



File OF-Fac-Oil-E101-2012-10 02
5 February 2015

Mr. Jesse Ho
Senior Regulatory Analyst
Enbridge Pipelines Inc.
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Facsimile 403-767-3863

Dear Mr. Ho:

**Enbridge Pipelines Inc. (Enbridge)
Line 9B Reversal and Line 9 Capacity Expansion Project (Project)
Order XO-E101-003-2014 (2014 Order)
Decision of the Board regarding Conditions 16 and 18 Filings**

The National Energy Board (Board) has reviewed the documents filed by Enbridge pursuant to conditions 16 and 18 of the 2014 Order and in response to the Board's Information Requests (IRs). The Board has also received and considered letters from interested persons and Aboriginal groups, relating to Enbridge's filings on conditions 16 and 18.

The Board approves Enbridge's submissions for conditions 16 and 18 of the 2014 Order. However, due to the specific characteristics of the landscape this pipeline traverses, the Board requires further detailed information and assessment with respect to valve placement through the lifecycle of the pipeline. The Board has decided to impose additional obligations on Enbridge and has issued the attached Order MO-001-2015 (2015 Order). The 2015 Order does not affect the timing of an application for Leave to Open.

Condition 16 – Valve Placement

In reviewing submissions on condition 16, the Board considered whether Enbridge's Intelligent Valve Placement (IVP) methodology was in the public interest; that is to say, whether it protects public safety and the environment. This required consideration of the risks and benefits of adding valves to an existing pipeline.

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Sectionalizing valves are used to facilitate maintenance activities and can also serve as a means to minimize the consequences of pipeline failures. Valves are an important element in the safe operation of a pipeline. When located appropriately, and maintained and operated properly, they can reduce the volume of product released in the event of a failure. However, valves have inherent risks and placing a valve in a sensitive area may create a risk that outweighs the benefit.

The Board expects industry to effectively locate and place sectionalizing valves to help control and potentially reduce the size of a pipeline failure. However, the Board notes that valves do not prevent pipeline failures and valves alone cannot appropriately mitigate the consequences of a failure. Prevention of failures is a primary concern of the Board, and proper monitoring and maintenance is required as a key measure for prevention. Should a failure occur, the Board expects companies to react quickly, control and reduce the size of the release, and manage and mitigate the consequences.

The size of a release or the volume of product released, in the case of a rupture (this being the worst-case scenario) is largely determined by two independent factors:

- **Pump Capacity:** This determines how much product might be released before the pumps are shut off or isolated. The location and quantity of valves do not affect the amount of product released because of pump capacity.
- **Topography:** The product uphill from a rupture can drain down and be released through the rupture, unless there is a valve to stop it. This is why valves are typically placed part way up a slope. Topography also protects some areas from failure, in that product will not flow uphill.

The Board acknowledges that the increase in pump capacity on an existing pipeline like Line 9 can result in a higher size of release in the unlikely event of a failure. However, sectionalizing valves do not lessen the size of release due to increased pump capacity. As a result, the Board imposed prevention measures and other control factors to address the impact of the increased pump capacity.

The 17 additional valves Enbridge has installed, based on its IVP methodology and condition 16 of the 2014 Order, would help to reduce the volume of product released as a result of topography (i.e., product flowing downhill toward a failure). The methodology considers where valves will be most useful to reduce the impact in the case of a failure. Enbridge's submissions for condition 16 demonstrate that the 17 additional valves are a significant improvement to the existing and operating pipeline and reflect an evolving response in identifying and addressing concerns associated with pipelines. The Board notes that the IVP methodology is part of Enbridge's ongoing maintenance activities relating to its entire pipeline system.

In its submissions, Enbridge was required, among other things, to demonstrate how the IVP methodology protects the public and the environment, with reference to its Watercourse Crossing Management Plan (WCMP). Enbridge took a conservative approach that treated all watercourse

crossings equally in terms of impacts and valve placement. The Board is of the view that this approach is appropriate for the location of Line 9B, in that there are a large number of water crossings and high consequence areas as described by Enbridge, including: populated areas, drinking water resources, environmentally sensitive areas, and navigable waterways. The goal of the IVP methodology is to protect the public and the environment in the entire area, rather than focusing on specific water crossings.

The Board recognizes the use of valves to minimize the consequence of failure is and will continue to be a matter of significant importance to safety and environmental protection, and of interest to industry and the public. While the Board has approved Enbridge's submission for condition 16, it also notes that, due to the specific characteristics of the landscape the pipeline traverses, it is appropriate for Enbridge to develop further detailed information and assessment with respect to valve placement throughout the lifecycle of the pipeline. The Board therefore considers it appropriate to impose certain ongoing analysis and assessment requirements as set out in the 2015 Order.

Condition 18 – Watercourse Crossing Management Plan (WCMP)

In its decision, the Board explained that conditions 18 and 25 were imposed in order to establish a new baseline condition assessment of the major watercourse crossings in light of the increase of spill risk presented during the proceeding. Condition 18 requires submission of a WCMP prior to a Leave to Open application, and condition 25 requires an update in the year following. Conditions 18 and 25 also require Enbridge to incorporate the existing conditions as a new baseline in its Environmental Protection Program, a Program required to anticipate, prevent, manage and mitigate conditions that could adversely affect the environment. One of the requirements of condition 18 is to provide a list of the major watercourse crossings which will be further investigated in condition 25.

Enbridge provided an updated WCMP on 28 October 2014 ([A63912](#)), in response to the Board's IRs and letters from interested persons. The updated WCMP provides a framework that documents the roles and responsibilities of various Enbridge departments as they relate to watercourse crossing management and demonstrates how Enbridge will proactively manage the numerous watercourse crossings along the existing line. Enbridge provided an inventory of all of the watercourse crossings along the length of Line 9 and assigned a crossing-specific monitoring interval based on its exposure potential.

The Board is of the view that Enbridge has met the requirements of condition 18 and approves Enbridge's WCMP. The Board is also of the view that the information gathered for the update required by condition 25 can inform the IVP analysis, as Enbridge identifies any need for watercourse remediation and further valves.

Next Steps

The Board's priority is to protect people and the environment. It expects the same of the companies it regulates. Prior to operating the pipeline, Enbridge must apply for and be granted Leave to Open. The Board reminds Enbridge that, in addition to complying with all its own commitments made during this proceeding, Enbridge must comply with all Post Construction conditions in the 2014 Order.

The Board has received letters from Aboriginal groups relating to Enbridge's consultation efforts. The Board notes that Enbridge has continuing obligations relating to consultation. Pursuant to conditions 24, 26, and 29 in the 2014 Order, Enbridge shall continue to consult and report on consultation to the Board.

In order for the Board to consider and assess the ongoing valve placement needs in this specific area through the lifecycle of the pipeline, the Board requires further information from Enbridge. Accordingly, pursuant to subsection 48(1.1) of the *National Energy Board Act* and section 6 of the *National Energy Board Onshore Pipeline Regulations*, the Board has issued the attached 2015 Order. The 2015 Order will facilitate and require ongoing review and analysis of water crossings, valve locations and associated risks in accordance with Enbridge's IVP methodology to ensure that Line 9 continues to protect public safety and the environment throughout its lifecycle.

As noted above, the Board's priority is to protect people and the environment. Given the sensitive characteristics of the landscape this pipeline traverses, the Board will take the additional step of requiring direct oversight and consistent assessment of future filings for the project from a member of the Board, Dr. Ron Wallace, pursuant to section 14 of the *National Energy Board Act*.

If you have any questions about the above information, please call the Board toll free at 1-800-899-1265.

Yours truly,

Original signed by

Sheri Young
Secretary of the Board

Attachment

c.c.: Mr. Leon Zupan, Chief Operating Officer, Enbridge Pipelines Inc.,
facsimile 403-231-3920



ORDER MO-001-2015

IN THE MATTER OF the *National Energy Board Act* (NEB Act) and the Regulations made thereunder;

IN THE MATTER OF Order XO-E101-003-2014, issued by the National Energy Board (Board) under file OF-Fac-Oil-E101-2012-10 02.

BEFORE the Board on 20 January 2015.

WHEREAS Enbridge Pipelines Inc. (Enbridge) filed an application dated 29 November 2012, pursuant to section 58 and Part IV of the NEB Act, for the Line 9B Reversal and Line 9 Capacity Expansion Project (Project);

WHEREAS on 10 February 2014, the Board issued Order XO-E101-003-2014, the effect of which was to approve the Project;

AND WHEREAS from 9 June to 27 November 2014, Enbridge filed information regarding its Intelligent Valve Placement (IVP) methodology and how it applied this methodology to Line 9, as part of its risk management program, and indicated that it had modelled a further 11 valves;

AND WHEREAS condition 25 of Order XO-E101-003-2014 requires Enbridge to file an update to its Watercourse Crossing Management Plan (WCMP Update) within 12 months of being granted Leave to Open;

IT IS ORDERED that, pursuant to subsections 13(a) and 48(1.1) of the NEB Act and section 6 of the *National Energy Board Onshore Pipeline Regulations*, Enbridge may continue with the Project in accordance with all applicable regulatory requirements, but the Project shall be subject to the following conditions:

- 1) Within 12 months of being granted Leave to Open, Enbridge shall file with the Board the following information:
 - a) The identified location of each of the 11 modelled valves referred to in the 23 October 2014 filing;
 - b) In respect of each of these 11 modelled valves, detailed engineering analysis that includes an assessment of incremental risks and benefits to established risk receptors; and
 - c) Based on the results of the analysis in (b), Enbridge's rationale and factors considered in determining whether each of these 11 modelled valves should be installed.

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- 2) Within 12 months of being granted Leave to Open, Enbridge shall file with the Board the following information:
 - a) A thorough review and assessment of the data collected for the WCMP Update; and
 - b) Rationale as to whether the risks identified necessitate additional valves

- 3) Enbridge shall continue using its IVP methodology, updating the resulting assessment as conditions change and new data are received, and provide updates to the Board as follows:
 - a) Provide a summary including, but not limited to, operational and environmental conditions and the results of IVP analysis compared to the baseline of current conditions;
 - b) In the first update, provide the Board with the proposed frequency, for approval, of IVP reviews for this pipeline, and the methodology that is used to determine that period; and
 - c) The summary and first update are to be filed at the same time as the submissions for conditions 1 and 2 of this Order.

NATIONAL ENERGY BOARD

Original signed by

Sheri Young
Secretary of the Board