

National Energy
Board



Office national
de l'énergie

File OF-Fac-Oil-E101-2012-10 02
19 November 2014

Mr. Doug Anderson
President, DurhamCLEAR
111 Euclid St
Whitby, ON L1N 5B1

Dear Sir:

**Enbridge Pipelines Inc. (Enbridge)
Line 9B Reversal and Line 9 Capacity Expansion Project (Project)
Order XO-E101-003-2014 (Order)
Letter dated 10 November 2014**

The National Energy Board (Board) received your letter (attached) dated 10 November 2014 regarding your concerns with Enbridge's response to the Board's directive of 6 October 2014.

The Letter has been placed on the public record so that it may be considered as the Board evaluates the conditions of the Order, and when it considers Enbridge's application for leave to open the Project.

Yours truly,

Original signed by L. George for

Sheri Young
Secretary of the Board

Cc: Mr. Jesse Ho, Sr. Analyst, Regulatory Affairs, Enbridge Pipelines Inc.,
Facsimile 403-767-3863

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VIA ELECTRONIC FILING

November 10, 2014

Attention: Sheri Young, Secretary
National Energy Board
444 – 7th Avenue SW
Calgary, AB T2P 0X8

Dear Madam Secretary:

**RE: Enbridge Pipelines Inc. Line 9B Reversal and Line 9 Capacity Expansion Project
Enbridge Response to NEB directive of October 6, 2014**

DurhamCLEAR was an intervenor to the hearings to expand the capacity, etc of Line 9. We were disappointed that the NEB did not attach more stringent conditions to their approval but took some comfort in the conditions that were imposed.

In that context we have continued to monitor the situation. We read your directive of October 6 to Enbridge concerning valves with interest and hope. We were not surprised when Enbridge's response was a whitewash.

Inadequate Valves in most sensitive Region

Our submission to the NEB last fall focused heavily on valve placement in relation to the fact that Durham Region has the highest concentration of water crossings on Line 9. This was evident in a chart of waterways submitted by Enbridge (B18-20_-_Attachment_1_to_Equiterre_1.1.j.1_-_A3I6R5_.pdf).

In particular I noted a 300 ft drop in elevation between the only two valves in Durham at the time (MP 1932.91 and MP 1949.02) and I mocked the 'intelligence' in "Intelligent Valve Placement". There are 71,300 bbl of oil or 11,336m³ between those two valves (Enbridge response to DurhamCLEAR IR #1.4e). Clever anagrams (IVP) are not a replacement for sound engineering.

In addition, I would refer to Appendix 3 of their reply. The column for environmentally sensitive areas has a solid line of x's from one side of Durham to the other.

In its response to our IR, Enbridge claims "Natural high points in the pipeline elevation profile would hinder the release of oil; resulting in an estimated worst case release of 14,560 bbls within these sections." (They don't specify which section.) While there are some intermediate elevations between the two valves, the slope is relatively stable and I suspect that far more than

that would siphon out. At the very least, Enbridge's estimates need to be independently evaluated.

Warped logic to justify valve placement

Enbridge's response to your directive tries to justify the position of their valves. I was particularly shocked to see that Enbridge was using "the number of watercourses [&] the short distances between watercourse crossings" (Appendix A, top of page 2) as their rationale for fewer valves. The logical extension of that rationale is the more waterways, the fewer valves we need. (If you can't find a good place to install the valve, then just eliminate it.)

I find their arguments expressed in Appendix A completely inadequate

"Prior to applying the IVP methodology to Line 9 as a result of the Project, the average maximum release volume between valves on the line would have been 1037 m³, reflecting the significant natural protection afforded by the topography of the Line 9 right of way."

Compare that to the 11,336m³ between the 2 valves in Durham.

The application of the IVP methodology to Line 9 led Enbridge's engineers to install 17 new remote-controlled valves, which resulted in an average maximum release volume between valves of 900 m³ between valves. These 17 new valves, therefore, resulted in a 13.1% reduction of the average maximum release volume.

One of those valves was being installed between the 2 valves cited above. I could not find an elevation for this valve but even if the oil in the pipe was split evenly above and below, there would still be a release of more than 5,500 m³. The use of averages in this context is also very misleading. We need to see real numbers for each potential rupture and that needs to be evaluated against the harmful impacts in that particular location.

Enbridge refers repeatedly to the "lowest practicable release volumes" or words to that effect, yet they leave one of the most environmentally sensitive areas, Durham Region with potential release volumes more than 5 times that.

Furthermore, the logic that suggests that an "average" leak of 900 m³ is in any way acceptable, has little regard for the environment. As we know from previous spills, no amount of cleanup or remediation can put the environment back the way it was. The oil pipeline industry should not be permitted to dump the costs resulting from inadequate engineering onto municipalities along their routes.

Thicker pipe would better protect some environmentally sensitive areas

I will grant you that the close spacing of watercourses makes the placement of valves more complicated - considerably more so if you plan to place them 1 km back from both banks and there are 12 watercrossings in 7.5 km (as in Whitby). But this is not an argument for fewer valves but rather an argument for a different solution. It would seem appropriate given the

closeness of crossings that the entire line through Durham should be more robust with thicker walls - as was requested by the Town and City Councils of all five communities in Durham Region this spring in separate resolutions. These resolutions were directed to the Ontario government to exercise its influence but I believe you were copied on all of them. All of these resolutions were passed unanimously. A sample (Pickering) of these resolutions is appended to this letter.

Environmental protection would also be greatly improved by a more effective leak detection system (any one of several that are discussed in the "Leak Detection Study" by Kiefner & Associates as prepared for the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration).

There are More Water crossings than Enbridge acknowledges

However beyond our concerns about valves and leaks, we have a far more fundamental problem with Enbridges submission - now, during the hearings and even back in 1975.

There are considerably more watercrossings in Durham Region than Enbridge acknowledges. This contradicts Enbridges claim that they know the environments through which the pipeline passes. The discrepancy in the number of watercrossings extends right back to the documentation they filed back in 1975. The correct information has been available to them from the local planning departments and conservation authorities for the intervening 38 years, yet we still have incorrect lists.

This lack of information is reinforced by the fact that Enbridge has listed most rivers as "unnamed". Most, probably all, of these have names which the local authorities could have provided. Some of these waterways may be minor, but in spring flood they can carry large volumes of water which needs to be a consideration in planning responses to potential leaks.

I referred in my oral submission to a map submitted by the Town of Whitby as part of their Letter of Comment (D40-2-2). This map shows 12 watercrossings in the 7.5 km width of Whitby and that doesn't include any in the provincially significant wetland in Heber Down Conservation Area (km 3119-3120). Enbridge only lists 5 watercrossings. Even the detailed maps filed by Enbridge show 8. I focus on Whitby because that's where I live and it is the area that I am most familiar with. I suspect that the omissions in Whitby are symptomatic of omissions in many parts of the line.

Wall thickness

When constructed, Enbridge committed to a 0.5" wall thickness at all watercrossings. There are 5 sections within Whitby's boundaries that have a 0.5" thick wall in keeping with the 5 watercourses they recognize. This leaves several watercrossings inadequately protected including the stretch through Heber Down Conservation Area, the most environmentally sensitive of them all, which has a wall of only 0.25".

The data about wall thickness is derived from a spreadsheet of pipe segments showing thickness and length developed from information submitted as part of the last hydrostatic test in 1997. The spreadsheet was created by another intervenor.

Given the disparities in the number of rivers and streams, it is evident that neither Enbridge nor the NEB really knows how many there are. And without that as a basic starting point, I find it impossible to believe that Enbridge has a handle on the local environment.

The people who do know are the ones on the ground – the municipalities and conservation authorities, - and if Enbridge was paying any attention to the various NEB directives to maintain close liaison with local bodies, these discrepancies would not exist. The fact that 40 years after it was built that you are still trying to define what constitutes a major crossing is cause for considerable concern.

Modelling data needed

By Enbridge's own admission (response to DurhamCLEAR IR #1.4bi) they do not know the flows of any of these rivers and streams so how can they possibly claim to know the environmental impact of a full bore rupture. They have never modeled any of these creeks and streams in dry season or wet. The body that has some of this information is the local conservation authority. In our case that would be the Central Lake Ontario Conservation Authority (CLOCA). They tell me that Enbridge has never asked for this information.

A consortium of local CAs did some modeling of a full bore rupture on the scale of Kalamazoo a couple of years back with, not surprisingly, catastrophic predictions.

So what would happen with a smaller leak? Unfortunately, the local CA's do not have the resources to do such modelling. That should clearly be the responsibility of the applicant.

If this pipeline is to operate safely, there needs to be thorough modeling for a range of leaks (including slow undetected seepages) in flood, normal and drought conditions and it should be a requirement that Enbridge perform these studies in consultation with the CAs in order that all parties truly understand what the environment effects of a leak would be, over a wide range of circumstances. These studies should have been done back in 1975 as part of a proper environmental assessment at that time – but they weren't.

It should also be noted that a full-bore release is not the most likely scenario. Slow leaks over an extended period are more likely, and due to the limitations of Computational Pipeline Monitoring (CPM) are far less likely to be detected. (30% of all leaks are detected first by 3rd parties.)

In conclusion, we would urge the National Energy Board to hold firm on the issue of valves but leave room for options which might protect the environment better. The municipalities of Ontario through which Line 9 passes are not pleased by the cavalier attitude of Enbridge. The NEB needs to pay more attention to the local government bodies who will bear the brunt of any leaks.

Sincerely,

A handwritten signature in black ink that reads "Doug Anderson". The signature is written in a cursive style with a large, stylized initial "D".

Doug Anderson
President, DurhamCLEAR

Copy of Resolution re Line 9 passed unanimously by the City Council of Pickering on March 24, 2014

Whereas Line 9 is a high pressure oil pipeline that crosses the full width of Durham Region, and Enbridge has applied to the National Energy Board for permission to:

1. reverse its flow so that it carries crude oil from North Westover to Montreal
2. increase its flow from 240,000 barrels to 300,000 barrels per day
3. include diluted bitumen to the classes of petroleum it can carry

Whereas Letters of Comment were submitted to the NEB expressing the concerns of the Region of Durham, the Towns of Ajax & Whitby, as well as private individuals and organizations,

Whereas the Province of Ontario also expressed its concern in its submission to the NEB and set out 7 minimum conditions that they felt should be imposed before the NEB approves Enbridge's application:

1. a hydrostatic test of the Line
2. an independent 3rd party review of the risk and engineering assessments submitted by Enbridge
3. insurance coverage of \$1billion
4. that Enbridge incorporate vulnerable areas and source protection plans into their high consequence area and environmentally sensitive area maps
5. that these vulnerable areas be incorporated into its emergency response plan
6. conduct emergency response exercises annually with all municipalities who want them
7. publish an annual report on Line 9, including information about maintenance, spills and integrity testing

Whereas the NEB issued its ruling on March 6 and this ruling allows Enbridge to proceed with the project subject to conditions which inadequately address the concerns expressed by the Ontario government or by Durham municipalities in their Letters of Comment

Whereas, in the course of the Line 9 hearing process, it was revealed that Durham Region has the highest concentration of watercourse crossings along the entire pipeline, which, with inadequate emergency response times of between 1.5 and 4 hours, puts Durham Region communities, citizens, businesses and natural environment at increased risk in the event of a pipeline spill.

Whereas an analysis of the pipe thicknesses at the location of the 12 acknowledged leaks on Line 9b reveals that 7 of those leaks occurred where the thickness was 0.25 in, 3 of those leaks occurred where the thickness was 0.281 in, and 2 occurred where the thickness was .312 in, and none occurred where the thickness was 3/8" (.375") or more.

Whereas further analysis has revealed that 97.2% of the pipeline in Durham is either 0.25 or 0.281 in.

Whereas the City of Pickering has no regulatory authority over this pipeline.

Therefore be it resolved that the City of Pickering

supports the 7 conditions set out by the Province of Ontario, and

requests the Province of Ontario require the project undergo an Individual Environmental Assessment

and be it further resolved that:

due to the high concentration of watercourses and wetlands that the pipeline crosses in Durham Region and our rapidly increasing population, the City of Pickering requests the Province of Ontario to use its influence to have Enbridge designate the entire width of Durham a 'high consequence area' and to upgrade the line within a reasonable timeframe to minimum 9.5mm (3/8") wall thickness.

and further,

that this resolution be forwarded to Ontario Premier Kathleen Wynne, Energy Minister Bob Chiarelli, and Environment Minister Jim Bradley, local MPPs and Opposition Critics

with copies to: The National Energy Board, Federal Minister of Natural Resources Joe Oliver, Federal Environment Minister Leona Aglukkaq, Enbridge, Local MPs, and other municipalities along the pipeline route