactive activities and documentation such as training, etc. will be documented in sub-element 3.7 Operational Control-Upset or Abnormal Operating Conditions, below.</p> |
| <p>Compliance Status: N/A</p> |
| <p>3.7 Operational Control-Upset or Abnormal Operating Conditions</p> <p>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 emergency events).</p> |
| <p>References: OPR-99 Sections 32, 35 and 52 CSA Z662-11 Clauses 3.1.2(e) and 10.5.2</p> |
| <p>Assessment:</p> <p>Through document and record review, as well as staff interviews, SET-PTC demonstrated that it has a number of controls for addressing the hazards and risks associated with upset conditions. The primary controls used by SET-PTC and SET-West are the proactive development and implementation of its corporate Spectra Energy EM Manual and site-specific SET-PTC FERP. These documents contain descriptions of the potential incidents and hazards caused by emergencies across SET-PTC's system. These documents also include:</p> <ul style="list-style-type: none"> • descriptions of the hazardous products and associated emergency planning zones; • immediate actions to be taken in the case of an incident; • the various roles and responsibilities of staff and responders during an incident; • reporting and communication requirements and information; and |

- other information related to the incidents.

SET-PTC also provided copies of its First Responder Handbook, for review, which is a focused and condensed version of the EM Manual for use by field staff as a resource document in the event of an incident. This document was evaluated as being fit for purpose.

Review of the EM Manual and FERP indicated that they were well organized, up-to-date and contained all of the practices associated with each individual hazard. Further, review of the SET-PTC facilities including potential hazards, consequences and geographical influences compared against the FERP, indicated that the plan reflected appropriate geographical regionalization and the product hazards.

Compliance Status: Compliant

4.0 CHECKING AND CORRECTIVE ACTION

4.1 Inspection, Measurement and Monitoring

Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.

References:

OPR-99 Sections 36, 39, 47, 48 and 53(1)
CSA Z662-11 Clauses 3.1.2(h)(i) & (ii), and 10.5.2.4

Assessment:

Through document and record review, as well as during interviews with staff, SET-West and SET-PTC were able to demonstrate that the development and implementation of the EM program was being adequately monitored. SET-PTC provided records of review by program and senior managers with respect to the development of documents, training and competency, mutual aid agreements,

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| <p>exercises, awareness programs, etc. SET-PTC also has procedures requiring formal evaluations for training, exercises, investigations and responses. SET-West provided records of the implementation of these procedures for SET-PTC. SET-West also presented for SET-PTC records indicating follow-through to close-out of issues requiring changes.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.2 Corrective and Preventive Actions</p> <p>Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:</p> <ul style="list-style-type: none"> • set criteria for non-compliance; • identify the occurrence of any non-compliances; • investigate the cause(s) of any non-compliances; • develop corrective and/or preventative actions; and • effectively implement the required corrective and/or preventative actions. <p>The company should develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.</p> |
| <p>References: OPR-99 Sections 6 and 52 CSA Z662-11 Clauses 3.1.2(h)(i)</p> |
| <p>Assessment: SET-West and SET-PTC EM staff were able to demonstrate through document and record review that they have developed and implemented appropriate incident management and investigation processes. SET-PTC was also able to demonstrate that it has adequate processes in place to identify, develop and implement corrective and preventive actions that arise from its management or incident investigation processes.</p> |
| <p>Compliance Status: Compliant</p> |

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| <p>4.3 Records Management</p> <p>Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.</p> |
| <p>References: OPR-99 Sections 32, 47, 48, 52 and 56 CSA Z662-11 Clause 3.1.2(e)</p> |
| <p>Assessment: Records relating to the EMP were retained in the regional offices in Charlie Lake, BC. Document review confirmed that the company had record retention processes in place that include appropriate types of records to be retained, retention timeframes and disposal methods. All records requested were readily retrieved.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.4 Internal Audit</p> <p>Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying out the audits. These audits shall be conducted on a regular basis.</p> |
| <p>References: OPR-99 Sections 53 and 55 CSA Z662-11 Clause 3.1.2(h)(iii)</p> |
| <p>Assessment: While the EM manager and other senior staff at SET-PTC and SET-West closely monitor the EM Program, the company did not present information indicating that an adequate audit of the EM program, either on a stand-alone basis or in conjunction with either Safety and/or Environmental Protection Program audits, had been completed.</p> |

In response to the Draft Audit Report, SET-PTC stated that, in 2011, Spectra Audit Services conducted an audit of Crisis Management, and that an internal Operations Assurance review of Emergency Preparedness was conducted in Q4, 2012. During the audit, the information referenced in SET-PTC's response was brought forward by SET-PTC's emergency management staff; however, it was determined that the Crisis Management audit would not meet the Board's regulatory requirements as it did not measure compliance pursuant to sections 53 and 55 of OPR-99.

SET-West and SET-PTC did demonstrate that they have a number of audit programs applicable to their facilities. These programs were implemented by staff from Calgary, Alberta, or the head office in Houston, Texas. The Board examined these processes and their management, and has determined that they would meet the Board's requirements if applied appropriately.

Compliance Status: Non-Compliant

5.0 MANAGEMENT REVIEW

5.1 Management Review

Expectations: Senior management should formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.

References:

OPR-99 Section 55
CSA Z662-11 Clause 3.1.2(h)(iii)

Assessment:

Interviews and record reviews indicate that the EM Program undergoes regular review by SET-PTC and SET-West's senior management starting at the EM Manager through to the president of the company. SET West's senior management also holds meetings on a regular basis at different field locations to evaluate the operations of the individual facilities and to provide leadership at the facility level. SET-PTC is demonstrating its management commitment to the EM program by assigning value to its activities by attaching STIP measures to four of its activities including development and maintenance of FERP, completion of training and exercise

requirements, and implementation of the liaison and awareness programs.

While the Board acknowledges the involvement in and review of the EM Program by SET-PTC senior management, based on the non-compliances identified in sub-elements 3.1 and 4.4, the Board is not satisfied that management review has been undertaken with a view to ensuring the continuing suitability, adequacy and effectiveness of the EM Program. The Board views compliance with this sub-element to rest with senior management. Further, the Board views the development and implementation of an audit program compliant with sections 53 and 55 of OPR-99 to be a key demonstration of the adequacy of SET-PTC's programs.

Compliance Status: Non-Compliant

APPENDIX V
SPECTRA ENERGY EMPRESS MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA
ENERGY EMPRESS L.P. (SET-PTC)
CROSSINGS PROGRAM AUDIT EVALAUTION TABLE

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|---|
| <p>1.0 POLICY AND COMMITMENT</p> <p>1.1 Policy and Commitment Statements</p> <p>Expectations: The company shall have a policy approved and endorsed by senior management (the Policy). It should include goals and objectives and commit to improving the performance of the company.</p> |
| <p>References:⁹ OPR-99 Sections 4, 47 and 48 CSA Z662-11 Clause 3.1.2</p> |
| <p>Assessment:</p> <p>The PTC Pipeline has been operated by SET-PTC since 2005 and adheres to the Spectra Energy Transmission West (SET-West) environment, health and safety (EHS) policies and procedures. SET-West senior management participates in several committees that oversee the development and implementation of the policies that frame the EHS program. For the purposes of this audit, the SET-PTC’s third party crossings program (Crossings Program) is considered to be part of its Safety Program. The Safety Policy present at the field locations is signed off on by senior management. SET-PTC management communicates the policy for EHS programs through an Operational Steering Committee (OSC).</p> <p>A review of the Policy states:</p> <p>“To achieve our purpose we manage risk in everything we do, by continuously improving on :</p> |

⁹ Each “Reference” in this table contains specific examples of the “legal requirements” applicable to each element but are not necessarily a complete list of all applicable legal requirements.

- Employee, contractor and vehicle safety
- Process safety
- Environmental Management
- Reliability
- Cost management”

Although SET-PTC was able to demonstrate that its Policy is signed off on by senior management and communicated to employees, the audit found that a reference to public safety is not explicitly written into the purpose statement. Interviews confirmed that while staff members were familiar with the Policy, they could not identify the link between the Policy and public safety goals.

Due to the absence of public safety in the Policy, the current Policy at SET-PTC does not adequately support the Crossings Program. SET-PTC did not demonstrate that it prioritizes and mitigates the risks regarding its interactions with, and obligations to, third parties, and the public at large.

While it is understood that public safety is implied in the current policy, the heightened importance of public safety is underscored by its express reference in the *National Energy Board Act* (NEB Act) and associated regulations.

Compliance Status: Non-Compliant

2.0 PLANNING

2.1 Hazards Identification, Risk Assessment and Control¹⁰

Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company should assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company should be able to implement control measures to minimize or eliminate the risk.

References:

OPR-99 Sections 4(2), 37, 39, 40 and 41

CSA Z662-11 Clause 3.1.2(f)

Assessment:

As third party damage is considered a hazard, properly administered crossing applications and locates for third parties are crucial to protecting the pipeline from unintended third party damage.

SET- PTC uses a “Risk Watch” document to prioritize hazards to the pipeline system using criteria, and a progressive colour coding system (‘red-yellow-green’). Authored and managed by the SET-PTC Integrity Group, the Risk Watch lists the operational hazards and does not include hazards posed by third party activity. The Risk Watch process is owned by Operations engineering. The OSC discusses the risks, and then applies criteria to rank risks as red-yellow-green. Third party related activities are not incorporated into the Risk Watch. Instead, the hazard identification for third party crossing activity is incorporated and captured in the application approval process and safety instructions are outlined in crossing agreements.

Third party crossing requests for the PTC pipeline come into the SET-PTC Richardson Station office via facsimile from Saskatchewan First Call. The Business Analyst makes the required copies and passes all requests to the Public Awareness Coordinator for analysis.

¹⁰ Hazard: Source or situation with a potential for harm in terms of injury of ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

Based on this assessment, the applications that require engineering assessments are passed to the Integrity Group to complete the permit for the crossing. According to staff, the majority of the crossing requests it receives are in relation to another pipeline that runs parallel in a shared right-of-way. The technicians conduct pre-job safety meetings to discuss any hazards, and PTC staff is onsite for the crossing.

SET-PTC was able to demonstrate that it has implemented a process to identify and evaluate the hazards associated with third party crossings.

Compliance Status: Compliant

2.2 Legal Requirements

Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements which includes updating the management and protection programs as required.

References:

OPR-99 Sections 4 and 6

Pipeline Crossing Regulations (PCR) Part II Sections 4 and 5

CSA Z662-11 Clause 3.1.2(h)(i)

Assessment:

SET-PTC receives legal updates requirements through the Regulatory Affairs group. The Regulatory Affairs group communicates regulatory changes via email to all groups. It is then up to the recipients on the distribution list to identify any changes that are relevant to their respective operational processes. According to staff, the Regulatory Affairs group also confirms deadlines for regulatory compliance such as the requirements of the NEB Exemption Order Respecting Crossings by Agricultural Vehicles or Mobile Equipment (Order). Document review showed that the legal requirements inventory kept at the SET-PTC office was last updated in 2009. There was no indication that recent updates, including those updates to the NEB Act or the Order, were identified and

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| <p>incorporated into this legal requirements inventory.</p> <p>While the company was able to demonstrate that communication of regulatory requirements is occurring, and that current personnel are incorporating some new legal requirements into the procedures, SET-PTC did not demonstrate that there was an effective process to verify whether all appropriate legal requirements were incorporated into procedures and implemented as required.</p> |
| <p>Compliance Status: Non-Compliant</p> |
| <p>2.3 Goals, Objectives and Targets</p> <p>Expectations: The company should have goals, objectives and quantifiable targets relevant to the risks and hazards associated with the company's facilities and activities (i.e. construction, operations and maintenance). The objectives and targets should be measurable and consistent with the Policy and legal requirements and ideally include continual improvement and prevention initiatives, where appropriate.</p> |
| <p>References:</p> <p>OPR-99 Sections 47 and 48</p> <p>CSA Z662-11 Clause 3.1.2(b)</p> |
| <p>Assessment:</p> <p>Third party crossing activity goals are included under the Safety Program goals. SET-PTC sets performance based goals at various levels of the organization at annual area planning meetings. These goals are approved by the Operations Management System (OMS) Manager. An example of an annual corporate goal this year was for 100% of staff to complete core training by October 31. The goals and targets for employees are established in the employee development plans and monitored through a performance management process. Individual employee goals are then tied to the organization-wide Short Term Incentive Pay (STIP) Program.</p> <p>According to the SET-PTC management, goals are set at the area planning meetings for the year that are related to its programs and risks. The PTC pipeline technicians also set a goal of completing a depth of cover survey for the whole pipeline in five years.</p> |

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| <p>SET-PTC was able to demonstrate that there is a process for establishing goals, targets and objectives for its safety programs including its Crossings Program.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>3.0 IMPLEMENTATION</p> <p>3.1 Organizational Structure, Roles and Responsibilities</p> <p>Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company should have clear roles and responsibilities, which may include responsibilities for the development, implementation and management of the management and protection programs.</p> |
| <p>References:</p> <p>OPR-99 sections 40, 47 and 48 CSA Z662-11 Clauses 3.1.2(b) and (c)</p> |
| <p>Assessment:</p> <p>SET-PTC has seven staff members that perform a variety of crossing and facility maintenance activities. These staff report directly to the SET-PTC manager at the Richardson Station office in Saskatchewan. Although there has been an increase in crossing and facility maintenance activity with the construction of a major pipeline in close proximity to the PTC pipeline, PTC brings in contractors to assist with the increased workload with respect to crossing applications.</p> <p>SET-PTC demonstrated that it has an organizational structure that allows it to effectively address the risks and hazards associated with the workload for the Crossings Program.</p> |
| <p>Compliance Status: Compliant</p> |

3.2 Management of Change

Expectations: The company shall have a management of change program. The program should include:

- identification of changes that could affect the management and protection programs;
- documentation of the changes; and
- analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements.

References:

OPR-99 section 6, CSA-Z662-11 Clause 3.1.2(g)

Assessment:

SET-West is in the process of implementing a comprehensive Management of Change (MOC) process for all SET-West affiliates, including SET-PTC. Interviews confirmed that SET-PTC will implement the MOC process being developed and implemented as part of the new OMS being introduced by SET-West to SET-PTC. The SET-West *MOC Descriptions of Affected Applications, Systems, Documentation and Processes* did not include the circumstances for involving the SET-PTC Crossing Program in the MOC process. Although there are aspects of a functioning asset-based MOC, and a more developed MOC is in development, at the time of the audit, SET-PTC failed to demonstrate that it has a comprehensive MOC implemented that includes process, resource or regulatory triggers to include an impact assessment of these changes on the Crossings Program.

Compliance Status: Non-Compliant

3.3 Training, Competence and Evaluation

Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the requirements. The company should determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management

procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 28, 29, 30(b), 46, 47, 48 and 56

CSA Z662-11 Clause 3.1.2(c)(iii)

Assessment:

SET-PTC staff confirmed in interviews that they attend training that is tracked through the Learning Management System (LMS). All mandatory training is entered in the LMS database and the LMS notifies staff when re-training is due. Training required for the SET-PTC pipeline technicians includes both internally provided online training courses, as well as externally provided training for the locate equipment. As well, all employees involved in emergency response have Incident Command training. Annual performance reviews and staff development plans are managed in the Career Zone database and linked to the STIP Program.

Along with the core safety training, which all employees receive online, interviews confirmed that the SET-PTC pipeline technicians' mandatory training includes Ground Disturbance Level I and II courses, all in order to conduct, supervise and inspect pipeline crossings. In order to perform pipeline locates for third parties, the pipeline technicians attend training provided by the locate equipment manufacturer to ensure that they are able to properly use and maintain the equipment.

While SET-PTC was able to demonstrate that it manages core skill training for staff involved in third party crossings, this training for pipeline technicians does not however, include training related to working with third parties.

As there is potential for the pipeline technicians to encounter third parties during various types of crossing-related activity, the audit determined that the pipeline technicians require training under the SET Violence in the Workplace policy, and related procedures for dealing with the public when interaction occurs.

Compliance Status: Non-Compliant

3.4 Communication

Expectations: The company should have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons;
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 18, 28 and 29

CSA Z662-11 Clause 3.1.2(d)

PCR Part II Sections 4 and 5

Assessment:

Communication with external parties is managed in the SET-PTC Richardson Station office. SET-PTC pipeline technicians communicate with landowners regarding any proposed Operations and Management projects. SET-PTC sends letters to notify landowners of proposed upcoming work such as right of way maintenance. According to procedures, the day before the scheduled maintenance, the Pipeline Technicians contact the landowners by phone. The SET-PTC procedure dictates that they do not enter property before obtaining written permission from the landowner.

Organization wide safety-related communication takes place during mandatory safety stand down meetings and monthly mandatory safety meetings which are delivered to all sites simultaneously. There are also less formal town hall meetings to discuss safety topics which include third party issues such as call before you dig issues and agricultural practices. Employees also receive weekly safety reports by email that are posted on the Source and emails from Public Affairs.

SET-PTC was able to demonstrate that it has established regular communication within the Crossings Program as well as triggers for

communicating with other teams such as operations and integrity. Although communication is occurring within Crossings Program, and there are triggers in place from the programs outward, SET-PTC failed to demonstrate that there is a fully implemented internal communication plan for the organization that includes the Crossings Program in order to ensure that relevant information is communicated in a timely way to internal stakeholders.

Compliance Status: Non-Compliant

3.5 Documentation and Document Control

Expectations: The company should have documentation to describe the elements of its management and protection programs- where warranted. The documentation should be reviewed and revised at regular and planned intervals. Documents should be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.

References:

OPR-99 Section 27

CSA Z662-11 Clause 3.1.2(e)

PCR Part II Sections 10 and 11

Assessment:

SET-PTC employees store and use procedures and templates that are saved on the Source website. The Damage Prevention Group has created a webpage to post all of the forms, policies and related links for their group. If changes or enhancements are made to any of the procedures or templates, the SET-West (Westcoast) Crossing Administration and Damage Prevention Group uploads the new documents and announces the new versions by email to a distribution list of SET internal stakeholders. Interviews confirmed that SET-PTC staff is aware that all SET crossing-related procedures, templates and forms are available on the Source.

Although SET-PTC staff are aware of the Source documents, record review determined that SET-PTC staff continues to use old SET-

PTC forms for locate requests and crossing records (SET-PTC locate/pre-work report). As well, review of a sample of crossing agreements showed that SET-PTC continues to use templates from its own local shared network drive and not the approved and updated SET permit templates from the Source. The use of older templates introduces the possibility that the records generated would not include or comply with recent updates to legal requirements or company program improvements. Without consistent review and updating, these forms and templates risk being inaccurate and not in compliance.

As noted in sub-element 2.2., SET-PTC did not demonstrate an effective process to verify whether all appropriate legal requirements were incorporated into procedures and implemented as required. Similarly, SET-PTC was unable to demonstrate that it has effectively implemented a document management process to ensure that when legal requirements or company standards have changed these changes are being incorporated into the forms and templates that it uses in the management of third party crossings.

Compliance Status: Non-Compliant

3.6 Operational Control-Normal Operations

Expectations: The company should establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process should include measures to reduce or eliminate risks and hazards at their source, where appropriate.

References:

OPR-99 Sections 21 and 27-49
 CSA Z662-11 Clause 3.1.2(h)
 PCR Part II Sections 4 and 5

Assessment:

Requests for permission from third parties to excavate or construct near the pipeline are managed by the Public Awareness Coordinator and the Pipeline Manager at the Richardson Station office located in Saskatchewan. Complex crossing requests that meet the criteria for an engineering assessment are forwarded to the operations team. Once the request for permission has been processed and permits granted, the SET-PTC pipeline technicians visit the site to perform the locates for third parties and explain the locate markings to ensure that the crossing or installation can proceed safely. The pipeline technicians also attend, supervise and inspect third party crossings when required for safety reasons. According to staff, the third party crossing activity has increased in the area due to

an increase in oil and gas related activity and the expansion of other pipeline systems in the area. This past year, the majority of the approximately 400 third party crossing applications came in from another pipeline company that is conducting construction and restoration work on its own right of way.

As it is required that installations or mechanical excavations in the zone that extends 30 metres from either side of the right of way to be done once written permission from the pipeline company is obtained, SET-PTC has implemented an on-site approval process. When a third party request for the installation of a facility such as a ditch or a fence comes in, and it meets the established criteria for requiring permission, but no assessment is warranted because of the distance from the pipe, SET-PTC technicians can issue onsite approval agreements to landowners/residents for installations such as fences. These agreements are kept on file at the Richardson terminal office.

Third party crossing requests along the Manitoba portion of the system are managed out of the Fort Whyte office. SET-PTC has a small staff responsible for crossing related work. As Manitoba does not have a one-call centre, any requests from third parties wishing to excavate or construct near the pipeline come in directly to the SET-PTC Fort Whyte office number. The pipeline technicians at Fort Whyte office manage between 20-30 crossing requests a year on average.

SET-PTC was able to demonstrate that it has the processes and procedures in place to manage and perform its crossing related duties.

Compliance Status: Compliant

3.7 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 emergency events).

References:

OPR-99 Sections 32, 52
CSA Z662-11 Clause 10.5.2

Assessment:

The SET-PTC Public Awareness Coordinator coordinates the continuing education aspect of the emergency response training program. The SET-PTC pipeline technicians are trained in Incident Command and participate in emergency training sessions and table top exercises. Pipeline technicians are also on-call in case of emergencies. In order to be prepared to respond to a pipeline related emergency, the pipeline technicians carry current emergency response manuals in their company vehicles, and are on-call for emergencies on a rotating schedule.

Although the SET-PTC Emergency Management Program is discussed in further detail in Appendix IV of this audit report, the overlap of duties and substantial roles played by the pipeline technicians were reviewed and found to be in compliance with the Board's regulatory expectations.

Compliance Status: Compliant

4.0 CHECKING AND CORRECTIVE ACTION**4.1 Inspection, Measurement and Monitoring**

Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.

References:

OPR 99 Sections 36 and 39
 CSA Z662-11 Clause 3.1.2 (h)(i)
 PCR Part II Sections 4, 5, 10 and 14(1)

Assessment:

The PTC pipeline is patrolled monthly by pipeline technicians who participate in the aerial right of way inspections where they look for unauthorized activities or encroachments. If any unauthorized activity is discovered, they report it to the Public Awareness Coordinator to address with the third party, and report to the NEB. Technicians in Manitoba also attend right of way patrols and are in the process of upgrading the signs and aerial markers when required. Reports are filed in the Richardson Station office.

Pipeline technicians also conduct inspections of third party crossings to ensure that safety instructions are being followed. This process also includes the inspection of the pipe prior backfilling when it is exposed during the course of a third party crossing to verify the condition of the pipe.

SET-PTC was able to demonstrate that it has the required surveillance and monitoring programs in place for the surveillance and monitoring of its right of way, as well as pipe inspections during third party crossings as required by the PCR.

Compliance Status: Compliant

4.2 Corrective and Preventive Actions

Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:

- set criteria for non-compliance;
- identify the occurrence of any non-compliances;
- investigate the cause(s) of any non-compliances;
- develop corrective and/or preventative actions; and
- effectively implement the required corrective and/or preventative actions.

The company should develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement in its management and protection programs and procedures.

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| <p>References: OPR-99 Sections 6 and 52 CSA Z662-11 Clause 3.1.2 (h)(i) PCR Part II Section 13</p> |
| <p>Assessment:</p> <p>Regulatory non-compliances in respect of a crossing program, involve unauthorized activities performed by third parties. SET-PTC conducts regular right of way inspections to monitor for unauthorized excavation and construction activities that have occurred near its pipeline without permission. All of these unauthorized activities are reportable to the NEB under the PCR. According to SET-PTC staff, unauthorized activities are managed by the Public Awareness Coordinator. The Public Awareness Coordinator also manages and documents the response using the material created for the Public Awareness Program. Record review indicates that unauthorized activities are considered to be near misses and are entered into SET-PTC's Incident Investigation System as incidents without loss and filed in the Richardson Station office in Saskatchewan.</p> <p>SET-PTC demonstrated that it is identifying, reporting and investigating unauthorized activities.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.3 Records Management</p> <p>Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.</p> |
| <p>References: OPR-99 Sections 41, 51, 52 and 56 CSA Z662-11 Clause 3.1.2(e) PCR Part II Sections 10(c), 11(1) and 16</p> |

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| <p>Assessment:</p> <p>Records related to the Crossings Program include requests for permission, on-site approval agreements, and locate requests. SET-PTC Pipeline receives locate requests from Sask First Call by facsimile. Once the locate request is received, the office administers copies and files the request and passes it to the technicians. More complex requests are passed to the SET-PTC Manager for evaluation. SET-PTC manages all locate and inspection records in hard copy at the Richardson Station office for Saskatchewan, and the Fort Whyte office in Manitoba.</p> <p>The SET-PTC Crossings Program relies on manual data entry into a spreadsheet and hard copy files in the office. According to staff, SET-PTC will be introducing an online system to improve and manage its records, which would allow for electronic access to all right of way related information from all sites.</p> <p>While the SET-PTC records management continues to be managed manually using hard copy files, it was able to demonstrate that it has a records management procedure that allows its records to be retained, maintained and retrieved in accordance with regulatory expectations and requirements</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.4 Internal Audit</p> <p>Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying out the audits. These audits shall be conducted on a regular basis.</p> |
| <p>References:</p> <p>OPR-99 Section 53 CSA Z662-11 Clause 3.1.2 (h)(iii)</p> |
| <p>Assessment:</p> <p>Senior management of Spectra Audit Services is located in Houston, Texas. However, an audit manager and several staff are located in Calgary, Alberta. Calgary-based audit staff perform most of the SET-PTC internal audits, sometimes with participation by</p> |

Houston-based audit staff. These audits occur on a regular basis and vary in size and scope. All non-compliant findings are tracked in a database and assigned to staff for completion reported to senior management. However, interviews and document review confirm that these audits are conducted to measure SET-PTC's compliance to its own internal program requirements and do not necessarily address its programs' compliance to regulatory requirements.

While aspects of the SET-PTC operations are included in the internal audits, SET-PTC was not able to demonstrate that the Crossings Program and the requirements of the PCR have been scoped into any internal operational audits.

Also it did not demonstrate that the requirements of the PCR are included in its audit protocols for the audits regarding safety of the public in order to confirm compliance.

Compliance Status: Non- Compliant

5.0 MANAGEMENT REVIEW

Expectations: Senior management should formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.

References:

OPR-99 Section 53
 CSA Z662-11 Clause 3.1.2 (h)(iii)
 PCR Part II Sections 4 and 5

Assessment:

The manager of the PTC Pipeline meets with senior management annually to discuss resources and review accountabilities. As well, interviews and document review indicate that there is regular communication SET-PTC's area management, operations management

and senior management teams. SET-PTC's senior management also holds meetings on a regular basis at different field locations to evaluate the operations of the pipeline and associated facilities.

While the Board acknowledges that there is communication occurring, SET-PTC was unable to demonstrate that it has established the required processes that contribute to an adequate management review. As noted in sub-element 2.2 of this appendix, SET-PTC does not have a formal process of confirming that there is a current and complete inventory of legal requirements guiding the development and implementation of its Crossings Program. Also, SET-PTC's internal audit process does not include an evaluation of compliance to the PCR, which outline the requirements for addressing third party activities. Without this confirmation of compliance, senior management cannot verify that the Crossings Program is operating in compliance with all of the requirements. As well, SET-PTC's policy and purpose statement does not explicitly include public safety, and so there is no clear line of sight from SET-PTC's policy to the Crossings Program. Therefore the Board is not satisfied that there are sufficient processes in place by senior management to allow for a formal and documented management review to ensure ongoing suitability, adequacy and effectiveness of the Crossings Program.

Compliance Status: Non- Compliant

**APPENDIX VI
SPECTRA ENERGY EMPRESS MANAGEMENT INC. AS GENERAL PARTNER AND AGENT FOR SPECTRA
ENERGY EMPRESS L.P. (SET-PTC)
PUBLIC AWARENESS PROGRAM AUDIT EVALUATION TABLE**

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| <p>1.0 POLICY AND COMMITMENT</p> <p>1.1 Policy and Commitment Statements</p> <p>Expectations: The company shall have a policy approved and endorsed by senior management (the Policy). It should include goals and objectives and commit to improving the performance of the company.</p> |
| <p>References:¹¹ OPR-99 Sections 4, 47 and 48 CSA Z662-11 Clause 3.1.2 (a)</p> |
| <p>Assessment:</p> <p>The PTC Pipeline has been operated by SET-PTC since 2005 and adheres to the Spectra Energy Transmission West (SET-West) environment, health and safety (EHS) policies and procedures. SET-West senior management participates in several committees that oversee the development and implementation of the policies that frame the EHS program. For the purposes of this audit, SET-PTC’s Public Awareness (PA) Program is considered to be part of its Safety Program. The Safety Policy present at the field locations is signed off on by senior management. SET-PTC management communicates the policy for its EHS program through an Operational Steering Committee.</p> <p>The Policy was available at all sites visited for the audit and staff interviews confirmed that employees are aware of its existence. The purpose statement from the 2012 Policy states:</p> |

¹¹ Each “Reference” in this table contains specific examples of the “legal requirements” applicable to each element but are not necessarily a complete list of all applicable legal requirements.

“To achieve our purpose we manage risk in everything we do, by continuously improving on:

- Employee, contractor and vehicle safety;
- Process safety;
- Environmental Management;
- Reliability; and
- Cost management.”

Although SET-PTC was able to demonstrate that its Policy is signed off on by senior management and communicated to employees; the audit found that a reference to public safety is not explicitly written into the purpose statement. Interviews confirmed that, while staff members were familiar with the Policy, they could not identify the link between the Policy and public safety goals.

Due to the absence of public safety in the Policy, the current Policy at SET-PTC does not adequately support the PA Program. SET-PTC did not demonstrate that it prioritizes and mitigates the risks regarding its interactions with and obligations to third parties, and the public at large.

While it is understood that public safety is implied in the current Policy, the heightened importance of public safety is underscored by its express reference in the *National Energy Board Act* (NEB Act) and associated regulations.

Compliance Status: Non-Compliant

2.0 PLANNING

2.1 Hazards Identification, Risk Assessment and Control¹²

Expectations: The company shall be able to demonstrate a procedure to identify all possible hazards. The company should assess the degree of risk associated with these hazards. The company should be able to support the rationale for including or excluding possible risks in regard to its environment, safety, integrity, crossings and awareness and emergency management and protection programs (management and protection programs). The company should be able to implement control measures to minimize or eliminate the risk.

References:

OPR-99 Sections 4(2), 37, 39, 40 and 41

CSA Z662-11 Clause 3.1.2 (f)

Assessment:

SET-PTC's PA Program addresses the hazards to its pipeline posed by third party activity. The Public Awareness Coordinator (Coordinator) has implemented a plan to address the hazards that have been identified in the area. The Coordinator organizes and conducts all of the public awareness activities that correspond to the risks identified, such as new farming practices or high risk activities in certain areas. The risk assessment also informs the outreach plan for the PA Program in order to plan activities to correspond to the risks.

For the Coordinator who conducts the onsite landowner visits, there are also risks and hazards associated with going alone to remote properties. In order to minimize the risks associated with resident visits such as dogs on the loose and poor driving conditions, the Coordinator contacts each resident and Emergency Planning Zone (EPZ) resident to make appointments for public awareness meetings on a three-year cycle. By making appointments, the Coordinator allows the landowners to choose a time when they will be home to reduce the likelihood of wasted trips and to secure their pets if required.

¹² Hazard: Source or situation with a potential for harm in terms of injury of ill health, damage to property, damage to workplace environment, or a combination of these. Risk: Combination of the likelihood and consequence(s) of a specified hazardous event occurring

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| <p>SET-PTC was able to demonstrate that it has developed a hazard identification process for its PA Program that includes risk assessment both for the PA Program development as well as staff protection.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>2.2 Legal Requirements</p> <p>Expectations: The company shall have a verifiable process for the identification and integration of legal requirements into its management and protection programs. The company should have a documented procedure to identify and resolve non-compliances as they relate to legal requirements which includes updating the management and protection programs as required.</p> |
| <p>References:</p> <p>OPR-99 Sections 4 and 6</p> <p>Pipeline Crossing Regulations (PCR) Part II Sections 4 and 5</p> <p>CSA Z662-11 Clause 3.1.2(h)(i)</p> |
| <p>Assessment:</p> <p>As part of the SET-West system, SET-PTC receives legal updates through the SET-West Regulatory Affairs group. The Regulatory Affairs group communicates regulatory changes via an email distribution list to all team leads. It is then up to the recipients on the distribution list to identify any changes that are relevant to their respective operational processes. According to SET-PTC staff, the Regulatory Affairs group also confirms deadlines for regulatory compliance such as the requirements of the NEB Exemption Order Respecting Crossings by Agricultural Vehicles or Mobile Equipment (Order). Document review showed that the legal requirements inventory kept at the SET-PTC office was last updated in 2009. There was no indication that recent updates, including updates to the NEB Act or the Order, were identified and incorporated into this legal requirements inventory.</p> <p>While SET-PTC was able to demonstrate that communication of regulatory requirements is occurring, and that current personnel are incorporating some new legal requirements into the procedures, SET-PTC did not demonstrate that there was an effective process to verify whether all appropriate legal requirements were incorporated into procedures and implemented as required.</p> |

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| <p>Compliance Status: Non-Compliant</p> |
| <p>2.3 Goals, Objectives and Targets</p> <p>Expectations: The company should have goals, objectives and quantifiable targets relevant to the risks and hazards associated with the company's facilities and activities (i.e. construction, operations and maintenance). The objectives and targets should be measurable and consistent with the Policy and legal requirements and ideally include continual improvement and prevention initiatives, where appropriate.</p> |
| <p>References:</p> <p>OPR-99 Sections 47 and 48</p> |
| <p>Assessment</p> <p>SET-PTC employees are subject to the goals established by SET-West. SET-West's goals often include issues related to safety and operations. For example, one of this year's corporate goals was for 100% of staff to complete the core safety training by 31 October 2012. Goals and targets for the Coordinator are established with the PTC Pipeline Manager. Then they are managed and tracked through performance management and tied to the organization-wide Short Term Incentive Pay (STIP) program.</p> <p>Goals are established for the PA Program based on the activities of the previous year. To evaluate whether the PA Program has met its targets, the Coordinator reports on the outreach activities such as number of stakeholder visits conducted, number of trade shows attended and number of attendees at its contractor safety awareness breakfasts.</p> <p>SET-PTC was able to demonstrate that there is a process for establishing goals, targets and objectives for its PA Program, and that related issues are monitored, measured, and used to form the basis of the PA Program strategy going forward.</p> |
| <p>Compliance Status: Compliant</p> |

3.0 IMPLEMENTATION

3.1 Organizational Structure, Roles and Responsibilities

Expectations: The company shall have an organizational structure that allows its management and protection programs to effectively function. The company should have clear roles and responsibilities, which may include responsibilities for the development, implementation and management of the management and protection programs.

References:

OPR-99 Sections 40, 47 and 48

CSA Z662-11 Clause 3.1.2 (b)

Assessment:

At the time of the audit, there were less than 40 employees working on the SET-PTC pipeline system. As a result of the number of staff, most employees have a wide range of responsibilities. For public awareness, there is one person who coordinates and executes the PA Program for the SET-PTC assets in Saskatchewan. Reporting to the PTC Pipeline Manager, this Coordinator's duties include conducting roughly 1500 landowner and resident visits every three years, annual contractor safety shows, as well as first responder and community liaison training in communities along the PTC pipeline. According to the job description, the Coordinator is also responsible for managing third party crossing applications and training records.

Although the Coordinator had a current job description which included all of the various responsibilities, the audit determined that SET-PTC could not demonstrate that it has a process in place to verify the ongoing suitability of the organizational structure as it applies to the PA Program. The absence of an evaluation of resources has resulted in the potential overburden of the Coordinator following a recent staff change. This past year when the Coordinator in Manitoba retired, the Saskatchewan Coordinator's duties were expanded to include all PA Program duties in Manitoba. This additional work adds approximately 900-1000 residents, additional communities and first responders who all require visits every three years and education in order for SET-PTC to remain in compliance with regulatory requirements in safety and emergency response. Without a formal review process to determine whether or not the Coordinator is able to absorb the additional responsibilities and maintain the required level of effectiveness, SET-PTC cannot ensure that the PA Program will continue to meet regulatory requirements.

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| SET-PTC failed to demonstrate that it has implemented an adequate process to assess its organizational structure to ensure the appropriate resources are in place to maintain an effective PA Program. |
| Compliance Status: Non-Compliant |
| <p>3.2 Management of Change</p> <p>Expectations: The company shall have a management of change program. The program should include:</p> <ul style="list-style-type: none"> • identification of changes that could affect the management and protection programs; • documentation of the changes; and • analysis of implications and effects of the changes, including introduction of new risks or hazards or legal requirements. |
| <p>References:</p> <p>OPR-99 Section 6 CSA Z662-11 Clause 3.1.2(g)</p> |
| <p>Assessment:</p> <p>SET-West is in the process of implementing a comprehensive Management of Change (MOC) process for all SET-West affiliates including SET-PTC. Interviews confirmed that SET-PTC will implement the MOC process being developed and implemented as part of the new Operations Management System (OMS) being introduced at SET-West. The SET-West <i>MOC Descriptions of Affected Applications, Systems, Documentation and Processes</i> document describes the circumstances for involving the PA Program in the MOC process. According to the document, the current MOC process dictates that the public awareness group is notified and evaluated for potential impacts when there are changes to the information system and databases. As it is currently an MOC triggered by changes to assets such as databases which are not in use at SET-PTC, the audit determined that there are no triggers for the MOC process to include the SET-PTC PA Program.</p> <p>Although there are aspects of a functioning asset-based MOC process being implemented for SET-PTC, and a more developed MOC process is in development, at the time of the audit, SET-PTC failed to demonstrate that it has a comprehensive MOC process implemented that includes the appropriate triggers to include the PA Program.</p> |
| Compliance Status: Non-Compliant |

3.3 Training, Competence and Evaluation

Expectations: The company shall have a documented training program for employees and contractors related to the company's management and protection programs. The company shall inform visitors to company maintenance sites of the practices and procedures to be followed. Training requirements should include information about program-specific policies. Training should include emergency preparedness and environmental response requirements as well as the potential consequences of not following the requirements. The company should determine the required levels of competency for employees and contractors. Training shall evaluate competency to ensure desired knowledge requirements have been met. Training programs should include record management procedures. The training program should include methods to ensure staff remains current in their required training. The program should include requirements and standards for addressing any identified non-compliances to the training requirement.

References:

OPR-99 Sections 28, 29, 30(b), 46, 47, 48 and 56

CSA Z662-11 Clause 3.1.2(c)(iii)

Assessment:

SET-PTC staff confirmed in interviews that they attend training that is tracked through the Learning Management System (LMS). All mandatory training is entered in the LMS database and the LMS notifies staff when refresher training is due. Training required for the SET-PTC pipeline technicians includes both internally provided online training courses, as well as externally provided training for the locate equipment. As well, all employees involved in emergency response have Incident Command training. Annual performance reviews and staff development plans are managed in the Career Zone database and linked to the STIP Program.

Due to the integration of the PA Program and the continuing education aspect of the Emergency Management Program, the Coordinator also attends training for the Incident Command system for emergency management, as well as courses to improve communication and conflict resolution skills. SET-PTC was able to demonstrate that it has a process to identify, track and maintain records on employee training. As well, SET-PTC demonstrated that staff involved in the PA Program are trained and evaluated.

Compliance Status: Compliant

3.4 Communication

Expectations: The company should have an adequate, effective and documented communication process(es):

- to inform all persons associated with the company's facilities and activities (interested persons) of its management and protection programs policies, goals, objectives and commitments;
- to inform and consult with interested persons about issues associated with its operations;
- to address communication from external stakeholders;
- for communicating the legal and other related requirements pertaining to the management and protection programs to interested persons;
- to communicate the program's roles and responsibilities to interested persons.

References:

OPR-99 Sections 18, 28 and 29

CSA Z662-11 Clause 3.1.2 (d)

PCR Part II Sections 4 and 5

Assessment:

The Coordinator conducts visits with third parties and first responders. The SET-PTC stakeholder outreach aspect of the PA Program includes presentations to various stakeholder groups where the Coordinator presents safety messages. Also, the Coordinator represents SET-PTC and works with the Saskatchewan Common Ground Alliance and Sask First-Call to organize contractor safety breakfasts, and other related trade shows to discuss general safety practices and regulatory requirements for working around federally-regulated pipelines. The SET-PTC external website also contains readily available safety and contact information. The internal communication at SET-PTC occurs informally in the office.

SET-PTC was able to demonstrate that it has established a PA Program and that it measures the effectiveness of this program on a regular basis. Although communication is occurring within the PA Program, and there are triggers in place from the program to communicate with external stakeholders, SET-PTC failed to demonstrate that there is a formal communication plan that includes the PA Program in order to ensure that relevant information is communicated in a timely way throughout the organization.

Compliance Status: Non-Compliant

3.5 Documentation and Document Control

Expectations: The company should have documentation to describe the elements of its management and protection programs- where warranted. The documentation should be reviewed and revised at regular and planned intervals. Documents should be revised immediately where changes are required as a result of legal requirements or where failure to make immediate changes may result in negative consequences. The company should have procedures within its management and protection programs to control documentation and data as it relates to the risks identified in element 2.0.

References:

OPR-99 Section 27

CSA-Z662 11 Clause 3.1.2 (e),(f)

PCR Part II Sections 10 and 11

Assessment:

The Coordinator maintains the plan for the PA Program in binders in the Richardson Station office. Copies of this document are controlled and maintained on SET-PTC's local network shared drive which is accessible to all SET-PTC employees. Standard safety and pipeline awareness presentations for the various stakeholder groups are also kept and updated on the shared drive and accessible to all SET-PTC staff.

SET-PTC was able to demonstrate that it has implemented a process to maintain and communicate the policies, procedures and documents related to its PA Program.

Compliance Status: Compliant

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| <p>3.6 Operational Control-Normal Operations</p> <p>Expectations: The company should establish and maintain a process to develop, implement and communicate mitigative, preventive and protective measures to address the risks and hazards identified in elements 2.0 and 3.0. The process should include measures to reduce or eliminate risks and hazards at their source, where appropriate.</p> |
| <p>References: OPR-99 Sections 21 and 27-49 CSA Z662-11 Clause 3.1.2(h) PCR Part II Sections 4 and 5</p> |
| <p>Assessment: SET-PTC's PA Program addresses the risks and hazards associated with third party damage. Activities associated with PA Program include resident visits, presentations to various stakeholder groups including first responders and municipalities where SET-PTC staff present safety messages related to the PTC pipeline system and projects. Also, SET-PTC works with Saskatchewan Common Ground Alliance and Sask First-Call to organize contractor safety breakfasts to promote safe practices for excavation, construction and agriculture as well as regulatory requirements for working around federally-regulated pipelines. SET-PTC was able to demonstrate that it has a PA Program that addresses the hazards and risks of its operations,- and meets the legal requirements.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>3.7 Operational Control-Upset or Abnormal Operating Conditions</p> <p>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 emergency events).</p> |
| <p>References: OPR-99 Sections 32, 52 CSA Z662-11 Clause 10.5.2.1</p> |

Assessment:

Although the SET-PTC Emergency Management Program is evaluated in more detail in Appendix IV of this report, there is significant overlap with the PA Program because the Coordinator also develops and implements the continuing education program for first responders

As part of the annual PA Program, the Coordinator conducts outreach to residents and other stakeholders with a combined message of working safely around pipelines as well as what to expect in the event of an emergency. The Coordinator assists in the communication with stakeholders including residents and first responders. Also the Coordinator supports the Emergency Response Program by obtaining and maintaining accurate resident contact information on a spreadsheet that is available to all employees on the local shared drive in case there was an emergency.

SET-PTC was able to demonstrate that its PA Program is integrated with the Continuing Education program to support the Emergency Management Program in meeting regulatory requirements.

Compliance Status: Compliant

4.0 CHECKING AND CORRECTIVE ACTION

4.1 Inspection, Measurement and Monitoring

Expectations: The company shall develop and implement surveillance and monitoring programs. These programs should address contract work being performed on behalf of the company. These programs should include qualitative and quantitative measures for evaluating the management and protection programs and should, at a minimum, address legal requirements as well as the risks identified as significant in elements 2.0 and 3.0. The company should integrate the surveillance and monitoring results with other data in risk assessments and performance measures, including proactive trend analyses. The company shall have documentation and records of its surveillance and monitoring programs.

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| <p>References:</p> <p>OPR-99 Sections 36 and 39 CSA Z662-11 Clause 10.6.1 PCR Part II Sections 4, 5, 10 and 14(1)</p> |
| <p>Assessment:</p> <p>Measuring and monitoring of the SET-PTC PA Program is done by reviewing and analyzing the responses received on feedback forms following outreach activities including landowner visits, contractor breakfasts and emergency response education sessions with first responders. By assessing the responses, the Coordinator identifies whether the stakeholders understood the material or found the awareness session useful. The Coordinator uses the feedback from stakeholders to identify improvements to the PA Program activities and awareness materials.</p> <p>SET-PTC was able to demonstrate that it conducts regular reviews its PA Program and incorporates feedback from stakeholders on an annual basis.</p> |
| <p>Compliance Status: Compliant</p> |
| <p>4.2 Corrective and Preventive Actions</p> <p>Expectations: The company shall have a process to investigate incidents or any non-compliance that may occur. The company shall have a process to mitigate any potential or actual issues arising from such incidents or non-compliances. Such mitigation may include appropriate timing and actions for addressing the issues that arise. The company shall demonstrate that it has established a documented procedure to:</p> <ul style="list-style-type: none"> • set criteria for non-compliance; • identify the occurrence of any non-compliances; • investigate the cause(s) of any non-compliances; • develop corrective and/or preventative actions; and • effectively implement the required corrective and/or preventative actions. <p>The company should develop procedures to analyze incident data in order to identify deficiencies and opportunities for improvement</p> |

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| <p>in its management and protection programs and procedures.</p> |
| <p>References: OPR-99 Sections 6 and 52 CSA Z662 11 Clauses 10.2.2 (g) & (h) and 10.14 PCR Part II Section 13</p> |
| <p>Assessment:</p> <p>For the PA Program, non-compliances in respect of the PCR involve unauthorized activities performed by third parties. SET-PTC conducts regular right of way inspections to monitor for excavation and construction activities that have occurred near its pipeline without permission from the pipeline company. All unauthorized activities are reportable to the NEB under the PCR. The Coordinator manages the reporting of and response to all unauthorized activities. The Coordinator uses the unauthorized activity reports to identify trends to address with public awareness sessions or material in the next PA Program planning cycle. Record review indicates that unauthorized activities are considered to be near misses and are entered into SET-PTC’s Incident Investigation System as incidents without loss and filed in the Richardson Station office in Saskatchewan.</p> <p>SET-PTC demonstrated that it has implemented procedures for identifying, reporting and investigating unauthorized activities. The Coordinator uses the reports of unauthorized activities to inform the PA Program on an ongoing basis. The Coordinator also conducts ‘on-demand’ public awareness presentations or workshops for parties who have conducted the unauthorized activities.</p> <p>SET-PTC was able to demonstrate that its PA Program contains an adequate process to investigate incidents and respond to non-compliances.</p> |
| <p>Compliance Status: Compliant</p> |

4.3 Records Management

Expectations: The company shall establish and implement procedures to ensure that the records supporting the management and protection programs are retained, accessible and maintained. The company shall, as a minimum, retain all records for the minimum lengths of time as required by the applicable legislation, regulation and standards incorporated by reference into the regulation.

References:

OPR-99 Sections 41, 51, 52, 56
 CSA Z662-11 Clause 3.1.2(e)
 PCR Part II Sections 10(c), 11(1) and 16

Assessment:

SET-PTC manages the records generated by its business, which are kept both on the local shared G drive, and in hard copy at the SET-PTC Richardson Station. These records include presentations, contractor safety event documents, and the Saskatchewan Canadian Gas Association records. Contact information for residents along and adjacent to the right of way is maintained in a spreadsheet on the G drive. The Coordinator confirms the accuracy of this information every three years during the landowner visits. The spreadsheet also contains any relevant notes from the last visit such as special evacuation requirements of the residents.

While the SET-PTC records management continues to be managed manually using hard copy files, SET-PTC was able to demonstrate that it has a records management procedure that allows its records to be retained, maintained and retrieved in accordance with regulatory expectations and requirements

Compliance Status: Compliant

4.4 Internal Audit

Expectations: The company shall develop and implement a documented process to undertake audits of its management and protection programs and procedures. The audit process should identify and manage the training and competency requirements for staff carrying out the audits. These audits shall be conducted on a regular basis.

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| <p>References: OPR-99 Section 53</p> |
| <p>Assessment: Senior management of Spectra Audit Services is located in Houston, Texas. However, an audit manager and several staff are located in Calgary, Alberta. Calgary-based audit staff perform most of the SET-PTC internal audits, sometimes with participation by Houston-based audit staff. These audits occur on a regular basis and vary in size and scope. All non-compliant findings are tracked in a database and assigned to staff for completion reported to senior management. However, interviews and document review confirm that these audits are conducted to measure the company's compliance to its own internal program requirements and do not necessarily address its programs' compliance to regulatory requirements.</p> <p>While aspects of the SET-PTC operations are included in the internal audits, SET-PTC was not able to demonstrate that the PA Program and the requirements of PCR have been scoped into any internal operational audits. Also it did not demonstrate that the requirements of the PCR are included in its audit protocols for the audits regarding safety of the public in order to confirm compliance.</p> |
| <p>Compliance Status: Non-Compliant</p> |
| <p>5.0 MANAGEMENT REVIEW</p> <p>Expectations: Senior management should formally review the management and protection programs for continuing suitability, adequacy and effectiveness. The review should be based on appropriate documentation and records including the results of the surveillance, monitoring and audit programs. This review should be formal and documented and should occur on a regular basis. The management review should include a review of any decisions, actions and commitments which relate to the improvement of the programs and the company's overall performance.</p> |

References:

OPR-99 Section 53
PCR Part II Sections 4 and 5

Assessment:

The Manager of the PTC pipeline meets with senior management annually to discuss resources and review accountabilities. As well, interviews and document review indicate that there is regular communication SET-PTC's area management, operations management and senior management teams. SET-PTC's senior management also holds meetings on a regular basis at different field locations to evaluate the operations of the pipeline and associated facilities.

While the Board acknowledges that there is communication occurring among SET-PTC's area management, operations management and senior management teams, SET-PTC was unable to demonstrate that it has established the processes that contribute to an adequate management review. As noted in sub-element 2.2 of this appendix, SET-PTC does not have a formal process of confirming that there is a current and complete inventory of legal requirements guiding the development and implementation of its PA Program. SET-PTC's internal audit process does not include an evaluation of compliance to the PCR, which outline the requirements for addressing third party activities. Without this confirmation of compliance, senior management cannot verify that the PA Program is operating in compliance with all of the requirements.

Additionally, SET-PTC's policy and purpose statement does not explicitly include public safety, and so there is no clear line of sight from SET-PTC's policy to the PA Program. Therefore the Board is not satisfied that there are sufficient processes in place by senior management to ensure ongoing suitability, adequacy and effectiveness of the PA Program.

Compliance Status: Non-Compliant

Appendix VII – SET-PTC OPR-99 Audit - Company Representatives Interviewed

| Company Representative Interviewed | Job Title |
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| Don Cameron | VP, EHS & Risk Management |
| | Director Audit Liaison |
| | Team Leader, Emergency Preparedness |
| | Manager, OMS |
| | Manager, Compliance Support |
| | Director, Operations Engineering |
| | Manager, EHS |
| | Manager Process Safety (formerly Manager Health and Safety) |
| | Team Leader Operations (Co-gen plant) |
| | Health and Safety Specialist |
| | Manager, PTC Pipeline |
| | Public Awareness Coordinator, PTC Pipeline |
| | Pipeline Technician, PTC Pipeline (Manitoba) |
| | Environmental Specialist (Empress/PTC Pipeline) |
| | Operations Specialist |
| | Integrity Specialist |
| | Team Leader, Maintenance |
| | Senior Technician |
| | Senior Technician |
| | Health & Safety Specialist |
| | Team Leader, Environment |
| | Business Analyst |

Appendix VIII – SET-PTC OPR-99 Audit - Documents Reviewed

- Spectra Energy Empress System, Code of Practice for Naturally Occurring Radioactive Materials (NORM) - last review dates July 4, 2008
- OSC Technical Risk Watch Report
- Terms of Reference -- OHSE workplace committees
- Terms of Reference -- OHSE oversight committee
- EH & S. training records
- STAT -- incident investigations system -- near miss, follow-up
- PTC Unauthorized crossing submission to NEB
- PTC Pipeline air patrol report
- ISN pre-qualification list /ISN evaluation example
- ISN citations and stop recorders example
- Set West strategy 2012 planning session
- PTC Operations Training Program Module 1 PTC Operations and Induction
- Health and Safety Programs – Naturally Occuring Radioactive Material (NORM) Management Program
- Spectra Energy PTC System – Site Specific Waste Management Procedures Manual (revised June 2012)
- Hazco Waste Docket 01389 – Spectra Energy Richardson (2 August 2012)
- SET-West Operations Standard – Incident Reporting and Investigation (updated 8 June 2012)
- Environmental Specialists Teleconference Minutes – 13 November 2012
- 2012 EHS PTC Line Trip Inspection – 25-29 June 2012
- Sect. 7 10RS 15, 311.13m KMP 641.290 (11.5.2.7.2) ERW Seam Cut out
- PTC Pipeline Integrity Electronic Files (Copy of what files exist)
- Spectra Energy Petroleum Transmission Company (PTC) – Pipeline Integrity File Index (Revised September, 2012)
- KMP 676.340 Pipeline Replacement July 2012
- Spectra Energy Empress L.P. PTC Pipeline – 2007 Above Ground Survey Section 3 – Herbert Pump Station to Caron Trap Km 197.799 to Km 298.562
- Spectra Energy PTC Pipeline March 2007 – Moose Jaw River Revetment Project – Construction Monitoring Report
- Spectra Energy EHS Inspection Form
- Spectra Energy Grenfell Monthly Inspection Report PTC File 3.7.2.2
- OSC Technical Risk Watch Report Instruction (PTC)

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- 2012 Planning Session
 - Pipeline Air Patrol Report (29 March 2012)
 - EH&S Training (OEOR) – Summary of Training Record for PTC Staff
 - 2003 PTC Pipeline – Section 8 Aboveground Survey Scope of Work (2003)
 - Records Management Policy Revision (June 24, 2011)
 - EHS Legal Registry (Date: July 2009)
 - 2001 Pipeline Replacement Project
 - Surface Water Pump-off Checklist and Notification Form – Richardson (8 May 2012)
 - EHS Inspection Form – July 7, 2010
 - Monthly Inspection Report – Grenfell (September and November 2012)
 - Monthly Inspection Report – Stewart Valley (September and November 2012)
 - Monthly Inspection Report - Herbert (August and September 2012)
 - Weekly Keystop Report – Moose Jaw (22 and 27 November 2012)
 - Weekly Keystop Report – Stewart Valley (20 and 29 November 2012)
 - 2012 Quarterly Mainline Valve Inspection – 1st Quarter (5 January 2012)
 - 2011 Geophysical Assessment – Richardson Gas Storage Terminal (22 February 2012)
 - 2012 Saskatchewan Vegetation Management – ACE Vegetation Service (CD)
 - Leakwarn Training Sheet
 - Spectra Energy PTC Pipeline Procedures for Leak Detection System Test
 - SP – records to show frequency on leak warn tests
 - EHS Inspection forms – October 1, 2012 (PTC Line Tour), October 2, 2012 (Dewdney Richardson), July 24, 2012 (Brine Line Repair)
 - Safety Inspection Form – Visual Inspection June 24-20, PTC Key Stops, Tour of the Richardson and Dewdney Facilities – Safety and Housekeeping March 22-23, 2012
 - Saskatchewan Upstream Oil and Gas Facilities
 - Surface Water Pump-off Checklist and Notification Form
 - Matrix Solutions Inc Environment and Engineering
 - 2001 Hydrotest Soil/Water Test Reports 11.1.18.7 by AMEC
 - Public awareness information package (landowners), Public awareness program annual reports
 - EHS training records – PTC
 - Deviation standards RE; ground disturbance practice 16:1
 - Electronic communication plan
 - Norms management program
 - E-mails RE: tank inspections
 - Sample ground disturbance check list
 - Findings Re: norms from Empress plant audit

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- Critical systems definition and hierarchy
 - 12-051N Permit – 3rd Party Pipeline Crossing – Inspection Report – Probe Corrosion Services Ltd.
 - 12-063(30m) – Permit Excavation w/in 30m of ROW
 - Proximity agreement request (Spectra Damage Prevention 2012 Form
 - Correspondence – Proximity Agreement Request – LC1
 - Correspondence – Proximity Agreement Request – JD2
 - Correspondence – Proximity Agreement Request – JD3
 - Correspondence – Proximity Agreement Request – LC2
 - Pembina’s Borehole Drilling for Groundwater Monitoring Wells Near: 16” Boundary Lake
 - 12-063(30m) Permit
 - 3 Working Days Notice: 12-063(30M) Pembina’s Borehole Drilling within 30M
 - Spectra Energy Transmission Pipeline Locate Report – 12-063(30M)
 - Probe Corrosion Services Ltd – Pembina Pipeline Corporation’s – Request to Evacuate (for Borehole Drilling) in the area of the Right-of Way containing the following Westcoast Energy Inc., doing business as Spectra Energy Transmission pipeline(s):
Inspection Report
 - Investigative Dig Process for Landowners
 - Spectra Energy Flaring Notice w/maps
 - Annual Cathodic Protection Survey
 - Letter to Landowner RE: Pipeline Corrosion Digs 2012-12’ Milligan PeeJay
 - Spectra Energy BC Pipeline and Field Services Standard Operating Practice – Third Party Vehicle Crossing Application Process
 - Spectra Energy Schedule “C” Vehicle Crossing Information Form
 - Spectra Energy Vehicle Crossing Engineering Assessment Request Form
 - Request for a Pipeline Crossing and Proximity Agreement for Block 24014 – 12-223N Application
 - 12-223N – Correspondence - Request for a Pipeline Crossing and Proximity Agreement for Block 24014 – 12-223N Application
 - 12-223N – Correspondence – XLA-2012-073
 - 12-223N – Correspondence – Canfor Road Use
 - 12-223N – Correspondence – Canfor Permanent Vehicle Crossing Request – XLA-2012-073
 - 12-223N – Correspondence – Third Party Permits (12-223N & 12-098(30M) – Canfor’s permanent access road over and cut block within 30M of 20” Jedney
 - 12-223N – Correspondence – Spectra Energy Transmission Permits: 12-223N & 12-098(30M)

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- 12-223N – Correspondence – Executed Crossing No. 12-223N
 - 12-223N – Correspondance – 16” Lapp
 - 12-223N – Correspondance – 16” Lapp Images
 - Spectra Energy Transmission – Vehicle Crossing Engineering Assessment Request Form – XLA-2012-073
 - 12-223N Permit – Canadian Forest Products Ltd.’s (the “Crosser”) Proposed Permanent Access Crossing over the following Westcoast Energy Inc., doing business as Spectra Energy Transmission, (the “Company”) pipeline(s):
 - 12-223N Permit – Canadian Forest Products Ltd.’s (the “Crosser”) Proposed Permanent Access Crossing over the following Westcoast Energy Inc., doing business as Spectra Energy Transmission, (the “Company”) pipeline(s): (Executed copy)
 - 3 Working Days Notice: 12-223N Canfor
 - 12-223N Probe Corrosion Services Ltd Inspection Report
 - 12-223 Spectra Energy Transmission Pipeline Locate Report
 - 12-051N Permit – Spectra Energy RE: Canadian Natural Resources Limited’s (the “Crosser”) Proposed 3.5: OD Sour Natural Gas Pipeline Crossing the following Westcoast Energy Inc., doing business as Spectra Energy Transmission, (the “Company”) pipeline(s):
 - 12-051N Permit – Canadian Natural Resources Limited Pipeline from d-52-H, 94-A-13 to b-51-H, 94-A-13 CNRL File No. 1133391 Pioneer File No. 0142-12
 - 12-051N 3 Working Days Notice – BC One Call Request 2012342444 – Notice of intent to evacuate – Short Notice Locate
 - 12-051N- Pipeline Locate Report
 - Request on behalf of CNRL: Pipeline from d-52-H, 94-A-13 to Wellsite b-51-H, 94-A-13 – CNRL File No. 1133391
 - 12-051N Correspondence - Request on behalf of CNRL: Pipeline from d-52-H, 94-A-13 to Wellsite b-51-H, 94-A-13 – CNRL File No. 1133391
 - 12-051N Correspondence – 12-051N for review
 - 12-051N Correspondence – Third Party Permit – CNRL’s pipeline crossing
 - 12-051N Correspondence - Third Party Permit – CNRL’s pipeline crossing –KG1
 - 12-051N Correspondence - Third Party Permit – CNRL’s pipeline crossing – LC1
 - 12-051N Correspondence – Spectra Energy Permit 12-051N
 - 12-051N Correspondence – Pipeline Crossing # 12-051N
 - 12-051N Correspondence – 107C-1/12-051N/FSJ
 - 12-051N Correspondence - 107C-1/12-051N/FSJ/DW
 - 12-051N Correspondence – Report 12-051N
 - MTS_Org.pdf

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- Current RP List and Maps
 - RPList_20120312.pdf
 - GTandC_Article11_PCOPP.pdf
 - GTandC_Article12_GasQuality.pdf
 - RGT_MeasurementPolicy.pdf
 - RES_MeasurementPolicy.pdf
 - PCOPP_CalibrationForm.pdf
 - RGT_PCOPPSpecification.pdf
 - SampleOPPPC_ComplianceReport.pdf
 - FTN_RP10126_PCOPP_Drawing.pdf
 - FSJ_RP10346_PCOPP_Drawing.pdf
 - GV_RP8566_PCOPP_Drawing.PDF
 - Residue_MS184_PCOPP_Drawing.pdf
 - PCOPP_SiteNonComplianceReport.pdf
 - Inspection Results.pdf
 - HighRiskLines_OnlineMonitors.pdf
 - RTU Control.pdf
 - EmailRegardingPiggingReport.pdf
 - PiggingReport.pdf
 - ResidueGasMeasurementReport.pdf
 - FW Pipeline Integrity Plan.msg
 - Pipeline Integrity Management.doc
 - FW SOP Update Meetings.msg
 - 2009 OM Manual Update - Document Tracking.xls
 - 2009 OM Manual Update Meeting.docx
 - 2011 SOP Update - Document Tracking_RL.xlsx
 - 2011 SOP Review Agenda.docx
 - 2010 SOP Update - Document Tracking_RL.xlsx
 - 2010 SOP Update Meeting.docx
 - FW SOP Update Meetings.msg
 - 2009 OM Manual Update Meeting.docx
 - RE Performance Indicators.msg
 - SET-West - Performance Indicators - Annual NEB.XLSX
 - FW Audit - Compressor Station Recoat Program.msg
 - SET-West Audit Review Meeting (3 pages)
 - SET-West Empress PTC Pipeline Audit #211004 November 8, 2011 (6 pages)
 - SET-West Empress PTC Pipeline SCADA Audit #409007 December 4 2009 (15 pages)

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- SET-West Leak Detection Systems Audit #411007 December 13 2011 (9 pages)
 - SET-West SCADA Audit #407007 November 20 2008 (15 pages)
 - SET-West Risk Assessment Pipeline Integrity Program SET Board of Directors Meeting December 2009 (2 pages)
 - SET-West – Assurance Review Pipeline Integrity – PTC Pipeline March 31 2011 (3 pages)
 - FW Pipeline Integrity Plan.msg
 - Pipeline Integrity Management.doc
 - FW SOP Update Meetings.msg
 - 2009 OM Manual Update - Document Tracking.xls
 - 2009 OM Manual Update Meeting.docx
 - 2011 SOP Update - Document Tracking_RL.xlsx
 - 2011 SOP Review Agenda.docx
 - 2010 SOP Update - Document Tracking_RL.xlsx
 - 2010 SOP Update Meeting.docx
 - SET-West OSC Monthly Scorecard - 2011 and 2012.pdf
 - SET-West OSC STIP Scorecard - December 2011.pdf
 - FW Documents for NEB.msg
 - April 2010 Pipeline Corrosion Coupon Summary.msg
 - Coupon Summary by Region 2011 Spring PRRG.xls
 - April 2010 Pipeline Corrosion Coupon Summary.msg
 - Spring 2011 Coupon Summary.msg
 - Percent Critical PM Work Completed 2011.pdf
 - Accountability Management.pdf
 - Accountability Management.pdf
 - CP Test Point Surveys - 2007 to 2011.pdf
 - SET-West - Rectifier Site Summary.pdf
 - SET-West - Rectifier Site Summary.pdf
 - Compressor Station CP Surveys.pdf
 - Test Lead Post Repair Data.pdf
 - PEIMP - Revision 1.pdf
 - Postponement of 4BL2 Weld 12610 and 13390.docx
 - Dent Review.pdf
 - Dent Review.xlsx
 - SET West Training Determination Tool Final - 28 March 2012.xlsx
 - 100% EHS Training Compliance Process.pdf

- IMRegulatoryReportingGuidelines.docx
- OneWindowIncidentReportingProcedure.docx