

**NATIONAL ENERGY BOARD
SAFETY AND ENVIRONMENTAL
MANAGEMENT SYSTEM
ISO 14001 & OHSAS 18001 GAP ANALYSIS**

PROJECT NO. ABC50325



FINAL REPORT TO

NATIONAL ENERGY BOARD

**SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM
ISO 14001 & OHSAS 18001 GAP ANALYSIS**

PROJECT NO. ABC50325

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March 14, 2002



EXECUTIVE SUMMARY

The National Energy Board (the NEB or the Board) has chosen to adopt the principles of ISO 14001, an international guiding framework for Environmental Management Systems (EMS) and OHSAS 18001, an international specification for Occupational Health and Safety Management Systems for its Safety and Environmental Management System (SEMS). To assist in the development of the SEMS, Jacques Whitford Environment Limited (Jacques Whitford) was contracted by the NEB to provide a Gap Analysis of the current environmental and health and safety management system elements. The Gap Analysis consisted of:

- an assessment of the SEMS elements currently in place and the gaps between these and the requirements of ISO 14001 and OHSAS 18001;
- recommendations on the actions required to build elements of the SEMS that will conform with the requirements of ISO 14001 and OHSAS 18001; and,
- a Step-by-Step Plan to address existing gaps.

The scope of the project included both the activities, products and services undertaken by NEB staff directly, and a consideration of the influence of the Board on NEB-regulated companies. While the scope has been defined as a Gap Analysis for the NEB's 'Safety and Environmental Management System', the scope of this project also included Occupational Health, and thus any reference to a SEMS should be considered to be equivalent to an HSEMS (Health, Safety and Environmental Management System). While the Board intends to develop a management system that is compliant to the combined ISO 14001 and OHSAS 18001 standards, it is not proposed that the NEB will become registered to the ISO 14001 standard.

This report is intended to serve as a tool for the NEB as it proceeds further to develop and implement the SEMS.



SEMS Gap Analysis

Current environmental, health and safety programs, policies and procedures in place at the NEB were examined to determine conformance to the 84 separate requirements of the ISO 14001 and OHSAS 18001 standards. The following levels of conformance were identified:

	ISO 14001/OHSAS 18001 (% of applicable requirements)
Element fully developed and implemented (√√√)	21
Element substantially developed (√√)	49
Element partially developed (√)	24
Element not developed (--)	6
Total	100

Overall, the NEB has a well-developed SEMS. Many of the required elements of an ISO 14001/OHSAS 18001 SEMS are in place. Improvement is required in setting specific objectives and measurable targets, specific actions to achieve them, and specific accountabilities and responsibilities with respect to environment, health and safety management. Improvement is also required in SEMS documentation, implementing a non-conformance, corrective and preventive action system, auditing and conducting formal management reviews of the SEMS. Some other elements will require additional development to be fully functional.

Step-by-Step Plan to Address Gaps

A Step-by-Step Plan has been developed based upon the results of this Gap Analysis. The Step-by-Step Plan is intended to provide NEB personnel with direction to address the identified gaps for SEMS development and implementation. The suggested implementation order is based on guidelines provided in the ISO 14004 *Environmental management systems – general guidelines on principles, systems and supporting techniques*, as well as Jacques Whitford’s knowledge of successful implementation techniques used by other similar organizations. It is also based on the level of the development that has already taken place at the NEB. Several of these steps may take place concurrently, while others may be dependent on previous steps. It is recommended that the following steps be completed:

1. Conduct legally required training for employees where its absence has been identified (i.e., WHMIS and TDG).
2. Appoint a SEMS Management Representative and assign them specific responsibilities for development and implementation of the SEMS.



3. Re-assess the scope of the SEMS and decide whether or not it will include both external and internal aspects and hazards.
4. Finalize the Safety and Environmental Policy (draft) and communicate it to all NEB employees, contractors, NEB-regulated companies, and other interested parties.
5. Complete documentation of the SEMS by revising existing EMP documentation.
6. Re-visit the list of environmental aspects and complete the risk analysis of health and safety hazards.
7. Implement a nonconformance, corrective and preventive action process.
8. Complete documentation of procedures (operational controls).
9. Control and calibrate equipment used for monitoring and measuring.
10. Conduct SEMS awareness training for all employees.
11. Develop a compliance monitoring program for NEB operations.
12. Conduct an internal SEMS Audit.
13. Conduct a Management Review to discuss results of the SEMS Audit.



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1.0 INTRODUCTION

Jacques Whitford Environment Limited (Jacques Whitford) was contracted by the National Energy Board (the Board or the NEB) to assess how the existing elements of the NEB's Safety and Environmental Management System (SEMS) conform to the requirements of ISO 14001-1996, *Environmental Management Systems* and OHSAS 18001 *Occupational Health and Safety Management Systems*.

In order to be proactive with respect to the environmental aspects of the Board's activities, products and services for which it has control or influence over, the NEB was in the process of implementing an Environmental Management Program (EMP) based on ISO 14001 requirements. The Board has also begun development of a Safety Management Program (SMP) based on OHSAS 18001. The Board is now committed to integrating elements of the EMP and SMP into a single Safety and Environmental Management System (SEMS). To assist in the integration, the Board commissioned this ISO 14001-OHSAS 18001 Gap Analysis on the existing elements of the SEMS and the various initiatives that have taken place with respect to development and implementation. While the Board intends to develop a management system that is compliant to the combined ISO 14001 and OHSAS 18001 standards, it is not proposed that the NEB will become registered to the ISO 14001 standard.

2.0 SCOPE AND OBJECTIVES

The scope of the project included all the activities, products and services undertaken by the Board, as well as consideration of those the NEB influences, such as the construction and operation of energy pipelines and power lines by NEB-regulated companies under the *National Energy Board Act* (NEB Act), the *Canadian Oil and Gas Operations Act* (COGOA) and the *Onshore Pipelines Regulations* (OPR-99). The scope also included occupational health, and thus any reference to a SEMS should be considered to be equivalent to an HSEMS (Health, Safety and Environmental Management System). All of the Gap Analysis research and interviews were completed at the NEB's offices at 444 – 7th Avenue SW, Calgary, Alberta.

The objectives of this project were to provide the NEB with:

- an assessment of the SEMS elements currently in place and the gaps between these elements and the requirements of ISO 14001 and OHSAS 18001;
- recommendations on the actions required in order for the SEMS to conform with the requirements of ISO 14001 and OHSAS 18001; and,
- a Step-by-Step Plan to address existing gaps.



This report is intended to serve as a tool for the NEB as it proceeds further to develop and implement the SEMS.

3.0 GAP ANALYSIS PROCESS

3.1 Gap Analysis Procedures

The Gap Analysis was accomplished by means of the following activities:

- An initial meeting was held with the NEB's SEMS project working group to discuss the scope, objectives, activities and schedule for the work;
- An on-site review was conducted which consisted of:
 - interviewing 53 full-time personnel throughout the organization including the Chairman and Chief Executive Officer (CEO), four Board Members, the Chief Operating Officer (COO), one Professional Leader, a representative of the Legal Services Team, and employees in all Business Units, including: Applications, Commodities, Corporate Services, Operations (including Construction Compliance, Operations Compliance, Pipeline Audits, Regulatory Development, and Exploration and Production), and Information Management (including Information Resources and Distribution (IRAD), Information Technology (IT) Operations, Communications, and Document Production). Perceptions of the SEMS components currently in place were discussed, as well as the environmental aspects and health and safety hazards for which they must plan; and,
 - reviewing documents and records in place to identify and evaluate the components of the existing SEMS against the frameworks described in ISO 14001 and OHSAS 18001. A list of documents reviewed is contained in Appendix A.

The review was conducted between January 7 and February 7, 2002. Interviews with the NEB personnel were held at the Calgary office between January 9 and February 1, 2002.



3.2 Project Team

The Jacques Whitford project team for this work consisted of:

- Elizabeth (Betsy) Evans, M.E.Sc, P.Eng. CEA;
- Jagdev S. Bilkhu, M.E.Des., P.Biol; and
- Shawna L. Argue, M.B.A., P.Eng., CEA, EMS (LA).

4.0 SUMMARY OF FINDINGS

4.1 Gap Analysis Reporting

The ISO 14001 and OHSAS 18001 frameworks were used as a model against which to compare the current status of the NEB's SEMS. The components of the SEMS that support or contribute to an ISO 14001 EMS / OHSAS 18001 integrated health, safety and environmental management system (HSEMS) were identified and assessed as follows:

- √√√ A SEMS element or a component that is fully developed and implemented is noted by three check marks. For this designation, the element has to be well developed and meet the requirements with few or no deficiencies.
- √√ Two check marks indicate the element is substantially developed. For an element to have this designation, the element must partly meet the requirements of ISO 14001 and OHSAS 18001, but still have room for further improvement.
- √ If the element has been identified as being partially developed one check mark is used. Some constituents of the element are present, however, substantial development is still required.
- If the element is not yet developed, no check marks are shown.

4.2 SEMS Gap Analysis

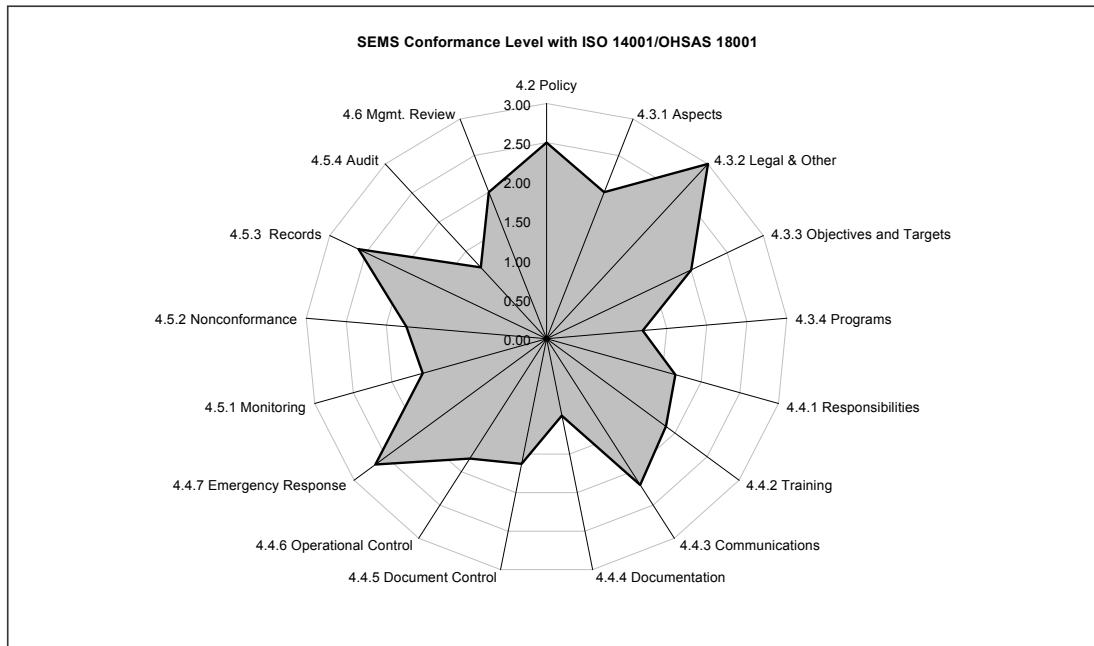
The Gap Analysis was undertaken for all of the NEB's activities and operations. A complete description of the current status of each SEMS element is contained in Appendix B. A description of acronyms used in the report is contained in Appendix C. Recommendations for the improvement of each element have also been provided.

Each requirement of the ISO 14001 and OHSAS 18001 standards was determined to be applicable to the NEB. The levels of conformance are summarized in Table 4-1 and Figure 4-1 below.



Table 4-1 - ISO 14001/OHSAS 18001 Approximate Degree of Development		
	Number of Requirements	Percent of Total
Element fully developed and implemented (√√√)	18	21
Element substantially developed (√√)	41	49
Element partially developed (√)	20	24
Element not developed (--)	5	6
Total	84	100%

Figure 4-1 - Degree of Conformance of the NEB SEMS to ISO 14001/OHSAS 18001



The implications of this ISO 14001/ OHSAS 18001 Gap Analysis are:

- approximately 21% of the elements are fully developed;
- approximately 49% of the elements are substantially developed; and
- approximately 30% of the elements are either not developed or have had little development.



4.3 Current SEMS Development

A brief overview of the level of development for each general management system element is provided below. Appendix B contains a detailed description of each element with recommendations for improvement.

Overall, the Gap Analysis identified a strong commitment by NEB staff and Board Members to the principles described within the standards, including a commitment to continual improvement. Perhaps the most important consideration of future SEMS development will be to reconcile the far-reaching responsibility of the NEB for environment health and safety of NEB-regulated companies with the responsibility of the NEB to be a safe workplace and to consider its direct environmental impact. It may prove difficult to combine these two systems within one framework and still give appropriate consideration to internal environment, health and safety.

4.3.1 Policy

The NEB has formally adopted an Environmental Policy. The Environmental Policy has been widely distributed to employees; few, however are familiar with its exact contents. The NEB has also drafted a Safety and Environmental Policy. There is no mention of “Health” in the draft Policy. The Safety and Environmental Policy has not been formally approved.

4.3.2 Environmental Aspects and Health and Safety Hazards

Environmental aspects have been identified. Health and safety hazards associated with NEB-regulated pipelines are dealt with in detail by the NEB. Internal health and safety hazards are currently being identified. There is no written procedure for identifying environmental aspects, but there is a written procedure for identifying internal health and safety hazards.

4.3.3 Legal and Other Requirements

The NEB is involved in the development of new regulations. As a result of this responsibility, and the quasi-judicial nature of the NEB, understanding of applicable legislation by NEB personnel is at a much higher level than most organizations. NEB personnel have excellent access to legislation (draft, current, and repealed). The libraries (Main and Law) have copies of most relevant Alberta and federal environmental, health and safety legislation.



4.3.4 Objectives and Targets

The NEB has four corporate goals; two of the goals are related directly to safety and environment. Goal 1 is “NEB-regulated facilities are safe and perceived to be safe” and Goal 2 is “NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals’ rights”. These two goals refer to the influence of the NEB over NEB-regulated companies rather than to the NEB’s direct activities or the health or safety of NEB employees. The four goals are very well known to NEB employees and Board Members. The four corporate goals do not include a reference to health.

Six specific environmental objectives were drafted as part of the EMP, but the objectives are task-oriented rather than performance-related. Environmental aspects were appropriately considered when setting EMP environmental objectives. No specific health and safety objectives have been drafted yet. These objectives should have measurable targets.

4.3.5 Environmental and Safety Management Programs

Within the *Report on Plans and Priorities* document, each corporate goal is linked to gaps, strategies, measures (performance indicators) and major actions to be completed in the appropriate fiscal year.

Action Plans have been drafted as a mechanism to achieve the EMP environmental objectives. No specific targets have been set. Specific means for achieving the six objectives and targets have not been identified, nor have specific time frames. It is not clear how or when the Action Plans will be reviewed or modified. If the Action Plans are to continue as a part of SEMS, they should be directly linked to the four corporate goals described in the Report on Plans and Priorities document.

4.3.6 Structure and Responsibility

Although roles and responsibilities for overall management of NEB-regulated safety and environmental issues are well understood, the roles and responsibilities within SEMS are not. SEMS applies not only to the performance of NEB-regulated companies, but also to the health, safety, and direct environmental impact of NEB personnel. NEB environmental structure and responsibilities were documented as part of the EMP, but roles and responsibilities within SEMS have not yet been similarly documented. Management has provided the necessary technology and financial resources for environment, health and safety (EH&S) management. To date, there is no clear Management Representative who is responsible for SEMS as required by the standards. All senior management (both NEB staff and Board Members) interviewed demonstrated a commitment to continual improvement of EH&S performance. A Management Representative should be appointed.



4.3.7 Training, Awareness and Competence

A significant amount of time is dedicated to training, including training NEB staff in EH&S issues. The extent of training programs varies throughout the organization. A thorough Technical Competency Framework has been established for engineers and environmental professionals. An organization-wide business competency profile has also been established. The framework is not linked to identified training requirements. Most employees have a very good understanding of how their job may interact with the environment and have an impact on health and safety from an external perspective (i.e., with respect to NEB-regulated companies). Most employees have not thought of the impacts from an internal perspective (i.e., the health and safety or environmental impact of NEB employees within their routine activities). There is a gap in understanding of responsibility for personal safety of NEB employees. Both management and employees expressed opinions that internal health and safety programs are secondary to the safety of pipelines regulated by the NEB. Some legally required training was determined to be lacking (WHMIS and TDG for certain employees). A review of personal health and safety training is required.

4.3.8 Communication

The NEB has a Communications Team with a mandate to provide advice and information on communication to both internal and external clients. The NEB has both an external web site and an intranet site accessible by employees. Communication methods and frequency varies between teams, and is largely dependent on the team leaders' personal styles.

There is an *NEB Internal Communication Strategic Plan* (February 2000). It identifies face-to-face communication as being preferred by NEB personnel.

There is a formal system for communicating with external parties. The system is well implemented. The external web site contains well identified links to EH&S information, including the Environmental Policy, and applicable legislation. As a government organization, the processes for external communication of aspects and hazards are well established.

4.3.9 Environmental Management System Documentation

The EMP core elements are described in a document entitled: *EMP Documentation: A Guide to the NEB's Environmental Management Program*. The latest version of this document (February 28, 2001) is still in draft and is incomplete. The SEMS has not been described in any similar type of document.



4.3.10 Document Control

A document control procedure was drafted in 2001 as part of the *EMP (NEB-EMP-002 – Control of Critical Environmental Documents)*. It also applies to records (referred to as ‘legacy documents’ by the NEB). There are several versions of some EMP-related documents. Approved NEB procedures, documents, and data are appropriately controlled. Some EMP and SEMS documents are still in draft form and are not accessible to all NEB staff members. Overall, document control at the NEB is good.

The Library has lists of personnel who have borrowed documents on permanent loan. These people are notified of updates to legislation or other documents.

4.3.11 Operational Control

The NEB has identified its operations and activities that are associated with the significant environmental aspects. A similar exercise is underway for internal health and safety hazards. Most procedures are referenced in the *Operational Control Final Report* (August 31, 2001) and the *Operational Controls Matrix*. Many of these procedures are draft and are as yet uncontrolled. Numerous OSH-related operational controls are in place via Treasury Board directives and standards. The NEB can develop replacements to these directives, but cannot eliminate a directive.

Machinery is used only by Document Production personnel. There are some engineered controls in place to reduce risk to employees, but there is still a risk of injury from binding and punching equipment. There are no written procedures or signs in place to warn untrained people from attempting to use the equipment. There are no controls in place to address personnel who may work alone. As a part of the hazard assessment process, the issues in Document Production should be reviewed and addressed.

4.3.12 Emergency Preparedness and Response

The two distinct elements of SEMS are particularly clear with respect to Emergency Preparedness and Response. Primarily, the NEB has responsibility and authority for ensuring that NEB-regulated companies are prepared to deal with emergencies. The second element of Emergency Preparedness and Response is the response to incidents directly involving NEB personnel. This element is addressed by the OSH Committee, with the involvement of building management. There are *Fire Alarm and Emergency Evacuation Procedures* for the building.

There is an excellent understanding of the benefit of testing emergency response plans. There has been a tabletop exercise testing the draft *Crisis Management Plan*, but a full exercise has not yet been completed; one is planned.



4.3.13 Monitoring and Measurement

There are well documented procedures for monitoring characteristics of NEB-regulated companies through inspections and audits. The Board Members and the Executive Team meet quarterly to review EH&S performance with respect to the four corporate goals. The NEB reports on the performance of NEB-regulated companies through a wide variety of EH&S indicators. The NEB also collects statistics on its own Workplace Incidents/Accidents. At the time of the Gap Analysis, an annual report on 2001 NEB incidents/accidents had not been compiled.

Several items of equipment requiring calibration are used periodically by NEB personnel. There are no written procedures for calibration of monitoring equipment. Calibration information for the some equipment was not available for review.

The NEB conducts periodic compliance audits of various NEB-regulated pipelines during construction and after a pipeline is in operation. The NEB does not have documented procedures to monitor its own compliance with relevant EH&S legislation.

4.3.14 Nonconformance and Corrective and Preventive Action

There are well-defined procedures for dealing with non-compliances by NEB-regulated companies that are identified by NEB inspectors. Minor issues are generally recorded by the inspector and an assurance of voluntary compliance (AVC) is received from the pipeline company. Issues that must be resolved immediately are recorded on a field order. Tracking of compliance with conditions and response to AVCs is completed using the Environmental and Safety Information Management System (ESIMS).

Some preventive actions for health and safety will be developed as part of the NEB Risk Analysis Tool Outline (Critical Task Worksheet). Loss exposures and controls will reportedly be identified and improvements planned and implemented. If an incident occurs in the workplace, a *Hazardous Occurrence Investigation Report* is completed. The form includes a requirement for identification of both Corrective and Preventive Measures. There is also a separate OSH Committee Workplace Incident Form.

A formal system should be developed to identify, track, and respond to nonconformances with internal SEMS requirements.

4.3.15 Records

Records management is very good. IRAD has very detailed procedures governing the classification, storage, archiving and disposition of EH&S records. This system includes personnel files and the results



of audits and reviews. These procedures are described in various draft documents. Archiving procedures are documented in the *Retention Guidelines for Common Administrative Records of the Government of Canada*.

Records are also addressed as part of draft procedure NEB-EMP-002, *Procedure for Control of Critical Environmental Documents*. Most records are readily retrievable. Records are generally filed according to pipeline. Records storing procedures are documented in *Protecting Essential Records: "A short guide for government institutions"* – April 2001.

4.3.16 Management System Audit

The NEB has trained and experienced EH&S auditors on staff. These personnel complete periodic management system audits of NEB-regulated pipelines. The focus of the audit is on the effectiveness of the pipeline company's EH&S management systems.

The first such "Management System Audit" for SEMS is the Gap Analysis described in this report. There is an Internal Audit and Evaluation position within the NEB, but the role is currently vacant. The role is responsible for preparing a multi-year Audit and Evaluation Plan and conducting various audits in accordance with the plan. It has not been determined how future internal Management System Audits will be completed.

4.3.17 Management Review

The NEB has an Internal Audit and Evaluation Policy. Board Members review the EH&S performance of NEB-regulated companies. With the exception of the Chairman, they Board Members have no responsibility for NEB employees, and therefore do not review the NEB staff's EH&S performance. Although there is no SEMS Management Review procedure documented, the current system of reporting information to the Board Members indicates that the audit criteria of ISO 14001 and OHSAS 18001 are being considered.

5.0 STEP-BY-STEP PLAN TO ADDRESS GAPS

The following plan has been prepared to provide the NEB with direction in prioritizing actions necessary to bring the existing SEMS into conformance with ISO 14001 and OHSAS 18001. The plan is based on the overall recommendations provided in the Gap Analysis Table (Appendix B). The suggested implementation order is based on guidelines provided in the ISO 14004 *Environmental management systems – general guidelines on principles, systems and supporting techniques*, as well as Jacques Whitford's knowledge of successful implementation techniques used by other similar



organizations. The order of sequence of events is based on the past and present level of SEMS development at the NEB. Refer to Appendix B for a full description of the recommended actions. Please also refer to the GANTT chart (Figure 5-1) which shows the suggested sequence of events for implementation. No specific time scale has been affixed to the steps, since the timing will depend upon internal NEB management processes. Events denoted by an asterisk are independent of other steps in the plan, and can occur anytime during the implementation process, however we have suggested a time for these events to occur.

Figure 5.1- GANTT Chart for Step-by-Step Plan for Addressing Gaps of SEMS

Step-by-Step Actions	1	2	3	4	5	6	7	8	9
Mandatory training for employees (WHMIS, TDG, etc.)	*								
Appoint SEMS Management Representative									
Determine scope of the SEMS									
Finalize and communicate Safety and Environmental Policy									
Complete documentation of the SEMS									
Re-visit environmental aspects/health and safety hazards									
Nonconformance, corrective and preventive action process									
Documentation of procedures (operational controls)									
Equipment control and calibration					*				
SEMS awareness training									
Compliance monitoring program							*		
SEMS Audit									
Management Review									

Comment: What are these little squares?

5.1 Step 1 – Conduct Mandatory Training of Employees

Some employees working with controlled products and as inspectors have not had Workplace Hazardous Materials Information System (WHMIS) training while employed by the NEB. Some who receive dangerous goods have had no Transportation of Dangerous Goods (TDG) training. From a compliance perspective, it is important that they are trained in these areas. The NEB should ensure that all legally required training such as WHMIS and TDG are provided to employees who are working in situations where the training is required. Providing training in these areas is not dependent upon other steps in this Plan. The emphasis of this training is different than the SEMS Awareness Training outlined in Step 9. The current situation has been identified as a legal non-compliance, therefore it is recommended that this training occur soon. All employees at the NEB who use (or may be exposed to)



controlled products must receive WHMIS training at least once during their employment with the NEB. Since new employees are continually joining the NEB, consideration should be given to providing selected employees with a “Train the Trainer” course for such training programs as WHMIS and TDG so that the courses can be offered internally.

5.2 Step 2 – Management Representative and Responsibilities

Currently there is no designated Management Representative for SEMS. Having one champion for the SEMS is required in order to ensure that all employees (including senior management) are informed on the progress and performance of SEMS. It is recommended that one individual be appointed as Management Representative responsible for SEMS. That individual will be responsible for championing the development and implementation of SEMS and reporting the performance of SEMS to ‘top management’. The Management Representative should have clear responsibilities with respect to SEMS. It is important to appoint this individual at the beginning in Step 2, because it will be he or she who will lead the development of SEMS through the following Steps outlined in this Plan.

5.3 Step 3 – Determine Scope of the SEMS

Before any further development can take place, the NEB needs to determine the scope of the SEMS. The NEB has influence and authority over EH&S management in two very distinct areas – externally with NEB-regulated companies and internally with its own employees. Both are important. The NEB should re-assess the scope of the SEMS with consideration of these two areas. In comparison to the magnitude of risk of external aspects, internal aspects and hazards are lost. The NEB needs to determine if the scope the SEMS includes both and, if so, how the SEMS will be structured to deal with hazards and aspects related to both areas. Determining the scope of the SEMS in the beginning of the development process is necessary to ensure that effort and resources are directed to the appropriate areas.

5.4 Step 4 – Finalize and Communicate the Safety and Environmental Policy

Policies state an organization’s commitment to its employees and stakeholders. They set the direction and tone for the implementation of programs and procedures for an organization and thus should be developed early in the process of a management system. The NEB has a Safety and Environmental Policy (draft). ‘Health’ is not mentioned in the policy. Since most safety issues are related to an incident, they are visible and apparent to most people. Health issues are generally considered to be more long-term in nature and less apparent, nevertheless present risks to the NEB. The NEB should consider adding the word ‘health’ within the draft Policy to emphasize the commitment to employee and stakeholder health with respect to NEB operations and the operations of NEB-regulated companies.



The NEB should also revise the Safety and Environmental Policy (draft) to include a reference to setting and reviewing objectives and targets. Currently the Environmental Policy is considered by most employees (including senior management) to not be relevant to the day to day functions of most employees. Explicit reference to the setting of objectives and targets will tie the Safety and Environmental Policy (draft) to SEMS and to activities of the NEB. Once the Policy has been formally endorsed, it should be communicated to all employees, contractors, NEB-regulated companies, and other interested parties.

5.5 Step 5 – Complete Documentation of SEMS

To date very little documentation has been completed on SEMS, but there is a considerable amount of documentation of the former EMP. Core documentation on the EMP should be modified to include health and safety elements. Although much of the EMP documentation was in the draft stage, considerable time and resources can be saved by modifying the EMP documentation for use in SEMS. The revised documentation should be communicated to all staff. The NEB may wish to place this information electronically on the Intranet so that it is accessible to all employees.

5.6 Step 6 – Revisit Aspects and Complete Risk Analysis

The list of ‘environmental aspects’ are activities rather than environmental interactions. The list of environmental aspects should be revisited to ensure that no interactions have been missed. The health and safety hazards are currently being identified. The risk analysis should be completed for health and safety hazards (both internal and external). It is important to ensure the list of environmental aspects and health and safety hazards are complete and all interactions have been identified before programs are set and operational controls (including procedures) are developed or revised, since the focus of a management system is on controlling an aspect/hazard to prevent an impact from occurring. The emphasis is on prevention rather than an “end of pipe” solution. Consideration should be given to whether this information will be communicated to the public. The NEB may wish to place this information on the NEB’s internet web site as a method for external communication.

5.7 Step 7 – Implement Nonconformance, Corrective and Preventive Action Process for SEMS

The identification and risk analysis of the health and safety hazards for the NEB is currently taking place. The procedure for this also includes a ‘critical tasks’ analysis which looks at methods to control or reduce these risks. This system is a form of preventive action and thus it is logical that the Nonconformance, Corrective and Preventive Action procedure be implemented in conjunction with the identification of hazards and aspects. Since several elements of the SEMS will have been introduced by this point (including all SEMS procedures outlined in the SEMS core documentation), a process to



identify, document and respond to SEMS nonconformances and implementing corrective actions will serve to introduce the concept of continual improvement – a critical component of a management system.

5.8 Step 8 – Complete Documentation of Operational Controls

A list of operational controls has already been documented. Many procedures are still in draft stage and need to be completed. All procedures that are associated with significant aspects or hazards should be either documented or an action plan to document them should be initiated. The critical tasks analysis that is part of the health and safety hazards analysis may also identify procedures that need to be created or revised. The ‘Operational Controls Matrix’ is a good tool to use as a reference document to inventory the list of procedures that correspond to significant environmental aspects and health and safety hazards. The NEB may also wish to identify relevant operational controls that correspond to the list of significant aspects and hazards – this would provide confirmation that each significant risk has a control in place to mitigate or prevent an impact from taking place.

5.9 Step 9 –Monitoring and Measuring Equipment

Monitoring and measuring equipment must be controlled and calibrated. It is recommended that a file of monitoring and measuring equipment information be created. Information to be collected should include: the equipment’s capabilities with respect to precision and accuracy, basis for calibration (e.g., a national standard), calibration instructions (frequency, method, etc), and equipment storage and operating instructions. A calibration schedule should be developed, including internal requirements and, where applicable, calibration by external agencies. Equipment should be clearly labelled as to calibration status. One common method used is to place a label on the equipment showing “Last Calibrated” and “Next Due” dates. Calibration records should be maintained. Equipment should be safeguarded from adjustments that would invalidate the measurement result.

5.10 Step 10 – Conduct SEMS Awareness Training

Once operational controls have been identified, the NEB should conduct SEMS awareness training. While initial training on the purpose of SEMS can take place after the SEMS documentation has been created, a majority of the training should be focused on making sure that all employees are aware of the aspects and hazards at their level and be aware of the programs and procedures in place to control them. Therefore SEMS Awareness Training should take place once several elements of the SEMS has been developed and implemented including critical programs and procedures. Elements of the SEMS Awareness Training may include:

- Essential components of the Safety and Environmental Policy (draft);



- Significant environmental aspects and health and safety hazards of the NEB;
- Operational controls that are in place to prevent, mitigate or control aspects and hazards;
- Corporate environmental, health and safety objectives and targets;
- Identification of the management system representative;
- Internal/external communication procedures on EH&S matters;
- Emergency response procedures; and
- Non-conformance, corrective and preventive action procedures.

Considering the high level of EH&S awareness of many NEB employees, the training program may not need to be extensive. A procedure should also been in place to ensure new staff and non-permanent staff (e.g. summer students, contractors) are also provided with cursory SEMS Awareness Training when they being working for the NEB.

5.11 Step 11 – Develop a Compliance Monitoring Program

The NEB does a very good job of monitoring compliance of its NEB-regulated companies. There is no overall program to monitor compliance of its own operations, although some elements of monitoring (such as floor inspections) are completed. Periodic monitoring should take place of NEB workplaces and operations to ensure compliance with relevant EH&S legislation, standards, guidelines and practices. While this can take place using internal staff, the NEB should also consider a process for periodic third party inspections/audits.

5.12 Step 12 – Conduct a SEMS Audit

Once the elements of the SEMS have been implemented, they need to be evaluated for adequacy and effectiveness. The NEB should conduct an internal audit of SEMS following the implementation of the steps listed above. Allow at least six months of system operation prior to completing the audit. The difficulty in auditing a system too soon after implementation is that several components may not be fully implemented and the findings of such an audit will serve to decrease morale amongst employees. The NEB should select and train an internal team to conduct the audits. Representatives from various operations functions can be part of the audit team. Building the capacity to perform this function internally will serve to educate employees on the nature of continual improvement and the usefulness of management systems. There is also greater likelihood of employee buy-in, if the process is performed internally. Again, the NEB may wish to consider periodic external audits to augment the internal process. The process for conducting a management system audit is outlined in ISO 14011 – “Guidelines for environmental auditing – Audit procedures – Auditing of environmental management systems.”

Upon completion of the audit, the NEB should carry the results forward to conduct another Management Review of SEMS.



5.13 Step 13 – Conduct Management Review

The final step in implementing a management system is to conduct a Management Review. Management Reviews determine the continuing suitability, adequacy and effectiveness of a Management System. The SEMS Management Representative should chair the Management Review meeting and provide information on the SEMS performance. Management Review should be attended by senior management. SEMS Management Review can be conducted on a more frequent and less formal basis but should occur at least annually to coincide with the business planning cycle.



6.0 CLOSURE

This report has been prepared for the sole use of the National Energy Board. The work was undertaken using guidelines provided by ISO 14004 and generally accepted environmental review techniques. The potential for errors and omissions has been addressed through the use of these accepted procedures and the use of qualified professionals to perform the work.

Jacques Whitford appreciates the opportunity to perform this Gap Analysis for the Board. We look forward to providing any additional assistance required in the future.

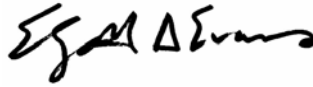
Respectfully submitted,

JACQUES WHITFORD ENVIRONMENT LIMITED

Prepared by:

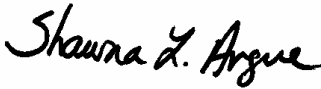


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APPENDIX A
LIST OF DOCUMENTS REVIEWED



Documents and Records Reviewed

(Excluding Legislation)

A Guide for Monthly Floor Inspections. Procedure Statement, January 2, 2001

Briefing Notes for Board Members Goal 2 Champions, undated

Business Competency Definitions, April 17, 2000

Canadian Oil and Gas Operations Act and amendments, 02/06/2000

Clarification of Roles of Chairman, Vice Chairman and COO, March 23, 2000. Memorandum from Chairman to Board Members, Executive Team, General Counsel, Professional Leaders, Team Leaders

Classification Guide, May 5, 1998 – Reclassification/Declassification/Destruction/Timeframe (0039. x 9039R)

Collective Agreement between the NEB and the Professional Institute of the Public Service of Canada. Expiry March 31, 2001

Collective Agreement between the NEB and the Public Service Alliance of Canada. For the period April 1, 1999 to March 31, 2001

Cooperation Plan of the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline Project through the Northwest Territories (Draft), December 6, 2001

Critical Environment Documents Matrix, August 27, 2001

Damage to Pipeline Regulation Survey Report, January 2001

Emergency Preparedness and Response Regulatory Program, January 21, 2002 (Draft)

- Transition Plans in Regards to NEB EMP
- Corporate Performance Indicators Snapshot
- Environmental Management Program Schedule

Employee Personal Safety Training Records

EMP Documentation - Action Plans for Environmental Objectives

EMP Documentation - Environmental Aspects Ranking

EMP Documentation - Environmental Objectives, Targets, and Performance Indicators



EMP Documentation - Identification and Evaluation of Environmental Aspects

EMP Documentation - Initial Corporate Environmental Performance Indicators

EMP Documentation - NEB Environmental Structure and Responsibilities

EMP/PWG Documentation, April 2001

Environment and Safety Information Management System Database

Environmental Group Meeting Minutes, December 11, 2001

Environmental Management Program EMP Documentation. A Guide to the NEB's Environmental Management Program, February 28, 2001

Environmental, Socio-Economic and Lands Job Family, Engineering Job Family - Technical Competency Teamwork, April 17, 2001

Excavation and Construction Near Pipelines, NEB, February 2001

Feedback on Professional Leadership Program

Fire Alarm & Emergency Evacuation Procedures (under review, June, 2000)

Guide to Conducting Environmental Screenings at the NEB (Draft), May 1998

Guidelines for Filing Requirements, February 22, 1995

Guide to Conducting Environmental Screenings at the NEB (Draft), April 14, 1998

Inspector Training Manual, undated

Landowner Complaint Process Flowchart, July 20, 2001

Landowner Complaint Quarterly Report, October to December 2001

List of Rules, Regulations, Guidelines, Guidance Notes and Memoranda of Guidance pursuant to the *NEB Act*, *Canada-Newfoundland Atlantic Accord Implementation Act*, *Canadian Oil and Gas Operations Act*, *Canadian Petroleum Resources Act*, *Canadian Environmental Assessment Act*, *Canadian Labour Code*, *Mackenzie Valley Resources Management Act*, and *Northern Pipeline Act*

Mackenzie Valley Resource Management Act, Chapter 25



Memorandum from B. Ostafichuk, J. Soucy re: Landowner Complaint Process, June 9, 1999

Memorandum from John McCarthy to “everyone” re: Proposed Changes to NEB Act Due To September 11, 2001. *Canadian Public Safety Act*.

Memorandum from Linda Postlewaite to Carmen Dybwad, Elizabeth Quarshie, Jean-Paul Thoret, Bonnie Gray, Brenda Gray, Brenda Kenny, John McCarthy, cc: EMP PWG, re: Environmental Management Program Review and Learn, March 23, 2001

Memorandum from Michel Mantha re: Guidance Notes for the Onshore Pipeline Regulations, 1999 – September 7, 1999

Memorandum from Michel Mantha to All Companies re: Onshore Pipeline Regulations, July 13, 1999

Memorandum from Michel Mantha to All Group 1 and Group 2 Companies – Safety Performance Indicators Initiative, December 4, 2001

Memorandum to all staff from COO re: Competency teamwork, April 27, 2001

National Energy Board – Performance Report for the Period Ending March 31, 2001

National Energy Board Act and amendments, April 27, 2001

National Energy Board Rules of Practice and Procedures 1995 and amendments, January 5, 2001

NEB – Review, Internal Audit and Evaluation Policy, February 19, 1997

Annual Report to Parliament, NEB 2000

NEB APPS-001 – Developing and Modifying Templates Related to Environmental Assessment - Draft

NEB APPS-004 – Assessment Process for Non-Hearing Facilities Applications, June 28, 2000

NEB EMP-002 - EMP Procedures – Control of Critical Environmental Documents (Draft Procedure)

NEB EMP-01 – EMP Procedures – Communication Plan for the NEB Environmental Policy and Introduction of the EMP, July 20, 2000

NEB Environmental Policy, September 2000

NEB Internal Communication Strategic Plan, February 22, 2000

NEB OPS-012 – Pipeline Incident Investigation Procedures, July 21, 2001



NEB OPS-013 – Operations Quality Policy and Procedures

“NEB OPS-13?” (draft) – NEB Operation Procedures, “Establishing and Maintaining Procedures”

NEB OPS-CMP-01 – Crisis Management Plan, Emergency Response to Regulated Incidents, December 21, 2000

NEB OSH Committee. Terms of Reference, undated

NEB OSH Committee Agenda and Minutes, various dates

NEB Safety and Environmental Policy, January 15, 2002

NEB Strategic Plan 2001-2004

NEB-OPS-007 – Operation Inspection Procedures – Periodic Surveillance of Operating Pipeline Rights of Way and Related Facilities, January 25, 2002

Non-Hearing Facilities Application Assessment (Revision: November 10, 2001)

Occupational Safety and Health – Treasury Board of Canada Secretariat, December 22, 1994

Onshore Pipeline Regulations, 1999 (OPR99) Audit Report (Westcoast Energy Inc.). Audit Number 3785-W005-2001-004, 09-18, July 2001

Onshore Pipeline Regulations Audit Expected Elements, revised October 1, 2001

Operational Control Final Report: Report Prepared for the National Energy Board, Environmental Management System. Regulatory Development Team. Prepared by Tom Knapik, August 31, 2001

Operational Control Summary with Recommendations, June 6, 2001

Operational Controls Matrix – August 27, 2001

Pipeline Abandonment, Discussion Paper on Technical and Environmental Issues, (Canadian Association of Petroleum Producers, Canadian Energy Pipeline Association, Alberta Energy and Utilities Board and NEB), November 1996

Pipeline Incident Database

Pipeline Safety, NEB Publication, January 1997

Protection of the Environment, NEB publication, August 1996



Quarterly Report Given to Board Members by the NEB Executive Team reporting on NEB Performance by Goal. (PowerPoint presentation)

Records Classification Proposal, June 30, 1995

Report of the Auditor General of Canada to the House of Commons. Ch. 13 – NEB, September 1998

Report on Plans & Priorities 2001-2002 Estimates Part III

Report on Plans & Priorities. 2002-2003 Estimates (Draft Report 2002)

Risk Analysis Tool Outline, undated

Risk Prioritization Facility Profile Evaluation

Risk Prioritization – Score Sheet

Sulphur Pipeline Review and Learn Record., November 29, 2001

Technical Excellence at the NEB (Draft)

Watercourse Crossings Second Edition, November 1999. Canadian Pipeline Water Crossing Committee.

Workplace Incident/Accident Statistics, 1997-2000



APPENDIX B

**ISO 14001 and OHSAS 18001 GAP ANALYSIS
DETAILED FINDING**



ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	

4.1 GENERAL REQUIREMENTS			
The organization shall establish and maintain an environmental, health and safety management system, the requirements of which are described [below].			
4.2 ENVIRONMENTAL, HEALTH & SAFETY POLICY			
4.2 Top Management shall define and authorize the organization's EH&S policy, which shall clearly state overall EH&S objectives, and ensure that it:	✓✓	An Environmental Policy (September 2000) has been formally adopted and endorsed by the Chairman. A Safety and Environmental Policy has been drafted. It has yet to be reviewed by Board Members and endorsed by the Chairman. A reference to Health has not been explicitly included in this Policy.	Consider modifying the Safety and Environmental Policy (draft) to include Health. Formally authorize this Policy.
4.2 a) is appropriate to the nature, scale and environmental impacts of its activities, products or services and its H&S risks;	✓✓✓	Both the Environmental Policy and the Safety and Environmental Policy (draft) are appropriate to the nature, scale and environmental impacts of the NEB's activities, products or services and its H&S risks. The first paragraph of the Environmental Policy refers to design, construction, operation and decommission of facilities under the NEB's jurisdiction. The Safety and Environmental Policy (draft) refers to both the NEB conducting (its) business in a safe and environmentally responsible manner, and ensuring that NEB-regulated companies incorporate safety and environmental protection in all aspects of their business.	No change recommended.
4.2 b) includes a commitment to continual improvement and prevention of pollution (ISO 14001);	✓✓✓	Both the Environmental Policy and the Safety and Environmental Policy (draft) have a specific commitment to "continual improvement" and the "prevention of pollution".	No change recommended.
4.2 c) includes a commitment to comply with current, relevant environmental legislation and regulations, and with other requirements to which the organization subscribes;	✓✓✓	The Environmental Policy has a specific commitment to being "in compliance with all applicable environmental legislation and other requirements". The Safety and Environmental Policy (draft) states that the NEB shall "comply with all relevant legislation and internal policies" and to "ensure that NEB-regulated companies comply with regulations and commitments that protect persons and the environment.	No change recommended.
4.2 d) provides the framework for setting and reviewing environmental objectives and targets(ISO 14001);	✓✓	Neither the Environmental Policy nor the Safety and Environmental Policy (draft) contain a specific reference to a framework for setting and reviewing environmental objectives and targets.	Consider modifying the Safety and Environmental Policy (draft) to make specific reference to the setting and reviewing objectives and targets.

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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	
4.2 e) is documented, implemented and maintained, and communicated to all employees with the intent that employees are made aware of their EH&S obligations; and	✓✓	Both the Environmental Policy and the Safety and Environmental Policy (draft) are documented. The Environmental Policy has been widely distributed to employees – few, however, are familiar with the contents of the Policy and its implications. The Safety and Environmental Policy (draft) has not been formally endorsed and thus has not been communicated to all employees.	Once the Safety and Environmental Policy (draft) has been formally endorsed, circulate the Policy throughout the NEB. Ensure that employees have been made aware of the Policy and aware of its implications.
4.2 f) is available to the public and interested parties.	✓✓	The Environmental Policy is currently made available via the external website and through the NEB Publications Office.	Once the Safety and Environmental Policy (draft) has been formally endorsed, consider placing it on the NEB external website and ensure it is communicated to NEB-regulated companies, contractors and consultants, and various other stakeholders (e.g., CEPA, CAPP, etc.). Consider making the Policy available through the NEB Publications Office.
4.2 g) is reviewed periodically to ensure that it remains relevant and appropriate to the organization.	✓✓✓	There does not appear to be a formal mechanism in place to periodically review the Policy, but review has obviously taken place, since the current Environmental Policy will soon be replaced by a combined Safety and Environmental Policy.	Set a framework in place to periodically review the Safety and Environmental Policy, perhaps as part of the Management Review process.

4.3 PLANNING

4.3.1 Environmental Aspects / Hazard Identification, Risk Assessment and Risk Control

4.3.1 The organization shall establish and maintain a procedure to identify the environmental aspects of its activities, products or services that it can control and over which it can be expected to have an influence, in order to determine those which have or can have significant impacts on the environment (ISO 14001); and for the ongoing identification of hazards, the assessment of risks and the implementation of necessary control measures – to include routine and non-routine activities; activities of all personnel having access to the workplace, including contractors and	✓✓	The environmental aspects are identified in Appendix II of the EMP Documentation (<i>Identification and Evaluation of Environmental Aspects</i>), although the listed ‘aspects’ are activities rather than environmental interactions, as defined by ISO. There is no documented procedure for aspects identification. A description of how environmental aspects are used in an environmental management system is described in the EMP Documentation (<i>Section 3.2.1</i>). The criteria used for rating aspects and determining their significance are documented in Appendix III of the EMP documentation (<i>Application of Criteria to Determine Significant Environmental Aspects</i>), but it is not clear which criteria or threshold value rendered an aspect as being ‘significant’. The issue of NEB control versus NEB influence has been considered. Both external activities (e.g., applications by regulated companies) and internal activities (e.g., resource use by NEB personnel) have been considered. Regulatory development, one of the NEB’s primary activities, is not listed as	The procedures used for both aspects and hazards identification should be formalized and documented in more detail. The process being used to identify workplace hazards could be used as a model. The aspects should be reviewed for
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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	
visitors and facilities at the workplace. (OHSAS 18001)		<p>an aspect.</p> <p>A draft procedure for identifying hazards and the assessment of risks related to the workplace (i.e., risk to NEB personnel and contractors) has been created by an NEB Gas Plant Safety Specialist. (<i>NEB Risk Analysis Tool Outline</i>). He is in the process of documenting workplace hazards.</p> <p>Pipeline inspections are prioritized using Risk Prioritization Facility Profile Evaluation.</p> <p>The Pipeline Audit Team has started to prioritize their findings for pipeline audits with respect to health, safety and environment according to risk: Critical, Major, Medium and Minor.</p>	<p>completeness.</p> <p>The hazard identification process should be completed.</p>
4.3.1 The organization shall ensure that the aspects, hazards and controls related to these significant impacts are considered in setting its EH&S objectives.	✓✓	<p>Environmental Aspects were considered when the Environmental Objectives were identified as part of Appendix V of the EMP (<i>Environmental Objectives, Targets, and Performance Indicators</i>).</p> <p>Hazards have been considered when setting health and safety objectives for influencing NEB-regulated companies.</p> <p>No formal Health and Safety Objectives have been linked to the workplace hazards assessment that is being completed.</p>	Consider the workplace hazards when setting health and safety objectives for NEB personnel and contractors.
4.3.1 The organization shall keep this information up-to-date.	✓✓	<p>The environmental aspects were identified in 2001. Health and safety hazards are still in the process of identification.</p> <p>It is not clear how the aspects and the hazards will be updated.</p>	Document the procedure for periodically reviewing and updating aspects and hazards.
<p>4.3.1 The methodology for hazard identification and risk assessment shall:</p> <ul style="list-style-type: none"> - be defined with respect to its scope, nature and timing to ensure that it is proactive rather than reactive, - provide for the classification of risks and identification of those 	✓✓	<p>A thorough hazard identification and risk analysis of NEB workplaces is currently being undertaken by a Gas Plant Safety Specialist. A methodology has been developed to classify the risks and identify those that are to be controlled or eliminated. A “Critical Tasks” worksheet has been developed to provide input into the determination of facility requirements, identification of training needs, and/or the development of operational controls. Included in this is a date and person responsible for completing the recommended actions. It is not clear who will monitor the completion of the recommendations, or what the monitoring process will be.</p>	Formalize the Hazards Identification Procedure (<i>NEB Risk Analysis Tool Outline</i>). The methodology should include the scope of hazard identification and how the Critical Tasks worksheet will be implemented and monitored. Consideration may be given to tying this followup to Corrective and Preventive Action Procedures.

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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	
<p>that are to be eliminated or controlled,</p> <ul style="list-style-type: none"> - be consistent with operating experience and the capabilities of risk control measures employed, - provide input into the determination of facility requirements, identification of training needs and/or development of operational controls, - provide for the monitoring of required actions to ensure both the effectiveness and timeliness of their implementation 			
4.3.2 Legal and Other Requirements			
<p>4.3.2 The organization shall establish and maintain a procedure to identify and have access to legal and other EH&S requirements to which the organization subscribes, that are applicable to the organization and the environmental aspects of its activities, products or services.</p>	✓✓✓	<p>NEB personnel and Board Members are involved in the development of new regulations. Understanding of applicable legislation by NEB personnel is at a much higher level than most organizations.</p> <p>NEB personnel have excellent access to legislation (draft, current, and repealed).</p> <p>The libraries (Main and Law) have copies of most Alberta and federal environmental, health and safety legislation. Copies of some legislation are on permanent loan to various staff members. The Library is on mailing lists from publishers and will be notified of updates. The Library then will notify those that have loaned out materials that there are updates and provide the updates to them. The Library also subscribes to other regulatory information services such as EcoLog and will provide copies of various provincial and federal laws and regulations to NEB employees, Board Members, and the public.</p>	<p>The process for acquiring updates to legal and other EH&S requirements to which the NEB subscribes and disseminating that information to others in the organization should be documented.</p>

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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	

4.3.3 Objectives and Targets			
4.3.3 The organization shall establish and maintain documented EH&S objectives and targets, at each relevant function and level within the organization.	✓	<p>There are four corporate goals of NEB that shaped the Report on Plans and Priorities in 2001 and 2002. Two of these are related directly to environment and safety. Goal 1 is “NEB-regulated facilities are safe and perceived to be safe” and Goal 2 is “NEB-regulated facilities are built and operated in a manner that protects the environment and respects individuals’ rights”. The four goals do not include any reference to health, nor do they reference to the NEB’s direct activities or the health or safety of NEB employees. The goals are well known to employees. Although performance indicators have been identified in the Plans & Priorities, no specific, measurable targets are identified (e.g., it is identified that the performance indicator for safety will be the number of pipeline ruptures and incidents, but there is no specific target for reducing the number of incidents.)</p> <p>Six specific environmental objectives were drafted as part of the EMP. No specific Health and Safety objectives have been drafted yet. These objectives do not have measurable targets.</p> <p>Some employees could not articulate how the Report on Plans and Priorities document connects with their operations.</p> <p>Many of the specified objectives are task-oriented rather than performance-related (e.g., to implement a program by a certain date, rather than to achieve a measurable improvement in performance)</p>	<p>Consider aligning SEMS objectives with the NEB’s four goals.</p> <p>Consider the inclusion of accountability for specific EH&S targets in FOCUS documents.</p> <p>Consider developing targets using SMARTER principle. Targets should be: Specific, Measurable, Achievable, Realistic, Time-bounded, Economically-feasible, and Related to a base year.</p>
4.3.3 When establishing and reviewing its objectives, an organization shall consider the legal and other requirements, its significant EH&S risks, its technological options and its financial, operational and business requirements, and the views of interested parties.	✓✓	<p>The list of environmental objectives in Appendix V of the EMP documentation (<i>Environmental Objectives, Targets, and Performance Indicators</i>) is based on significant environmental aspects. The significant environmental aspects have been assessed using regulatory requirements, public concerns, corporate goals and federal government policies as criteria. It is not clear how these criteria have been considered when objectives and targets have been developed, nor it is clear how technological options have been considered.</p>	<p>To ensure that appropriate criteria are considered when establishing and reviewing objectives and targets, consider documenting the process used.</p>

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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	
4.3.3 The objectives and targets shall be consistent with the EH&S policies, including the commitment to prevention of pollution (ISO 14001) and to continual improvement (OHSAS 18001).	✓✓✓	The environmental objectives are consistent with the Environmental Policy and the draft Safety and Environment Policy.	No change recommended.
4.3.4 EH&S Management Program(s)			
4.3.4 The organization shall establish and maintain (a) EH&S management program(s) for achieving its objectives and targets.	✓	Action Plans have been drafted as a mechanism to achieve the environmental objectives, but the plans aren't linked to the overall planning process. Some of the Initial Corporate Environmental Performance Indicators listed (f:\planning\EMP-Initial EPI 2) are a description of process rather than indicators chosen to track or monitor progress on the Action Plans. The draft <i>Emergency Preparedness and Response Regulatory Program</i> (January 2002) contains information on objectives, responsibilities and time-frames for proposed improvements to regulating Emergency Response.	Fully develop and implement Action Plans for EH&S objectives. Action Plans should be part of Business Planning Cycle. Link the proposed improvements in regulation of emergency response to a SEMS objective.
Programs shall include: 4.3.4 a) designation of responsibility and authority for achieving objectives and targets at each relevant function and level for the organization; and	✓✓	Within each EMP Action Plan, overall accountability has been set with a specific Team Leader, however beyond that no responsibility and authority has been identified.	Clearly identify responsibilities and accountabilities.
4.3.4 b) the means and time-frame by which they are to be achieved.	✓	Within the <i>Report on Plans and Priorities</i> document, each goal is linked to gaps, strategies, measures (performance indicators) and major actions to be completed in the fiscal year. Within the EMP, Action Plans have not been completed. Specific means for achieving the six objectives and targets have not been identified nor have specific time frames.	Fully develop and implement Action Plans.

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ISO14001/OHSAS 18001 Requirement	ISO 14001/OHSAS 18001 Conformance		Recommendations
	Status	Description of Existing Arrangements	
4.3.4 Where there are new developments or new or modified activities, products, services or operating conditions, program(s) shall be amended where relevant to ensure that EH&S management applies.	✓	It is not clear how the programs will be amended if activities, products, services or programs are modified or added. Organizational changes are considered in some, but not all cases. Priorities for the Professional Leaders, as described in their FOCUS documents, are reviewed and changed monthly. However, FOCUS documents are not necessarily re-visited following a change in an employee's duties or responsibilities (e.g. for a newly appointed Team Leader).	Consider formalizing the requirements for management of change (including organizational change).
4.3.4 EH&S programs shall be reviewed at regular and planned intervals.	✓	It is not clear how or when the Action Plans will be reviewed or modified. There seems to be little direct connection between the Action Plans, and the four goals described in Report on Plans and Priorities.	Document how Action Plans will be reviewed and revised. SEMS objectives and targets should be linked directly to the goals described in Report on Plans and Priorities.
4.4 IMPLEMENTATION AND OPERATION			
4.4.1 Structure and Responsibility			
4.4.1 Roles, responsibility and authorities shall be defined, documented and communicated in order to facilitate effective environmental management.	✓✓	Although roles and responsibilities for overall management of NEB-regulated safety and environmental issues are well understood, the roles and responsibilities within SEMS are not. SEMS applies not only to the performance of NEB-regulated companies, but also to the health, safety, and direct environmental impact of NEB personnel. Two Board Members champion each goal on a rotating schedule. Board Members are appointed for a one year period, with a six month lag between appointments. However, Board Members have no direct authority over or management responsibilities for NEB employees. The identities of the champions are well known to employees. NEB Environmental Structure and Responsibilities were documented as part of the EMP, but roles and responsibilities within SEMS have not been similarly documented. Many staff are not familiar with the role of the OSH Committee. The Planning and Reporting team has not been involved in SEMS.	Identify and document roles and responsibilities within SEMS. Communicate the roles and responsibilities to all NEB personnel. The designated Management Representative should participate in the SEMS Steering Committee. Consider involving a representative of Planning and Reporting in SEMS development to assist in linking the SEMS to the annual business planning cycle.
4.4.1 Management shall provide	✓✓	The NEB has many highly qualified and experienced environmental and	Ensure availability of sufficient human

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resources essential to the implementation and control of the EH&S management system. Resources include human resources and specialized skills, technology and financial resources.		<p>safety personnel. Management has provided technology and financial resources for EH&S management. Some components of ESIMS have been more fully developed than others, reportedly due to a lack of human resources in some areas. ESIMS and PID are populated by numerous staff members; some add more complete information than others. Human resources and some specialized skills are lacking on the health side (see “Training” – 4.4.2).</p> <p>A ‘wellness’ subcommittee of the OSH Committee was reportedly started in 1999, but no real progress was made and the group no longer meets. The lack of progress was reportedly due to an unclear mandate rather than a lack of resources.</p> <p>There appears to be appropriate funding for training initiatives.</p>	resources to develop and implement SEMS and to fully utilize the capabilities of databases such as ESIMS and PID. If data are entered by numerous staff, resources should be made available to periodically review entries for consistency.
4.4.1 The organization’s top management shall appoint [a member of top management (OHSAS 18001)] (a) specific management representative(s)	✓	There is no clear Management Representative who is responsible for SEMS.	Identify a Management Representative with responsibility and authority for SEMS. The appointment of the Management Representative should be a very high priority in the response to this Gap Analysis.
who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for: 4.4.1 a) ensuring that EH&S management system requirements are established, implemented and maintained in accordance with these standards;	✓	The Business Leader, Operations is the individual who is most often identified by others as being the Management Representative. The OSH Committee was identified by some employees as being responsible for Health and Safety Management for the NEB.	see above
4.4.1 b) reporting on the performance of the EH&S management system to top management for review and as a basis for improvement of the EH&S management system.	✓✓	Environment, health and safety performance of NEB-regulated companies is communicated to Board Members regularly, but not necessarily by the ‘Management Representative’, since that person has not been identified. The Board Members have no responsibilities for staff performance, therefore the results of internal EH&S management should go to the CEO rather than Board Members.	Formalize the procedures for communicating results of internal EH&S performance to top management (i.e., the CEO).

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4.4.1 All those with management responsibility shall demonstrate their commitment to the continual improvement of EH&S performance. (OHSAS 18001)	✓✓	<p>All senior management (NEB staff) personnel interviewed demonstrated a commitment to continual improvement of EH&S performance. Board Members interviewed showed a strong commitment to EH&S performance and continual improvement, but reported that they are not ‘management’, and have no responsibility for the health & safety of NEB employees or the direct environmental impact of NEB activities.</p> <p>Some management personnel reported that they request their staff complete upward performance reviews; this process is optional.</p> <p>Team Leaders expressed varying understanding of, and commitment to, internal EH&S management (i.e., direct impact by the NEB and H&S of NEB personnel).</p>	<p>Consider the unique role of Board Members in development of SEMS. Ensure that the structure and responsibility framework of SEMS provides appropriate consideration to the NEB’s direct activities.</p> <p>To allow review of management commitment on an on-going basis, consider implementing a more formal system of upward reviews of managers by staff, including a review of EH&S commitment and performance.</p> <p>Consider the addition of SEMS roles and responsibilities to management personnel FOCUS documents, and regularly reviewing performance against plans.</p>
4.4.2 Training, Awareness and Competence			
4.4.2 The organization shall identify training needs. It shall require that all personnel whose work may create a significant impact upon the environment, have received appropriate training. (ISO 14001).	✓✓	<p>A significant amount of time is dedicated to training, including training in EH&S issues.</p> <p>The extent of training programs varies throughout the organization. The Inspectors have a formal training program as documented in the Inspector Training Manual. Inspectors must pass an exam and complete a designated number of site visits as an observer prior to completing independent inspections.</p> <p>A thorough Technical Competency Framework has been established for Engineers and Environmental Professionals. An organization-wide and business competency profile has also been established. The framework was introduced to employees in an April 2001 orientation session. It is not clear as to how the frameworks are going to be linked to training requirements or how they will be used in performance evaluation.</p> <p>A draft Technical Excellence program was developed in mid 2001 “to</p>	<p>Link the competency profile to specific training or awareness requirements.</p>

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		<p>continually enhance the NEB's ability to achieve its Corporate Goals". The program will include consideration of ways to enhance technical expertise, such as employee development plans, learning networks, and documentation/improvement of business processes. The program has reportedly been put on hold due following a review & prioritization of NEB initiatives.</p> <p>There is an Operations Business Unit Personal Safety Training Policy that sets out mandatory requirements and specialized training requirements.</p> <p>Monthly Team Leader training is provided, but is not mandatory. It is reported that a core group of Team Leaders commonly attends the training, which covers a variety of subjects. Some internal training programs are offered on a one-time basis, or are offered infrequently. It is not always clear how new employees will be trained, or what training is mandatory prior to completing a specific task. Most Mail Room members have had Bomb Threat and Suspicious Package Training.</p> <p>Inspectors have a detailed Inspection Officer Development Plan and Training Manual. Most other employees have informal procedures for their work processes.</p>	<p>Designate whether training is mandatory or optional, and clearly identify accountabilities for achieving the required training.</p> <p>Strongly consider making Team Leader training sessions mandatory.</p>
<p>4.4.2 It shall establish and maintain procedures to make its employees or members at each relevant function and level aware of:</p> <p>a) the importance of conformance with the EH&S policy and procedures and with the requirements of the EH&S management system;</p>	✓	<p>Most employees have seen the Environmental Policy, but the draft Safety and Environmental Policy has not been introduced to employees. Employees understand the concepts of the existing policy, but are not too familiar with its wording or its relationship with SEMS. Many are not familiar with the EMP or SEMS or how their job relates to the system.</p>	<p>After finalizing the policy and more fully developing SEMS, communicate them to employees.</p>
<p>4.4.2 b) the significant environmental impacts and H&S consequences, actual or potential, of their work activities and the EH&S benefits of improved personal performance;</p>	✓✓	<p>Most employees have a very good understanding of what how their job may interact with the environment and have an impact on health and safety from an external perspective (i.e., with respect to NEB-regulated companies). Most employees have not thought of the impacts from an internal perspective (i.e., the health and safety or environmental impact of NEB employees within their routine activities).</p>	<p>Ensure all employees are aware of the aspects and hazards associated with their jobs, both internally and externally.</p>

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4.4.2 c) their roles and responsibilities in achieving conformance with the EH&S policy and procedures and with the requirements of the EH&S management system including emergency preparedness and response requirements; and	✓	<p>Although most employees are not familiar with the wording of the Safety and Environmental Policy (draft), by their actions, they show a commitment to the Policy, and are very aware of their roles and responsibilities. Most employees are also not familiar with the content of SEMS, but are familiar with the components they are involved with as part of their job function. There is a gap in understanding of responsibility for personal safety of NEB employees. Both management and employees expressed opinions that internal health and safety programs are secondary to the safety of pipelines regulated by the NEB.</p> <p>Some, but not all, employees are familiar with the emergency procedures (<i>Fire Alarm and Emergency Evacuation Procedures</i> and <i>Emergency Preparedness and Response Regulatory Program</i>) and the crisis management procedures (NEB-OPS-CMP01).</p> <p>New employees are not given a formal orientation on the location of fire exits, emergency and evacuation procedures, etc.</p>	<p>A higher priority should be given to internal health & safety programs. The safety of NEB-regulated pipelines will not be compromised by placing more emphasis on personal safety.</p> <p>Consideration should be given to holding regular health & safety meetings, or adding health & safety as an agenda item to staff meetings.</p>
4.4.2 d) the potential consequences of departure from specified operating procedures.	✓✓✓	<p>The OSH Committee has provided information to employees on an Internal Responsibility System (IRS) and the concept of due diligence.</p> <p>There is a graduated discipline system. It was reported that some management personnel are reluctant to document health & safety related incidents (e.g., alcohol-related incidents).</p> <p>Employees using equipment and working out of the office are aware of the hazards they are exposed to.</p>	No change recommended.
4.4.2 Training procedures shall take into account differing levels of responsibility, ability, literacy and risk. (OHSAS 18001)	✓✓✓	The Competency Framework has identified required competency levels for both organization-wide issues and technical competencies. Expectations increase from 'learn' to 'apply' to 'guide' and 'shape' with increasing career levels. Job descriptions have been written.	<p>Management should give consideration to increasing their involvement in training programs identified as being required for others (e.g., defensive driving).</p> <p>Consideration should be given to developing an 'EH&S Leadership' training module to present to management, from Team Leaders up to the CEO.</p>

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<p>4.4.2 Personnel performing the tasks which can cause significant impacts on the H&S of the workplace or the environment shall be competent on the basis of appropriate education, training and/or experience, as required.</p>	<p>✓</p>	<p>Qualifications for Inspector Officers are listed in NEB-OPS-020. New inspectors must accompany experience inspectors are allowed to go out on their own. There is no formal procedure for peer review of inspection reports.</p> <p>Some employees working with controlled products and as inspectors have not had WHMIS training while employed by the NEB. Some who receive dangerous goods have had no TDG training.</p> <p>Employees who deal with moving and placing of documents, furniture, etc. have not received instruction in safe lifting. Some designated Fire Wardens reported that they have not received training in the Fire Alarm and Emergency Evacuation Procedures and have not had First Aid or CPR training. No NEB employees have up-to-date training in completing ergonomic assessments of workstations, but the assessments are being offered.</p> <p>In 1999, the NEB Operations Business Unit identified required safety training for “staff required to conduct Board business outside of the office, particularly field activities such as inspections and audits”. The training requirements are applied only to inspectors and auditors, not to all staff working outside of the office.</p> <p>A Training Administrative Coordinator was appointed in November 2001 to maintain central Personal Safety Training records (WHMIS, TDG, etc.) for Operations and Applications BUs. Some personnel have not provided information, and the training records remain incomplete. The system relies on employees to initiate training requests.</p>	<p>Consider formalizing the review process for inspection reports.</p> <p>WHMIS training is mandatory for employees working with controlled products. TDG training is mandatory for anyone shipping, transporting, or receiving dangerous goods. The completion of legally required training for identified employees should be a priority of the Gap Analysis response.</p> <p>Consideration should be given to developing and implementing training in various workplace health & safety issues, including safe lifting, CPR, First Aid, ergonomics, etc.</p> <p>Develop and implement a system to track EH&S training in all BUs, and at all levels of seniority. Enter expiry dates for qualifications and complete regular reviews to identify pending training requirements. Establish accountabilities for ensuring training is completed, and consequences if training is not in place. Companies that are acknowledged leaders in EH&S require the participation of senior management in personal safety training courses.</p>
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4.4.3 Communication and Consultation			
With regard to its EH&S management system and other pertinent EH&S information, the organization shall establish and maintain procedures for:			
4.4.3 a) internal communication between the various levels and functions of the organization; and	✓✓	<p>The NEB has a Communications Team with a mandate to provide advice and information on communication to both internal and external clients. They are responsible for maintaining the external web site. The librarians maintain the intranet site. Business Units can create internal website, which can be linked to the main intranet website.</p> <p>There is an <i>NEB Internal Communication Strategic Plan</i> (February 2000). It identifies face-to-face communication as being preferred by NEB personnel.</p> <p>There are two procedures for communication relating to the EMP, both designated NEB-EMP-01. (<i>Communication Plan for the NEB Environmental Policy</i> and <i>Introduction of the EMP</i>). There are no formal communication procedures for the Health and Safety portion of SEMS. E-mail is used by all employees, but the large volume of e-mail results in a phenomenon of ‘open and delete’. A small number of employees invited to Gap Analysis interviews did not attend because they assumed they had received the message by mistake. The intranet is used as a passive communication tool for EH&S information. Information is posted, but employees must seek it out. Some OSH committee meeting minutes are available on the intranet, but there have been no postings since mid-2001. OSH committee meeting minutes are reportedly posted on bulletin boards, but the postings appear to be sporadic. One board had not been updated since September 2000.</p> <p>The Professional Environmental Group meets monthly and communicates with each other via email distribution lists.</p> <p>Inspection reports are circulated to interested parties (e.g., team leaders, Lands, Pipeline Audit, Professional Environmental Group, and other inspectors). Records of inspections are logged centrally. The Inspector Group has an email distribution list. Minutes of Monthly Inspectors’ Meetings are placed on the intranet.</p>	<p>Develop an internal communications plan for SEMS which is consistent with the NEB Internal Communication Strategic Plan.</p> <p>Consider more active communication of SEMS initiatives, using tools such as automatic opening of the NEB intranet upon logging in. The Communications Team may be able to assist in developing communications strategies using the intranet.</p> <p>In developing communication strategies, consider the challenge posed by having Team Leaders with very different communication styles.</p> <p>Post OSH committee minutes on the intranet and on designated bulletin board(s).</p>

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		<p>All employees have access to the Project Tracking System that used to track the status of all applications.</p> <p>There are regular and frequent meetings of Board Members, Senior Management, Ex Team, Business Unit Leadership Teams. The frequency of Team Meetings are determined by the Team Leader. Some teams meet regularly (weekly), others reportedly meet only on rare occasions. Within teams, communication strategies vary.</p> <p>There is excellent formal communication of relevant EH&S results to Board Members. There are quarterly presentations of results and actions taken to improve results. There is a draft 'reporting triangle' for Goal 1, to identify what information is distributed to various levels of the NEB.</p>	
4.4.3 b) receiving, documenting and responding to relevant communication from external interested parties.	✓✓✓	<p>There is a formal system for communicating with external parties. The system is well implemented.</p> <p>The external web site contains well identified links to EH&S information, including the Environmental Policy, and relevant legislation.</p> <p>All incoming correspondence goes through the Mail Room. The mail is logged and distributed to appropriate parties. Most correspondence is copied and filed. The exceptions are correspondence marked "protected and secret", "personal and confidential", anything for Board members, junk mail, mail from Privy Council and supply boxes (e.g., stationery).</p> <p>Information Requests can be sent out by the Board on recommendation from the Applications Group to ensure all necessary information is available before an application is approved.</p> <p>There are very detailed procedures for submitting or processing an application. These are highlighted in the <i>Guidelines for Filing Requirements (February 22, 1995)</i>. Requests for information from applicants is normally routed through a formal Information Request. During the application process, there are very strict controls on direct communication between the applicant and the NEB.</p> <p>There is a <i>Landowner Complaint Procedure</i>. All landowner complaints are</p>	No change recommended.

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		<p>logged on a spreadsheet. Responses are recorded, and resolution times are being tracked. An initiative is underway to improve resolution times. An Alternate Dispute Resolution (ADR) initiative is underway.</p> <p>Media training is available periodically.</p> <p>An internal guidance document for making informal requests for information concerning section 58 applications, <i>Guidelines for Informal Requests</i>, was recently developed to improve consistency between project teams in their responses to informal requests.</p> <p>Stakeholder consultation is completed on an 'as-required' basis during the development of new or revised regulations. Prior to pipeline development, both NEB-regulated companies and the NEB are required to hold public consultation sessions.</p>	
4.4.3 The organization shall consider processes for external communication on its significant environmental aspects and record its decision. (ISO 14001)	✓✓✓	<p>As a government organization, the processes for external communication of aspects and hazards are well established. Many documents, including policies, <i>Report on Plans and Priorities</i>, results (as described in the <i>Annual Report to Parliament</i> and the annual <i>Performance Report to Treasury Board</i>), and Board decisions are publicly and easily available via the web site and in hard copy. The NEB has committed to publicly reporting the result of this SEMS Gap Analysis.</p> <p>The results of a <i>Damage to Pipeline Regulation</i> survey completed in 2000 are posted on the internet site. Results of one question revealed that 84% of respondents felt that the NEB's role and jurisdiction are not clearly understood by stakeholders. One conclusion of the survey report was that the NEB needs to enhance communication of its role. Since the survey, a new landowner brochure has been developed. An overall corporate communications strategy is in the early stages of development.</p>	Develop and implement a corporate communications strategy, as planned.
4.4.3 Employee involvement and consultation arrangements shall be documented and interested parties informed. (OHSAS 18001)	✓	The OSH Committee has not been involved formally in the development and implementation of SEMS.	Define the interaction between the OSH Committee and SEMS working group.

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<p>4.4.3 Employees shall be:</p> <ul style="list-style-type: none"> - involved in the development and review of policies and procedures to manage risks, - consulted where there are any changes that affect workplace health and safety, - represented on H&S matters, and informed as to who is their H&S representative and specified management appointee. (OHSAS 18001) 	✓✓	<p>In comparison to the risks posed by the operation of NEB-regulated companies (e.g. pipeline failures), the risks to NEB employees seem to negligible to the employees themselves.</p> <p>Staff (members of both unions) and management are represented on the OSH Committee, and the membership of the committee is identified on the intranet. The OSH page on the intranet includes a description of the committee's mandate, links to regulations, incident reporting forms, etc.. The mandate was last updated in 1994; it contains references to positions that no longer exist following re-structuring.</p> <p>Staff are consulted on some changes to policy (e.g., the proposed Drug & Alcohol Policy), but it was reported that the development this Drug & Alcohol policy has been difficult.</p> <p>Where necessary, changes are implemented without consultation of staff (e.g. changes in security measures after September 11).</p>	<p>Review and revise the OSH Committee mandate.</p> <p>Consider holding a 'Review & Learn' on the proposed implementation of a Drug & Alcohol Policy to identify barriers to implementing new workplace EH&S policies.</p>
4.4.4 EH&S Management System Documentation			
The organization shall establish and maintain information, in paper or electronic form, to:			
4.4.4 a) describe the core elements of the management system and their interaction; and	✓	The EMP core elements are described in a document entitled: <i>EMP Documentation: A Guide to the NEB's Environmental Management Program</i> . The latest version of this document (February 28, 2001) is still in draft and is incomplete. SEMS has not been described in any similar type of document.	<p>Develop a manual to describe the core elements of SEMS.</p> <p>Once the manual is complete, consider the use of the intranet or network to provide access to all NEB personnel.</p> <p>Ensure that the scope of SEMS is well defined and is communicated.</p> <p>Within documents and records, show the links between aspects/hazards and objectives/targets, management programs, and monitoring/measurement.</p>
4.4.4 b) provide direction to related documentation.	✓	Reference documents (Appendices A-N) have been identified in the <i>EMP Documentation: A Guide to the NEB's Environmental Management Program</i> .	see above

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4.4.5 Document and Data Control			
4.4.5 The organization shall establish and maintain procedures for controlling all documents required by these Standards	✓✓	A document control procedure was drafted in 2001 as part of the <i>EMP (NEB-EMP-002 – Control of Critical Environmental Documents)</i> . It also applies to records (referred to as ‘legacy documents’ by the NEB).	Implement the document control procedure.
to ensure that: 4.4.5 a) they can be located:	✓	Some EMP and SEMS documents are still in draft form. They are not accessible to all NEB staff members.	Once completed, ensure the documents can be located by staff.
4.4.5 b) they are periodically reviewed, revised as necessary and approved for adequacy by authorized personnel;	✓	A Critical Environmental Document Matrix (August 27, 2001) includes reference to effective dates, ‘responsible person’, ‘assigned accountability’, and some ‘review by’ dates. Procedures are to be reviewed every three years. The OSH Committee mandate was last revised in 1994. Since then, the NEB has re-structured.	Complete the document matrix. Review and revise the OSH Committee mandate.
4.4.5 c) the current versions of relevant documents and data are available at all locations where operations essential to the effective functioning of the system are performed;	✓	Approved NEB procedures, documents, and data are appropriately controlled. The Library has lists of all staff who have borrowed documents on permanent loan. Once updates come in, they will distribute them to all of the staff that have a particular document. Not all EMP documents have version numbers. The dates on some documents are updated each time they are printed, making them seem more current than they may be. Some documents that have been used for years have not been finalized (e.g., draft <i>Guide to Conducting Environmental Screenings at the NEB</i> , 1998).	Implement document control procedures even on draft or preliminary documents. Show version numbers and dates. Apply these controls to all documents, including forms.
4.4.5 d) obsolete documents are promptly removed from all points of issue and points of use, or otherwise assured against unintended use; and	✓✓	Document control at the NEB is much better than at most organizations. Two important stakeholder communication documents posted on the internet site are outdated. Plans to update <i>Protection of the Environment</i> (1996) and <i>Pipeline Safety</i> (1997) have reportedly stalled.	Review & update <i>Protection of the Environment</i> (1996) and <i>Pipeline Safety</i> (1997).

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4.4.5 e) any obsolete or archival documents and data retained for legal and/or knowledge preservation purposes are suitably identified.	✓✓	All files older than ten years and some older than five are archived at the National Archives. The draft document <i>NEB-EMP-002 – Control of Critical Environmental Documents</i> includes appropriate measures for identifying obsolete documents.	Modify the document control procedure to include reference to health and safety documents.
4.4.5 Documentation shall be legible, dated (with date of revision) and readily identifiable, maintained in an orderly manner and retained for a specified period. (ISO 14001)	✓✓	Many older documents have no date of revision, but procedures written since approximately 2000 have appropriate identification of approval and revision dates. There is a template for procedures (NEB-OPS-013) that includes appropriate control features. There are several versions of some EMP- related documents. It is not clear which version they are. References are made to Appendices A-N, however some Appendices are numbered rather than identified with letters.	As documents are revised, add appropriate document control features.
4.4.5 Procedures and responsibilities shall be established and maintained concerning the creation and modification of the various types of document. (ISO 14001)	✓✓	The draft document <i>NEB-EMP-002 – Control of Critical Environmental Documents</i> includes procedures and responsibilities concerning the creation and modification of the various types of documents.	Modify the document control procedure to include reference to health and safety documents.
4.4.6 Operational Control			
4.4.6 The organization shall identify those operations and activities that are associated with the identified significant environmental aspects, and those H&S risks where control measures need to be applied, in line with its policy, objectives and targets	✓✓	The NEB has identified its operations and activities that are associated with the significant environmental aspects. A similar exercise is underway for internal Health and Safety hazards; a “critical tasks” worksheet has been developed to identify controls and improvement suggestions. Many operational controls are in place for NEB-regulated companies, but these controls have not been formally linked to SEMS.	Complete the identification of operational controls relating to H&S risks to NEB employees. As a part of SEMS development, document the links between H&S risks of NEB-regulated companies, and the NEB operational controls in place to address those risks.

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The organization shall plan these activities, including maintenance, in order to ensure that they are carried out under specified conditions by:			
4.4.6 a) establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the EH&S policy and the objectives and targets;	✓✓	<p>Most procedures are referenced in the <i>Operational Control Final Report</i> (August 31, 2001) and the <i>Operational Controls Matrix</i>. Many of these procedures are draft and are as yet uncontrolled. The scope of this exercise did not include Frontier explorations (COGOA) and only included the Applications and Operations Business Units. The Operational Controls have not been verified or “truthed” yet.</p> <p>Numerous OSH-related operational controls are in place via Treasury Board directives and standards. The NEB can develop replacements to these directives, but cannot eliminate a directive.</p> <p>A checklist/template is used by Applications to document the recommendation process for approvals.</p> <p>Inspectors may issue an “Assurance of Voluntary Compliance” which is an agreement between the Board and an NEB- regulated company to complete reclamation work or provide necessary information within seven (7) days. An Inspection Summary is a less formal process. Inspectors on the Operations side have the authority under the <i>NEB Act</i> in certain cases to shut down jobs.</p> <p>For Frontier (North of 60°) projects, the Board shares responsibility with other agencies.</p> <p>The draft <i>Guide to Conducting Environmental Screenings at the National Energy Board</i> (1998) and NEB-APPS-004 Assessment Process for Non-Hearing Facilities Applications is used by staff.</p> <p>The Operations Business Unit reviews the Safety and Emergency Response Manuals of operators and their contractors.</p> <p>The Applications Business Unit may examine if an Emergency Response Plan is present in an Application by a proponent of a project, but would not examine the plan’s effectiveness.</p> <p>The Pipeline Audit Team requires audited companies to submit a</p>	Complete the planned implementation and documentation of operational controls.

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		<p>Corrective Action Plan within a month of an Audit. They will provide recommendations to the Board Members to either accept or reject the Plan.</p> <p>A Drug and Alcohol Policy is currently being developed.</p>	
4.4.6 b) stipulating operating criteria in the procedures;	✓✓	Operating criteria have been included in procedures, were appropriate.	see above
4.4.6 c) establishing and maintaining procedures related to the identifiable significant environmental aspects and H&S risks of goods and services used by the organization and communicating relevant procedures and requirements to suppliers and contractors.	✓✓	<p>At present, few contractors and suppliers to the NEB have involvement in EH&S activities. Internal environmental issues (such as green procurement) have low priority, but there is a requirement for recycled content in paper. Construction contracts within the building are handed by PWGSC if >\$5k. NEB personnel hire contractors directly for small construction projects, and require WCB and insurance information to be provided.</p> <p>Professional Service contracts are reported to include EH&S requirements, where appropriate. In the past, contract inspectors have been hired, but there are none in place at present.</p>	<p>Ensure that EH&S requirements for inspectors are applied to any contract inspectors hired in the future.</p> <p>Communicate emergency response procedures to contractors working short-term at the NEB (e.g., location of exits, two-stage alarm, etc.). Consider posting alarm description in meeting rooms.</p>
4.4.6 d) establishing and maintaining procedures for the design of workplace, process, installations, machinery, operating procedures and work organization, including their adaption to human capabilities, in order to eliminate or reduce EH&S risks at their source. (OHSAS 18001)	✓	<p>Machinery is used only by Document Production. The principal operator has good knowledge of operating procedures due to previous employment in a printing shop. He wears appropriate personal protective equipment (steel-toed footwear, earplugs), but has not been instructed to do so. There are some engineered controls in place to reduce risk to employees, but there is still a risk of injury from binding and punching equipment. There are no written procedures or signs in place to warn untrained people from attempting to use the equipment. From time-to-time, the operator works alone in the document production area after hours.</p> <p>There are also no written procedures for lifting, moving and transporting office furniture or books, files, documents, etc. There are driver training requirements for inspectors, but none for other NEB staff who drive vehicles occasionally as a part of their jobs. There are no policies or procedures relating to cell phone use while driving.</p>	<p>As a part of the followup to the risk assessment process, identify current operational controls, and modify controls where required.</p> <p>As part of the risk assessment process underway, review risks and controls for personnel who work alone.</p>

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	Status	Description of Existing Arrangements	

4.4.7 Emergency Preparedness and Response			
4.4.7 The organization shall establish and maintain plans and procedures to identify potential for and responses to accidents and emergency situations, and for preventing and mitigating the likely illness, injury and environmental impacts that may be associated with them.	✓✓✓	<p>The NEB's Emergency Preparedness and Response Program is outline in a document entitled: <i>Emergency Preparedness and Response Regulatory Program</i>.</p> <p>The two distinct elements of SEMS are particularly clear with respect to Emergency Preparedness and Response. The NEB has responsibility and authority for ensuring that NEB-regulated companies are prepared to deal with emergencies. The second element of Emergency Preparedness and Response is the response to incidents directly involving NEB personnel. This element is addressed by the OSH Committee, with the involvement of building management. There are <i>Fire Alarm and Emergency Evacuation Procedures</i>.</p> <p>The NEB has responsibility for incident response and communication of lessons learned to other NEB-regulated companies through Pipeline Safety Advisories.</p> <p>There are several key documents governing external incident response, including NEB-OPS-018 (<i>Emergency Response to Pipeline & Frontier Incidents and Spills</i>) and the draft <i>Crisis Management Plan</i> (NEB-OPS-CMP01 – <i>Emergency Response to Regulated Incidents</i>).</p> <p>Emergency Response equipment is kept in a locked cabinet and is periodically checked to ensure it is working. Where appropriate, emergency response equipment has been sealed to detect tampering.</p>	<p>Finalize the Crisis Management Plan.</p> <p>Describe the links between various emergency response programs and plans in SEMS core documents.</p>
4.4.7 The organization shall review and revise, where necessary, its emergency preparedness and response procedures, in particular, after the occurrence of accidents or emergency situations.	✓✓✓	<p>Following September 11, 2001, the NEB has proposed changes to the NEB Act to include security within the scope of the NEB mandate. A draft <i>Crisis Management Plan</i> has been developed.</p>	see above
4.4.7 The organization shall also periodically test such procedures where practicable.	✓✓	<p>Fire Drills are conducted, although many staff (including some Fire Wardens) could not name staging areas. Building operators and tenant representatives meet following fire drills to review the effectiveness of the drill and identify areas for improvement.</p>	<p>Following system tests, share the results of the post-exercise review with staff, where appropriate.</p>

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		<p>Included in the <i>Emergency Preparedness and Response Regulatory Program</i> is a plan to have staff attend spill exercises.</p> <p>There is an excellent understanding of the benefit of testing emergency response plans. There has been a tabletop exercise testing the draft <i>Crisis Management Plan</i>, but a full exercise has not been completed yet; one is planned.</p>	
4.5 CHECKING AND CORRECTIVE ACTION			
4.5.1 Monitoring and Measurement			
4.5.1 The organization shall establish and maintain documented procedures to monitor and measure, on a regular basis, the key characteristics of its operations and activities that can have a significant impact on the environment. This shall include the recording of information to track EH&S performance, relevant operational controls and conformance with the organization's objectives and targets.	✓✓	<p>There are well documented procedures for monitoring characteristics (externally) of NEB-regulated companies through inspections and audits. These include: NEB-OPS-001-17 (<i>Auditing Pipelines</i>). To date, the Pipeline Audit Team has been auditing only Elements 1-6 of the <i>Onshore Pipeline Regulations</i>. NEB-OPS-012 (<i>Pipeline Incident Investigation Procedures</i>) deals with investigating pipeline incidents, but does not include environmental issues arising from spills.</p> <p>Internally, there are documented procedures for conducting inspections of the NEB office facilities (<i>A Guide for Monthly Floor Inspections – Revised Jan 2, 2001</i>).</p> <p>The Document Production area is inspected twice monthly, but the results of the inspection are not documented.</p> <p>The Board Members and the Executive Team meet quarterly to review EH&S performance with respect to the four corporate goals.</p>	Ensure monitoring procedures link monitoring of EH&S performance to specific objectives and targets.
4.5.1 These procedures shall provide for: - both qualitative and quantitative measures, appropriate to the needs of the organization, - monitoring of the extent to which the organization's H&S objectives are met, - proactive measures of performance that monitor compliance with the H&S management program, operational criteria and applicable legislation	✓	Performance indicators are in the process of being drafted for the environmental objectives. The indicators includes a frequency of measurement and a starting date (<i>NEB's Contribution Toward Environmental Protection (Initial Corporate Environmental Performance Indicators)</i>). They have also been referenced in the <i>Environmental Objectives, Targets and Performance Indicators</i> document. Neither of these documents have indicators that follow the SMARTER principles.	Ensure indicators are specific, measurable, time-bounded, achievable, realistic, economically feasible, and related to a base year.

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and regulatory requirements, (OHSAS 18001)			
<ul style="list-style-type: none"> - reactive measures of performance to monitor accidents, ill health, incidents (including near-misses) and other historical evidence of deficient H&S performance, and recording of data and results of monitoring and measurement sufficient to facilitate subsequent corrective and preventive action analysis. (OHSAS 18001) 	✓✓✓	<p>The NEB reports performance on a wide variety of EH&S indicators of NEB-regulated companies. This report includes: incidents and releases, lost time injuries (including those of contractors), landowner survey results, complaints, near misses, environmental AVCs, Environmental Orders, Environmental Conditions Confirmed, and Landowner Complaints. In some cases, indicators are normalized (e.g., injuries per hours worked, or incidents per 1000 km of pipeline).</p> <p>OH&S information tracked under OPR are generally lagging indicators. In addition to information required to be reported under OPR, the voluntary Safety Performance Indicators initiative was established in 2000 to identify leading indicators. Twenty-four pipeline companies responded to the initial request for data. At this point, the primary objective of this initiative is to obtain baseline EH&S information for the purpose of trending analysis. Due to issues with consistency of information, 2000 data have not yet been analyzed or reported to the public.</p> <p>The NEB also collects statistics on its own Workplace Incidents/Accidents. At the time of the Gap Analysis, a report on 2001 NEB incidents/accidents had not been compiled.</p>	Analyze and report on 2000 Safety Performance Indicators. In the future, use the results of the survey to set goals for improvement.
4.5.1 Monitoring equipment shall be calibrated and maintained and records of this process shall be retained according to the organization's procedures.	--	<p>Several items of equipment requiring calibration are used periodically by NEB personnel, including gas detectors, a sound meter, and a micrometer. The gas detectors were out of service at the time of audit. Calibration information for the sound meter and micrometer was not available.</p> <p>There are no written procedures for calibration of monitoring equipment.</p>	Develop and implement calibration procedures. Maintain a list of equipment requiring calibration. Identify responsibilities for both internal and external calibration (e.g., calibration by NEB personnel vs calibration by outside agencies) Identify calibration equipment status on equipment using calibration stickers with 'last calibrated' and 'next due' dates.

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4.5.1 The organization shall establish and maintain a documented procedure for periodically evaluating compliance with relevant environmental legislation and regulations.	✓✓	<p>The NEB conducts periodic compliance audits of various NEB-regulated pipelines during construction and after a pipeline is in operation. NEB field inspectors monitor compliance with: the conditions of the project approval, OPR, the pipeline company's safety manual, and the pipeline company's environmental protection plan. Operating facilities are selected to be audited using a risk-based approach. North of 60°, the NEB conducts inspections of H&S aspects of geophysical and drilling programs.</p> <p>There are documented procedures: NEB-OPS-002 (<i>1999/2000 Condition Tracking System</i>), NEB-OPS-003 (<i>S.58 Operations Project Management and Condition Compliance</i>) and NEB-OPS-004 (<i>Tracking s.52 Application and Condition Compliance</i>).</p> <p>The NEB does not have documented procedures to monitor its own compliance with relevant EH&S legislation. The Manager, Audit & Evaluation (position currently vacant) is responsible for internal environmental compliance auditing, according to the EMP Structure & Responsibilities chart.</p>	The new Manager, Audit and Evaluation should develop an internal compliance monitoring program.
4.5.2 Accidents, Incidents, Nonconformances and Corrective and Preventive Action			
<p>4.5.2 The organization shall establish and maintain procedures for:</p> <ul style="list-style-type: none"> - defining responsibility and authority for handling and investigation accidents, incidents, and nonconformances, - taking action to mitigate any impacts or consequences caused, - initiating and completing corrective and preventive actions, and - confirming the effectiveness of corrective and preventive actions taken. 	✓✓	<p>There are well-defined procedures for dealing with non-compliances by NEB-regulated companies that are identified by NEB inspectors. Minor issues are generally recorded by the inspector and an assurance of voluntary compliance (AVC) is received from the pipeline company. Issues that must be resolved immediately are recorded on a field order. Tracking of compliance with conditions and response to AVCs is completed using ESIMS.</p> <p>There are documented <i>Pipeline Incident Investigation Procedures</i> (NEB-OPS-012). There is a formal internal 'Review and Learn' system to evaluate the NEB's performance of major projects such as those that are governed by Section 52 of the NEB Act.</p> <p>A Review & Learn session for EMP was held in March 2001</p> <p>Preventive Actions for H&S will be conducted as part of the NEB Risk Analysis Tool Outline (Critical Task Worksheet) where loss exposures will be identified, controls will be identified and improvement suggestions can be made. If an incident occurs in the workplace, a <i>Hazardous Occurrence</i></p>	Develop and implement a system to record and respond to nonconformance with SEMS internal requirements, as well as to preventive actions identified (e.g., during Review & Learns)

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		<p><i>Investigation Report</i> is filled out (HRDC Schedule 1, Section 15.8). The form includes a requirement for identification of both Corrective and Preventive Measures. There is also a separate OSH Committee Workplace Incident Form.</p> <p>There is no formal system in place to identify, track, and respond to nonconformances with internal SEMS requirements. Employee Relations personnel may become involved if there is a disciplinary issue (e.g., someone refuses to work according to procedures) or if there is a performance issue (e.g., someone is incapable of doing their job). Disciplinary issues are also dealt with through the two unions (PSAC and PIPSC).</p> <p>Pipeline Incidents are logged into the Pipeline Incident Database (PID). Each incident is assigned to one inspector. Not all incidents in the database have been closed out within an appropriate timeframe (e.g., records on a 1999 incident have not been closed). Frontier incidents are recorded in COGOSH, a separate system from PID.</p> <p>The effectiveness of conditions and response to conditions is being evaluated by establishing a Desired End Result (DER) for each condition, order, and AVC request.</p> <p>In September 1998, the Auditor General issued a report on the NEB, including management of EH&S. The Board accepted the Auditor General's recommendations. Several of the positive initiatives described in this report were completed as part of the response to that report.</p>	Review the PID followup procedures to ensure inspectors are following up incidents within a reasonable timeframe.
4.5.2 These procedures shall require that all proposed corrective and preventive actions shall be reviewed through the risk assessment process prior to implementation. (OHSAS 18001)	✓	Responses to the OSH Inspection Reports are documented; recommendations for changes are made within the reports.	The Critical Task Worksheet currently being developed could be integrated with the OSH Inspection Reports.

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4.5.2 Any corrective or preventive action taken to eliminate the causes of actual and potential nonconformances shall be appropriate to the magnitude of problems and commensurate with the environmental impact and H&S risk encountered.	✓✓✓	The response of inspectors to identified non-compliances in the field is commensurate with the identified risk. For smaller issues, inspectors can require an AVC; they have the authority to shut down an operation if significant risks are identified. It appears that corrective and preventive action taken to eliminate the actual or potential nonconformances addressed in the OSH floor inspections is appropriate to the magnitude of problems and commensurate with the H&S risk encountered.	No change recommended.
4.5.2 The organization shall implement and record any changes in the documented procedures resulting from corrective and preventive action.	✓	There is no formal process to implement and record any changes in the documented procedures resulting from corrective or preventive action.	Develop and implement a system to record SEMS nonconformances and corrective & preventive actions.
4.5.3 Records and Records Management			
4.5.3 The organization shall establish and maintain procedures for the identification, maintenance and disposition of EH&S records. These records shall include training records and the results of audits and reviews.	✓✓	IRAD has very detailed procedures governing the classification, storage, archiving and disposition of EH&S records. This system includes personnel files and the results of audits and reviews. These procedures, are described in various draft documents. Archiving Procedures are documented in the <i>Retention Guidelines for Common Administrative Records of the Government of Canada</i> . Records are also addressed as part of procedure NEB-EMP-002, <i>Procedure for Control of Critical Environmental Documents</i> . Some personal safety training records are maintained by HR Development within each employee's training records. Also, a Training Administrative Coordinator is developing central Personal Safety Training records (WHMIS, TDG, etc.) for Operations and Applications BUs.	Review personal safety training records system to ensure that appropriate training information is being collected.
4.5.3 EH&S records shall be legible, identifiable and traceable to the activity, product or service involved.	✓✓✓	EH&S records relating to a particular pipeline are stored and classified accordingly.	No change recommended.

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4.5.3 EH&S records shall be stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration or loss.	✓✓✓	Most records are readily retrievable. Records are generally filed according to pipeline. Records storing procedures are documented in <i>Protecting Essential Records: "A short guide for government institutions"</i> – April 2001. In the event of a fire, the records may be damaged by water from sprinklers or flame. Server files are backed up daily. Tapes are moved to off-site storage after two weeks.	No change recommended.
4.5.3 Their retention times shall be established and recorded.	✓✓✓	Official records are stored for five years as active files and then another five as being dormant. They then may be archived for 40 years at the National Archives, following which they will either be destroyed or retained for another 40 years.	No change recommended.
4.5.3 Records shall be maintained, as appropriate to the system and the organization, to demonstrate conformance to the requirements of these Standards.	✓✓	Records are being stored in a manner that is appropriate to the system and the organization.	As SEMS is developed, ensure documentation of record-keeping requirements.
4.5.4 EH&S Management System Audit			
4.5.4 The organization shall establish and maintain a program and procedures for periodic EH&S management system audits to be carried out	✓✓	The NEB has trained and experienced EH&S auditors on staff. These personnel complete periodic management system audits of pipelines. The focus of the audit is on the effectiveness of the pipeline company's EH&S management systems. The first such "Management System Audit" for SEMS is the Gap Analysis described in this report. There is an Internal Audit and Evaluation position within the NEB, but the role is currently vacant. The auditor is responsible for preparing a multi-year Audit and Evaluation Plan and conducting various audits in accordance with the plan. It has not been determined how future internal Management System Audits will be completed.	As SEMS is developed, ensure that a system of periodic management system audits is implemented.

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in order to: 4.5.4 a) determine whether or not the EH&S management system: 1) conforms to planned arrangements for EH&S management including the requirements of these Standards; and	--	The results of this Gap Analysis will partially address this requirement.	see above
2) has been properly implemented and maintained; and	--	The results of this Gap Analysis address this requirement.	see above
3) is effective in meeting the organization's policy and objectives; and (OHSAS 18001)	--	The results of this Gap Analysis address this requirement.	see above
4.5.4 b) review the results of previous audits, and (OHSAS 18001)	✓✓	This Gap Analysis included a review of response to the Auditor General's 1998 report. Future audits should review the response to this audit.	see above
4.5.4 b) provide information on the results of the audit to management.	✓✓✓	Previous management system audits, including the Auditor General's report have been presented to senior management. The results of this Gap Analysis will reportedly be presented to the Executive Team and Board Members.	No change recommended.
4.5.4 The organization's audit program, including any schedule, shall be based on the EH&S importance of the activity, the results of risk assessments concerned and the results of previous audits.	✓✓	Auditing of NEB-regulated companies is scheduled using a risk-based approach. Internal SEMS audit scheduling has not yet been completed.	Base the SEMS audit program on risk, and on the results of previous audits.
4.5.4 In order to be comprehensive, the audit procedures shall cover the audit scope, frequency, methodologies and competencies, as well as the responsibilities and requirements for conducting audits and reporting results.	--	Specific SEMS audit procedures have not yet been developed.	Develop SEMS audit procedures.

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4.5.4 Whenever possible, audits shall be conducted by personnel independent of those having direct responsibility for the activity being examined. (OHSAS 18001)	✓✓	Specific SEMS audit procedures have not yet been developed, but the concept of independent auditors/inspectors is well understood at the NEB. Independent auditors were hired to complete this Gap Analysis. The internal audit position at the NEB is currently vacant. Within the management structure, that person is independent of areas they will audit.	Develop SEMS audit procedures.
4.6 MANAGEMENT REVIEW			
4.6 The organization's top management shall, at intervals it determines, review the EH&S management system, to ensure its continuing suitability, adequacy and effectiveness.	✓✓	The NEB has an <i>Internal Audit and Evaluation Policy</i> . Board Members review the EH&S performance of NEB-regulated companies but (with the exception of the Chairman), do not review the NEB staff's EH&S performance.	Develop and implement a SEMS Management Review procedure compliant with existing NEB audit and evaluation requirements. Ensure that the roles of Board Members and the Chairman/CEO are considered when preparing the review procedure.
4.6 The management review process shall ensure that the necessary information is collected to allow management to carry out this evaluation.	✓✓	There is no SEMS Management Review procedure documented, but the current reports to Board Members contain appropriate information. Internal H&S data for 2001 have not yet been compiled.	see above
4.6 This review shall be documented.	✓✓	There is no SEMS Management Review procedure documented.	see above
4.6 The management review shall address the possible need for changes to policy, objectives and other elements of the EH&S management system, in the light of EH&S management system audit results, changing circumstances and the commitment to continual improvement.	✓✓	Although there is no SEMS Management Review procedure documented, the current system of reporting information to Board Members indicates that the required criteria are being considered.	see above

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APPENDIX C
DESCRIPTION OF ACRONYMS USED



APPENDIX C – LIST OF ACRONYMS

ADR	Alternate Dispute Resolution
AVCs	Assurance of Voluntary Compliance
BU	Business Unit
CAPP	Canadian Association of Petroleum Producers
CEO	Chief Executive Officer
CEPA	Canadian Energy Pipeline Association
COGOA	Canadian Oil and Gas Operations Act
COGOSH	Canadian Oil and Gas Occupational Safety and Health
COO	Chief Operating Officer
CPR	Cardiopulmonary Resuscitation
DER	Desired End Result
EH&S	Environment Health & Safety
EMP	Environmental Management Program
ESIMS	Environment and Safety Information Management System
H&S	Health and Safety
HR	Human Resources
HRDC	Human Resources Development Canada
HSEMS	Health, Safety and Environmental Management System
HSMS	Health and Safety Management System
IRAD	Information Resources and Distribution Team
IRS	Internal Responsibility System
ISO	International Organization for Standardization
IT	Information Technology
NEB	National Energy Board
OH&S	Occupational Health and Safety
OHSAS	Occupational Health and Safety Assessment Series
OPR	Onshore Pipeline Regulations, 1999
OSH	Occupational Safety and Health
PID	Project Information Database
PIPSC	Professional Institute of the Public Service of Canada
PSAC	Public Service Alliance of Canada
PWGSC	Public Works; Government Services Canada
SEMS	Safety and Environmental Management System
SMARTER	Specific Measurable, Achievable, Realistic, Time-bound, Economically Feasible, Related to a Base Year
SMP	Safety Management Program
TDG	Transportation of Dangerous Goods
WCB	Workers' Compensation Board
WHMIS	Workplace Hazardous Materials Information System

