



**STAFF REPORT
ACTION REQUIRED
with Confidential Attachment**

**National Energy Board Decision on Enbridge Line 9B
Application – Emergency Response Capacity**

Date:	March 25, 2014
To:	City Council
From:	City Manager and City Solicitor
Wards:	All
Reason for Confidential Information:	This report contains advice or communications that are subject to solicitor-client privilege and the subject of litigation.
Reference Number:	

SUMMARY

The National Energy Board ("NEB") released its Decision on Enbridge's Line 9B Application on March 6, 2014. The Application seeks to (1) reverse the flow in the pipeline to the originally designed west to east direction; (2) increase the overall capacity in the pipeline from 240,000 to 300,000 barrels per day without increasing the maximum operating pressure; and, (3) allow the pipeline to be used to transport heavy crude oil, including diluted bitumen.

The NEB approved the Application, subject to 30 detailed conditions. Many conditions must be met before Enbridge can apply for Leave to Open ("LTO"), a further step required before Enbridge can implement the approved changes to Line 9B.

Throughout the NEB process, and at public hearings about the application in Montréal and Toronto during October, 2013, Enbridge made a number of commitments to address issues of concern identified by City Council, including the need for:

- Additional maintenance/emergency response personnel in the Greater Toronto and Hamilton Area (GTHA)
- More shutoff valves at major watercourses
- Detailed spill response planning

- Updated emergency planning
- A watercourse crossing management plan

The 30 NEB conditions address the above-noted issues, and require Enbridge to fulfill all of the commitments it made throughout the process.

This Report recommends follow up activities to ensure that the commitments made by and imposed upon Enbridge are fulfilled, with input from City Staff as appropriate.

RECOMMENDATIONS

The City Manager and the City Solicitor recommend that:

1. The City Solicitor write to the Federal Minister of Natural Resources requesting immediate implementation of proposed regulations announced by the Government of Canada that will require companies operating major crude oil pipelines to have a minimum of \$1 billion in financial capacity.
2. The City Manager, in consultation with the City Solicitor, write to the President and CEO of Enbridge and copy the NEB advising how City Staff would be involved in the review of the further steps required by the NEB.
3. City Council direct that Confidential Attachment 1 remain confidential as it contains advice and information that is subject to solicitor-client privilege and the subject of litigation. City Council authorize the public release of all or a portion of the confidential information at the discretion of the City Solicitor.

Financial Impact

The recommendations in this report have no financial impacts.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial implications.

DECISION HISTORY

At its meeting of November 27, 2012, City Council adopted Member's Motion 28.22 directing the City Solicitor to report directly to City Council on the application by Enbridge Pipelines Inc. ("Enbridge") to the National Energy Board ("NEB") to change the operation of Line 9B which flows through Toronto. A copy of the decision document can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.MM28.22>

At its meeting of February 20 and 21, 2013, City Council adopted the City Solicitor's report dated February 11, 2013, on the Enbridge application, the identification of issues

of concern to the City, and the steps to review these issues with Enbridge and, if necessary, present them to the NEB. Council further directed the City Solicitor to submit an update report to Council at its July 16 and 17, 2013, meeting. A copy of the decision document can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.CC30.5>

At its meeting of July 16, 2013, City Council adopted the City Solicitor's report dated July 4, 2013, on the status of the Enbridge application and the steps taken on behalf of the City as an intervenor in the National Energy Board proceedings. A copy of the decision document can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.CC37.1>

By Notice of Motion MM45.18, as amended and adopted at its meeting of December 16, 2013, City Council requested the City Solicitor to report on the decision of the National Energy Board. Specifically, Council requested a report on Enbridge's emergency response capacity. City Council also requested the City Manager to report on emergency protocols related to pipelines generally; on emergency response capabilities in relation to Line 9, and on discussions with the Canadian Energy Pipeline Association regarding pipelines in the City of Toronto. A copy of the decision document respecting the motion can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.MM45.18>

ISSUE BACKGROUND

As outlined in the Decision History, City Legal staff have represented the City at all stages of the proceeding including the final argument. City Legal staff received input from Toronto Water, Toronto Fire Services, Toronto Office of Emergency Management, Toronto Transit Commission, and others.

City Legal staff retained an independent engineering expert to advise on pipeline integrity, and senior outside legal counsel to review City submissions. City Legal staff also organized a municipal liaison group with representatives from municipalities through which Line 9 passes as well as conservation authorities. The liaison group provided input on issues of concern to municipalities along Line 9, and shared the costs of the experts retained by the City.

Links to the documents filed by all parties at the NEB and to specific documents filed in relation to the City can be found in Appendix 1.

The NEB released its decision on March 6, 2014. The decision document can be found at:

https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/92263/790736/890819/2431831/2428616/Reasons_for_Decision_OH-002-2013_-_A3V1E4.pdf?nodeid=2431830&vernum=-2

COMMENTS

Overview of the NEB Hearing Process and Decision

The NEB Hearing Process began on November 29, 2012, when Enbridge submitted its Application to make changes to its Line 9B, and ended on March 6, 2014, when the NEB released its decision to approve the Application with conditions. The NEB concluded that:

The Board is of the view that approving the project is in the public interest and is consistent with the requirements of ... the NEB Act. In approving Enbridge's Application, the Board has imposed conditions that will enhance current and ongoing pipeline integrity, safety and environmental protection measures to which Line 9 is already subject. The Board's decision enables Enbridge to react to market forces and provide benefits to Canadians, while at the same time implementing the project in a safe and environmentally sensitive manner.

Prior to releasing its decision, the NEB held public hearings about the application in Montréal and Toronto during October, 2013. Many of the 60 intervenors, including the City of Toronto, made oral presentations explaining their views and concerns about Enbridge's application. The NEB also considered submissions from 111 commentators.

The NEB also allocated a total of \$300,000 in participant funding to some of these groups and individuals. (Funding is not available to municipalities under the NEB procedures.)

In its 141 page decision, the NEB provided a detailed review of the Application. The Board noted that Line 9 has been in operation since 1975 and has been subject to NEB review since that time. Since 1975, Enbridge has been required to maintain an Emergency Management Program, and an Environmental Protection Program under the NEB's Onshore Pipeline Regulation ("OPR"), and has been subject to on-going compliance verification requirements. The NEB noted that it has engineers and specialists on staff with expertise in pipeline integrity, environment, emergency management and safety and security (among other fields) to facilitate review and compliance verification of all pipelines, including Line 9.

The Board noted that, in addition to any conditions the Board imposes, Line 9 must also comply with its Onshore Pipeline Regulation ("OPR"), and the requirements of the Canadian Codes and Standards Association ("CSA") applicable to pipelines (CSA Z662-11) which is incorporated by reference in the OPR.

The NEB also noted that, until 1999, Line 9 carried diluted bitumen ("dilbit") in a west to east flow, as is proposed once again in this Application. The NEB relied on a study by the United States National Academy of Sciences, dated 2013, which concluded that dilbit has no unique properties that make it more likely to corrode the pipeline. The

independent engineering experts retained on behalf of the City of Toronto reached the same conclusion.

The NEB noted Enbridge's commitment to various measures including:

- The installation of 17 new remote-controlled sectionalizing valves, which can stop oil flowing in Line 9 (in addition to the 51 valves already in place)
- Use of Enbridge's "intelligent valve placement" program to confirm that valves are installed in the locations that provide the best environmental protection
- Installation of new leak detection instrumentation
- Improvements to Enbridge's Edmonton pipeline control centre. The centre, which controls flows in the Line, as well as valves along the line, has been completely rebuilt since 2010 and is the subject of a separate NEB order

The NEB approved additional conditions, requiring Enbridge to:

- Demonstrate that the updated valve system meets CSA standards prior to LTO
- Demonstrate that Line 9 meets the CSA requirements that valves be placed on both sides of major water crossings (defined as locations where a spill could pose a significant risk to the public or the environment)
- File an updated leak detection system manual
- Submit the results from its 2013 geohazard study and any necessary proposed mitigation measures to the NEB prior to LTO to ensure proper depth of cover at all locations
- Confirm that all emergency shutdown systems have backup emergency power
- File an updated Deterministic Remaining Life evaluation, based on operating conditions, in order to confirm that any effects on integrity have been managed as predicted

The decision explicitly requires Enbridge to fulfill all commitments made through the proceedings and to establish a Commitments Tracking Table and make it publicly available on its company website, and file it with the NEB.

Does the Decision address the issues identified by the City of Toronto?

As outlined in previous Reports, the City issues advanced at the Hearing were:

1. Integrity of the pipeline
2. Emergency response
3. Spill protection, especially for drinking water sources
4. Financial assurance

1. Integrity of the Pipeline

Overall, the Board was of the view that Enbridge's Integrity Management Program constituted an effective approach to addressing integrity concerns, conditional upon the completion, review and implementation of integrity management measures taken in relation to this Application.

The NEB noted that, although Line 9 was built under an older CSA standard,

The fundamental design principles have not been significantly altered to the extent that existing pipeline cannot be operated safely with an appropriate integrity management program ("IMP") in place.

The Board noted that between July 2012 and March 2013, Enbridge conducted in-line inspections (ILI) to assess the integrity of the pipeline using the following tools:

- Caliper inspection
- Magnetic flux leakage
- Ultrasonic crack detection
- Ultrasonic wall measurement
- Axial magnetic flow detection

The NEB required Enbridge to submit an update to its engineering assessment prior to LTO based on the 2012-2013 ILI work referred to above. Furthermore, the NEB required Enbridge to complete all planned integrity digs based on this update and complete repairs to any features that do not meet current CSA standards. The NEB decision also requires Enbridge to provide a long term integrity improvement plan.

The professional opinion and conclusion of the independent engineer experts retained by the City was that integrity issues could be appropriately managed by the ILI work and Integrity Management Program proposed.

2. Emergency Response

The Line 9B application has generated considerable public attention and concern. One of the major issues advanced on behalf of the City of Toronto at the National Energy Board has been the capacity of Enbridge to respond to an emergency situation should one arise. The NEB reviewed the requirements of the OPR which was updated in 2013. The OPR obliges all pipeline operations, including those of Enbridge, to undertake the following:

- Develop and update emergency management plans and procedures manuals
- Maintain liaison with emergency response agencies
- Inform emergency responders of all information relevant to emergency management

- Maintain a continuing education program for the public and emergency responders
- Conduct training and exercises
- Evaluate responses to these exercises
- Evaluate equipment requirements on an ongoing basis

The Board noted that Enbridge had taken steps prior to the Hearing as follows:

- Added to its emergency response inventory
- Prepared control-point mapping for all waterways (which identifies the location to which emergency equipment should be directed in the event of a spill)
- Incorporated water source protection areas into its "high consequence area" data so that the highest level of emergency precaution is applied
- Prepared tactical response plans (more detailed emergency response plans) for the Don River (complete) and Humber River (in progress)
- Agreed to establish a new maintenance crew in Mississauga, which would be trained and prepared to respond to any GTHA emergencies

Recommendation 1 of MM45.18 requested the City Manager seek further assurance from Enbridge regarding the new Mississauga maintenance crew. City Legal staff made this request on behalf of the City Manager. Enbridge responded by letter dated February 10, 2014. A copy of that letter is attached as Appendix 2. The letter confirms Enbridge's commitment to the new Mississauga crew, and outlines emergency management measures in place.

The Board also required Enbridge to document coordination between its Environmental Protection Program and its Emergency Management Program applicable to Line 9. In other words, emergency management must be shown to inform, and to be informed by, environmental protection. The Board also explicitly recognized concerns about potential impacts on waterways.

The Board recognized the significance of underground infrastructure in urban areas. The Decision refers to the NEB's Pipeline Crossing Regulation and Public Awareness Program, which require ongoing notification to those close to the pipeline, and to emergency responders.

One particular concern raised by the City and others was the proximity of the Finch subway station and a future crossing of the extended Spadina subway tunnels to Line 9. TTC has advised that a consultant has been retained to assist the TTC in discussions which have been held and will be held with Enbridge and emergency responders to refine specific accident procedures and protocols.

The Board reviewed the requirement for emergency response plans and procedures manuals. It also noted the emergency response planning procedures outlined in its recently updated OPR guidance notes, stating:

The Board agrees with participants that emergency response planning must account for site-specific characteristics and be shared with local first responders.

The Board required Enbridge to produce site-specific emergency plans 60 days prior to LTO and to make this information available to emergency responders upon request. Recommendation 2 of this report is intended to identify a process for follow up by City Staff. The Board also noted that this would be part of the ongoing consultation related to Line 9, and that Enbridge must report to the NEB on this consultation.

The NEB continued:

Enbridge must consult with emergency response stakeholders, conduct emergency response exercises, and work to continuously improve its emergency response capabilities...

Prior to LTO, Enbridge is required to confirm its plan for its Continuing Education Program ("CEP") applicable to Line 9. Furthermore, Enbridge must file annual reports on its CEP after the approved changes to Line 9B are operational. The Board noted:

Enbridge would be required to work with first responders to practice emergency response activities that are site-specific in nature, including some areas for which tactical response plans have been created, thereby encouraging information sharing and more comprehensive emergency response plans.

In December, 2013, Enbridge published a corporate Operational Reliability Review. A link to that document follows.

<http://www.enbridge.com/~//media/www/Site%20Documents/About%20Enbridge/2013%20Operational%20Reliability%20Review.pdf>

A summary of Enbridge's Operational Reliability Review can be found at Appendix 3.

With respect to Recommendation 2 contained within MM45.18, the OEM advises that in response to ensuring comprehensive emergency response protocols are in place, staff are continuing to work directly with Enbridge staff to review their ongoing emergency planning work as required by the OPR of all pipeline operations. OEM staff will review Enbridge emergency management plans and procedure manuals annually and will also continue to liaise with Enbridge emergency planning staff to strengthen response protocols and the coordination of communications both prior to and during an emergency response. Additionally, City staff will continue to participate in Enbridge training and exercises and in continuing education programs developed for the public and emergency responders.

Recommendation 4 of MM45.18 makes reference to the status of the City's emergency response capabilities in relation to the NEB ruling and pipelines across the City of Toronto and with discussions with the Canadian Energy Pipeline Association.

The City currently has an all-hazards emergency response plan in place as part of the corporate emergency management program and the City works closely with Enbridge to ensure effective emergency preparedness and response as was the case during the recent ice storm when Enbridge officials attended the Emergency Operations Centre.

The City's emergency response protocols are well established to deal with a hazardous material incident. Toronto Fire Services has trained technicians and dedicated hazardous material fire apparatus. Trained support staff are also assigned in all four Command Areas across the City.

In 2014, the OEM will be conducting its annual review of the City's Hazard Identification and Risk Assessment document as it relates to the transport of materials via pipeline across the City of Toronto. The review will be conducted in consultation with emergency service partners and Enbridge emergency planning staff, with information obtained from the Canadian Energy Pipeline Association and will inform the ongoing work to ensure the City's emergency response capabilities are maintained.

3. Spill Protection, especially for drinking water sources

Throughout the Decision, the NEB noted the need to protect water resources, particularly where they are the source of drinking water. The Board stated:

Of particular concern to the Board is any incident that would result in a pollutant entering drinking water sources, given the significant risk of negative consequences on human health that could result.

The Board concluded that any incremental increase in risk arising as a result of the changes it approved could be managed with clear and consistent application of existing programs. Nonetheless, the Board noted:

The Board is of the view that imposing conditions specific to the ongoing management of watercourse crossings would highlight the importance of clear communication and consistent application of Enbridge's [Environmental Protection Program].

As a result, Enbridge is required to develop a Watercourse Crossing Management Plan ("WCMP") 90 days prior to LTO, and to update the WCMP to incorporate baseline environmental data once LTO has been granted. This condition is intended to address the need for management measures to be based on the range of different seasonal conditions and watercourse flow rates through which Line 9 is operating.

Enbridge provided evidence that the Rouge River crossing of Line 9 had been upgraded in view of earlier concerns. In addition, a section of the pipeline at the Don River has been replaced over the winter, subject to completion of landscaping which will be carried out in the spring.

The City requested explicit consideration of the proposed source water protection plan developed for the Toronto area. This plan, developed by the Credit Valley, Toronto and Region, and Central Ontario (CTC) Source Protection Committee, includes policies that aim to reduce the risk and/or impact of spills from pipelines transporting petroleum product crossing tributaries of Lake Ontario (referred to as the LOPIPE policies).

Specifically, the City requested that the NEB require that Enbridge have regard for and include the CTC LOPIPE policies in developing its own emergency procedures manual, plans and policies. While Enbridge took the position that it was not bound by the proposed policies for a number of reasons, it did commit, both in response to a City Information Request and in its Reply argument, to further discussions with the City to determine how the CTC LOPIPE policies might be incorporated into Enbridge's Emergency Response Manual, plans, and policies.

The NEB decision recognizes the increased public concern and awareness that have resulted from incidents such as the 2010 pipeline spill at Marshall, Michigan, and the 2013 derailment at Lac-Mégantic, Québec. The NEB noted that municipalities and others seek assurance that water resources, particularly drinking water sources, will be kept safe.

Overall, the conditions and commitments imposed address City concerns regarding drinking water protection. Toronto Water staff has reviewed this section and concurs.

4. Financial Assurance

The NEB noted that s.75 of the *National Energy Board Act* requires pipeline companies to make full compensation for all damage caused by pipeline operations.

In its decision, the NEB addressed, in detail, the City of Toronto submissions requesting \$1B of insurance coverage.

The majority of the hearing panel (2 of 3 members) concluded that Enbridge had sufficiently demonstrated its financial capacity to respond to an accident. The majority saw no evidence that Enbridge would not be able to meet its financial obligations in the event of a spill. Furthermore, the majority noted that the Board's decision did not preclude the application of future regulatory changes in respect of financial obligations. This reflects the 2013 announcement by the Government of Canada to propose regulations that will require companies operating major crude oil pipelines to have a minimum of \$1B in financial capacity. A copy of this announcement can be found at:

<http://www.nrcan.gc.ca/media-room/backgrounders/2013/1841>

These regulations have not yet been released.

The minority (1 member) would have imposed a condition requiring a report from Enbridge prior to LTO in order to demonstrate legally enforceable access to financial resources.

It is our recommendation that the City Solicitor be authorized to write to the current Minister of Natural Resources Rickford and the former Minister of Natural Resources (and now Minister of Finance) Oliver to press for the immediate enactment of these regulations.

Future Follow up Related to Leave to Open

A number of conditions were imposed requiring Enbridge to take steps prior to applying for LTO. These include:

- Updated engineering assessment
- Updated valve placement study
- Report on corporate hydrotesting policy
- Updated education and liaison programs
- Updated emergency response plans
- Complete all repairs identified, based on updated engineering assessment

While participants have no formal right to have input into the LTO decision, the NEB has given direction to Enbridge that it consult with and provide information to participants (including municipalities) on request. In the event that there is any suggestion that Enbridge is non-compliant with these conditions, anyone, including the City, could lodge a complaint with the NEB.

This report has been prepared in consultation with Toronto Water, Toronto Fire Services, Toronto Office of Emergency Management, and the Toronto Transit Commission.

CONTACT

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Email: grempe@toronto.ca

SIGNATURE

Joe Pennachetti
City Manager

Anna Kinastowski
City Solicitor

ATTACHMENTS

Appendix 1 – Links to NEB website and City filings
Appendix 2 – Enbridge letter February 10, 2014
Appendix 3 – Summary of the Operational Reliability Review
Attachment 1 – Confidential Information

APPENDIX 1

Link to Documents filed by all parties at the NEB:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=890819&objAction=browse&redirect=3>

Link to Key City of Toronto Documents:

City Application to Participate:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90552/92263/790736/890819/956564/956766/946525/C40-1-1 - Application to Participate - A3H1R6.pdf?nodeid=946355&vernum=0>

Enbridge response to City first Information Request:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=964209&objAction=browse>

Enbridge response to City second Information Request:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=976803&objAction=browse>

City evidence:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=981189&objAction=browse>

Transcript of City argument:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90552/92263/790736/890819/1045209/1050128/A3Q0R2 - 13-10-16 - Volume 5.pdf?nodeid=1049309&vernum=0>

Transcript of City detailed response to NEB questions:

<https://www.neb-one.gc.ca/ll-eng/livelink.exe/fetch/2000/90464/90552/92263/790736/890819/1045209/1050178/A3Q0Y6 - 13-10-17 - Volume 6.pdf?nodeid=1050225&vernum=0>

APPENDIX 2

February 10, 2014

Graham Rempe
Solicitor
Legal Services
Metro Hall, 26th Floor, Station 1260
55 John Street
Toronto, ON M5V 3C6

Re: Letter dated January 23, 2014 – File-Of-Fac-Oil-E101-2012-10 01

Dear Mr. Rempe,

In your letter dated January 23, 2014, addressed to my colleagues, you asked for further information regarding our Emergency response capacity in the Greater Toronto Area (GTA).

While rare, pipeline incidents can occur. If an incident were to occur anywhere along the line, protecting the public would be our first priority.

Although our emergency response teams are immediately dispatched, in some cases local emergency response organizations may receive the initial notification and may arrive on site before Enbridge personnel. Preparedness and rapid response help to minimize the threat to the public and damage to the environment.

We're committed to strengthening our partnerships with local Emergency Responders through meetings, training exercises, personal contact and information updates.

Preparedness means developing integrated response plans based on open communication and teamwork. Enbridge strives to ensure that local emergency services have the information they require to respond appropriately. We hold regular training exercises in select locations throughout the year to keep employees' skills current, and to ensure our coordination with local emergency responders is strong and effective.

For example, we successfully led a coordinated water-based emergency response exercise in Toronto on the Don River on September 28, 2011. The exercise simulated a pipeline leak on Line 9, which sits in a shared pipeline corridor running through the City of Toronto. Over 185 people were on site participating in the exercise including responders from; Toronto Water, Toronto's Office of Emergency Management, Toronto Fire Services, Toronto Police Service, Imperial Oil, Sun Canadian and Trans-Northern Pipelines. While no product was released as part of the exercise, emergency response equipment was deployed, including over 1,200 feet of containment boom and over 300 feet of absorbent boom, oil skimmers and temporary dikes.

Planning ahead allows us to work together as an effective team if an emergency were to occur. Enbridge's annual visits with local authorities and emergency response organizations are an opportunity to discuss a coordinated approach to handling pipeline incidents.

In the event of an incident, our emergency plan would immediately go into effect. Personnel from Enbridge's control centre have the ability to immediately shut down and isolate sections of the pipeline. The Enbridge emergency response team would be responsible for ensuring the problem is dealt with quickly and efficiently. Trained Enbridge emergency response crews would arrive at the site to deal with released material and repair the damaged pipe or facility. Enbridge personnel would also manage all clean-up and reclamation activity and conduct any necessary follow-up investigations.

Local emergency responders would be notified of an incident, and their roles could include securing the area and moving residents to a safe location depending on the situation.

The pipeline maintenance crew that we committed to establishing in Mississauga commencing in the third quarter of 2014 would also be a trained emergency response crew. They would be supported by emergency response sub-contractors in the area, as well as a regional and North American team of Enbridge employees who are highly trained in emergency response. Together, this team would be capable of responding to an incident of any magnitude.

Our Incident Command System (ICS), a standardized on-site management system designed to enable effective, efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications, would be used in the unlikely event of an incident in the GTA, or anywhere else in North America, and would ensure that the response capacity meets the level of emergency encountered.

For additional information you may also visit:

<http://www.enbridge.com/InYourCommunity/PipelinesInYourCommunity/EmergencyResponse.aspx>

Best regards,

Michelle Wasylyshen
Manager, Public Affairs, Ontario
Enbridge Pipelines Inc.

Cc: Margery Fowke, Director, Regulatory Law

Kristi Millar, Regulatory Counsel

APPENDIX 3

The December 13, 2013 Enbridge Operational Reliability Review (see link in Report) includes information on the following information and measures intended to demonstrate safe and reliable operations:

- Transport of 13 billion barrels of oil with a safe delivery record of 99.9993%
- Investment of \$4.4 billion in 2012-2013 to maintain and enhance its facilities
- 2009 launch of the Natural Footprint program to plant trees, etc
- Establishment of U.S./Canadian Pipeline Construction Safety Roundtable to share information on incidents and measures
- Use of ISNet World verification service to vet contractors on their capacity, competence and safety
- Use of Contractor Safety Manual to establish contractor compliance requirements
- Use of individual Project Safety Plans to outline specific safety expectations of contractors
- Doubled efforts in in-line inspection, using high resolution ultrasonic technology
- Built and opened the new Edmonton Control Centre in 2011
- Use of multiple monitoring systems (Supervisory Control and Data Acquisition or SCADA system, visual surveillance, line balance calculations and Computational Pipeline Monitoring or CPM)
- Reliance on integrity digs and laser-scan and ultrasound scans of corrosion
- Introduction of an online portal to provide free customized training to first responders
- Ongoing first responder activities and meetings
- Full scale spill cleanup exercises (33 in 2012) and other drills and simulations (380 in 2012)
- Expenditure of \$50 million in 2012-2013 on emergency training and response
- Development of six Health and Safety Principles
- Investment of \$3.2 billion in liquid pipeline improvements including 480 in-line inspections with 187 planned for 2013
- Research on new leak detection technologies