

National Energy  
Board



Office national  
de l'énergie

# Regulating Pipeline Abandonment

June 2011



**how is pipeline  
abandonment monitored?**

**how am  
I involved?**



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# 1: Executive Summary

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The National Energy Board (NEB) regulates interprovincial and international pipelines in the Canadian public interest. Our goals include keeping facilities safe and secure, protecting the environment, and respecting Canadians' rights and interests.

In 2009, the NEB's Land Matters Consultation Initiative (LMCI), a public forum to discuss various landowner concerns, generated a report, in part identifying the need for clarification on how pipeline abandonment is monitored. This document has been prepared in response to this need.

The NEB has a comprehensive compliance program for regulating facilities throughout and until the end of a pipeline's lifecycle. We hold companies accountable to the public during construction, post-construction, operation and abandonment.

The NEB's role in making sure companies take proper actions in the process of abandoning a pipeline is carried out through various compliance tools and measures including:

- a requirement for an abandonment plan;
- a requirement for consultation with landowners, aboriginal groups and other impacted stakeholders on the development of the abandonment plan;
- written or oral hearings for abandonment applications;
- company notification of the abandonment hearing to landowners, aboriginal groups and other impacted stakeholders;
- examination of the company's plan to set aside funds for abandonment, future monitoring as well as unforeseen events;
- setting out conditions that companies must meet in order to abandon a pipeline (often hearings result in conditions that the company must meet before a pipeline is declared "abandoned");
- investigation of incidents;
- regular compliance monitoring of pipeline abandonment through means such as NEB inspections and audits; and
- enforcement action (if companies are non-compliant there are different approaches that the NEB can take to require compliance).

The NEB compliance role ends when the pipeline abandonment project is completed and all NEB-imposed conditions are satisfied.

If you have additional questions or concerns you can contact NEB staff toll free at 1-800-899-1265 about any issues of interest.



## 2: Pipeline Abandonment Requirements

### 2.1 When Does Abandonment Start and End?

The abandonment phase of a pipeline lifecycle begins when the pipeline company decides that it will permanently cease to provide service on a pipeline route, and applies for abandonment of the pipeline or connected facilities. An abandoned pipeline may be removed from the ground, or it may be cleaned, treated and left in the ground. Prior to this, the company may have temporarily stopped using the pipeline, or “deactivated” it. An application for abandonment means that the company has decided to permanently stop using that pipeline and is seeking leave to “abandon the operation of a pipeline” (according to section 74 of the NEB Act).

Section 24 of the NEB Act requires a public hearing for abandonment applications. The public hearing may be either oral or written. If the NEB allows the abandonment, it may impose conditions that must be met before abandonment is complete. To verify that the company meets these conditions and other legal requirements, NEB Inspection Officers and *Canada Labour Code Safety Officers* may conduct compliance inspections, review submissions required by the NEB and conduct audits related to the abandonment activities.

Once all of the NEB-ordered conditions are met, the risk to public safety, property and the environment are to be at a level that is acceptable in the public interest. At this point, NEB jurisdiction ends and the NEB will no longer oversee and regulate the abandoned pipe or facility.

There is a difference between pipeline abandonment and pipeline decommissioning. For further information see the NEB website at [www.neb-one.gc.ca](http://www.neb-one.gc.ca) for *Amendments to the Onshore Pipeline Regulations, 1999 (OPR) and National Energy Board Processing Plant Regulations (PPR) and Guidance Notes and Exemption Order - Decommissioning Provisions*.

#### **Abandonment Funding**

**The NEB held a public hearing in May 2009 on pipeline abandonment financial issues. Reasons for Decision RH-2-2008 provides additional information. It is on the NEB's website ([www.neb-one.gc.ca](http://www.neb-one.gc.ca)) in a section called “Land Matters” or you may obtain a copy by calling 1-800-899-1265.**

### 2.2 Pipeline Abandonment - Financial Issues

Pipeline and facility owners and operators are responsible for the costs arising from an abandoned pipe or facility. The costs include the abandonment work and unforeseen events such as pipeline settlement or exposure of the pipe that might occur after abandonment.

The NEB will require companies to set aside money for abandonment work, including the activities to deal with unforeseen events. In addition, the company will be required to review the funding collection program over time to provide assurance that the amounts being set aside are appropriate. The company must also clearly set out the process for accessing the funds, even when the facilities leave NEB jurisdiction.

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## 2.3 Abandonment Application

An application to abandon will typically include the information identified in the NEB Filing Manual. It will include the reasons for the abandonment and the actions that will be taken. In addition, it will show that the proposed abandonment will be carried out in a safe manner and that potential environmental, socio-economic, economic and financial impacts are identified and addressed. The company must also provide evidence that landowners, aboriginal groups, occupants, land managers, lessees, municipal agencies and upstream and downstream users and other persons potentially affected were sufficiently notified and consulted prior to the application being filed.

The company is expected to provide:

- a complete description of the facilities being abandoned;
- an assessment of potential safety hazards related to the abandonment and mitigation actions planned to reduce such hazards;
- an Abandonment Plan outlining how the facility will be prepared for abandonment and how it will be monitored, if necessary, during its abandonment;
- a description and justification for the methods that will be used to identify and clean up any contamination found at the project sites including;
  - the amount of contamination that may exist;
  - special handling techniques that will be used; and
  - regulatory requirements that will be followed for cleanup and disposal;
- how and when the facilities will be abandoned;
- how the environment will be reclaimed;
- how the abandonment method is appropriate for the ecological setting where it is located; and
- how the company plans to set aside funds for abandonment, future monitoring as well as unforeseen events.



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## **2.4 Company Audit**

As part of the abandonment process, a company must have audits and inspections done on a regular basis. Audits may be carried out by company employees or third parties, provided they are independent of the abandonment process. The purpose of audits is to verify that the abandonment complies with Section 53 of the *Onshore Pipeline Regulations, 1999* (OPR-99) and any Certificates or Orders issued by the NEB related to the protection of property and the environment and the safety of the public and of the company's employees.

The audit results in a report that verifies compliance and documents all non-compliances, how the company has or will correct any non-compliance, and may provide recommendations. The NEB will also conduct its own audits of company programs

## **2.5 Record Retention**

Section 56(g) of OPR-99 requires a company to keep records of its audits and make these available to NEB auditors upon request. The records must comply with the requirements in the Canadian Standards Association (CSA) Z662-07 standard. Also, the company must retain the following for at least two years after abandonment:

- i. all records available to the company in respect of the procedures used in each stage of construction;
- ii. the production reports and mill certificates;
- iii. the specifications and name-plate data, if any, of the pumps, compressors, drivers, storage tanks and other major equipment of the pipeline;
- iv. the performance curves of all main line pumps and compressors of the pipeline;
- v. the reports of all monitoring and surveillance programs developed under section 39 of OPR-99;
- vi. the documentation referred to in section 41 of OPR-99 in respect of pipeline defects; and
- vii. the documentation on all incidents reported under section 52 of OPR-99.



## 3: Abandonment Plan

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The NEB established principles for pipeline abandonment in 2009. One of the principles is that the company will develop an abandonment plan (Plan) and will involve persons and groups directly affected by the retirement of facilities. The Plan should reduce the risk to public safety, property and the environment to a level that is acceptable in the public interest.

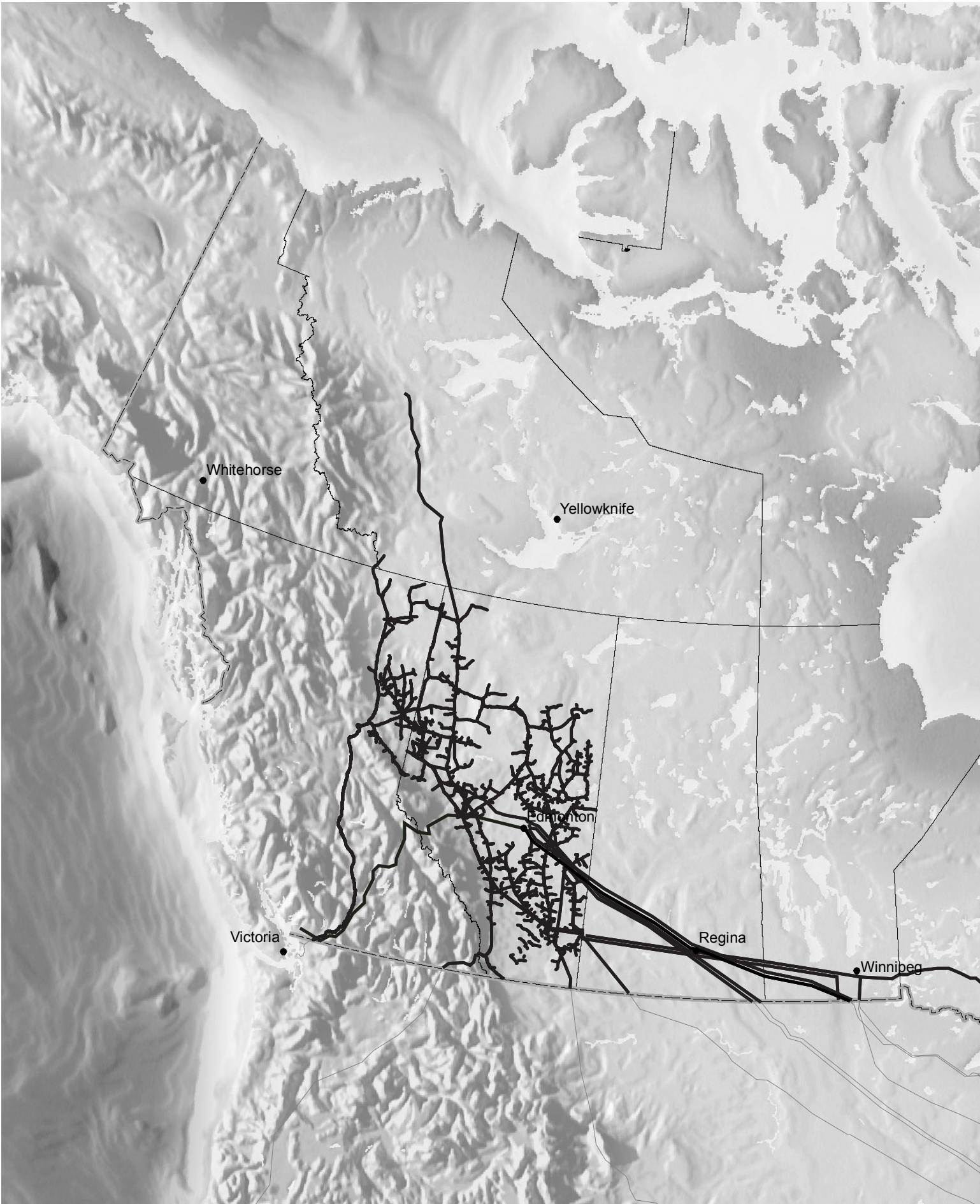
A detailed Plan is expected to be filed with an application for abandonment and, if an Abandonment Order is issued, modified if necessary and implemented. An example of a Table of Contents for a Plan is attached as Appendix I. It was developed with input from the public and industry.

Years before abandonment occurs, less-detailed preliminary plans are recommended as a “best practice” to determine the amount of money to set aside for abandonment work. Over time, further details are developed and cost estimates are improved.

**An Abandonment Plan should reduce the risk to public safety, property and the environment to an acceptable level.**

**Companies are expected to consult with the public when developing an Abandonment Plan. This consultation would include:**

- **Details on what areas require containment or clean up;**
- **Discussion about what facilities should be removed;**
- **Information about what reclamation will be provided;**
- **Conversations about whether or not the correct land use is being accommodated; and**
- **How potential issues will be mitigated.**



# Major Pipeline Systems Regulated by the National Energy Board



## 4: Performance Measures

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A Plan will identify performance measures. These give the company a way to evaluate the abandonment process and activities that occur during and after abandonment, such as maintaining any equipment left in place, monitoring where required and reclamation success. An objective of the abandonment project is to eliminate or reduce the risk to the public and the environment to acceptable and appropriate levels, considering the desired use of the land. To reduce risk, the company will conduct environmental site assessments, mitigate environmental effects and satisfy the conditions of the NEB Abandonment Order.

Typically, key abandonment objectives include, among other things:

- cleaning up contamination;
- protecting water body, utility and transportation crossings;
- accommodating desired land use;
- protecting sensitive environmental areas; and
- managing long term pipeline effects on the land.

Performance measures permit NEB inspectors and companies to evaluate whether the company is achieving meaningful progress towards the abandonment objectives in a number of different ways including the following examples:

### **Implementation Measures (Is the Plan being followed?)**

- How many of the Abandonment Order conditions are met?
- How much of the pipeline Right of Way is restored?
- How many of the contaminated areas are cleaned up?

### **Engagement Measures (What do the interested parties say?)**

- Satisfaction survey conducted by company
- Responses to landowner surveys

## 5: Compliance Assessment Approach

The NEB dedicates resources to oversee company activities for each abandonment project just as it does for a new construction project. The size of the project and a risk assessment based on the history of the company will guide the NEB in deciding how closely the NEB will monitor the abandonment.

During compliance verification the NEB will liaison with applicable provincial and territorial jurisdictions as well as with any organizations or groups identified as having concerns during the abandonment hearing process.

Abandonment activity will be required to comply with:

- the terms and conditions of the Abandonment Order that may include:
  - o filing other documents with the NEB, such as an Environmental Protection Program, safety or operations manuals, or work specifications; and
  - o requiring the company to undertake its work in accordance with the specifications, standards, policies, mitigation measures, procedures, and other information referred to in its application or as otherwise agreed to during the hearing.
- the abandonment plan;
- applicable regulations (e.g. Section 53 of OPR-99 regarding company audits); and
- industry best practices.

**NEB Inspection Officers**  
Officers are specialized in one or more programs including; environment, safety, pipeline integrity, security or emergency management. They are required to maintain an Officer designation through in-house training and a minimum annual inspection frequency.

### 5.1 NEB Compliance Activities

Documents provided by the company and the NEB's responses are posted in the NEB website's Regulatory Document Repository and are viewable by the public.

The NEB monitors whether the company is complying with regulations and Orders in several ways. The NEB may hold compliance meetings, do inspections, audit the project, investigate any incidents, and respond to landowner concerns.

#### 5.1.1 Compliance Meetings

Meetings will be held with a company as necessary to assess the implementation of pipeline abandonment activities. These meetings may address Corrective Action Plans filed by the company in response to a previous audit or inspection conducted by NEB. A meeting may also be a follow-up on specific implementation issues with respect to issues found during other compliance activities or recommendations made by NEB staff.

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## **5.1.2 Inspection**

An inspection of an abandonment project allows the NEB to observe and evaluate circumstances in the field to:

- observe abandonment construction or operational practices.
- assess compliance;
- confirm effectiveness of safety and environmental protection measures; and
- identify potential issues.

Inspections are a tool used to verify whether the company is complying with Order conditions and regulatory requirements such as those related to worker safety and environmental protection. An inspection report is completed and issued to the company representative at the end of the inspection. The report describes the scope of the inspection, summarizes all discussions, observations, non-compliances and non-compliances corrected in the field. It also references Assurances of Voluntary Compliance received (discussed in paragraph 5.2.2) and verifies condition compliance.

## **5.1.3 NEB Audit**

Companies may be audited and evaluated against the requirements of the NEB Act and its regulations, other relevant legislation and regulations, and any conditions of a NEB Certificate or Order. An audit takes in a wide range of company activities, including any abandonment project underway. As part of this audit process and in accordance with OPR-99, companies will be audited and evaluated against the processes, procedures and standards that each company identifies as being part of its management and protection programs. These programs include emergency management, safety and environmental protection. The NEB has developed a standardized audit protocol that is on its website, which will be used to evaluate these programs.

## **5.1.4 Investigations of Incidents**

The NEB investigates incidents involving NEB-regulated facilities to determine causes and factors that contributed to the incident. Incidents can occur during the abandonment process. The NEB expects that investigations conducted by the company will result in corrective action. The NEB may intervene to direct that corrective action be taken.

## **5.1.5 Landowner Issues**

Landowners and other interested parties may have concerns about impacts and issues related to the abandonment of pipeline facilities. The application for abandonment must include an abandonment plan that has been created in consultation with landowners and other interested parties, so that their input is considered and they have a clear understanding of the Plan. This should facilitate discussions on any issues arising during the abandonment project.

The NEB will determine the facts associated with a concern, and address the concern through one or more of the following: inspections, site visits, meetings, or an inspector direction. The concern will be addressed in an open and transparent procedure where the company is required to respond to the landowner's and the NEB's written and oral inquiries and concerns. If the appropriate conditions exist for mutual resolution, then an Appropriate Dispute Resolution (ADR) process may be initiated. In some cases, where resolution of a concern is difficult, the NEB may be asked by the landowner or the company to resolve the matter.



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## **5.2 Enforcement**

Enforcement action is taken by the NEB when the company is not complying with the NEB Order or the applicable regulations. The actions taken escalate depending on the severity of the non-compliance and the degree of cooperation of the company. The enforcement tools available to an inspection officer include:

- verbal warning (5.2.1);
- Assurance of Voluntary Compliance (5.2.2);
- *Canada Labour Code* Assurance of Voluntary Compliance (5.2.6);
- *Canada Labour Code* Direction (5.2.7).
- Inspection Officer Directive (5.2.4);
- Inspection Officer Order (5.2.3); and
- referral to the NEB Members (5.2.5)

### **5.2.1 Verbal Warning (and immediate correction)**

A verbal warning is used to notify a company representative that a problem of non-compliance exists. If the non-compliance is corrected immediately, it is noted in the inspection report along with the measures that were taken. If the non-compliance is not corrected after a verbal warning then other enforcement tools will be used, including an Inspection Officer Order or referral to the NEB Members for a decision.

### **5.2.2 Assurance of Voluntary Compliance (AVC)**

An AVC is a formal written commitment given by a pipeline company representative to an Inspection Officer on site. This requires the company representative to follow-up with the Inspection Officer within seven days of the completion date of the AVC to identify how the company achieved compliance. AVCs are used for non-compliance situations that cannot be corrected while the Inspection Officer is on site or to confirm that the company will be forwarding information that was requested. If a company fails to respond to an AVC or its response indicates that inappropriate action has been taken, a NEB Inspection Officer may issue an Inspection Officer Order, or the matter may be referred to the NEB Members depending on the circumstances.

### **5.2.3 Inspection Officer Order**

An Inspection Officer Order is issued under section 51.1 of the NEB Act. This Order may suspend work or require special measures to be undertaken. An Order will only be used if it is possible that a hazard is occurring or may occur that will affect the safety of the public or employees of a company or cause harm to property or the environment. The Order may be lifted by an NEB Inspection Officer once the problem has been rectified. If the company refuses to comply with the Order or if non-compliance with an Order is observed then additional action will be taken.

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#### **5.2.4 Additional Inspection Officer Powers**

An Inspection Officer has the power under paragraphs 49(2)(a) and (c) of the NEB Act to access, inspect, examine and make copies of any company information. An Inspection Officer may also issue a Directive under paragraph 49(2)(b) of the NEB Act to require the company to perform tests at an excavation or construction activity. These provisions help verify protection of property and the environment and the safety of the public and the company's employees.

Sections 51 and 51.4 of the NEB Act requires that a company and any person conducting an excavation or working at a facility that is under construction or that has been abandoned must assist an NEB Inspection Officer; otherwise they are guilty of an offence.

#### **5.2.5 NEB Order**

If the company fails to cooperate after receiving an AVC, Inspection Officer Order or Directive, then the matter may be referred to the NEB Members. The NEB Members will review the circumstances of the situation and decide how best to proceed, including issuing an NEB Order.

#### **5.2.6 Canada Labour Code (CLC) Assurance of Voluntary Compliance**

A NEB staff member designated as a Health and Safety Officer under the CLC may accept an AVC for health and safety issues which are minor in nature and do not represent imminent danger. AVCs are received for non-compliances at the Health and Safety Officer's discretion. AVCs can be received from the company representative in the field.

#### **5.2.7 Canada Labour Code Direction**

Directions are given under section 145 of the CLC if the Health and Safety Officer is of the opinion that there is a contravention of Part II (Occupational Health and Safety) of the CLC. The Health and Safety Officer may direct the employer or employee concerned to stop conducting the prohibited activity within such time as the Health and Safety Officer may specify. The Health and Safety Officer shall, if requested by the employer or employee concerned, confirm the direction in writing if the direction was given orally.

## 6: Conclusion

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The NEB has a public hearing process for every pipeline that is going to be abandoned. Information resulting from the hearing process as well as established abandonment requirements are used to make conditions and regulate facilities undergoing abandonment.

The NEB will require that companies set money aside, and have a suitable mechanism to access that money, for its remaining obligations to monitor and to address unforeseen events such as subsidence and exposure of pipe.

The NEB also monitors pipeline abandonment projects through a variety of means and, if necessary, takes enforcement action. The NEB oversight ends when the pipeline abandonment project is completed and all Order conditions are satisfied.

### ***For further information***

**For more information on how operating pipelines are regulated, consult the document *Pipeline Regulation in Canada: A Guide for Landowners and the Public*. It is on the NEB's website ([www.neb-one.gc.ca](http://www.neb-one.gc.ca)) in a section called "Land Matters" or you may obtain a copy by calling 1-800-899-1265**

## GLOSSARY

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**Abandonment Plan** - This may also be identified as a Retirement and Reclamation Plan. It documents how the company will deal with key issues related to public safety, environmental protection and desired land use during the abandonment process.

**Audit** - This is a systematic examination, review, and evaluation of a company's management systems, to assess compliance with regulatory obligations. This involves a review of company documents, including: programs, practices, procedures, plans, processes, manuals, records, systems, and activities in relation to its regulatory obligations, established standards, and acceptable industry practice. An audit also includes an on-site visit to verify that the company is complying with all of the commitments and undertakings required by approvals and certificates.

**Appropriate Dispute Resolution (ADR)** - This is a collection of processes and techniques to help people deal with disputes. Negotiation, facilitation, mediation and referral are options to be collaborative, respectful and considerate of everyone's views.

**Assurance of Voluntary Compliance (AVC)** - Initiated by a NEB Inspection Officer or CLC Health and Safety Officer, an AVC is a formal written commitment given by a company representative to the Officer to correct a non-compliance that cannot be corrected immediately.

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**NEB Order** - A NEB Order is a regulatory document issued by the NEB pursuant to the NEB Act (e.g. section 13 or 48). A NEB Order may be reviewed, varied, or rescinded pursuant to section 21 of the NEB Act.

**CLC - Canada Labour Code** - NEB inspection officers are responsible for enforcing Part II of the CLC, which relates to occupational health and safety.

**Health and Safety Officer** - A qualified person designated by Human Resources & Skills Development Canada who conducts inspections, audits, accident investigations and responds to complaints under the CLC, Part II (Occupational Health and Safety) and its regulations.

**Inspection** - An on-site, methodical examination and assessment of a company's activities or operations against its regulatory obligations (approval/authorization, conditions and/or approved compliance program), established standards, acceptable industry practice, and the Inspection Officer's professional judgment.

**Inspection Officer** - A term used to signify an Officer designated under section 49 of the NEB Act or a Health and Safety Officer designated by HRSDC under the CLC, Part II.

**Inspection Report** - The report filled out at the end of an inspection by the Inspection Officer, summarizing the observations made and discussions held during the inspection. A copy of this report is provided to the company.

**Inspection Officer Directive** - A directive issued by a NEB Inspection Officer under paragraph 49(2)(b) of the NEB Act giving a company written notification that the Inspection Officer requires a special test to be conducted by the company or person conducting an excavation activity or constructing a facility. This applies to any lands or pipeline, including a pipeline that is under construction or has been abandoned, excavation within 30 metres of the pipeline and any facility being constructed across, along or under the pipeline.

**NEB Act** - *National Energy Board Act.*

**NEB Inspection Officer** - A person designated as an Inspection Officer by the NEB under section 49 of the NEB Act and in possession of a certificate of authority issued under section 50 of the NEB Act.

**Non-compliance** - A failure to comply with requirements or approved compliance program/plan commitments.

**Inspection Officer Order** - An Order made by a NEB Officer under section 51.1 of the NEB Act as a result of a potential hazard to the safety or security of the public or employees of a company, or a detriment to property or the environment.

## 7: Appendix 1

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### **Abandonment Plan Table of Contents Example**

The following is an example of a Table of Contents for an Abandonment Plan, for illustrative purposes only. This may also be referred to as a Retirement and Reclamation Plan.

#### **Abandonment Plan Table of Contents**

1. Background
  - a. General description of the pipeline and facilities including history and product it carries
  - b. Proposed abandonment process including timelines
2. Location map (Right of Way, pipe, stations, valves, storage, etc.)
3. Detailed description of facilities to be abandoned (detailed maps to be included in an Appendix)
  - a. Pipeline composition, diameter, thickness, coatings, etc.
  - b. Adjacent pipeline facilities (corridor)
  - c. Facility components on company-owned land
  - d. Land use along route (agricultural, urban, parkland, etc.)
  - e. Natural features (water bodies, wetlands, native prairie, rare vegetation, species at risk)
  - f. Landowners and land administration agencies
4. History of ruptures, leaks and other construction occurrences
  - a. Location of incidents and any former contamination sites
  - b. Status of contamination remediation

***(continued on next page)***

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## **Abandonment Plan Table of Contents Example (continued)**

5. Abandonment procedure
  - a. Facilities to be left in place
    - i. Locations and justification
    - ii. Mitigation measures
      1. Cleaning (procedure and standards)
      2. Filling or plugging
      3. Removal of unnecessary surface equipment
      4. Identification of location of facilities
      5. Estimation of risk and risk reduction plans
        - a. Contamination removal or management
        - b. Soil subsidence
        - c. Corrosion effects
        - d. Pipe collapse
        - e. Soil erosion effects
        - f. Water conduit
        - g. Water crossings
        - h. Transportation and utility crossings
    - iii. Access
    - iv. Records
  - b. Recycling and reuse plans
  - c. Facilities to be removed
    - i. Locations and justification
    - ii. Cleaning and removal procedure
  - d. Reclamation procedure
    - i. Comparable with surrounding environment
    - ii. Re-establishment of habitat to a native state for sensitive plant species and communities
6. Consultation for developing the Plan
  - a. Guiding principles and goals for the consultation program
  - b. Design of the consultation program
  - c. Reporting on the results of the consultation
7. Performance measures
  - a. Maintenance period
  - b. Monitoring procedure
  - c. Measures of success
8. Statement of responsibility for facilities left in place
9. Abandonment costs
  - a. Initial
  - b. Ongoing
  - c. Abandonment fund needs





Thank you for taking the time to learn about the NEB's regulatory process for pipeline projects. We hope this guide has answered many of your questions.

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**For settling compensation matters, please contact:**

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