
Hamilton City Council Presentation
Line 9B Reversal and
Line 9 Capacity Expansion Project
November 2012
ENBRIDGE

Introduction

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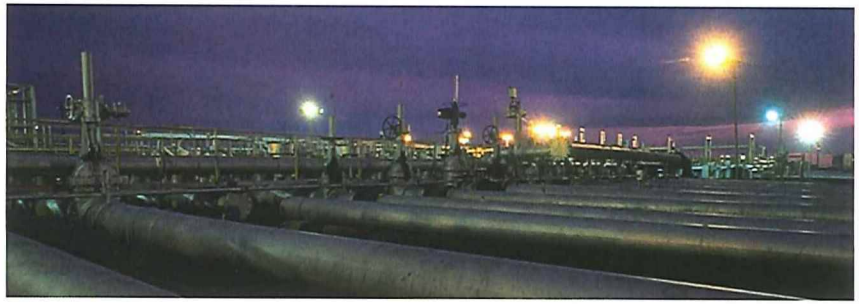
"For most people, pipelines are out of sight and out of mind until something goes wrong or until a new one is proposed in their area."

Ray LaHood, U.S. Secretary of Transportation

Crude Types to Flow

- The pipeline will carry mainly light crude oil as it always has.
- Shippers will be permitted to ship any crude oil blend or type that meets the quality specifications established in the applicable tariff.
- This includes heavy crudes such as diluted bitumen, a type of crude oil *sourced* from the oil sands. It is *not* "raw bitumen," it has been processed and quality tested for Enbridge transmission lines.
- Crude oil shipments received by Enbridge, are transported via our mainline system to refineries in the east, and include both conventional and unconventional oil production, including oil sands production.
- This is true of both heavy and light crude oil.



Clarifications

- The pipeline will be maintained through integrity digs and system upgrades so as to continue the safe operation of the system.
- There are no maximum operating pressure increases planned for this project.
- The product will not be heated up in the line.
- We are retuning the line back to its original direction.

Enbridge Presenters for Integrity

Scott Ironside
Director, Integrity Programs

Trevor Grams
Director, Infrastructure Integrity

The Facts on Corrosivity

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- There are many claims that oil sands-derived crude, diluted bitumen (Dilbit), causes higher levels of internal corrosion in liquids pipelines, this is not true.

- The corrosivity of crude oil including Dilbit is extremely low, the potential for internal pipe corrosion is related to water and sediment which predominantly occurs in gathering systems containing up to 50% water.

- Transmission pipelines require the Sediment and Water levels in the oil being shipped, including Dilbit, to be very low, below ~~0.05~~%. 0.5%

- Enbridge has been transporting crude oil from the oil sands since 1968 with the volume of Dilbit shipped exceeding 100k barrels per day since 1986.

- Enbridge has not experienced an internal corrosion failure on its mainline pipeline system.

- The Alberta Energy Resources Conservation Board's February 2011 News Release states that diluted bitumen is a safe crude to transport in pipelines.

The Facts on Corrosivity

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- NACE, the world's largest organization dedicated to the study of corrosion, cited more than 16 studies dating back 20 years that addressed internal pipeline corrosion, none of those studies found any evidence to determine that diluted bitumen was more corrosive than conventional crude.

- The United States National Academy of Sciences is also conducting a study that considers all possibilities of increased risk of pipeline releases as a result of transporting diluted bitumen. Results are expected in 2013.

- Studies and evidence clearly demonstrate that there is no more risk of corrosion in pipelines carrying diluted bitumen than in pipelines transporting conventional crude oil.

- Pipeline operators, including Enbridge have been carrying diluted bitumen for decades without any history of increased incidents.

Actions for Corrosion Management

Enbridge uses many tools and techniques to address the common causes of corrosion, both of the inside of the pipe and outside, including:

- Lab testing of all crude oil to ensure it meets quality and product specifications.
- Advanced tools used inside the pipe ("cleaning pigs") to clean impurities that can lead to corrosion where there is internal corrosion risk.
- Adding corrosion inhibitors to nullify the corrosive affect of water.
- Cathodic protection and coatings that protect against external corrosion.
- We also continue to pursue and advance new methods and technology to detect and manage corrosion through our Inline Inspection Program or prevent it altogether.

Importance of Pipeline Integrity

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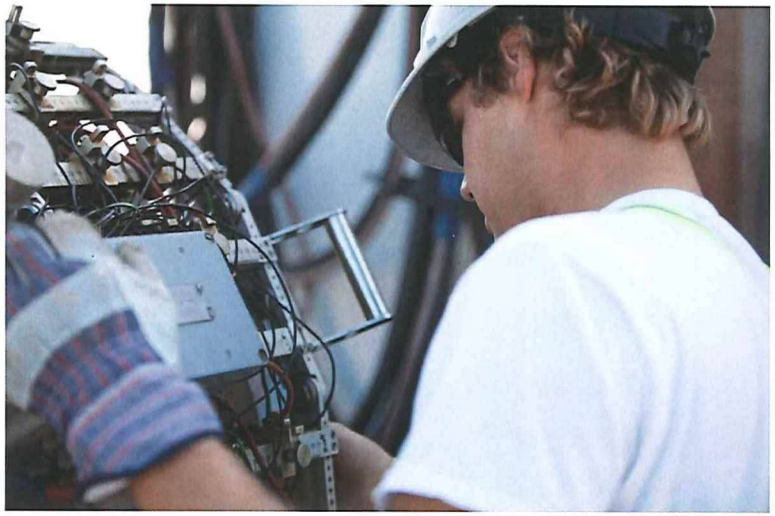
- Pipeline safety and the safety of the public and our workers, and the protection of the environment are our top priorities.
- Enbridge's maintenance and monitoring system is aimed at avoiding incidents for our entire pipeline system, and we continue to work toward a goal of zero pipeline incidents.
- Our pipeline system is closely monitored by a state of the art control centre 24-hours a day, 7 days a week.



"If we don't make safety, reliability and system integrity our top priority, then others will decide the future for us - and rightfully so…" *Steve Wuori, President, Liquid Pipelines*

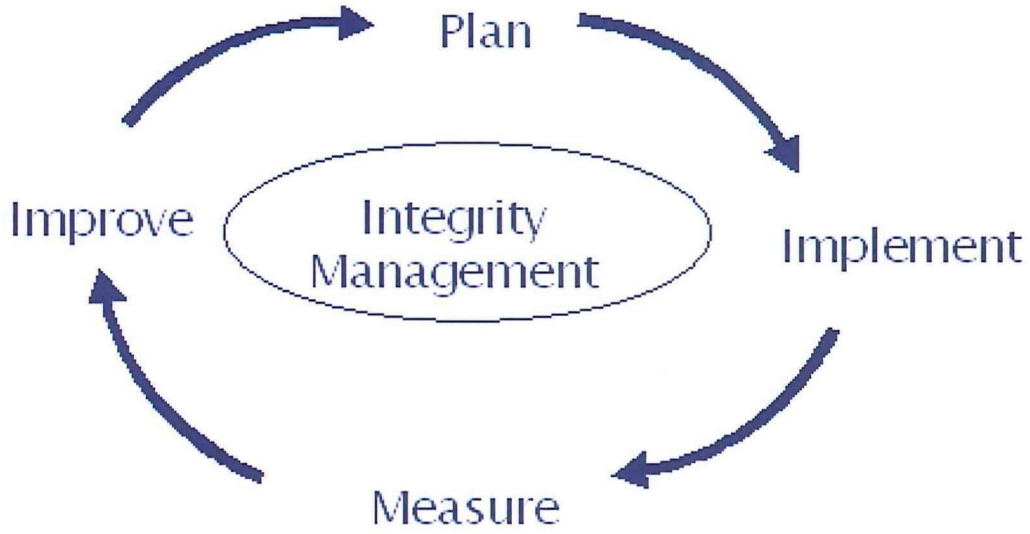
Importance of Pipeline Integrity

- Over the last decade we've transported almost 12 billion barrels of crude oil with a safe delivery record better than 99.999 per cent.
- We will never stop striving for 100 per cent. Our goal at Enbridge is – and will continue to be – the prevention of all spills.
- The Marshall spill of 2010 further heightened the importance and goal of our pipeline and facility integrity program and we re-organized the functional areas that are responsible for pipeline and facility integrity.
- According to the NTSB final report on Marshall, internal corrosion did not contribute to the release.
- Following the Marshall incident, Enbridge substantially increased pipeline integrity management spending to over $450 million in each of 2011 and 2012, and has performed more than 175 inline inspections and nearly 3000 pipeline excavations during that time.

Integrity Management System

Pipeline integrity is managed through a continuous system of:

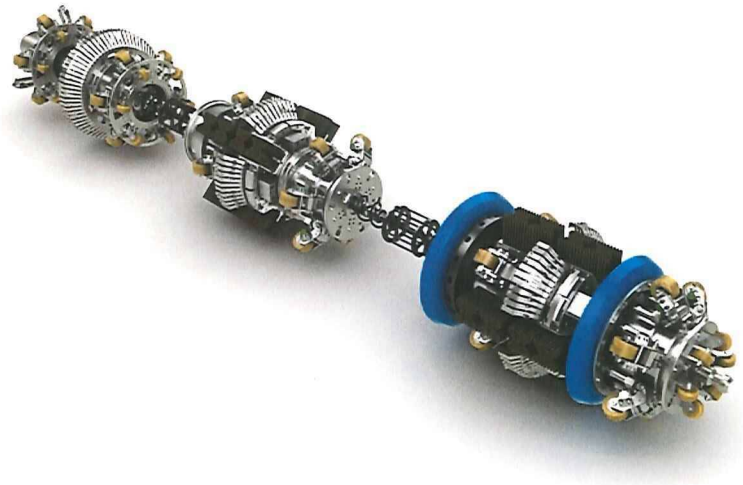
- Planning
  - Determining inspection and mitigation requirements
- Implementing
  - Completing the inspection and mitigation activities
- Measuring
  - Assessing the performance and adequacy of the activities conducted
- Improving
  - Updating integrity plans with lessons learned



Inline Monitoring and Inspection

Inline Inspection Technology

- Highly sophisticated monitoring/detecting technology.
- Extensive data collection and advanced level of knowledge of pipeline condition.
- Repeat inspections provide updated information and verify engineering analysis.



The evolution of Inline Inspection continues to set new standards for pipeline integrity management.

Integrity Excavation Program

- In some cases, the inspection tool identifies a feature that requires the pipeline to be excavated to conduct a direct inspection. The direct inspection will determine if a pipeline repair is required.

- Enbridge will consult with communities ahead of time to communicate the schedule, discuss access, identify special considerations and adjust or add remediation steps as appropriate.

- Since the integrity dig activity will require exposing the pipeline at locations along our right-of-way, communities can expect to see construction-type activities and additional traffic along on the roads as we stage equipment and resources.

- All integrity dig sites are assessed to determine environmental issues or restrictions. Work within environmentally sensitive areas is planned on a site-specific basis and special mitigation measures will be used to minimize potential impacts.

Line 9B Integrity Activities

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– Inspections
  - 5 In-Line inspection technologies utilized on Line 9B in 2012
    – Ultrasonic Crack Detection technology
    – Geometry Technology (Caliper)
    – 3 Corrosion detection Technologies
      » Magnetic Flux Leakage (MFL)
      » Axial Flaw Detection (AFD)
      » Ultrasonic Wall Measurement (USWM)

– Excavations

  - Number of excavations has currently being determined based on the results of the data collected in the inspection program.

  - Anticipate excavation program to begin January 2013.

Project Need

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- Currently, Line 9 mostly transports high priced, foreign-sourced crude oil from areas such as the North Sea, West Africa and the Middle East in a westbound direction.

- Ontario and Quebec refineries currently process approximately 18% and 90% foreign-sourced crude respectively.

- Reversing the flow in the pipeline is an economical way to utilize the existing system to meet changing market and business demands and Line 9 is well-suited for a reversal.

- The commercial Open Season held in May and June 2012 confirmed additional demand to ship crude oil—mainly light crude oil—on the reversed pipeline from what had been originally anticipated.

Project Scope

- Project work at Sarnia Terminal, North Westover Station, Hilton Station, Cardinal Station (in Ontario), and Terrebonne Station and Montreal Terminal (in Quebec).

- Includes the modification or replacement of existing equipment—including small pumps that inject drag reducing agent into the oil flow—and the installation of piping within the facility boundaries.

- Subject to regulatory approvals, Enbridge expects to begin construction activities at existing terminals and installation of the new metering facility in late 2013 and begin operation of the reversed Line 9B in spring 2014.

- With the exception of some temporary workspace the Project will take place within existing Enbridge properties and right-of-way.

- No new pipeline construction is required.

Project Scope

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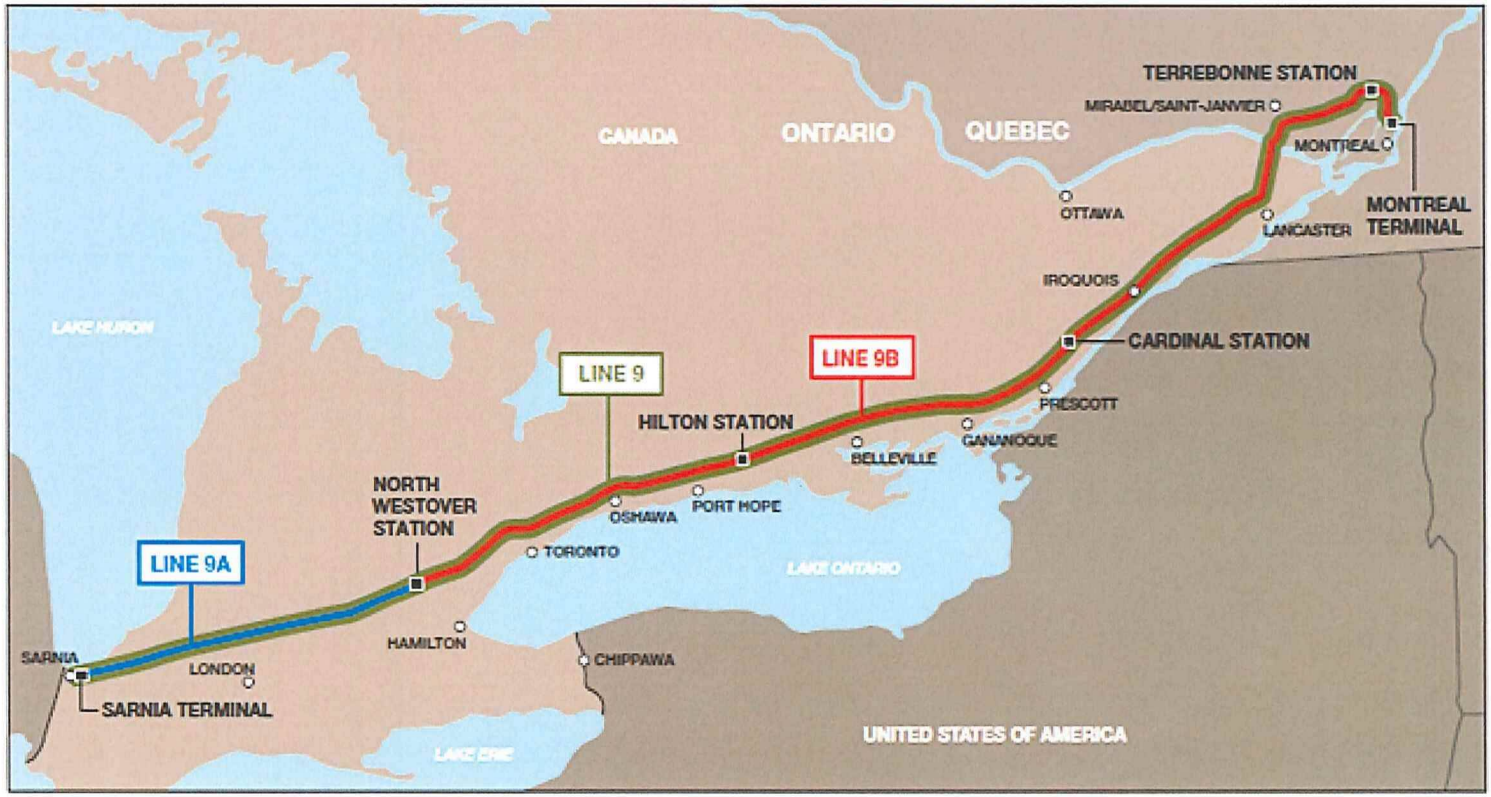
Line 9B Reversal and Line 9 Capacity Expansion Project



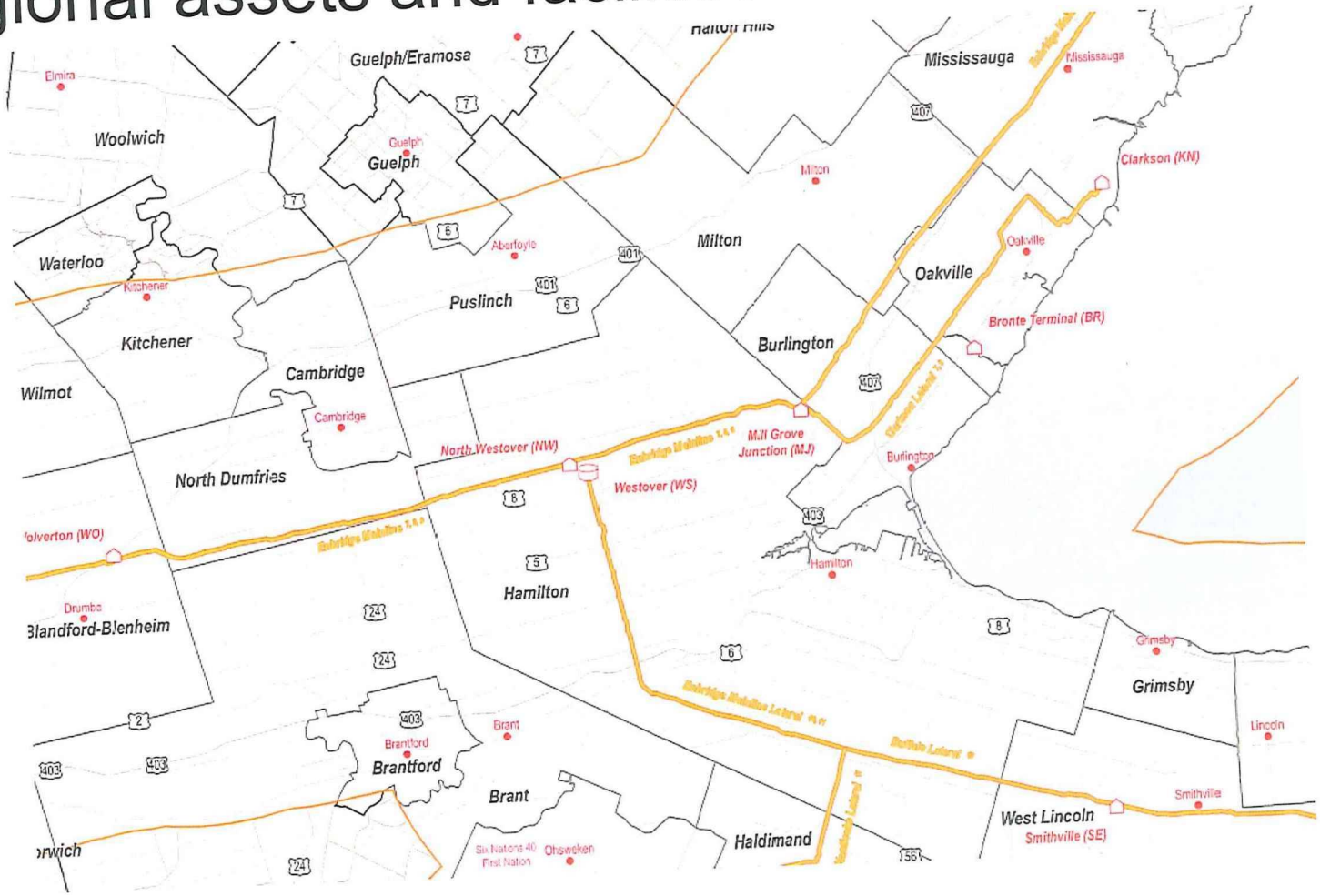
LINE 9 REVERSAL PHASE I PROJECT (APPROVED) — LINE 9B REVERSAL PROJECT (PROPOSED) — EXISTING LINE 9 PIPELINE

■ ENBRIDGE FACILITIES WHERE PROJECT WORK WILL OCCUR FOR LINE 9B REVERSAL AND LINE 9 CAPACITY EXPANSION PROJECT ○ CITY/TOWN

OCTOBER 2012

Regional Map

Regional assets and facilities



Enbridge Presenter on Emergency Response

Franz Pruegger
Supervisor, Area Operations
Eastern Region

Emergency Preparedness

"Historically, pipelines have the least amount of releases of any mode of oil transportation. As a result of strenuous efforts within our industry, releases have actually decreased over the past decade –both in terms of the number of releases and the amount of product released."

- Al Monaco, President and CEO, Enbridge Inc.

Enbridge Pipelines emergency preparedness river spill exercise, September 2012

Emergency Preparedness

- An incremental $50 million will be spent between 2012 and 2013 (projected) to improve our equipment, training and overall response capabilities across our entire system.
- Develop better tools and techniques for worst case waterborne spills.
- In 2011, a cross-region unit response team was created for large-scale events that would require more resources that a single region could provide.
- In 2011, Enbridge created a dedicated Emergency Response group in Operation Services for increased regional support.
- Conducting an Emergency Response preparedness assessment to enhance abilities to more rapidly respond and contain a significant release.

Pipelines Today

- More sophisticated operation
- Benefit from modern ILI technologies
- Have built-in systems for inspection and monitoring

We will continue to:

- scrutinize recent past
- improve system integrity
- educate stakeholders

"By placing safety at the heart of our operations, we constantly strive to do better, particularly when it comes to the integrity and viability of our pipelines – which is, and must always be, our number one concern."

- Al Monaco, President and CEO, Enbridge Inc.

Enbridge Presenter On Regulatory

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Margery Fowke
Sr. Regulatory Counsel

Regulatory Environment

- We are proceeding with all the activities required to file a project application with the National Energy Board (NEB), including the appropriate environmental studies, engineering assessment, economic analysis and stakeholder consultation.

- Enbridge anticipates submitting an application for the Project to the NEB in late 2012.

- Subject to regulatory approvals, Enbridge expects to begin construction activities at existing terminals and installation of the new metering facility in late 2013 and begin operation of the reversed Line 9B in spring 2014.

- The NEB approved the standalone Line 9 Reversal Phase I Project (Line 9 reversal from Sarnia to Westover to supply Imperial Oil's Nanticoke Refinery) on July 27, 2012.

Participating in NEB Proceeding

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- The NEB has a variety of information available to the public regarding how to participate / intervene in an NEB proceeding on its website (**www.neb-one.gc.ca**) , including:

- NEB Publication: The Public Hearing Process: Your Guide to Understanding NEB Hearings

  http://www.neb-one.gc.ca/clf-nsi/rthnb/pblcprtcptn/pblchrng/pblchrngpmphlt-eng.html

- NEB Online Workshop: How to Participate in a Public Hearing

  http://www.neb-one.gc.ca/clf-nsi/rthnb/pblcprtcptn/pblchrng/nbwrkshphwtprtcpthrng-eng.html

National Energy Board

Office national de l'énergie

Basic NEB Hearing Steps

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1. An application is filed by the company with the NEB.
2. The public is notified about the application through the Hearing Order and public hearing notices published in newspapers.
3. Intervenors register to participate in the hearing.
4. The company and intervenors in the hearing file written evidence
5. Information requests are submitted and answered based on the evidence that is filed.
6. People who don't wish to fully participate in the hearing may submit a letter of comment explaining their position on the project or make an oral statement at the hearing.
7. At the oral hearing, intervenors gather on a specific date to ask questions of witnesses and to provide final argument.
8. The panel makes a decision on the application and releases the decision to the public.

NEB Hearing Order

- Once the NEB decides application requires a hearing, NEB issues a document called a Hearing Order.
- Hearing Order gives brief description of proposed project, lists issues that will be considered, and details steps in hearing process and schedule.
- Includes information on how people who want to participate in the hearing may get involved and applicable deadlines.
- NEB sends out a news release when Hearing Order issued.
- Hearing Order posted on NEB website, and applicant must publish notice in newspapers that serve the area around the proposed project.
- Line 9 Reversal Phase I Hearing Order (as an example):
- **https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=769684&objAction=browse**

Process Advisors

- NEB may assign a Process Advisor to support the public who is participating in a public hearing.
- Process Advisors:
  - answer questions about NEB hearing process
  - explain different ways to intervene
  - organize and run public information sessions
  - answer questions about Participant Funding Program
  - provide samples and templates
  - explain your role in the hearing

- When a process advisor is assigned, a notice is posted on the NEB website (www.neb-one.gc.ca).
- You can also call the NEB main line number, and your call will be forwarded to the appropriate Process Advisor:
- The process advisor for the project is Michael Benson and he can be reached at 403-299-1992 and michael.benson@neb-one.gc.ca.
  - **Or the toll free number: 1-800-899-1265**
  - More information is available at: http://www.neb-one.gc.ca/clf-nsi/rthnb/pblcprtcptn/prcssdvsr-eng.html

Participant Funding Program

- NEB administers Participant Funding Program.
- Program provides financial assistance to support timely and meaningful engagement for those seeking to intervene in the NEB's oral hearing process for facilities applications.
- Program provides funding to those with a meaningful interest in the project, including:
  - individuals
  - Aboriginal groups,
  - landowners,
  - incorporated non-industry not-for-profit organizations, and
  - other interest groups

- Governments, other than an Aboriginal government, are not eligible for participant funding under the Program.
- Participant funding guide can be found on NEB website:
  - http://www.neb-one.gc.ca/clf-nsi/rthnb/pblcprtcptn/prtcpntfndngprgrm/prgrmgd-eng.html

Other Relevant NEB documents

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- Pipeline Regulation in Canada: A Guide for Landowners and the Public

  http://www.neb-one.gc.ca/clf-nsi/rthnb/pblcprtcptn/pplnrgltncnd/pplnrgltncnd_ndx-eng.html

- National Energy Board Action Plan on Safety and Environmental Protection 2011-2012

  http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/ctnpln2011_2012-eng.html

Conclusion - Questions

- Energy is fundamental to our personal and economic well being.
- Canadians rely on natural gas and products made from crude oil to meet more than two-thirds of their energy needs each and every day.
- 94% of all Canadian transportation energy comes from petroleum products.
- They heat our homes and businesses.
- They are used to make hundreds of household products.
- Our oil and gas resources are large contributors to our economy.
- The value of Canadian exports of crude oil and natural gas was almost $60 billion in 2009.
- The pipeline and energy industries employ thousands of Canadians coast to coast.

Contact Information

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