Z-FACTOR REQUEST RELATED TO CROSSBORES/SEWER LATERALS

1. The Company requests the establishment of a 2010 Z-factor to allow the recovery in rates of costs related to Enbridge's Sewer Lateral Initiative. As the total amount of these costs cannot be precisely forecast at this time, the Company also requests the establishment of a variance account, to record differences between the costs incurred and the amount forecast in the Z-factor.

2. As set out in detail below, Enbridge's Sewer Lateral Initiative is a project to identify and rectify potentially dangerous installations where an existing gas line is installed through an existing sewer lateral line (a crossbore) and to avoid new crossbores in ongoing work. It is only in recent years that the potential magnitude of this problem has become known. It is clear that Enbridge must take steps to address the issue. Enbridge has now developed a plan to address the issue. The 2010 costs associated with the Sewer Lateral Initiative are forecast at $5.7 million (comprised of $3.5 million in Operations & Maintenance costs and $2.2 million in capital costs). Based on these costs, the amount of the 2010 Z-factor revenue requirement is approximately $3.6 million.

(a) The Crossbores/Sewer Laterals Issue

3. A crossbore is an unintended intersection of an existing utility by a second utility that can occur during trenchless construction. Stated differently, it is where one utility pipe unintentionally damages another compromising the integrity of either or both utility facilities.

4. Generally speaking, the crossbores that involve Enbridge pipes are intersections where Enbridge's lines unintentionally pass through sewer lines, with this evidence focusing on Enbridge lines through sewer lateral lines. The crossbores have

resulted from the fact that Enbridge has used trenchless installation methods since approximately 1970. Trenchless technologies have been widely used across North America for more than 30 years to install underground utilities. These technologies are faster, create less traffic disruption, are cost effective and result in less damage to property, roadways and tree roots. Trenchless installations of gas lines and other utilities are used primarily in established neighbourhoods and urban areas where open trench work would be expensive and intrusive. There are numerous types of these technologies employed, including but not limited to directional drills, ploughs, and torpedoes or moles.

5. These construction methods have led to operational efficiencies and cost savings because they are so much less disruptive than digging and re-filling trenches. However, from time to time they have inadvertently led to crossbores because municipalities typically do not have records of the location of sewer laterals and therefore they do not locate them when a locate is requested prior to the trenchless installation.

6. Sewer trunk and lateral lines are generally installed deeper than natural gas lines, to avoid freeze-thaw issues. However, there may be some instances where the sewer laterals have been installed at shallower depths or gas lines have been installed at deeper depths. This could result in natural gas lines inadvertently penetrating the sewer service lines during installation. Installation standards for sewer lateral lines vary considerably from area to area and over time according to many variables.

7. The potential danger from a natural gas line through a sewer lateral arises because those working on the sewer lateral may not know that a natural gas line is there. In many cases, the gas line can remain in the sewer lateral without creating an immediate problem; it may remain undetected for years. If the individual working on

a sewer lateral blockage utilizes rotating auger or water jetting equipment to clear the lateral, and a natural gas crossbore is present, the natural gas line could be damaged. If the damage breaches the line, the natural gas will follow the path of least resistance. The natural gas could fill the sewer lateral and enter the building connected to the sewer lateral. If gas is not provided with a route that allows it to vent to the atmosphere, and if a source of ignition (such as a pilot light in a furnace or water heater) is present, an explosion and/or fire may occur.

8. Typically the municipality owns the sewer lateral up to the property line and the property owner owns the remaining portion to the building. Often, municipalities do not have records of the location of sewer laterals and they do not provide locates when they are requested. Typical homeowners may not know where their portion of the sewer lateral is buried, or have the expertise to locate it.

9. While the potential safety issues related to crossbores have been known for some time, in recent years the importance and urgency of the crossbore issue has grown significantly. In the past several years, there have been tragic incidents involving other utilities.

10. In May 2004, Enbridge's affiliate St. Lawrence Gas (SLG) experienced an incident which resulted in an explosion and fatality at a customer's home in Ogdensburg, New York. It was determined that a gas line was inadvertently installed through the customer's sewer lateral several years earlier. As a result of the incident, SLG revised their construction procedures for trenchless technologies to prevent creation of crossbore situations going forward. Also, since the incident, SLG has worked with the municipalities, plumbers and the public to educate them with respect to the potential hazard and to encourage them to report problems with blocked sewers to SLG in advance of using auguring equipment in a sewer lateral.

Witnesses: C. Clark
L. Lawler

11. Enbridge is aware of 21 explosions in the United States that have resulted from crossbore situations involving natural gas lines. Many of these incidents have caused serious personal injury and property damage. Many of these incidents have occurred in the last few years.

12. During 2007, Enbridge began activities to attempt to identify areas in its franchise that could be susceptible to crossbores, and to evaluate how potential crossbores could be investigated as efficiently as possible. In mid 2007, Enbridge responded to a serious situation in its franchise area, when a plumber encountered a crossbore and pierced a natural gas line. Fortunately, the natural gas did not enter the home. Since that time, Enbridge has repaired at least 13 more sewer lateral crossbores that were reported by homeowners, plumbers, municipalities or found by Enbridge in its franchise area.

13. In February 2008, Enbridge representatives participated in the first AGA Conference on "Managing the Threat of Sewer Facilities on Trenchless Installations" which was an audio conference. The audio conference and further discussions with other utility representatives demonstrated that some had made further progress on this issue relative to Enbridge.

14. At or about the same time, Enbridge received the results of an AGA survey that set out approaches taken by other gas distribution utilities to address crossbore issues. These approaches were considered and adapted for application within Enbridge.

15. As a result, it became clear to Enbridge that it must take more proactive steps to address crossbore issues and reduce the chances of any serious incidents in its franchise area. The Technical Standards and Safety Authority ("TSSA") is supportive of efforts to implement a plan to address the crossbore risk.

Witnesses: C. Clark
L. Lawler

16. To that end, Enbridge has developed and is now implementing a plan to address the risks of crossbores with sewer laterals. It is this "Sewer Lateral Initiative" which is the subject of the Z-factor request.

(b) Enbridge's Sewer Lateral Initiative

17. The objective of the Sewer Lateral Initiative is to address crossbore risks in both new construction and legacy installations. To do this, Enbridge has implemented new construction methods that are meant to reduce the risk of conflicts between sewer laterals and new gas line installations. Enbridge will also implement programs that aim to identify existing legacy crossbores, so that they can be rectified.

18. To accomplish the first part of this objective, Enbridge has mandated *new construction and excavation techniques* for its installation work. This involves site assessment and, where appropriate, sewer lateral locates, as part of the construction process, to minimize new crossbores. Enbridge implemented these new techniques in the summer of 2008.

19. To accomplish the second part of this objective (to locate and remedy existing legacy crossbores), Enbridge has undertaken and is planning to undertake a number of activities. The fundamental goal of these activities is to raise awareness of the potential safety issue that could arise when attempting to clear a blocked sewer lateral beyond the foundation walls of a building and to attempt to establish a correlation between crossbores and site conditions.

20. Historical activity for a number of years has comprised Enbridge responding to calls received from a homeowner, a plumber, or a municipality, who has identified a possible crossbore. In these cases, Enbridge takes immediate steps to attend at

the site and investigate and, if a crossbore is found, to make appropriate repairs and replacements. As this is not a new activity, Enbridge is not seeking Z-factor treatment for these costs.

21. The Sewer Lateral Initiative also involves a number of new (incremental) activities to locate and remedy existing legacy crossbores.

22. First, Enbridge is taking steps to *investigate* whether crossbores exist at locations that have been identified as having some risk. As noted above, the locations that may be at highest risk of a crossbore are those where sewer laterals are shallow or natural gas lines are deeper than typical. To identify these locations, Enbridge has purchased information from MPAC (Ontario's Municipal Property Assessment Corporation) that identifies which properties in Enbridge's franchise area appear to have shallow or no basements. Enbridge intends to investigate these properties over time, to search for and remedy any crossbores and to confirm whether such conditions actually correlate to an increased risk of crossbores.

23. Second, Enbridge will undertake a *public information campaign* to educate and alert municipalities, plumbers and property owners about the potential existence and danger of crossbores when clearing a blocked sewer lateral beyond the foundation of a building.

24. This will involve a number of activities. One of these will be a series of public meetings, where information and educational materials, will be provided to plumbers in different parts of Enbridge's franchise areas. The first of these public meetings will be held in the Niagara region in late 2009. In advance of that time, Enbridge will send letters to tradespeople working with plumbing and drains in the area, explaining the potential issue with crossbores, and inviting them to an open house

breakfast to explain Enbridge's new procedures to assist with avoiding potential crossbore issues. Enbridge plans to expand this effort into its other franchise areas in 2010.

25. Enbridge also plans to publicize the issue through bill inserts that will alert homeowners to the danger of using power equipment to clear sewer lines beyond the foundation wall of buildings, if the sewer lines have not been checked for crossbores.

26. The goal of these activities is to have plumbers and others using mechanical auger equipment or other means to clear blocked sewer lines call Ontario One Call to request a gas locate prior to proceeding. This damage prevention initiative is similar to and an expansion of Enbridge's Call Before You Dig program. Enbridge will respond and provide a gas line locate, which in most cases will confirm that there is no crossbore and it is safe to proceed (otherwise, Enbridge will take appropriate steps to remedy any conditions identified). Similar to Call Before You Dig, there will be no charge to customers/users of this service.

27. Third, Enbridge will implement *Information Technology (IT) upgrades* to allow it to better track the installation method of gas lines, and status of addresses that have been cleared of any crossbore. This information will allow Enbridge to streamline future calls. At present, Enbridge has been manually tracking sewer lateral information obtained. The system changes contemplated will be completed once the new CIS is fully operational and stable. At the same time, information can be included about properties that are not at risk for crossbores because trenchless installation methods were not used.

28. Fourth, Enbridge will undertake *research and development efforts* to identify and create new and more cost-effective methods for locating sewer laterals and crossbores.

29. In total, the 2010 costs associated with the Sewer Lateral Initiative for which Enbridge seeks Z-factor treatment are budgeted at $5.7 million (comprised of $3.5 million in Operations & Maintenance costs and $2.2 million in capital costs). All of these costs are incremental costs that were not previously necessary or included in Enbridge's budgets at the time that the IRM term commenced. Based on these costs, the amount of the 2010 Z-factor revenue requirement is approximately $3.6 million.

30. Details of Enbridge's forecast of 2010 activities and costs of its Sewer Lateral Initiative are set out in Exhibit B, Tab 3, Schedule 2, Appendix A.

31. Enbridge expects that many of the same types of costs will arise again in future years during the IRM term. As appropriate, Enbridge will seek a Z-factor for those costs in future years.

(c) Establishment of Z-factor and Variance Account

32. Based on the foregoing, Enbridge requests the establishment of a Z-factor for 2010, to recover the costs associated with the Sewer Lateral Initiative. As set out at Exhibit B, Tab 3, Schedule 2, Appendix B, page 5 of 5, the amount of the 2010 Z-factor is $3.64 million.

33. The Sewer Lateral Initiative meets the requirements for the establishment of a Z-factor set out in the IRM Settlement Agreement. For example,

(a) it entails an increase in Enbridge's costs beyond those included or contemplated in the base that was set for IRM (these are new activities, and the costs included in the Z-factor relate to new, not existing, resources);

(b) these costs are unexpected in that the need for a comprehensive program to address crossbore issues was not known or anticipated at the time of the proceeding that led to the framework for IRM;

(c) the costs are beyond the control of Enbridge's management in that these activities are necessary to address emerging safety concerns;

(d) the activities are required to be undertaken in 2010, and the associated costs are prudent and reasonable;

(e) customers previously benefited from lower costs associated with trenchless installations - the cost of the Sewer Lateral Initiative that Enbridge seeks to recover through the Z-factor is a related unforeseen cost that has now arisen; and

(f) the total 2010 costs exceed the Z-factor threshold.

34. The budgeted costs that underlie the Z-factor request are, in large part, based upon Enbridge's forecast of the level of locate-type activity that will be necessary in 2010 due to educating plumbers and the public about crossbore risk.

35. It is clear, though, that the level of activity (and therefore costs) cannot be known with any degree of certainty until the Sewer Lateral Initiative is up and running.

36. In particular, the level of activity as a result of the public information campaign is difficult to forecast. Factors that affect the public information campaign and follow-up costs will include, but are not limited to, the number of blocked sewer calls, the

time and costs associated with Enbridge determining whether a conflict exists, the number of excavations required, the number of crossbores found and the overall success rate of the campaign itself.

37. Enbridge proposes, therefore, that a variance account be established to track actual 2010 costs associated with the Sewer Lateral Initiative. This variance account would track differences between actual costs and the costs that are recovered through the Z-factor, and ensure that it is only the costs actually incurred that are ultimately recovered from ratepayers.