EB-2012-0451
EB-2012-0433
EB-2013-0074

IN THE MATTER OF an application by Enbridge Gas Distribution Inc. for: an order or orders granting leave to construct a natural gas pipeline and ancillary facilities in the Town of Milton, City of Markham, Town of Richmond Hill, City of Brampton, City of Toronto, City of Vaughan and the Region of Halton, the Region of Peel and the Region of York; and an order or orders approving the methodology to establish a rate for transportation services for TransCanada Pipelines Limited;

AND IN THE MATTER OF an application by Union Gas Limited for: an Order or Orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Parkway West site; an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities in the Town of Milton; an Order or Orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the proposed Brantford-Kirkwall/Parkway D Compressor Station project; an Order or Orders for pre-approval of the cost consequences of two long term short haul transportation contracts; and an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities in the City of Cambridge and City of Hamilton.

INTERROGATORIES OF THE
BUILDING OWNERS AND MANAGERS ASSOCIATION, GREATER TORONTO
(BOMA)

1. A.1 - 0451

Enbridge has indicated that one of the benefits of its GTA project is that it will be able to access gas from the Marcellus and Utica basins (Marcellus gas) as a supplement to, or as a replacement for, supply from its current gas supply sources. Please indicate how much of the gas is replacement gas, and how much is incremental gas supply for its franchise. Please discuss fully.

(a) Please provide the amounts of gas that Enbridge has currently contracted for from the Marcellus basin (in both GJs per day and percentage of a bcf per day), commencing:

- November 1, 2013
- November 1, 2014
- November 1, 2015
- November 1, 2016
- After 2016

Please include any MOUs or other business agreements that have not yet been documented as contracts.

Please discuss the amount of gas that Enbridge intends to purchase from Marcellus for entry at Niagara/Chippawa over the next five years. Approximate amounts will suffice, and provide the term of the gas commodity (or bundled contract) in each case.

(b) Provide the term of each of these gas purchases and whether they are renewable at the end of term and on what basis. Please indicate whether the purchases are for year round, seasonal, or peaking use.

(c) Provide the pricing mechanism for each contract, eg. fixed price, indexed (which index). Provide the number of parties with whom gas supply contracts (with or

without transportation) are signed; and the name of the suppliers (or at least the parties identified by number, supplier #1, etc.).

(d) Please provide the delivery point and the title transfer point for the gas under each of the contracts, eg. Niagara, Chippewa, Kirkwall, Parkway, Bram West, Lisgar, Other.

(e) Is Enbridge using, or does it plan to use, Dawn storage for Marcellus gas it purchases, and to what extent, or would it flow the gas on a year-round basis and seasonal directly to its (Enbridge) service territory? Please discuss, and provide details of such contracted arrangements.

(f) Has Enbridge contracted for transportation on the TCPL Niagara or does it intend to do so as part of its procurement of Marcellus gas for each year, commencing in the year 2013 through 2018? For how much capacity in each of the years? What are, or will be, the nature of the contracts, for example, FT, STFT, IT? What is, or will be, the receipt and delivery points for those contracts?

(g) If Enbridge takes title delivery of the gas farther downstream than Niagara, please provide the contracted arrangement it has made, or will make, with Union Gas and, if necessary, with TransCanada.

(h) At what gate station(s) does Enbridge intend to take Marcellus gas, at Lisgar, Parkway (suction), Bram West, Parkway West (suction)? Please explain the reason fro the choice of delivery point. If more than one station will be used,

provide the amount (actual or estimated) at each gate station, over the years 2013 to 2018.

(i) Does Enbridge intend to use TCPL's Hamilton line to move any of the Marcellus gas to its system? If so, how much? What modifications to the Hamilton line would be necessary to allow Enbridge to use the line for that purpose? At what gate station would Enbridge take gas moved through the Hamilton line?

(j) Has Enbridge already purchased and/or will Enbridge purchase additional volumes of Marcellus gas if the GTA project is not approved, or is only partially approved? Please explain fully.

(j) Please explain to what extent Enbridge's actual or planned purchases of Marcellus gas represent incremental volumes for (i) either the GTA Influence Area, or (ii) other parts of its system, eg. the St. Catherine's area, or represents gas which will replace gas currently obtained from other supply basins. Please provide the data for each of the years 2013 through 2018. If some Marcellus gas is used to displace existing gas supplies, please show what supply will be reduced.

(k) How much gas is consumed per day (peak, winter average, summer average) in the St. Catherine's (Niagara Region)? How does Enbridge currently supply gas to that region? What gas commodity contracts and transportation arrangements are used? Will these be displaced with Marcellus gas, in whole or in part?

(l) Please list each of Enbridge's existing transportation contracts with TCPL and Union, the termination dates, terms, nature of contract, receipt and delivery points, etc.

(m) Has Enbridge examined other methods of moving Marcellus gas to its service area in addition to through the proposed Segment A pipeline? Please discuss and provide the reasons each alternative route was rejected.

2. A.1 – 0451

TransCanada has stated that the vast majority of its existing long haul mainline transportation contracts would not be affected by its oil east proposal (see Capacity Management Program Open Season).

(a) Please provide Enbridge's understanding of the impact in the event that the TCPL oil east project were to proceed, on Enbridge's existing mainline transportation contracts with TransCanada, and Enbridge's understanding of the percentage of contract volumes covered by the term "vast majority".

(b) Please list each of the contracts that might be affected by the oil east project, and what are the nature of the contracts, eg. FT, STFT, STS, etc. Has Enbridge discussed these issues with TCPL to determine the nature of its exposure?

(c) (i) Please provide the details of FT contracts which Enbridge currently has for Empress to its various delivery areas. Identify which of these contracts transport gas to the GTA Influence Area. What percentage of the total FT

contracts does that represent or likely will, currently, over the last five years, and for the next five years?

(ii) Provide the same information for each Enbridge STFT contract on the TCPL mainline, and for the Enbridge STS contracts with TCPL and Union.

(d) (i) What is Enbridge's understanding of the total capacity of the TCPL mainline to each of the TCPL delivery areas that in which Enbridge operates, and separately to the GTA Influence Area?

(ii) How much of that capacity in each case is proposed to be converted to oil service as part of the "oil east" project?

(iii) What is the currently unutilized capacity to each of the TCPL delivery areas?

(iv) Does Enbridge intend to give up its renewal rights for any of its FT contracts which expire before November 1, 2016, referred to in the recent TCPL Mainline Capacity Management open season?

(v) For those contracts which have an expiry date later than November 1, 2016 will Enbridge (i) seek early termination, and, if so, at what date; (ii) will it apply for FT2 service from that date on?

(vi) Has Enbridge discussed with the (a) other eastern LDCs, (b) the FT shippers on the mainline, a common approach to dealing with the manner

in which the risk of interruption of existing mainline contracts by the transfer of gas transportation assets oil service will be managed and borne by TCPL and its shippers, and their customers?

(vii) Has Enbridge begun discussions with TCPL as to how this transition will be managed? What have been the results of the discussions to date?

(e) Please provide the amount of incremental gas that Enbridge has forecast to require for the GTA Influence for each of 2013, 2014, and years between 2015 and 2075.

(f) Please indicate whether Enbridge will proceed with the GTA project if only one of the two compressors sought by Union for Parkway West is approved; if neither compressor is approved.

3. A.1 – 0433

(a) Please confirm that Union's evidence in the EB-2011-0210 case was that in the event of an outage of the 44,000 HP compressor (Unit B) at Parkway, seventy-two percent of the shortfall could be met by the smaller compressor (Unit A) at Parkway, and that absent a catastrophic incident at Parkway, there is a requirement to provide LCU protection for twenty-eight percent of volumes compressed by Unit B, and that, absent such an incident, Enbridge would continue to take up to 1646 TJ/day of gas at its Parkway gate station.

(b) Please confirm that the proposed Unit C at Parkway West will be used only as for LCU purposes and that Union does not intend to use the compressor to compress incremental gas supplies moved over the Union/Dawn/Parkway system, or from

Niagara via Kirkwall to Parkway, or over any other system. Would Union use the compressor for these purposes if it were the only compressor approved in the proceeding for Parkway West?

(c) Please confirm that given the seventy-two percent coverage of LCU at Compressor B at Parkway by Unit A at Parkway, the construction of a 44,000 HP LCU compressor at Parkway West would provide (on a combined basis with Unit A) LCU protection from an outage of Compressor B at Parkway of one hundred and seventy-two percent, or almost twice the required capacity.

(d) Please provide the proposed and forecast percentage utilization of the Parkway compressor, Units A and B and the gas throughput of the compressors in each of the years 2012, 2013, 2014, 2015 to 2025, inclusive.

(e) At what percentage capacity are the existing compressor units at Parkway currently operating and what are the throughputs of the units? Please provide the analysis on a monthly basis, for design day, actual peak day, average winter day, and average summer day for each of the years, 2010, 2011, 2012, 2013 (to date), and forecast for 2014, 2015, and each year thereafter to 2025.

(f) Please discuss whether the proposed Unit D at Parkway West, the "growth compressor" will take any of the current gas currently compressed at Parkway, and whether there is any need for it to do so, or whether it will be used to compress incremental gas volumes that are not now compressed at Parkway station, which come from Marcellus or are moved on the Union Dawn-Parkway pipeline, from Dawn or to displace gas that currently is transported over the TCPL

mainline, its Northern, Central, and Eastern Delivery Areas, or to compress gas for Enbridge to take at Bram West which Enbridge currently takes at Parkway (suction) or Lisgar; or incremental gas required by Enbridge. Please discuss the amounts that fall into each category.

(g) Please discuss the extent to which volumes, over the years 2010 to 2013, and projected for 2014, 2015 to 2025, consumed by Union's Central Delivery Area customers (Hamilton/Oakville area) are currently supplied by:

(i) laterals off the Dawn-Parkway system;

(ii) laterals off the TCPL Niagara or Hamilton lines;

(iii) by gas compressed at Parkway and moved through either Union or TCPL facilities, and which facilities. For this category of gas, please provide the transportation arrangements by which the gas is moved from Parkway to the CDA customers;

(iv) the amount of gas currently consumed on an annual, peak, seasonal average day, both in absolute terms and in percentage of total or franchise system, in Union's Central Delivery Area. Please provide a map showing the boundaries of that area.

(h) Please provide the particulars of each contract Union currently holds on the TCPL mainline, including the capacity, the termination date, and main features, eg. FT, STFT, STS, etc. Has Union been declined to renew any of its existing TCPL contracts that end November 1 (October 31) of 2013, 2014, 2015?

(i) Please provide, by contract, the contracts that Union has declined to renew on the TCPL mainline for each of the years 2008 through 2014, with particulars for each as described in the preceding question.

(i) Does it intend not to renew any contracts that expire in future years?

(ii) Does Union anticipate that TCPL proposed conversion of some of its facilities to oil service will cause Union, effective November 1, 2016 (or later), to be unable to renew or complete the initial term of any of its existing contracts? To what extent? Please discuss fully.

(iii) What is Union's estimate of the likely TCPL tolls to its (Union) various delivery areas, in the event its oil east project proceeds? Compare that estimate to the current TCPL toll, the toll derived from the NEB's RH-003-2011, the tolls proposed by TCPL in its Application for Review and Variance (none of which take into account the proposed oil east project).

(iv) To what extent is Unit D going to compress incremental volumes (that is, volumes of gas that are not now provided through another transportation path, including Union's Dawn-Parkway) for the Enbridge/GTA Influence Area, and other parts of the Enbridge system, in each of the years from 2015 to 2025, inclusive?

(v) To what extent is the Unit D compressor to be used to compress gas that is destined for the Union northern delivery area:

(A) to replace gas that is now supplied through Union contracts on the mainline;

(B) incremental volume forecast to be required in the northern delivery area for the period 2015 to 2025;

(C) please discuss the geographic part of the Union's northern delivery area to which such gas will be delivered;

(D) provide the same analysis for Union's eastern delivery area.

4. A.1 – 0451; A.1 – 0433

Please provide Enbridge's and Union's understanding of each of the facilities' expansion projects of National Fuel Gas, Tennessee, Empire, Dominion, and Millennium and any other participating American pipeline to move Marcellus gas to Niagara and Chippawa for export to Canada.

For each project, please provide:

- The new pipeline capacity being created, in TJ/day or percent bcf/day
- A map providing the proposed route including its receipt and delivery points, and any pipeline interconnects made over the route
- The producer/marketer/LDC contracts underpinning the expansions

- The status of each of the projects, eg. FERC application filed, likely date of FERC ruling, FERC decision approval already approved, in which case, provide a copy of the FERC approval or a link to obtain same

- How each project would interconnect at the Canada-US border (Niagara and Chippawa) with TCPL

- Provide a similar description of the Nexus project, which is cosponsored by Spectra (Union Gas's parent), Enbridge Inc., and DTE Inc. to move Marcellus gas to Dawn

- Provide a similar description of any other project that proposes to bring Marcellus gas to Dawn.

5. A.1 – 0451

(a) Please provide the percentage of gas that Enbridge buys that is currently sourced from US supply basins, and from Canadian supply basins, showing for each basin, where the actual purchase takes place, for example, at Niagara, Dawn, Chigago, or US fieldgate; storage, or US pipeline interconnect.

(b) Please provide a similar analysis for what the configuration of US and Canadian supply basins that will be in place once the GTA project is approved.

6. Gas Supply – A.1 – 0451; A.1 – 0433

(a) Please provide an up to date analysis of the extent of Alberta and British Columbia non-conventional gas (shale gas, tight gas, coaled methane gas) proven

reserves, possible reserves, resources and contingent resources now believed to be in place. In this analysis, please take into account, inter alia, recent reports of the governments of British Columbia and Alberta, the most recent analyses of the National Energy Board, including its study, Short-Term Canadian Natural Gas Deliverability, 2013-2015, published this month, its recent decisions to date authorizing long term gas exports in LNG from terminals to be constructed in the Prince Rupert, Kitmat area (H-1-2 or LM LNG operating General Partnership (October 6, 20121, GH-003-0211), BC Export Cooperative LLC, on February 2012, and Letter Decision OF-EI-Gas, GL-L384-2012-0101 (LNG Canada Development Inc.(LNG) Canada) issued February 4, 2013, as well as recent NEB decisions, relating to Northeast BC gas and Northern Alberta gas, such as GH-001-2012, and approval for the Chinchaga section of Nova's application in that case, and, finally, section 118 of the National Energy Board that provides that on an application for a licence to export oil or gas, the Board shall satisfy itself that the quantity of oil or gas to be exported has not exceeded the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard for the recent developments in the discovery of oil or gas in Canada.

(b) Please confirm that the amounts of gas which have been discovered and designated as reserves or resources are sufficient to provide for both substantial exports (in the event such LNG projects are built) incremental oil sands requirements and supply to eastern Canada consumers. Please discuss fully.

7. A.1 – 0451; A.1 – 0433

Please describe Enbridge's and Union's view on the extent to which Enbridge (Union) may rely on gas supplies from the United States, given the debate currently underway in the United States as to how much of the recently discovered shale gas should be exported from the United States, rather than be used in the United States to:

(a) assist with revitalizing sectors of its manufacturing base, including petrochemicals, fertilizer, and steel;

(b) used to fuel vehicles, in particular, trucks and locomotives, as part of an oil replacement/GHG reduction program;

(c) as a matter of principle given the rather uncertain and unpredictable nature of the policy-making and legislative process in the United States, as a matter of general principles of risk containment.

Do Enbridge (or Union) have a maximum amount either absolute volume or a percentage of its total requirements that it would be prepared to import from the United States? Please discuss fully, with reasons.

8. A.1 – 0451 - see A.3.3. Attachment (Map) Figure 1 (Amended)

(a) The evidence provides the Maximum Operating Pressure (MOP) for each of the large diameter XHP pipelines in the GTA influence area. Does the pressure in each of the segments of lines remain constant over the entire length of the line, or does it vary? Please identify any changes to the Maximum Operating Pressure in

various segments of the line that may (or may not) be separated by a station, including segments of each of these lines, if the MOP is different on different segments of the lines.

(b) The evidence suggests that some of the lines operate at pressures below the Maximum Operating Pressure. Please explain fully.

(c) Please provide the current operating pressure (2013) for each of those lines or segments on peak day, through the winter season, and during the remainder of the year. To the extent that the lines operate over a range of pressures, please state the range for each line/segment and time of year, and peak day, and discuss the determinants of the range.

9. A.1 – 0451 - Schedule 6, Page 2, Paragraph 3

(a) Please describe in detail the proposed pressure regulation enhancement at Parkway West to equalize the Maximum Operating Pressure in NPS 36 Parkway North (4,450 psi) and NPS 36 Mississauga Southern pipeline (350 psi). What is the purpose of equalizing the pressures in the two pipelines? What will the impact be on system flexibility and capacity to move gas away from Parkway and Parkway West? Please discuss.

(b) Please confirm that the proposed new Enbridge gate station at Parkway West is taking gas at the existing pressure in the Union system, and that the gas does not flow through a compressor at Parkway West or Parkway prior to entering the

Enbridge gate station. Please confirm that it provides 100% backup to Enbridge's existing Parkway (suction) gate station.

(c) Please describe in detail the proposed modifications of the Keele/CNR station. What is the purpose of the modifications and how will they be accomplished?

(d) Provide the purpose of a detailed description of and details of the regulation provided, at the proposed Buttonville Station.

(e) Schedule 6, Page 2, Paragraph 4 – Provide the details of the enhancement of the existing pressure regulation function at Jonesville Station. What is the purpose of these enhancements? Describe in detail how the enhancements will "support the existing NPS 36 pipeline feed to the existing NPS 30 Don Valley Line".

(f) Given that the most southerly segment of the NPS 30 Don Valley line (between the Jonesville Station and Station B) is not proposed to be looped, how does looping the middle portion of the Don Valley line (between the Jonesville and Buttonville Stations) achieve the goal of maintaining the required minimum inlet pressure at Station B in the face of increased demands in that part of Central Toronto served by lines emanating from Station B. Please discuss in detail. How does the enhanced Jonesville facility help to allow the Don Valley NPS 30 line to be fed from Parkway West or Albion Stations. Please discuss fully.

10. A.1 – 0451 - Schedule 6, Page 3, Paragraph 7

Is the NPS 26 line bi-directional, in that it can move gas in both an easterly and westerly direction? Explain how the changes in flow direction are made, how frequently, using

what equipment? How many of the other existing XHP and HP lines or the proposed new lines bi-directional? Please discuss.

11. A.1 – 0451 - Schedule 3, 12, Page 21, Paragraph 25

(a) Please confirm that "integrity activities" outlined in the first sentence would be either done at off-peak times, or would not require taking the pipeline out of use, wholly or partially.

(b) Please discuss fully, to what extent planned maintenance and integrity activities are done outside the April to November period. Please quantify the maintenance activity for each of the last five years, as a percentage of total maintenance activity, which were undertaken during other than from April to November. Under what circumstances would it be necessary to conduct planned maintenance and integrity operations, in the November to March period, and which activities would need to be provided? Please discuss fully.

(c) Please confirm under what circumstances welding repairs and connections can be done without taking the lines out of service. Please discuss in detail the volumes of welding activity that is done without taking the line out of service, and how much (for each of last five years) was done only after the line was taken out of service. If it is necessary to shut down the line, confirm that the work would be done during the April to November period. Provide details of any welding operation over the last five years that required the lien to be taken out of service during the winter season.

(d) Confirm that "planned events" take place outside of peak conditions. Please explain fully.

12. Ibid; Paragraph 24

(a) Please explain the load balancing by Enbridge required under Enbridge's contract with TCPL. Please provide a copy of the Enbridge Agreement with TCPL, with respect to load balancing.

(b) What is the reason why the significance of, and consequences of, the fact that NPS 26 line operates at a lower pressure than its interconnecting pipelines (NPS 36 Parkway North and NPS 30 Don Valley). Please explain in detail.

(c) Ibid; Paragraph 26

Please explain the "system pipeline defects" issues which resulted in the two pipelines operating pressures being reduced.

(d) Is additional gas required to supply new load, or is it simply taking some of the existing load off the NPS 26 line?

13. Ibid; Paragraph 27

With respect to the pipelines segments deratings described in the paragraph:

(a) Please explain fully what is meant by "changes in class location" with reference to the deratings. Detail the change in class locations that have occurred for each of the two XHP lines since they were constructed.

(b) Provide the reason why the deratings to reduce pressures described in Table 2 (p16) were done. Where they permanent, or were they reversed once repairs were done? Were the three deratings done to accommodate a change in class location or for other reasons? What were the other reasons? Please discuss.

(c) Describe the impact of encroachment of urban development in the decision to derate the cited pipelines.

14. A.1 – 0451; A.5 – 0451

(a) Please explain Enbridge's current objective and steps now and in the near future to change the role of the Lisgar gate station. Please explain fully and advise of the encroachment criteria that are used. Has it been necessary to change the class location of the Lisgar station since it was built? Please describe what the changes were and when they were made. Is Enbridge required by ZA-662-11, to change the class locations in 2013, 2014, 2015, or 2016? Please discuss. Please discuss in detail the steps that Enbridge has taken over the last five years, the further steps it plans to take in the next few years to further decrease the amount of gas that enters its system from Union at Lisgar.

(b) Please provide the amount of gas flow through Lisgar for each of 2008 through 2013 (to date), and estimated each year from 2014 to 2018, on peak day, average winter day, average summer day, total amount, in TJ/day and percentage of bcf/day. Does this mean the Union-Lisgar line will be effectively empty in the near future for much of the year?

(c) How does Enbridge propose to use Lisgar in 2013, 2014, and 2015, and once the new Parkway West gate station is built, and how much of the current gas flow at Lisgar will be shifted to Parkway West, Parkway (suction), or Bram West, on a monthly basis going forward. What will be the project gas flow from Union into Lisgar over the next five years, 2016, 2017, and 2018, assuming the implementation of the Enbridge and Union proposed infrastructure investments?

Please explain what role Lisgar will play as a district station. When will Lisgar cease to be a gate station and become a district station?

(d) What alternatives did Enbridge consider with respect to the Lisgar gate station?

15. A.1 – 0451

(a) Please explain the relationship between the additional pipeline capacity, provided by Segment B, and the ability to reduce the NPS 26 and NPS 30 Don Valley lines to below 30% SMYS. Please explain the amount of additional capacity required to lower the current percentage SMYS to thirty percent instead of thirty-seven percent and thirty-six percent, respectively. Please describe and show the calculation required to reduce the yield stress/operating pressures of the two lines to the point where the SMYS ratio is thirty percent or less.

(b) Please show how each one percent reduction in pressure decreases the SMYS ratio. Please explain how a one percent increase in capacity reduces the pressure in the line. Please show the relevant equations and describe the relationships in detail.

(c) Please describe in detail the relationship between decreasing the flow in the line and the pressure in that line. Is the same effect achieved by looping a segment of line between two stations?

(d) Will the Don Valley pipeline achieve a reduction to thirty percent SMYS over its entire length?

(e) Are all the segments of the Don Valley line (Victoria Station to proposed Buttonville, proposed Buttonville to Jonesville, Jonesvillle to Station B), all at thirty-six percent SMYS? If not, what are the SMYS ratios for each of the segments?

(f) If pressure in the southernmost portion of the Don Valley line (Jonesville to Station B) is reduced to achieve a SMYS ratio of thirty percent (or less), what is the impact on the gas flow to Station B? What increase in "capacity of the line(s)" north of Jonesville is required to reduce the pressure to achieve percentage SMYS below thirty percent, and maintain the inlet pressure at Station B at 225 psi? Will the pressure in the Jonesville/Station B segment be reduced to a thirty percent SMYS, and how will that be done? Please explain fully.

(g) What are the current inlet and outlet pressures at Station B (for both the Portlands line and the line feeding the Downtown Toronto grid)? Are the outlet pressures at Station B for the Portlands line and the feeder pipeline(s) the same? Please discuss.

(h) What is the pressure in the thirty-six inch line from Station B to Portlands? Are any compression facilities provided by Enbridge or TCPL in that line?

(i) What impact did the provision of service from Station B to Portlands in 2008 have on the ability of Station B to meet its required inlet pressure to serve Downtown Toronto?

(j) Schedule 6, Page 7, Paragraph 18 – How will the pressure of the NPS26 line be reduced to 275 psi so as to meet the percentage of SMYS of thirty percent? How much additional capacity will be required to flow through the east-west segment of Project B to achieve the required reduction? What percentage of the capacity of the east-west part of Project B? What will be the proposed capacity of the east-west segment of Project B?

16. A.1 – 0451 - Page 7, Paragraph 17 – For the Don Valley

(a) Will the pressure in the northernmost portion of the Don Valley line (Victoria Park to Buttonville) change, as a result of the proposed construction of Buttonville? If not, please describe fully why the additional pipeline capacity west of, and below, Buttonville will not reduce the pressure in that portion of the line above Buttonville.

(b) What is the capacity of the current NPS 30 line at thirty percent SMYS?

(c) What are the capabilities (in TJ/day) of each of the XHP lines shown on Base Map, Ex A, T3, Sch 3, Attachment Figure 1? What will be the capacity of each of the east-west and north-south components of Project B?

(d) What will the utilization of that capacity (in each line) be in 2015 and in each of the following five years?

17. A.1 – 0451 - Schedule 6, Page 7, Paragraph 19

Please provide a copy of the Company's Ten Year Asset Plan.

18. A.1 – 0451; A.3 – 0451 - Schedule 6, Page 8, Paragraph 22

(a) Is the 800 TJ/day of additional capacity the new pipeline's entire capacity, or the capacity of Enbridge's forty percent share of it? To what extent does Enbridge forecast the capacity will be used on a monthly basis in the first ten years of its operations, 2016 to 2025? Please also show the expected use on a design day, peak day, if different from design day, average winter day, average summer day.

(b) Please provide a copy of the Memorandum of Understanding, or its equivalent, between Enbridge and TCPL, with respect to the construction, ownership, operation, and usage of the Bram West to Albion line. Please provide a copy of the Agreement(s) between Enbridge and TCPL with respect to the above. If the final agreements are not yet available, please confirm that they will be available prior to the Technical Conference or Settlement Conference and that they will be made available to the intervenors.

(c) Is the addition of the capacity conditional on either one or two new compressors being established by Union Gas at Parkway West? Please explain fully, or would it proceed based solely on the shift of 400,000 GJ/day from Parkway (suction) or Lisgar?

(d) What is the existing compression capacity at Parkway on a monthly basis in 2012? What was the excess capacity at Parkway, if any, on the peak day in the winter of 2012/13 over the winters of 2012/13, 2011/12, and 2010/11? What is expected excess capacity (bcf/day) at Parkway forecast to be in 2013/14, 2014/15, and 2015/16 winters?

(f) Does the Agreement provide for Enbridge to decrease its share of the pipeline capacity over its life or does Enbridge as owner, bear the risk of its own underutilization? Please discuss fully the allocation of business risks between Enbridge and TCPL in the proposed arrangement.

(g) What amount of gas that Enbridge now takes at each of Parkway (suction) and Lisgar, be moved to Bram West once Segment A is built?

19. A.1 – 0451; A.5 – 0451

(a) Please provide the pressures at which gas enters or will enter Enbridge's High Pressure System at each current and proposed entry point to its system, including:

- Victoria Station
- Parkway (suction)
- Lisgar
- Parkway West (new)
- Albion (new)

- Markham
- Any others

(b) Please discuss the pressure at which the gas exits the stations listed above.

(c) Please provide the pressure reduction achieved at each of Union's stations in the GTA Influence Area, that is the pressure (or range of pressures) on the incoming line vs. the pressure on the outgoing line(s). Please provide the information for each of the stations for 2012 and for each of the preceding three years, and in each case, for the peak day, the winter season, and the remainder of the year. Please discuss. What will the pressures be once Segment A and Segment B are constructed?

(d) Please indicate the standard service pressure to each of the following categories of customers in the GTA influence area:

(i) The Portlands Energy Centre ("Portlands"); in this case, please confirm that the Portlands minimum required (contractual) delivery pressure is 200 psi (1,378 kPa)

(ii) The other power plants

(iii) Large industrial customers

(iv) Large/medium/small commercial and institutional customers (six categories)

(v) Residential customers

(e) Please provide the minimum pressure that must be maintained for each category of customer and the consequences of not maintaining that pressure. Please discuss. To what extent can the various customers augment the pressure at which the gas is delivered to their facilities by installing their own facilities, and to what extent can Enbridge repressurize its mains currently and/or service lines to augment the pressure at the point of interconnection with the customer? Please provide the number and type of customers that provided their own "behind-the-meter" pressure enhancing facilities.

(f) Please provide the "system operation model" used by Enbridge to regulate the operation of its system.

(g) To what extent has Enbridge examined adding compression to selected parts of its system, such as in Downtown Central Toronto, to ensure that required minimum pressure at those facilities? Please discuss in detail. Has Enbridge ever added compression to its system or taken the steps to increase the pressure in any parts of its system? Please address separately each pressure category, as outlined at A,3.3, p3, Footnote #1.

(h) In EB-2006-0305, rendered June 2007, in considering Enbridge's application to construct 6.5 km of pipeline parallel to a portion of Enbridge's Don Valley line and 2.9 km of pipeline that would interconnect the Don Valley line at Enbridge's Station B to Portlands, the Board stated that:

> "The maximum operating pressure of the Don Valley Line is 450 psi (3100 kPa). Station B has a minimum inlet pressure of 225 psi (1550 kPa). The minimum inlet pressure is required for the station to have the

> capability to supply natural gas in sufficient quantities and at sufficient pressures to the downstream distribution pipeline system. Without the Portlands load, the existing Don Valley line is able to provide the required minimum inlet pressure at Station B with a Victoria Square Gate Station outlet pressure of 405 psi (2709 KPa) under Enbridge's system design conditions.
>
> Enbridge examined the impact on pressures if the Portlands load is added and no reinforcement was undertaken. With an outlet pressure of 450 psi (3100 kPa) at Victoria Square Gate Station (the maximum operating pressure of the Don Valley Line) the pressure at Station B inlet pressure drops to 210 psi (1445 kPa) with the addition of the Portlands load. Unless reinforcement of the Don Valley Line was to occur, the Portlands load would remove any existing flexibility in the distribution system and the inlet pressure would be unacceptably low at Station B. As such, it was necessary for Enbridge to consider various alternatives to deliver gas in the required quantity and at the required pressure to Station B. Enbridge determined that the proposed North Section was the optimal choice."

(i) Please describe in detail the charges between the June 1, 2007 and late 2012 that require Enbridge to construct an additional looping of the Don Valley line (between a new Buttonville station to the existing Jonesville station to maintain a minimum inlet pressure of 225 psi (1550 kPa) at Station B. In the answer, please relate the additional gas flow through the new loop from Buttonville to Jonesville, the enhancements to the Jonesville station, the pressure in the Jonesville/Station B segment of the line, and the minimum inlet pressures at Station B. Please explain the impact of reducing the SMYS ratio of the Don Valley line from thirty-seven percent to a level below thirty percent, and the additional line capacity and volume of gas in the line(s) required to implement that change.

(j) To what SMYS ratio does Enbridge intend to reduce the Don Valley line to, from thirty-seven percent of SMYS (A, Tab 3, Sch 3, p18).

20. A.1 – 0451 - A,3,3, Attachment 4E – Engineering Study, Table 7, p24

The evidence states that the proposed Enbridge interconnect at Parkway West will create a sister gate station for Enbridge at Parkway West with design capacity of 1,664 TJ, identical to the current design capacity of the Parkway citygate. It further states (p24) that downstream constraints will limit the total throughput (to Enbridge) of Parkway and Parkway West to the current level (1694 TJ/day). In other words, only half of the actual Parkway/Parkway West gate station's capacity will be utilized.

Please explain in detail what are the downstream constraints and how each of these constraints separately, and all of them together, limit the total throughput takeaway from the Parkway and/or (proposed) Parkway West gate station to 1694 TJ/day, notwithstanding that the total physical capacity at the two gate stations is double that. Please discuss fully. Please describe how the Segment A and Segment B will relieve those downstream constraints. Please discuss fully and quantify the answers as much as possible. Did Enbridge consider removing those constraints in ways other than building Segment A? If so, please provide a copy of that analysis. If not, please describe the reasons that option was not investigated.

A,3,3, p4 (line 1)

Please explain the capacity Enbridge currently has at Parkway to be "fed by TransCanada". Please provide the amount of the capacity and the volumes TCPL supplied Enbridge at Parkway on peak day, winter season (average day) and remainder of the year (average day). Please provide a map which clearly shows the current

TransCanada-Enbridge interconnect at Parkway, or the way Enbridge is "fed by TransCanada" at Parkway.

21. A.1 – 0451

(a) How does Enbridge plan to use the proposed new Parkway West gate station? Is it intended to take some of the gas Enbridge currently takes at Parkway (suction) and/or Lisgar? Please discuss in detail, providing the amounts Enbridge plans to divert Parkway (suction) and Lisgar, during peak day, winter season, and balance of the year, in 2015, 2016, 2017, and 2018.

(b) (i) How does Enbridge intend to use the proposed Bram West gate station?

(ii) Does it plan to divert or replace gas it currently receives at Parkway and/or Lisgar and in what amounts?

(iii) Please provide the gas throughput in TJ/day that Enbridge intends to transfer from Parkway (suction) and/or Lisgar to Bram West, during peak day, winter season (everyday), and remainder of the year for 2015, 2016, 2017, and 2018 through to 2025.

(iv) Does Enbridge currently have contracted capacity with TCPL to move gas from Parkway to Maple and gate station east of Maple?

(v) Is any of the gas which Enbridge proposes to take at Bram West/Albion additional gas to that currently taken at Parkway and/or Lisgar?

(c) (i) Please confirm that, if the Enbridge Segment A and Union's Parkway West project were to be implemented as proposed, and Enbridge will have four gate stations to upstream transmission pipelines at the Western side of its system, Parkway (suction), Parkway West, and Lisgar, with Union, and Bram West/Albion with TransCanada.

(ii) What will the combined capacities of the four gate entry points be? Please confirm that the GTA area city gate capacity will increase from 3275 TJ/day to 5739 TJ/day, an increase of approximately seventy-six percent (A,3,3, Attachment 4, p27). Please confirm that the proposed Parkway West gate station will provide complete coverage for Enbridge in the event of an outage at Parkway (suction).

(iii) How much capacity does Union intend to use at least of the four western gate stations in 2015, 2016, and 2017 and each year until 2025?

(iv) What will the capacity of the Bram West gate station entry point be, and what will Enbridge's share of that capacity be (TJ/day)? How much of that capacity does Enbridge intend to use in the winter of 2015-16, the winter peak, the remainder of 2016, and in each year thereafter until 2025?

(v) The evidence suggests Enbridge wants to move some (400,000 MW) of the gas it now takes at Parkway (suction) and/or Lisgar from Union, to the Bram West gate station. Please confirm the amount or state the correct amount. How much gas will be diverted from each of Parkway and Lisgar on peak day, average winter day, and average summer day for each year

from 2016 to 2025? Why does Enbridge wish to change the entry point of some 400,000 GJ/day of its supply from Parkway and/or Lisgar to Bram West?

(vi) How much gas incremental to the gas it now takes at Parkway and Lisgar, does Enbridge intend to take at Bram West, in each of the next five years beginning on November 1, 2015, on the peak day, in winter season (average day), in the reminder of the year (average day), and for the remaining years to 2025?

(vii) Has Enbridge contracted with TransCanada, or does it intend to contract with TransCanada for service from Parkway (or Parkway West) to Bram West, on to Maple, or east of Maple, eg. Victoria Square, commencing in 2015, and covering the 2016, 2017, 2018, 2019, up to 2025? Are these contracted amounts conditional with the implementation in whole or in part of Union Parkway West, or any major component of that project, other than the new gate station, eg. one compressor? Please explain fully.

22. A.1 – 0451

(a) Please confirm that the Bram West to Albion Enbridge owned and operated pipeline, on which TCPL will lease capacity, will be operated at the same pressure as the remainder of the TCPL pipeline in the GTA Influence Area. Please discuss. What will the outlet pressure of Enbridge's Albion station be on each of the NPS 36 and NPS 30 lines?

(b) Please discuss the pressure reduction that is proposed to be carried out by the enhanced Albion regulation station.

(c) Please discuss in detail the enhancements to the Albion station, the purpose of those enhancements, and the costs of each component of the enhancement.

23. A.1 – 0451

(a) Please discuss in detail the function(s) of Station B in the Enbridge system, including its function with respect to the supply of gas both to the Portlands Energy Centre and Downtown Toronto. To what extent does Station B, as a regulation station, lower pressures on the Don Valley line, and what is the outlet pressure for the line(s) serving Downtown Toronto from [as opposed to the Portlands line]? Please discuss in detail.

(b) Please provide a readable map showing the mains at various pressures between Station B and the service lines serving customers in Downtown Toronto. Please provide a description of the boundaries (structures, geographic features) of that part of "Downtown Toronto" served by Station B.

(c) A3.3, pp 6-7 - The evidence suggests that Station B's inlet pressure is required to maintain the minimum contractual pressure Enbridge has contracted to maintain at the inlet to the Portlands generating station, and that required inlet pressure at Station B is 1,551 kPa (225 psi). If Portlands had not been constructed, please explain what the minimum inlet pressure at Station B would be, in order for it to supply loads in Downtown Toronto. Please explain fully.

(d) A3.3, p11 - Please explain what is the maximum inlet pressure at Station B would result in outage to firm customers in Downtown Toronto at a 35D day. Please explain fully the network simulation process that was done utilizing a hypothetical single value closure, and resulted in modelled outcome to the inlet pressure/outlet pressure at Station B, in the absence of the proposal.

24. A.1 – 0451

(a) Please confirm that Enbridge recently bid into Union's April 24, 2012 Open Season for 400,000 GJ of Dawn to Parkway capacity. When does delivery under the service commence? Please provide a copy of the precedent agreement between Enbridge and Union, and a contract if one is available. To what extent is the capacity on Union replacement capacity for other capacity Enbridge currently has on other pipelines, eg. TransCanada mainline, or current Union M1 contracts that are expiring, or is it for incremental gas requirements for Enbridge's franchise area, and, if so, what part of that incremental gas is for the GTA Influence Area, or some of each of the above? Please discuss fully.

(b) Please provide a copy of the precedent agreement (letter of intent) between Union and Enbridge.

(c) Please clarify what is meant by "awarding the capacity is contingent on regulatory approval". Is that a condition Union has placed in the agreement on Enbridge, or does it refer to the required facilities approval? If only a part of the GTA project were approved, such as the additional Enbridge connection at the new Parkway West sufficient to allow the additional gas from Dawn and to enter the Enbridge

GTA system, or is completion of some other part of Segment A and/or Segment B of the GTA project required? Please explain fully.

25. A.1 – 0451

(a) Schedule 1, Paragraph 7 states – The growth in the downtown core is supplied primarily through Station B.

(b) What portion of Station B is used to supply PEC and what portion is used, and will be used, to supply the increased load in the downtown core?

(c) Is more gas required at Station B to supply the downtown core, or greater pressures, or both? Please explain fully.

(i) Please describe the operations of Station B in detail.

(ii) Describe the equipment located there, with diagrams.

(iii) Describe the importance of Station B in serving the Portlands Energy Centre.

(d) A, Sch 1, p14

(i) How much additional gas can be moved across the XHP distribution system as a result of the construction of Segments A and B on peak day, an average winter day, an average summer day?

(ii) Please indicate in which pipelines, new and existing, will incremental gas be moved across the XHP system, and how much gas (TJ/day), and using the segments of pipelines and stations listed below.

(iii) Please provide the amounts of the proposed capacity increase to the Albion, Keele/CNR, Buttonville, and Jonesville stations.

Station B – The east-west portion of Segment B from Keele/CNR station to Buttonville station.

NPS 36 Parkway North from Parkway (or Parkway West) to Albion.

NPS 36 from Albion east to Keele/CNR station.

NPS 30 line from Lisgar to Albion, and from Albion to Keele/CNR.

NPS 30 from Don Valley Buttonville to Shepherd.

NPS 30 from Shepherd to Jonesville, and Jonesville to Station B.

(iv) What will be the resulting changes in maximum operating pressures and actual operating pressures for each of these lines relative to what they are today, once Segments A and B are constructed? What will be the changes in operating pressure of each of these lines?

(v) Please provide a copy of the Enbridge operating system, annotated to make it intelligible to the informed layperson.

26. A.1 – 0451; A.4 – 0451

Does Segment A need to be built by Enbridge, or would Enbridge take capacity on a line constructed by TCPL? Please compare the relative costs and other benefits or disbenefits to ratepayers of having TCPL build the Bram West to Albion line, and Enbridge contract its required capacity on the line. Why did Union not choose this option? Please provide reasons.

27. A.1 – 0451; A.4 – 0451

If the Parkway West proposed gate station were built, Segment A was not built, and Segment B was not built, what modification would need to be made to the NPS 36, NPS 26, and NPS 30 lines to deliver sufficient gas across Enbridge's franchise to serve the downtown core? Please discuss in detail.

28. A.1 – 0451 - TCPL/Enbridge

(a) Please confirm that a business arrangement have been struck between TCPL and Enbridge, under which, Enbridge will build, own, and operate the Bram West to Albion pipeline, TCPL will contract for sixty percent of its capacity.

(b) What are the current FT (long haul, including STS) and STFT Receipt Points on Enbridge system?

(c) How much gas is delivered to Enbridge by TransCanada at each of the receipt points, Parkway, Lisgar, other gate stations, on peak day, average winter day,

average summer day, in 2012, 2013 to date, each of 2010, 2011? What is planned to be delivered in 2013, 2014, 2015, 2016 to 2025?

29. A.4 – 0451 - A, 1, p13

(a) Page 13, Paragraph 37: Please explain fully what benefits of Segment B can be realized without Segment A being put in service, what benefits of Segment B can be realized with Segment A (pipeline portion) being deferred for five years.

(b) What benefits of Segment A can be realized without Segment B being constructed, or being deferred for five years.

(c) Please provide the Agreement among Union, Enbridge, and TCPL, which established the STS service for Enbridge. What STS contract does Enbridge have with TCPL? Please describe the STS service currently used by Enbridge on peak day average winter day, average summer day, and how that would change if Segments A and B were constructed.

(d) A3, 2, p7 - When does TransCanada intend to apply for the Albion-Maple pipeline? What date is construction likely to commence, and when is the line anticipated to be in service?

30. A.1 – 0451, Ref A, 3.3, 2.9

Page 28 – Please show the composition of the 2.4 PJ per day by individual XHP pipeline. Show the peak flow for 2013 (to date), 2012, and for each of 2011, 2010, 2009, and 2008.

Please confirm that the system daily flows in XHP system, the annual flows on each XHP line. What have the peak day flows been for each pipeline over the last five years, the average winter day, and the average summer day? How are they expected to change with the construction of Segment A and Segment B?

31. A.1 – 0451 - Reinforcement

(a) Please identify and discuss in detail the function of the 23 district stations through the GTA Influence Areas. In each case, provide the pressure reduction function, inlet and outlet pressure, measurement capacity, flow capacity and other pertinent information.

(b) Please provide a copy of Enbridge's Integrity Management Program.

(c) Please provide the customers (numbers can be used to protect identity) of large customers that take service directly from the XHP system in the GTA Influence Area. What volume TJ/day does each of the customers take, annually, winter, average day, summer average day? In 2012, 2011, 2010, what is forecast for 2013, 2014, 2015 and 2016?

(d) At what pressure must each of the large customers be supplied?

(e) Do the large direct customers pay a rate or fee, for example, pressure surcharge, to cover the cost of installing and maintaining that pressure? Please discuss.

32. A.1 – 0451 - Page 3, Paragraph 4

Please explain, in more detail than you have in paragraph 4, why "Station B" "often" experiences the lowest pressure in the XHP network. Include in the explanation:

(a) Why Station B does not always experience the lowest system pressure, and provide the percentage of time and the actual days in the year for the last ten years (in order to illustrate the situation before and after entry into service of the Portlands energy plant) during which Station B experienced the lowest system pressure?

(b) What other points on the system (stations or otherwise) experience the lowest system pressures, when Station B does not?

(c) When was the HP line running east and north from Station B constructed? What is its capacity, pressure, what parts of the city does it supply?

(d) Please explain carefully the relationship between pipeline length, flow or throughput, diameter, wall thickness, and maximum operating pressure, and actual operating pressure. Please provide relevant equations and examples to illustrate the relationship.

(e) Why were the recent amendments to this made? The ones effective November 2012 to March 2013, at which the pipeline is operating, and distance. Please use examples and calculations where appropriate.

(f) Please explain the difference in materials, and wall thickness, for each category of main pressures shown at Footnote 4 on Schedule 3 (A.3.3).

(g) Page 3 – Please provide the system forecast model, with sufficient necessary commentary to make it intelligible to an informed layperson, which demonstrate the system operation at various volumes and pressures, and allows Enbridge to manage its system.

(h) Please provide the TJ/day of gas consumed by Portlands at Enbridge system peak day, Portlands's peak day, average winter day, average summer season day, for 2013 to date, and then 2008 to 2012. Also forecast amounts for 2013 (total), 2014, 2015, 2016 through 2025.

33. A.1 – 0451 - Schedule 6, Page 2, Paragraph 3

(a) Please describe in detail the pressure regulation enhancement to the current valve manifold at the existing Parkway by-pass. What will the new pressures be in the two lines, NPS 36 Parkway North and NPS 36 Mississauga Southern pipeline? Please discuss.

(b) Provide the details, including drawing of new Buttonville station.

(c) Schedule 6, Page 2, Paragraph 4 – Provide the details of the expansion of the existing pressure regulation facility at Jonesville Station. Describe in detail how the expansion will "support the existing NPS 36 pipeline feed to the existing NPS 30 Don Valley pipeline running south from the Jonesville station".

(d) Given that the Don Valley line south (between the Jonesville Station and Segment B) is not being modified as part of Segment B, how does looping the middle portion of the Don Valley line (between the Jonesville and Buttonville Station) achieve the goal of increasing the required inlet pressure at Station B. What is the role of the expansion of the existing pressure regulation at the Jonesville Station, if any, in achieving the result? How does the enhanced regulation help to allow the Don Valley NPS 30 line to be fed from Bram West gate station.

(e) Explain carefully, and in detail, the role of "pressure regulation" at the various stations along the XHP and HP lines.

34. A.1 – 0451

(a) Please explain fully, in detail, how the construction of the east-west portion of Segment B will benefit the system, aside from the flexibility/redundancy it provides for an outage in NPS 26 line.

(b) Is additional gas required to supply new load, or is segment simply taking some of the existing load off the NPS 26 line?

35. A.1 – 0451; A.3.6, p7, par 17

(a) Please confirm that the pressure of the northeast portion of the line (Victoria Park to Buttonville) will not change. If not, please describe fully why the additional pipeline capacity below Buttonville will change the pressure in the upstream portion of the line.

(b) What will the maximum amount of gas capacity that can flow per second through the NPS 30 line at thirty percent SMYS?

(c) How much extra capacity will be provided by the north-south portion? What will the utilization of that capacity be in 2015 and in each of the next five years.

36. A.1 – 0451 - A, 3.1, p4

(a) Please define the downtown core, referred to in paragraph 8, by its street or other physically identifiable boundaries, and separately, the part of the downtown core (and what percentage of the total supply to the core is supplied through Station B). What other stations supply gas to the downtown core, through what routes, and in what amounts? Please explain in actual amounts and percentages of the total for last three years, 2010, 2011, 2012, and 2013 to date, and estimate for the balance of 2013, and for 2014, 2015, and each year to 2025.

(b) Please provide a map on readable scale of the Enbridge system in the downtown core, as defined above, showing the stations, the XHP, HP, intermediate pressure, medium pressure main, and all other mains, including the maximum operating pressures on each of the mains.

(c) A, 3.6, p5 - Please discuss that "flexibility" in the context of this application is the idea that flexibility is enhanced by having more than one entry point to major pipelines, for example, Don Valley line, that bring supply to the downstream distribution system. Please discuss any other meaning that Enbridge ascribes to the term "flexibility".

37. A.1 – 0451 - A, 3, 1, p5

(a) Please explain the reserve or unutilized capacity (in TJ/day) as well as any other means of measurement you wish to use, on each of the XHP lines shown in Figure 1 (A, 3, 1, Attachment).

(b) Please explain how the unutilized capacity is used to accommodate necessary pressure and/or flow reductions required to mitigate downstream vulnerability. Please deal with both pressure reductions and flow reductions separately, and in combination. Please describe fully.

38. A.3 – 0451

(a) Please confirm that there is no pressure regulation at the Bram interconnect and that the Segment A shared 42 inch pipeline operates at the same pressure as the TCPL mainline at Bram West. Were the NEB not to approve TCPL's application to lease space in the Enbridge line to build a thirty-six inch line from Bram West to Albion, what would the capacity and pressure of that line be? Please discuss.

(b) What would the costs to Enbridge be compared to the currently projected costs?

(c) Please compare the impact on rates of the two alternatives.

39. A.1 – 0451

(a) Please confirm that, under current conditions, a compressor failure at Parkway of and by itself, would not affect Enbridge's received throughput at Parkway since

that throughput comes from the suction side of the compressors, nor would it affect Union's deliveries to Enbridge at Lisgar. Please discuss.

(b) In the event Parkway West station were established, and the new Enbridge gate station were constructed there, please confirm that a catastrophic event which closed the Parkway station would not affect Enbridge's deliveries at Parkway West.

(c) What percentage of the gas TCPL supplies Enbridge at Victoria Square, on each other gate station in the GTA Influence Area, compressed at Parkway. For each gate station, please provide amounts in TJ/day for Enbridge peak day, average winter day, and average summer day. Please provide information from 2010 through 2013 (to date) and forecast for 2013, 2014, 2015, 2016, 2017, 2018 for each of peak day, average winter day, average summer day, for years 2010 to 2012, 2013 to date, and forecast for 2013, 2014, 2015, 2016 to 2025.

40. A.1 – 0451 - Gas Supply Savings

(a) Please provide the amount of interruptible service that Enbridge has contracted on pipelines. Please identify the contracts, terms, volumes, and the number of days in which service was totally or partially interrupted for 2008 through 2012, 2013 (to date) and forecasted 2014, 2015, 2016, 2017, 2018.

(b) How much of that service does Enbridge intend to replace, and with what service, in the event the GTA project is approved?

(c) What is the amount of gas that is compressed at Parkway by Union Gas and flows from Union Gas to TransCanada's system for further delivery to the Enbridge franchise; to the GTA Influence Area part of the Enbridge franchise; in TJ/day, at Enbridge peak, or average over the winter months, on a monthly basis throughout the year, from 2013 to date and for each of the five years from 2008 to 2012; and likely forecast for 2014 and 2015?

(d) Please quantify the shift to a "peakier demand" which Enbridge's evidence speaks to, by comparing the peak day consumption relative to other measurements of consumption, eg. winter average day, daily consumption by month, average annual consumption per day, and other measurements over the last five years (or longer if desired) in order to provide evidence of the extent to which the total load has become peakier in the GTA Project Influence Area. Please quantify the consequential costs of any transportation and gas supply costs per unit of increased "peakiness".

41. A.1 – 0451

(a) Please provide copies of the National Energy Board decision dated March 27, 2013, and TransCanada's May 2013 Review and Variance Application, and Compliance Filing dated May 1, 2013, or provide a link thereto. Please confirm that Enbridge agrees that these documents will be filed as exhibits in these proceedings.

(b) A, 3.5, 18, par 38 - The evidence states that:

> "The new entry point (Bram West) resulting from the (GTA) project will provide access to supplies for Dawn or other sources, for example, supplies sourced at Niagara Falls".

Please confirm that Enbridge already has access to supplies at Dawn and, if available, supplies contracted at Niagara Falls, through its Parkway and Lisgar gate stations. If its Parkway West gate station is constructed, it will have access to such supplies at that station as well. Please confirm. A new entry point at Bram West will be the fourth gate station through which Marcellus supplies may enter Enbridge's system.

(c) A, 3, 5, Attachment - Please explain the extent to which the gas savings for customers contemplated by the GTA project, as described in the Attachment, are dependent on the approval by the Board of Union's Parkway West and Brantford/Hamilton reinforcement proposals. Please identify which elements of both proposals are necessary to realize the estimated gas supply and gas transportation savings (shown on page 5 of the Attachment). Please explain fully. Are there any elements of either of the Union proposals that are not necessary to enable Enbridge to realize the proposed savings?

(d) Revised A, 3, 5, Attachment (filed 2013-05-15) - Please conduct the same analysis requested in the previous IR.

(e) A, 3, 5, p22 (updated 2013-05-15) and Attachment Table 9A - Enbridge states that the update tolls it has used for the revised calculation of gas supply savings referred to in the preceding IR are the tolls TransCanada he proposed in its Application for Review and Variance "Review Application" dated May 2013.

Please provide an alternative calculation of benefits based on the tolls approved by the NEB in its RH-003-0211 decision, in which the NEB approved a multi-year FT toll for Empress/Alberta to Dawn of $1.42 GJ and a framework for deriving the remaining tolls including the Empress/Enbridge CDA area from this toll (see Review Application, p 1 of 46) (our underline).

42. B.6 – 0433; p2, p 101 et seq.

Union is seeking Board pre-approval pursuant to section 36 of the Act, for the recovery of the consequences of all development and contracting costs of the Parkway West project estimated at $203 million, in rates, commencing January 1, 2016, and has stated that absent such pre-approval, "it will not be able to proceed with the development of the Project without reasonable certainty of cost recovery".

(a) Please provide any precedents in which the Board has pre-approved as part of a decision in a leave to construct case, the rate consequences for facilities for which the utility has sought approval in that case. Please discuss in detail, showing how the claimed precedent(s) is analogous to this case.

(b) Union has recently begun consultation with intervenors for its next generation IRM regime, which will take effect January 1, 2014 and last for five years. Please explain why this proposed capital expenditure cannot be implemented through a capital expenditure module which should be a feature of that regime, and is a feature of the current third generation electricity IRM, and was recently reaffirmed by the Board in the Toronto Hydro case (EB-2012-0064). Please provide a fulsome answer, with complete reasons.

(c) Union is a large natural gas distributor with 2012 assets at December 31, 2012 of $5.7 billion, and 2012 total revenue of $1.0 billion, and 2012 net after tax income $170 million. It is 100% owned indirectly by Spectra Energy Inc., one of the largest United States natural gas pipelines companies. Given these circumstances, and the fact that the project involves a total capital expenditure of $203 million, why is Union seeking pre-approval of rate impacts?

(d) In particular:

(i) What is the relevance of the fact that the project is the "largest one in Union's history"?

(ii) What is the relevance of the fact that the auditor's test for materiality in its audit is $5 million?

(iii) What is the evidence that the M1 customers support the project? Please provide specifics. What is the relevance of the fact that ex-franchise customers "support" the project?

(iv) If the rates impacts are considered as part of the IRM case, which will take place later in 2014, please confirm that the Board will only consider the rate impacts once, not twice.

(v) Is Union's position that if the Board does not approve its request for pre-approval of the rate impacts, it will not proceed with Parkway West? If not, please discuss what Union means by the phrase "without reasonable

certainty of cost recovery". Please clarify exactly what Union would want from intervenors and/or the Board.

43. B.6 – 0433

Please confirm that Union has an option to purchase the land on which it intends to construct Parkway West, if it obtains Board approval. Please confirm the current expiration date of the option(s) and the cost of the option(s).

44. A.1 – 0433, p4

Union's evidence states that the flow of gas through Parkway has increased from 0.5 GJ/day in 2006 to 2.0 GJ/day in 2012. Is 2.0 GJ/day the annual average daily flow experienced in 2012 or some other number, eg. peak, winter season, summer season?

(a) Please provide the daily flow for each of the years 2006 through 2012, and for each month of those six years.

(b) Does the figure represent the flow through the two Parkway compressors only, or does it include the flow to Enbridge at Parkway?

(c) Please provide the flow through compressors at Parkway and, separately, the flow to Enbridge at Parkway from each of the years 2006 to 2012, and an estimate for 2013, 2014, 2015 to 2025, or is it a peak day flow, an average winter day flow, an average summer day flow?

45. A.1 – 0433

For Union customers in the Hamilton-Halton district of the Union southern delivery area, please provide the annual volumes for 2012 delivered:

(a) from gas compressed at Parkway;

(b) from laterals off the Dawn Parkway line;

(c) from laterals off the TCPL Niagara line or TCPL Hamilton line.

46. A.1 – 0433

Please assess the impact of the development of Marcellus shale gas on the importance of the Dawn Parkway system for "US Northeast residents". Please discuss fully, including the comparison of the costs of supplies moved on Dawn Parkway to US Northeast customers with gas moved directly to those Northeast from Marcellus shale zone by US pipelines.

47. A.1 – 0433

(a) How much Marcellus gas did Union compress at Parkway in total in 2012, and estimated for 2013 through 2018, and to 2025?

(b) How much Marcellus gas has Union already contracted at each of November 1, 2012, 2013, 2014, 2015, 2016?

(c) What are the delivery points under each of these contracts?

(d) How much capacity of each type, eg. FT, STFT) has Union estimated for on the TCPL Niagara line in each of the years commencing November 1, 2012 to November 1, 2018? What are the terms of the contracts?

48. A.1 – 0433

(a) Please explain the source(s) of the gas and transportation paths for the five percent of Union's northern area supply that will not be supplied from the WCSB?

(b) Please discuss how "distance from market relative to new shale gas production in the Great Lakes region has a significant impact on the amount of natural gas available for supply in the future to markets in eastern North America" (our emphasis). Please explain fully. Please distinguish between availability of gas supply and competitiveness of transportation tolls.

49. A.1 – 0433

(a) Union notes that flow east on the TCPL mainline has significantly declined since 2005. Please confirm that the primary reason for the decline from average daily volume of 5.5 bcf in 2005 to 2.1 bcf in 2012 is the actions taken by eastern LDCs (Union and Enbridge) over that period to diversify their supplies away from the WCSB and to purchase more of the supplies they do continue to source in WCSB via the Alliance-Vector system to Dawn, and that the decrease in throughput has resulted in increased tolls on the mainline, thereby creating a "vicious circle" of rising tolls and declining throughputs. Please discuss fully, and set out each step in Union's diversification of its supply (between eighty-four percent and ninety

percent) of Union's system supply portfolio between 1988 and 1999 (p17) and forecast fifty-five percent in 2013.

(b) Please confirm that Enbridge owns 100% of the Alliance pipeline, both the Canadian and US segments. Please provide the ownership interests in the Vector pipeline.

50. A.1 – 0433

(a) Please explain in detail the suspension of TCPL's integrity programs on certain segments of the Northern Ontario line. Please identify the segments, and show the manner in which they have resulted in the reduction of capacity of the northern line from 4 PJ/day to 3.2 PJ/day in 2012-13. Have these programs been reinstated for 2013-14 and beyond? Please explain fully, and relate these decisions to progress on TCPL's oil east project.

(b) Please explain the ultimate path and destination of the gas that Union has sent westward on GLGT in 2012 and 2013. Has the gas line supplied to the SSMDA? Please provide details.

(c) Please provide the amounts of gas Union has contracted to purchase on the Alliance-Vector system from the WCSB and the amounts it has contracted to purchase on TCPL Great Lakes system, and the TCPL mainline system for each of the years from 2008 to 2013 (assuming November 2008 was the date the Alliance-Vector pipeline came into service).

51. A.1 – 0433

(a) Please provide Union's last estimate of the average Marcellus shale production/day from 2007 up to 2012, and 2013 to date in TJ/day.

(b) Please provide the status of all applications by US pipelines from 2007 to date to construct facilities to transport Marcellus gas to New Jersey, New York City area, and New England. Please indicate which facilities have been completed, the capacity of the expansion or new line, the market being served, the average daily flow in each year to date, and a link to the FERC decision which approved the application.

- For facilities that are before FERC, the date of the application, a link to the evidence, and a likely decision date by FERC
- For those that have been announced by not yet filed, please include copies of the announcements
- For those that require state approval, rather than FERC approval, analogous information.

(c) Please confirm that Algonquin and Texas Eastern, which are both owned by Spectra Energy, Union's parent, have filed such applications. Please provide details on each of these applications.

(d) Please comment on the ability of Union/TCPL to move gas from Marcellus or gas sourced at Dawn-Niagara/Chippawa (separately) through Parkway and deliver to

US customers via Iroquois or other border station on a competitive basis with gas to supply to those same northeast markets directly from Marcellus by US pipelines. Please discuss fully.

(e) Please provide the Appalachia/AECO C. average basis differential for each of the years from 2008 to 2013, and the futures curve for each point that is the difference in the quoted gas commodity price. Please show the range (high and low daily basis difference) differential for each year.

(f) Please provide the volume of customers in Union's northern and eastern zones that it considers capture to mainline TCPL service in 2008 to 2013 and for the years 2014, 2015, 2016, 2017, 2018. Please quantify the response. Please provide the volumes of customers in northern region that it is currently or will in the future supply from non-WCSB supplies.

52. A.1 – 0433

(a) Please comment on recent industry reports, for example, Natural Gas Daily, May 16th that an abundance of ethane (a natural gas liquid) and to a lesser extent, other NGL's has recently lowered the price of ethane to the point where liquids rid gas shale production, is no longer much more attractive than dry shale gas production.

(b) Please estimate the impact of the development on the likely drilling rate for US shale gas, and the impact on gas prices over time.

(c) Please confirm that US shale gas production is flat (2013 over 2012) except for Marcellus and associated gas.

(d) Please discuss the likely impact of planned increased gas exports from Canada and the United States on natural gas prices in North America, over the medium term, say two to ten years. Please provide Union's best estimate of the number of US and LNG export projects will be approved over the next several years, and provide the estimate for Canadian projects.

53. A.1 – 0433

(a) Please provide the history of the expansions of the Dawn-Parkway system from 2006 to the present, showing in each case, the amount of capacity added, the shipper for that capacity, and the volumes each shipper contracted for, the terms of each contract, and the extent to which each shipper's commitment coincided with the release of capacity on the TransCanada mainline, or a decision not to renew initial contracts on the Alliance pipeline.

(b) Please provide the amount of capacity that GMI on behalf of its direct purchasers, will displace from the TCPL mainline to Dawn starting November 2015, and how much will that increase its required capacity on the Dawn-Parkway facilities (based on the recent Regie decision 3809-2012; D-2012-175). Do GMI's direct purchase customers have the option to switch to Dawn delivery or must they switch to Dawn? If they have the option, please advise what volumes are GMI DP will likely switch to Dawn relative to total DP volumes in the GMI franchise. What are the current DP volumes at GMI?

(c) Please confirm Union's most recent understanding, based on the TCPL recent oil east open season and industry reports, of the amount by which the capacity on the

TCPL Northern Ontario line will be reduced, and starting when. Union's evidence filed on January 29, 2013 suggested at page 32, lines 18-19, that capacity would be reduced "by 0.4 to 1.4 bcf/day, depending upon which of the three pipelines would be converted".

(d) What is Union's preliminary assessment of the quantitative impact of the oil east project on TCPL tolls on northern and eastern delivery points, all else remaining equal?

(e) Please provide Union's most recent assessment of the Alliance's new suite of services and competitive toll structures.

(f) Please provide the composition for each pipeline of the 0.8 bcf/day of long term contracts to flow Marcellus gas to Niagara/Chippawa on National Fuel Gas, Tennessee Gas Pipeline, and Empress State Pipeline, the start and end date, the delivery point (Niagara or Chippawa), and other relevant information about these initiatives. Are all these contracts signed and do the projects have all necessary approvals?

(g) Please provide information on the extent to which Union has resold the 1 bcf to 1.4 bcf of Dawn Kirkwall capacity (see Figure 4-12, p36) that has been terminated since 2009. What contracts has Union replaced the contracts with? Please provide specific capacity amounts, terms, shipper, and receipt points.

54. A.1 – 0433

(a) Please provide the increase in design day flows through Parkway/TCPL interconnect each year from 0.5 bcf (W2006) to 2.1 bcf/day (W2014-15). Does 2.1 bcf represent the maximum design day flow?

(b) Union notes at line 30, that "this flow (2.1bcf/day) is expected to continue to increase further to 3.4 bcf by 2015". Is Union suggesting that the design day flow at the Union/TCPL Parkway interconnect will increase from 2.1 bcf (2.3 PJ) in 2014/15 to 3.4 PJ/day by "2015"? Please clarify. Please discuss and itemize the components of the forecast 1.1 PJ increase in flow from Winter 2014/15 to 2015.

(c) Please provide the deliveries to Enbridge at Parkway in a design day for each year since 2009. What is the designated capacity of the interconnect with Enbridge, and the annual deliveries of gas for each of those years?

(d) Please provide the amount of compressor horsepower at Parkway required to compress:

1. the additional 400,000 GJ/day contract by Enbridge for delivery to Parkway in 2015;

2. the additional 257.8 GJ/day contract by GMI from Dawn to Parkway in 2015;

3. the 8,100 for Dawn-Parkway for Vermont Gas;

4. the 0.1 bcf Union, November 2015, in itself requires for incremental in-franchise load, to serve its eastern and northern Ontario customers;

(e) Over what period of time will the 0.1 bcf from Union customers be used; how long will it take Union to use the full amount of its proposed 0.1 bcf of additional capacity?

(f) How much of those proposed new loads can be served by the existing Parkway compressor? Please provide details. How much will be beyond the capacity of the two existing Parkway compressors?

55. A.1 – 0433

Please confirm that Union will provide a ICF witness to speak to its evidence at Schedule 4-7. Please confirm as BOMA counsel was advised verbally by a Union executive that there is no evidentiary or procedural significance to the fact that the ICF Report was contracted by Union's lawyer, Torys, and not by Union itself.

56. A.1 – 0433

(a) Union has stated that it has contracted for 21,000 GJ/day of capacity on the Niagara line to transport Marcellus gas with delivery commencing November 1, 2012 for system gas use.

(b) Has Union contracted with a Marcellus gas supplier at Niagara for 21,000 GJ/day, commencing at the same time? What is the term, and pricing mechanism for that contract?

(c) Has Union contracted for additional Marcellus gas for delivery commencing November 1, 2013, or any later dates, and for the requisite transportation on TCPL?

(d) Given the alleged cost advantages of Marcellus gas for Union customers, why has Union not contracted for larger quantities of Marcellus gas and amounts capacity on the TCPL Niagara line? Please discuss fully.

57. A.1 – 0433

Please explain the utilization of the Trafalgar compressors up to the time of the decommissioning in 2012. Were they used, and to what extent, in the years 2007 through 2012? Has the Trafalgar site been sold, or how is being used today? Please provide a map showing the locations of Trafalgar and Parkway, and the connecting pipelines. Are the connecting pipelines still in use? What is Union's intention with respect to the Trafalgar site? What is Union's estimate of its current value, for its highest and best use?

58. A.1 – 0433

(a) Please provide a copy of Union's Gas Supply Plan.

(b) Please indicate (Union delivery areas, districts) where the 0.64 PJ of Parkway obligations in 2013-14 are actually delivered. Please identify the components of the volume, with the delivery point of the direct purchase contracts.

(c) Please confirm that Union has surplus on the Parkway system for 2014-2015 of 0.2 PJ/day. What is the value of that unutilized capacity and who bears that cost? Please provide details.

59. A.6 – 0433

(a) Please provide details of Spectra Energy's Western Canada operations reserve margin approach to provide protection in case of a loss of throughput in their facilities.

(b) Please provide details on the contracted deliveries at Parkway, including the shippers, commencing on November 1, 2012, and November 1, 2013, November 1, 2014, November 1, 2015, 2016, 2017, 2018. Please provide the terms of the contract.

(c) What are Enbridge's contracted delivery at Parkway from Enbridge for each of the years 2008 to 2014-15? Please provide the same information for Union's in-franchise customers (0.4 PJ in 2014-15) divided among southern, northern, and eastern area customers?

(d) Given that the individual delivery capabilities of Plant A and Plant B at Parkway are 1.3 PJ/day and 2.3 PJ/day, respectively, and that the two compressors, operating in parallel, can deliver up to 2.48 PJ/day, discuss the possibility of practicability of operating the plants separately, not jointly. Discuss fully, noting costs and risks, benefits.

60. A.1 – 0433

In the most recent of several decisions on LNG exports from the west coast of Canada (LNG Canada), the National Energy Board stated:

> "The Board is satisfied that the gas resource base in Canada, as well as North America, is large and can easily accommodate reasonably foreseeable Canadian demand as well as the proposed LNG exports regardless of whether the gas supply originates from the specific corporate supply pool presented in the Application. The Board further accepts that the incremental cost of adding new production to displace any exported LNG is low, which is another indicator of a well supplied market. The Board agrees with Mr. Priddle and Ziff that the North American gas market is large, integrated, transparent, liquid, flexible, and responsive such that market participants have a multitude of options for securing gas supplies.
>
> The Board notes that the evince in this Application is generally consistent with the Board's own market monitoring. Since deregulation in 1985, North American gas markets have functioned efficiently and there is no evidence to suggest that they will not continue to do so in the future.
>
> Based on all of the foregoing, the Board is satisfied that the quantity of gas to be exported does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard to the trends in the discovery of gas in Canada". [E1-Gas-GL-L384-2012-01, February 4, 2013]

Does Enbridge agree or not agree with the Board's assessment that there is a sufficient Canadian gas supply to supply the Canadian demand as well as the proposed LNG exports? Please discuss fully.

61. A.1 – 0433; A.4-0433

(a) Please explain the components of the proposed "design day flow to meet firm commitments" in 2014-15 and 2015-16 into TCPL and Enbridge system at Parkway and Lisgar is 3.9 PJ/day and 4.5 PJ/day, respectively. What is the

relationship of the amounts delivered at Lisgar to the need for LCU at Parkway? Please discuss fully.

(b) What is meant by an "extended system failure" in paragraph 5? What number of failure days constitutes such a failure? Please discuss fully.

(c) Union states at line 27, that it "may be highly unlikely" that Union could locate a spare low emission combustion engine. Please provide details. Does Union have a choice as to what type of engine it uses?

(d) Why does Union not retain a spare power turbine and spare key compressor parts at Parkway, or compressor repair facilities in eastern Canada? Are there other compressor repair facilities in eastern Canada that Union could use? Please discuss fully.

(e) Please provide a copy of the third-party consultant's risk assessment, referred to in paragraph 14.

(f) Does Union contract surplus capacity on Dawn-Parkway on a firm basis? Please provide particulars.

(g) Please file a copy of the third-party consultant report referred to in paragraph 30.

(h) Please provide a copy of the report cited at paragraph 40 (2010 Reliability Working Group).

(i) Please provide the amount of gas in GJ/day and percentage of bcf that Enbridge currently takes on the discharge side of Parkway, if any. When does that gas currently enter the Enbridge distribution system? Please provide details.

(j) Paragraph 26 – Please explain why it is appropriate to locate two compressors (the LCU compressor and the "growth compressor") adjacent to one another, so as to allow a catastrophic failure at Parkway West to make both compressors inoperable. Please explain fully.

(k) Paragraph 27 – Please discuss the status of Union's discussions with TCPL to purchase a used compressor. Please provide a copy of the evaluation which was to have been completed by the end of April.

(l) Paragraph 30 et seq. Please provide an update on the option under which TCPL would relocate and operate an existing TCPL compressor unit to be located in the vicinity of Parkway.

62. A.5 – 0433

Is there any contractual requirement in Union's contracts with either Enbridge or TCPL for it to have a LCU unit constructed at Parkway West by November 1, 2015? What other reasons are there that require Parkway West LCU to be in service by November 1, 2015, or the additional connection to Enbridge and Parkway to be in place by November 1, 2015. Please confirm that the compressor connection to Enbridge is at Union system pressure (800 psi) and is intended to serve as a back-up to the existing Parkway (suction) connection; that it has exactly the same capacity as the Parkway (suction) connection.

63. A.5 – 0433

What is the acreage currently under option at Parkway West? What will the distance be between the proposed LCU compressor and the proposed growth compressor; the distance between each of the two compressors planned for the site and the Enbridge new gate station? Please discuss and provide map.

64. A.5 – 0433

Does Union intend to operate the proposed LCU compressor at Parkway West part of the time, while one or two other, or both of units A and B at Parkway are operating to achieve "operational flexibility between the two sites to ensure Union is operating as efficiently as possible".

A. RELATED ISSUES

65. Are the proposed facilities needed? Considerations may include but are not limited to demand, reliability, security of supply, flexibility, constraints, operational risk, cost savings and diversity as well as the Board's statutory objectives.

(a) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 1, page 4 of 14

Please provide a table comparing Historic and Forecast Customer Growth of the GTA Project Influence Area to that of Enbridge Gas Distribution (EDG) `s entire service territory. Please also provide the data on use per customer for the same categories and timeframes.

(b) Reference: EB-2012-0451, Exhibit A, Table 3, Schedule 3, Attachment 4, Page 4 of 32.

When was the Third Party Review of the GTA Project initiated? Has EGD obtained Third Party Review(s) of its system before? When and for what reasons. When did EGD first become aware of the fact that Toronto is the only major metropolitan area which receives more than half of its supply through a single gate station?

(c) Reference: EB-2012-0451 Exhibit A, Tab 3, Schedule 4, Attachment 4, Appendix D, Con Edison System Plan

Has EGD reviewed Con Edison`s natural gas DSM programs and results. Has Enbridge conducted any comparisons of its DSM programs and results with those of Con Edison? Please provide any documentation of such reviews or comparisons. If such analyses have not been done, why not?

(d) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 3, Page 6 of 24, paragraph 11.

``The XHP system has not been reinforced since 1992 for organic growth other than for specific large volume customers. ``

Have any of these large volume customers been lost to the system or has any of their consumption decreased for any reason such as improved efficiency, DSM programs or economic conditions. Please provide the annual consumption data for all large volume customers in the project area before and after any reinforcements since 1992 and the forecasts for the 2015 – 2025 periods.

(e) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 3, Page 6 of 24, paragraph 11

> ``*For example, Toronto currently has 15 buildings under construction that are 150 m or greater in height (44 to 70 floors), of which 12 are residential, one is residential-office, one is office, and one is a hotel. In 2015, Toronto will have four times as many tall buildings (greater than 150m) than it had in1995.*``

Please compare the energy density (energy use per square foot) to 12 existing high-rise residential buildings within the project area. What efforts has EGD undertaken to improve (reduce) the energy density of existing buildings or any of the 15 buildings under construction?

(f) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 3, Page 7 of 24, paragraph 14

> ``*Unlike electricity which can be automatically restored, customer outages pose a particular challenge on natural gas systems due to the need for manual restoration of service.* ``

How does EGD define ``automatic`` with respect to restoration of electricity? Please compare durations of major outages for Toronto Hydro with those of Enbridge Gas Distribution over the last decade.

(g) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 3, Page 8 of 24, paragraph 15

> ``*Large outages may require support from other utilities through the Canadian Gas Mutual Aid Assistance Agreement.* ``

How many times in the past decade has Enbridge called on mutual aid assistance and how many times in the past decade has Enbridge been called to give mutual aid assistance.

(h) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 4, Page 2 of 9. paragraph 2

``The customer additions forecast was developed using information sources and factors as follows:

- ☐ *Information from direct contacts with builders, developers, and municipalities regarding on-the-ground realities, such as the ongoing development projects;*
- ☐ *Housing starts forecasts, as available from reliable third-party data sources;*
- ☐ *Development projections, sourced from external consultants; and,*
- ☐ *Economic factors, such as Gross Domestic Product ("GDP") growth, employment, and mortgage rates. ``*

Please provide all documentation related to any of the four factors listed.

(i) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 4, Page 6 of 9. paragraph 7

``Relatively positive economic trends in the forecast period will continue to attract investments in the commercial and industrial sectors in the long term although at a slower pace. ``

Please provide the data to support this statement, particularly given the slowed industrial growth both in terms of economic activity in the Project Area and natural gas consumptions. How many more industrial facilities are anticipated to close or relocate during the forecast period? How many closures or relocations occurred during the historical period in the submission?

(j) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 4, Page 8 of 9. Paragraph 10

``The total forecast peak day demand, shown in Table 3, is the incremental load growth plus the load required by the existing customer base.``

Please characterize ``the load required by the existing customer base``. Is this load assumed to be fixed with incremental load growth added to the fixed amount? How are long term impacts of past DSM programs factored in and how are the plethora of non-Enbridge conservation programs such as the Race to Reduce, BOMA Best, TRCA`s Sustainable Schools, Greener Healthcare and the Town Hall Challenge factored into expectations of existing load. How are such programs plus new construction programs and standards such as LEED, Toronto Green Standard and improvements in the Ontario Building Code energy elements factored into the forecast period?

(k) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 1 of 26 Paragraph 2

> ``*The XHP distribution system serving this Influence Area has not had a major expansion and enhancement since 1992.* ``

Why? Had Enbridge developed any plans to do so between 1992 and 2011? If so, what were the reasons they were not pursued?

(l) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 3 of 26

Figure 1: Natural Gas Demand – Central Weather Zone

Please provide a weather normalized version of this chart.

(m) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 7 of 26, Paragraph 15

> *On average peak day demand for the Central Weather Zone has increased by 1.2% per year since 1997. The comparable figure for the GTA Project Influence Area is 1.5% per year since 1999.*

In 2009, the Minister of Energy provided a directive to the Board, which included among other things, the following:

Pursuant to section 27.1 of the Ontario Energy Board Act, 1998, and in addition to a previous directive issued thereunder on August 10, 2006 by Order in Council No. 153712006, in respect of the Enbridge Undertakings and the Union Undertakings, I hereby direct the Ontario Energy Board to dispense, under section 6.1 of the Enbridge Undertakings, with future compliance by Enbridge Gas Distribution Inc. with section 2.1 ("Restriction on Business Activities") of the Enbridge Undertakings, and under section 6.1 of the Union Undertakings, with future compliance by Union Gas Limited with section 2.1 ("Restriction on Business Activities") of the Union Undertakings, in respect of the ownership and operation by Enbridge Gas Distribution, Inc. and Union Gas Limited, of: (a) renewable energy electricity generation facilities each of which does not exceed 10 megawatts or such other capacity as may be prescribed, from time to time, by regulation made under clause 71(3)(a) of the Ontario Energy Board Act, 1998 and which meet the criteria prescribed by such regulation; (b) generation facilities that use technology that produces power and thermal energy from a single source which meet the criteria prescribed, from time to time, by regulation made under clause 71(3)(b) of the Ontario Energy Board Act, 1998; (c) energy storage facilities which meet the criteria prescribed, from time to time, by regulation made under clause 71(3)(c) of the Ontario Energy Board Act, 1998; or (d) assets required in respect of the provision of services by

Enbridge Gas Distribution Inc. and Union Gas Limited that would assist the Government of Ontario in achieving its goals in energy conservation and includes assets related to solar-thermal water and Ground-source heat pumps; (e) for greater certainty, the use of the word "facilities" in paragraphs (b) and (c) above shall be interpreted to include stationary fuel-cell facilities each of which does not exceed 10 Megawatts in capacity.

Has EDG completed an analysis of deploying the technologies listed in the Minister`s directive to address the increase in the peak demand and/or declining load factors. Had the Board allowed EGD to include these investments in its rate base, would EGD have pursued such alternatives? Could such investments have obviated the need for the GTA Project?

Had the Board not constrained EGD's current and future DSM budgets, would EGD have developed a more aggressive DSM Planto address all or some of the supply constraints addressed by the GTA project?

(n) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 18 of 26, Paragraph 37

> *In light of these expectations and uncertainties the Company believes it is prudent to act now in order to provide additional supply diversity for its gas supply portfolio. Approval of the GTA Project facilities will provide a means through which the aforementioned risks and concerns related to upstream supplies can be mitigated and provide economic benefits to ratepayers.*

Please define the term ``supply diversity`` and provide an analysis of how this impacts reliability in contrast to ``delivery diversity``.

(o) Reference: Ex. A, Tab 3, Schedule 7, pages 1-3

Has Enbridge analysed the potential for incremental DSM measures, programs and budgets to defer the need for all or part of the proposed GTA Pipeline Project? If yes, please provide copies of all of these analyses and studies. Please compare the costs and benefits associated with the two alternatives.

66. Is the proposed timing of the various components of the projects appropriate?

(a) Reference: EB-2012-0451, Exhibit A, Tab 3, Schedule 1, Page 12 of 14

When did EGD identify the need for The GTA Project? What are the impacts of a delayed leave to construct – by 6 month and by 1 year?

SPECIFIC ISSUES FOR EACH APPLICATION

(b) Union Gas Limited - Parkway West (EB-2012-0433)

1. Do the facilities address the OEB Environmental Guidelines for Hydrocarbon Pipelines as applicable?

(c) Reference: EB-2012-0433, Schedule B, Section 12, Page 113 of 121, Environmental Matters

Why does the Environmental analysis not include greenhouse gas emissions or an analysis of low carbon (and methane) alternatives including accelerating EGD`s DSM programs. and adoption of the lines of business included in the Minister`s 2009 directive?

For the historical and forecast periods, please provide the volume of methane leaks for each year for Union's total system and for this project. Please include the total volume

throughput for the same variables. Please include the estimate of total greenhouse gas emissions represented by all data points.

67. Union Gas Limited - Brantford-Kirkwall / Parkway D (EB-2013-0074)

(a) Do the facilities address the OEB Environmental Guidelines for Hydrocarbon Pipelines as applicable?

Reference: EB-2013-0074, Schedule B, Section 12, Page 13 of 26, Environmental Matters

For the historical and forecast periods, please provide the volume of methane leaks for each year for EGD total system and for the GTA Project area. Please include the total volume throughput for the same variables. Please include the estimate of total greenhouse gas emissions represented by all data points.

(b) Enbridge Gas Distribution Inc. - GTA Project (EB-2012-0451)

Do the facilities address the OEB Environmental Guidelines for Hydrocarbon Pipelines as applicable?

(c) Reference: Exhibit B, Table 2, Schedule 1, Environmental Report

Why does the Environmental Report`s socio-economic analysis not include an economic analysis of alternatives including accelerating EGD`s DSM programs. and adoption of the lines of business included in the Minister`s 2009 directive cited above.

Reference: Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (issued January 24, 2011), Section *4.3.9 Air Emissions and Noise, page 40.*

Air emissions and their environmental impacts should be compared to all local, provincial and federal regulations, policies and guidelines. In order to assess compliance with Environmental Protection Act, R.S.O. 1990, c. E. 19, as amended, Environmental Reports for compressor stations should follow Ontario Regulation 127/01, to include estimates of air emissions and maximum off-site point of impingement concentrations, for any contaminant emitted to the atmosphere from these facilities.

Why does the Environmental Report`s environmental analysis not include greenhouse gas emissions or an analysis of low carbon (and methane) alternatives including any reductions associated with accelerating EGD`s DSM programs. and adoption of the lines of business included in the Minister`s 2009 directive cited above?

For the historical and forecast periods, please provide the volume of methane leaks for each year for EGD total system and for the GTA Project area. Please include the total volume throughput for the same variables. Please include the estimate of total greenhouse gas emissions represented by all data points.

If all new demand in the system for the forecast period could be absorbed by conservation, energy efficiency and EGDs own DSM programs, what would be the reduction in greenhouse gases be for the forecast period?