

National Energy
Board



Office national
de l'énergie

Regulating Pipeline Abandonment

June 2016



**how is pipeline
abandonment monitored?**

**how am
I involved?**



Canada

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REGULATING PIPELINE ABANDONMENT

1: Executive Summary

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 conducted consultation on landowner concerns and 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 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 and monitoring it post-abandonment is carried out through various compliance tools and measures including:

- a requirement for an abandonment plan;
- a requirement for consultation with landowners, indigenous 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, indigenous 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 the operation of a pipeline is declared "abandoned");
- investigation of accidents and incidents;
- regular compliance monitoring of pipeline abandonment through means such as NEB inspections and audits; and
- enforcement action.

The NEB compliance role does not end when the pipeline abandonment project is completed and all NEB-imposed conditions are satisfied. Any part of the pipeline left exposed or in the ground will require perpetual care by the company or its successor, as well as regulatory oversight by the NEB.

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. Abandoned pipe may be removed from the ground, or it may be cleaned, treated and left in the ground. There may be sections of the pipeline that are proposed to be removed and other sections to remain in place. Surface facilities may be dismantled or reused for other purposes. 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 a written process and may include an oral portion. If the NEB grants leave to abandon, it may impose conditions that must be met before abandonment of the operation of the pipeline is considered complete. The NEB may also impose conditions that apply to the pipeline as long as it remains in the ground. 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 for the physical aspects of an abandonment project 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, the company or its successor is required to monitor the pipeline and provide post-abandonment care (conduct monitoring and take corrective action for any issues). The NEB will continue to oversee and regulate the abandoned pipe or facility.

If a company or any other person plans to make contact with, alter or remove an abandoned pipeline then an application for leave from the Board is required. The Board may set conditions on how the work is to be conducted (e.g. timing or reclamation requirements).

There is a difference between pipeline abandonment and pipeline decommissioning. For further information see the NEB website at www.neb-one.gc.ca for *Amendments to the Guidance Notes for the Decommissioning Provisions under the National Energy Board Onshore Pipeline Regulations and National Energy Board Processing Plant Regulations and NEB Filing Manual to clarify and include requirements on decommissioning*.

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) 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 requires companies to set aside money for abandonment work, including the activities to deal with unforeseen events. In addition, the company is required to review the funding collection program over time to provide assurance that the amounts being set aside are appropriate. All companies are required to file annual reports with the Board as set out in Appendix XV or XVI of Board decision MH-001-2013. The company must also clearly set out the process for accessing the funds.

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, indigenous 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.

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 OPR 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 the OPR 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 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 the OPR;
- vi. the documentation referred to in section 41 of the OPR in respect of pipeline defects; and
- vii. the documentation on all incidents reported under section 52 of the OPR.



3: Abandonment Plan

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.

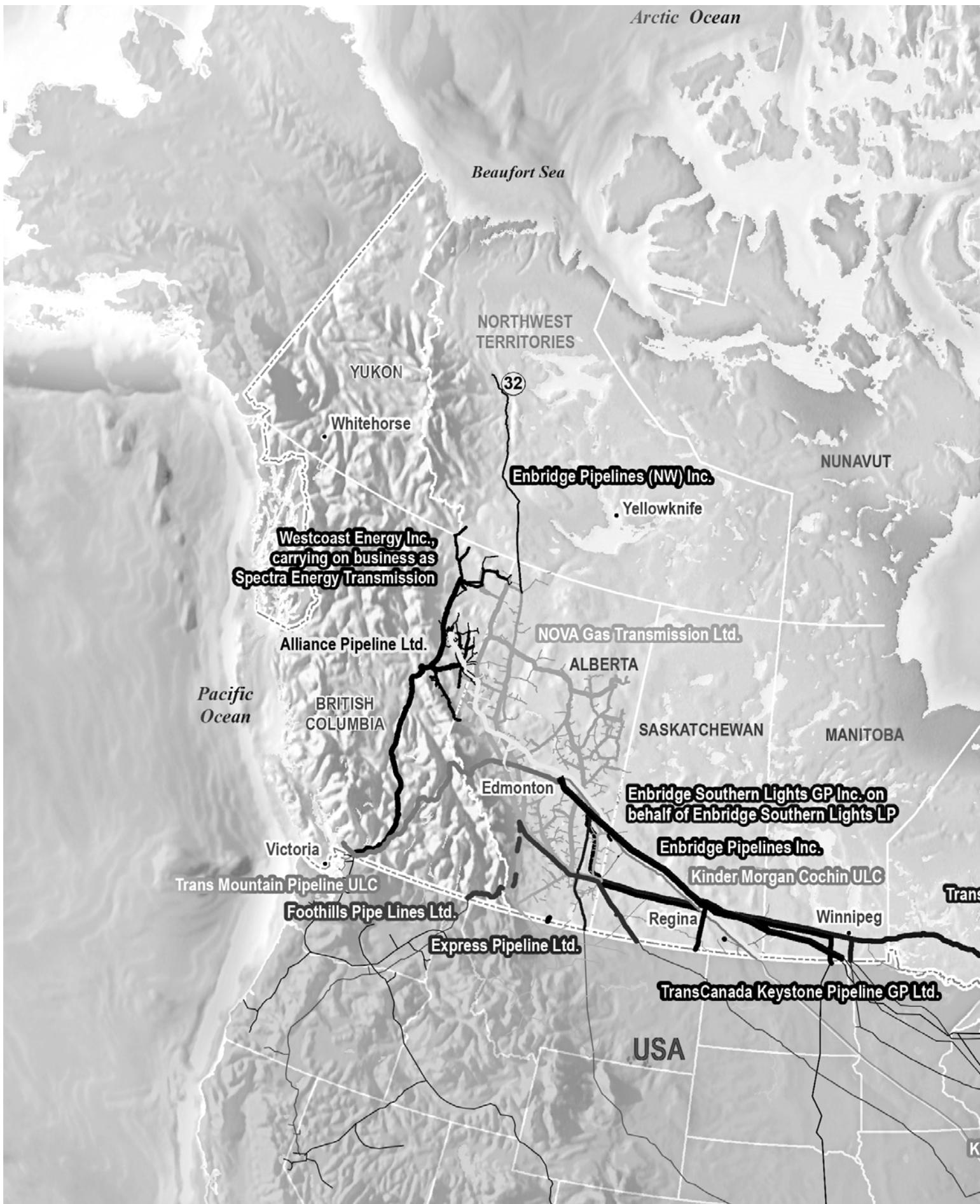
A detailed Plan is expected to be filed with an application for abandonment and, if an Abandonment Order is issued, modified if necessary and implemented. An example of a Table of Contents for a Plan is attached as Appendix I. It was developed with input from the public and industry.

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**





Baffin Bay

Major Pipeline Systems and Frontier Activities Regulated by the National Energy Board

- Geophysical Programs Undertaken in 2015 (0)
- Wells Drilled and Re-entered in 2015 (32)



4: Performance Measures

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 and successors to evaluate whether the company is achieving meaningful progress towards the abandonment objectives and ongoing care of the abandoned pipeline in a number of different ways including the following examples:

Implementation Measures

(Is the Plan being followed during the abandonment project?)

- 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

Monitoring and Maintenance (after the NEB abandonment Order is satisfied)

- Frequency of monitoring of condition of the Right of Way for issues
- Number of issues resolved in consultation with the landowner

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 liaise 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:
 - filing other documents with the NEB, such as an Environmental Protection Program, safety or operations manuals, or work specifications; and
 - 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 the OPR 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 can be viewed 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 accidents or incidents, and respond to concerns raised by landowners or others.

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.

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 Notices of Non-Compliance received (discussed in paragraph 5.2.2) and verifies condition compliance. These reports are published on the NEB website in the Compliance and Enforcement section.

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 an 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 the OPR, 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. Targeted audits of abandoned facilities may also be conducted.

5.1.4 Investigations of Accidents and Incidents

The NEB investigates accidents and incidents involving NEB-regulated facilities to determine causes and contributing factors. Incidents can occur during and after the physical process of abandonment. The NEB expects that investigations conducted by the company will result in corrective action. The NEB may also intervene and require 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 while it is being abandoned and afterwards. As noted previously, the application for abandonment must include a 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 how abandonment will occur. This should facilitate discussions on any issues.

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 and facilitated by Board staff. 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.

Where there is a disagreement between a company and landowner over compensation for damages caused by the company's operations or abandoned pipeline, then negotiation services may be sought from the Minister of Natural Resources (Minister). If there is a subsequent disagreement on the award of compensation, then arbitration proceedings may be sought from the Minister. Information on these compensation and arbitration processes is available on the Natural Resources Canada website.

5.2 Enforcement

Enforcement action is taken by the NEB when the company is not complying with the NEB Abandonment 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:

- Notice of Non-Compliance (5.2.1);
- Inspection Officer Order (5.2.2);
- Board Order (5.2.3); and
- *Canada Labour Code Assurance of Voluntary Compliance* (5.2.4);
- *Canada Labour Code Direction* (5.2.5).
- Administrative Monetary Penalties (5.2.6)

5.2.1 Notice of Non-Compliance (NNC)

An NNC is a written notice issued by the Inspection Officer to an NEB-regulated company or third party when non-compliance with a low probability of harm to people or the environment is observed and where time is required to address the issue. It is intended to bring compliance issues to the attention of the company/individual, in order to generate the necessary action to return to compliance. The Inspection Officer will determine an effective corrective action, consult with the regulated company, and propose a reasonable timeline to correct the non-compliance. It is not a finding of guilt or civil liability, but will form part of the NEB's records when planning its compliance verification activities and determining what enforcement action to take for future or re-occurring non-compliances.

5.2.2 Inspection Officer Order

An Inspection Officer Order (Order) is issued under section 51.1 of the NEB Act. This Order may suspend work and specify 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 or the Board once the problem has been rectified. If the company fails to comply with the Order or if non-compliance with an Order is observed then additional action will be taken.

5.2.3 Board Order

If the company fails to meet requirements of an Abandonment Order or is in contravention with the regulations, then the matter may be referred to the NEB. The NEB will review the circumstances of the situation and decide how best to proceed, including issuing a Board Order.

If a company does not comply with a Board Order or an Inspection Officer Order the Board may take any action or measure considered necessary in relation to the abandonment of a pipeline by the company or in relation to the company's abandoned pipeline, or it may authorize a third party to take any such action or measure

5.2.4 Canada Labour Code (CLC) Assurance of Voluntary Compliance (AVC)

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. AVCs are received for non-compliances at the Health and Safety Officer's discretion. An AVC can be received from the company representative in the field.

5.2.5 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.

5.2.6 Administrative Monetary Penalty (AMP)

An AMP is a financial penalty imposed on individuals or companies contraventions of safety and environmental protection legislative requirements that have been designated as violations. AMPs will be used in situations where compliance has not been obtained using either facilitated or directed compliance tools, where harm is caused or is likely to be caused by the non-compliance or in any other situation where they are the best tool to obtain compliance or deter future non-compliance.

An AMP can be used alone, or in conjunction with, other enforcement tools depending on the circumstances.

6: Conclusion

The NEB is required to hold a public hearing process for every pipeline that is going to be abandoned. Information collected during the hearing process, as well as established abandonment requirements are used to inform the conditions the Board will impose on an abandonment activity 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 will monitor pipeline abandonment projects and abandoned pipelines as long as pipe is in the ground, through a variety of means and, if necessary, take enforcement action.

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) in a section called "LandMatters" or you may obtain a copy by calling 1-800-899-1265

GLOSSARY

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 physical process of abandonment and after an abandonment order has been satisfied.

Administrative Monetary Penalty (AMP) – The NEB Act (s.134-154) gives the NEB authority to issue a financial penalty, without court involvement, for the violation of a designated regulatory requirement. The *Administrative Monetary Penalties Regulations* (AMP Regulations) provides details on how AMPs are regulated. AMP Officers pursuant to s.135(b) of the NEB Act may issue a Notice of Violation.

Appropriate Dispute Resolution (ADR) – 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) – A written commitment given by a company representative to the CLC Health and Safety Officer to correct a non-compliance that cannot be corrected immediately.

Audit - Systematic examination, review and evaluation of a company's management systems to assess compliance with regulatory obligations. It 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.

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

Health and Safety Officer - A person designated by Human Resources & Skills Development Canada (HRSDC) to conduct inspections, audits, accident investigations and responds to complaints under the *Canada Labour Code (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 regulatory requirements (approval/authorization, conditions and/or approved compliance program), established standards, acceptable industry practice, and the Inspection Officer's professional judgment.

Inspection Officer - A person 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 created at the end of an inspection by the Inspection Officer, summarizing the observations and finding made during the inspection. A copy of this report is provided to the company.

NEB Act - National Energy Board Act.

Board Order - A regulatory document issued by the Board pursuant to the NEB Act or its regulations).

Non-compliance - A failure to comply with regulatory requirements contained in the NEB Act, the regulations or Board approvals.

Notice of Non-Compliance (NNC) - A written notice issued by a NEB Inspection Officer, directing a company to correct an observed non-compliance that cannot be corrected immediately while the Inspection Officer is on site.

Inspection Officer Order - An order made by a NEB Officer under section 51.1 of the NEB Act if a potential hazard to the safety or security of the public or employees of a company, or a detriment to property or the environment is being, or will be, caused.

7: Appendix 1

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 (e.g. agricultural, urban, parkland)
 - e. Natural features (e.g. 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)

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. Facilities to be removed
 - i. Locations and justification
 - ii. Cleaning and removal procedure
 - c. Recycling and reuse plans
 - 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





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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