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July 5, 2013

**VIA COURIER, EMAIL and RESS**

Ms. Kirsten Walli  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, 27th Floor  
Toronto, ON M4P 1E4

**Re: Enbridge Gas Distribution Inc. ("Enbridge")**  
**EB-2012-0451 - Greater Toronto Area ("GTA") LTC Project**  
**Interrogatories of Intervenor Evidence**

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In accordance with Procedural Order No. 2 dated May 8, 2013, attached please find the interrogatories of Enbridge to the Council of Canadians, Environmental Defence, Green Energy Coalition, the City of Markham, and Markham Gateway in the above noted proceeding.

Please contact me if you have any questions.

Yours truly,

[original signed]

Shari Lynn Spratt  
Supervisor Regulatory Proceedings

cc: EB-2012-0451, EB-2012-0433, and EB-2013-0074 Interested Parties

Enbridge Gas Distribution Inc.  
Interrogatories for Council of Canadians

1. Reference: Exhibit L.EGD.COC.1

Preamble:

In the second to last paragraph of Dr. Ingraffea asks the following question in relation to the development of shale gas resources in the United States: "Given the present risks, should society invest massive capital in such improvements for a so-called "bridge fuel" that is to be used for only 20 to 30 years, or would the capital and fuel expenditures be better spent on conservation and efficiency improvements, and switching end uses to more sustainable, efficient energy sources?"

Request:

- a) Is Dr. Ingraffea aware of The President's Climate Action Plan, June 2013?
- b) Please provide a copy of The President's Climate Action Plan, June 2013. For reference this document is available from the White House website.
- c) Can Dr. Ingraffea please confirm that this document identifies natural gas as an important "bridge fuel" for many countries. If this cannot be confirmed please explain why.
- d) Can Dr. Ingraffea please confirm that, as part of The President's Climate Action Plan, the Obama Administration is partnering with states and private companies to exchange lessons learned on the responsible development of natural gas resources. If this cannot be confirmed please explain why.
- e) Can Dr. Ingraffea please confirm that, as part of The President's Climate Action Plan, the Obama Administration will encourage the development of a global market for gas. If this cannot be confirmed please explain why.
- f) In Dr. Ingraffea's view would the development of a global market for gas exclude or include Canada as a market for natural gas produced in the United States?

2. Reference: Exhibit L.EGD.COC.2

Preamble:

On pages 11 to 22 of Exhibit L.EGD.COC.2 of Ms. Sumi identifies several Federal and state-specific regulatory initiatives related to shale gas development in the United States.

Request

- a) Please confirm that shale gas development is also occurring in Western Canada.  
If this cannot be confirmed please explain why.
- b) Please confirm that hydraulic fracturing is used in Western Canada to produce natural gas. If this cannot be confirmed please explain why.
- c) Would Ms. Sumi agree that the concerns related to the use of hydraulic fracturing in natural gas extraction are similar in the United States and Canada?

3. Reference: Exhibit L.EGD.COC.3

Preamble

In reference i) Mr. Hughes concludes that, in relation to shale plays, the price of natural gas required to maintain production is likely to be considerably higher over the medium and longer term than that commonly assumed. Mr. Hughes also concludes that greater regulation of the shale gas production industry will generate further price pressures. Mr. Hughes also indicates that the U.S. is considering LNG exports of natural gas based on projections of future growth in shale gas production.

Request:

- a) What is the commonly assumed price of natural gas to which Mr. Hughes is referring? Which pricing point is used for the commonly assumed price of natural gas (i.e. Henry Hub, AECO or some other point)?

- b) For the commonly assumed price of natural gas provided in a) Please provide, in a table, by year for the next 20 years, the commonly assumed price of natural gas.
- c) Please confirm that natural gas from the United States can be and is currently being imported into Ontario at Niagara Falls. If this cannot be confirmed please explain why.
- d) Please provide a chart or table showing total natural gas production in the Western Canadian Sedimentary Basin for the last 20 years. Please identify the year in which natural gas production in the Western Canadian Sedimentary basin “peaked”.
- e) Would Mr. Hughes agree that diversity of supply is an important factor that should be considered by a natural gas utility when developing a supply plan?
- f) Is Mr. Hughes aware of The President’s Climate Action Plan, June 2013?
- g) In IR #1 Enbridge asked COC for a copy of The President’s Climate Action Plan, June 2013. Can Mr. Hughes please confirm that, as part of The President’s Climate Action Plan, the Obama Administration will encourage the development of a global market for gas. If this cannot be confirmed please explain why.
- h) In Mr. Hughes’ view would the development of a global market for gas exclude or include Canada as a market for natural gas produced in the United States?
- i) Can Mr. Hughes please confirm that shale gas development and production is occurring in Canada. If this cannot be confirmed please explain why.
- j) Can Mr. Hughes please confirm that there are plans to export LNG from Canada. If this cannot be confirmed please explain why.
- k) Would Mr. Hughes agree that many of the concerns related to shale gas development, or more generally hydraulic fracturing, identified by Dr. Ingraffea and Ms. Sumi are not unique to the United States and that there are similar concerns in Canada?
- l) Can Mr. Hughes please confirm that Dawn is a liquid hub with access to multiple supply basins, including the WCSB. If this cannot be confirmed please explain why.

Enbridge Gas Distribution Inc.  
Interrogatories for Environmental Defence

1. Reference: Exhibit L.EGD.ED.1, Page 7 Figure 4: Peak Hourly Demand

Request:

- a) Please explain the data sources used for the two graphs provided.
- b) Please explain how the occupied data versus unoccupied data was obtained.
- c) Please explain "BT=15 deg C" as noted in the legend in the graph on the left.
- d) Please explain what outdoor air temperatures were used, the data source, and the location of measure.

2. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 1.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 1, states:

*"The Performance-Based Model analyzes actual, benchmarked energy use of different building types and establishes the potential savings due to all buildings reaching intensity levels already achieved by one half (median) or one quarter (top-quartile) of the peer group."*

Request:

- a) Please provide a working version of the "Performance-Based Model" with all formula and data intact.
- b) Please identify the "different building types" classifications.

3. Reference: Exhibit L.EGD.ED.1, Page 3, paragraph 1.

Preamble:

Exhibit L.EGD.ED.1, Page 3, paragraph 1 states:

*"Enerlife's model to forecast natural gas DSM potential in the GTA is based on established performance from a large multi-year database of energy use by buildings, direct project experience with successful high energy energy performing buildings and leadership of peer-reviewed initiatives aimed at*

*determining conservation potential by defining how much energy individual buildings need.”*

Request:

- a) What constitutes a “large multi-year database”? Is it the database consisting of 638 buildings cited in Figure 3 on page 5?
  - b) Does the database (sample) represent a random selection of the entire building stock or is it based on participating buildings only? What are the confidence intervals associated with this sample size compared to the EGD data set of over 70,000 buildings overall and in each of the sectors?
  - c) Does that database include Ontario only buildings or buildings from other provinces as well?
  - d) Please confirm if EnerLife’s “large multi-year database of energy use by buildings” contains the following information
    - i. All the gas consuming appliances/equipment for each building
    - ii. Age of the building stock
    - iii. The capital improvements that have been performed on the building to date
    - iv. Energy efficiency upgrades/improvements that have been completed on the building
  - e) Please provide specific data sets required to establish the energy intensity of any building.
  - f) Please provide the results of the regression analysis and supporting algorithms used to establish benchmark comparisons across different building types.
4. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 3.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 3 states:

*“Energy efficiency initiatives such as REALpac’s 20 by ’15 Target and TRCA’s Town Hall Challenge and Greening Health Care programs use top quartile gas use to set energy targets.”*

Request:

- a) How are buildings chosen for the Canada Green Building Council program? For example, are the buildings chosen because they are laggards, and use a relatively high level of energy?
- b) What percentage of those projects’ savings is as a result of operational versus capital improvements/investment?

- c) Similarly, what portion of the cost of the project is driven by capital versus operational improvements/investment?
5. Reference: Exhibit L.EGD.ED.1, Page 13, Figure 12 “Race to Reduce – Gas Conservation Action Plan Workshop Results” and Page 2, paragraph 5.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 5 states:

*“The company has also gained experience in this space through its sponsorship of and participation in Toronto & Region Conservation’s programs and CivicAction’s Race to Reduce.”*

Request:

- a. Please confirm your understanding that Enbridge is a founding participant in the Race to Reduce programs.
  - b. Please confirm that Figure 12 on page 13 has been created solely from performance benchmarking data, without any detailed investigation and planning regarding the specific buildings themselves
  - c. Is the sample of 32 buildings representative of current building stock?
  - d. Has there been a review or update of the specific building information cited in Figure 12?
6. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 1.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 1, states:

*“The Performance-Based Model presented in this evidence for calculating commercial and apartment DSM potential is derived from Enerlife’s substantial and growing database of actual Pnergy performance data for buildings. The approach is consistent with a growing number of provincial and national programs.”*

Request:

- a) Environmental Defence cites the Performance-Based Model as a method for calculating DSM Potential. Are there any utilities in major cities in North America using this method? If not, why not?

- b) Please confirm that performance benchmarking simply provides a starting point for further inquiry, and that detailed investigation and planning is required to establish realizable savings levels for any particular building.
- c) Please provide the date when the Performance Based model was first prepared and describe how it, “more completely represents the effects of DSM on the peak hour demand forecast.”
- d) Please provide all assumptions used in the Performance based model and how the model was calibrated to actual peak hour consumption for natural gas and provide the hourly calibration data by sector and degree day (as available).

7. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 4.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 4 states:

*“Measures to improve efficiency in high gas intensity buildings go beyond those included in Marbek’s DSM Potential Study and are typically site-specific equipment repairs, upgraded control of buildings systems, and testing, tuning and rebalancing of heating plan systems.”*

Request:

- a) Have you reviewed the recommissioning program outlined in the 2009 DSM Potential Study by Marbek? Please confirm your understanding that it has been identified as the single largest potential category in the commercial marketplace by 2017 in the Marbek report?
- b) Please clarify how the measures listed in the above reference are different than the “recommissioning” programs captured in that Study
- c) Please clarify how these measures in the reference are different than our current Run it Right program, Energy Compass program, and Custom Project opportunities.

8. Reference: Exhibit L.EGD.ED.1, Page 17, Appendix A.

Preamble:

The Terms of Reference requests that EnerLife:



*“Quantify the demand side management (DSM) potential in large multi-residential, commercial and institutional buildings that can be pursued by Enbridge Gas Distribution Inc. (“Enbridge”) to potentially defer or avoid the need for part or all of the proposed GTA pipeline.”*

Request:

- a. Please define “potential” as used in the Terms of Reference and in the EnerLife Report. Does it refer to Technical Potential, Economic Potential or Achievable Potential as used in DSM potential studies?

9. Reference: Exhibit L.EGD.ED.1, Page 3, paragraph 1.

Using the summary table, please provide comparable information on the Performance Based Forecast model as a tool to forecast natural gas DSM potential in the GTA.

	DSM Potential Study	Performance-based Forecast Model
Data set	All EGD commercial and apartment customers	
Data sort capabilities	By sector By consumption data Building archetypes developed for each sector based on customer data and information from other sources on market penetration of efficient equipment, stock replacement rates etc.	
Analysis of potential savings	Individual measures are screened for cost-effectiveness. Measures are applied to building archetypes in the model as applicable and resulting energy savings compared to reference case.	
Savings potential	Calculated for Technical Potential, Economic Potential and Achievable Potential	
	Achievable potential calculated at different funding scenarios	
	Achievable potential savings of 15% in the Commercial sector at financially unconstrained scenario	

10. Reference: Exhibit L.EGD.ED.1, Page 13, Figure 13 “GTA Project Influence Area (derived)”

Request:

- a. Please clarify what is meant by # of customers with high gas savings? Does this mean that the column is showing how many customers have the opportunity for high gas savings?
- b. Enbridge cannot understand some of the data in Figure 13. In particular in the column entitled “Customers with high gas savings” the Total line shows 13%. When we calculate that particular value, in the same way that we were able to reconcile the cells above for the various sectors (i.e. # of customers with high gas savings ÷ # of customers or in this specific table  $70,041 \div 1,167,454$ ), we come up with 5.9995%. How was 13% achieved? Please provide sources and any calculations for the derivations outlining relevant assumptions.
- c. Where have the data points in the column entitled “% of potential savings” come from? Please provide sources and any calculations for the derivations outlining relevant assumptions.
- d. Please explain the discrepancies between the “Average savings potential” of 25% shown in Figure 12 and the 48% of potential savings outlined in Figure 13?
- e. Where have the data points in the column entitled “ $10^6$  m3 savings” come from? Please provide sources and any calculations.

11. Reference: Exhibit L.EGD.ED.1, Figure 6.

Request:

How were the 8.3% and 21.8% reductions calculated for the commercial median and top quartile scenarios respectively? Similarly, how were the 4.3% increase and 10.3% reduction calculated for the apartment median and top quartile scenarios respectively?

12. Reference: Exhibit L.EGD.ED.1, Page 2, par 4 and Page 3, par 3.

Preamble:

Exhibit L.EGD.ED.1, Page 2, par 4 states:

*“Measures to improve efficiency in high gas intensity buildings go beyond those included in Marbek’s DSM Potential Study..... Such projects show generally good Total Resource Cost (TRC) test values, can be implemented quite quickly.....”*

Exhibit L.EGD.ED.1, Page 3, par 3.

*“These pilots were incredibly successful, and set the stage for the remarkable pace of market transformation....”*

Request:

- a) Please provide the scope of each of the pilots.
- b) How much time and resources were involved in the pilots that are referred to in these references?
- c) What is the cost of the pilot projects (including all overhead, program costs and incentive costs)?
- d) What timeline is considered “quite quickly” in the first reference?
- e) What percentage of the programs would be TRC positive?
- f) Have the pilots been subjected to a third party audit? And if so, what were the results?
- g) Has there been a review or update of the specific building information cited in Figure 12 – Race to Reduce – Gas Conservation Action Plan Workshop Results?
- h) Market transformation assumes increased market share of new technologies and/or approaches to the point where they are widespread enough to become institutionalized and ultimately included in standard codes and practices. How is this pilot considered market transformation? What is considered as a remarkable pace of market transformation in this example?

13. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 3.

Preamble:

Exhibit L.EGD.ED.1, Page 2, paragraph 3 states:

*“Energy efficiency initiatives such as REALpac’s 20 by ’15 Target and TRCA’s Town Hall Challenge and Greening Health Care programs use top quartile gas use to set energy targets.”*

Request:

- a. How are buildings chosen for the Canada Green Building Council program? For example, are the buildings chosen because they are laggards, and use a relatively high level of energy?
- b. What percentage of those projects' savings are as a result of operational versus capital improvements/investment?
- c. Concurrently, what portion of the cost of the project is driven by capital versus operational improvements/investment?

14. Reference: Exhibit L.EGD.ED.1, Page 2, paragraph 5.

Request:

- a. What are the program costs for Toronto & Region's Conservation programs and CivicAction's Race to Reduce programs?
- b. Are the programs TRC positive?
- c. What is the cost of the program per m<sup>3</sup> saved?

15. Reference: Exhibit L.EGD.ED.1, Page 5, paragraph 1.

Preamble:

Exhibit L.EGD.ED.1, Page 5, paragraph 1, states:

*"The present value of the avoided commodity costs for attaining the median performance target is \$734 million and for the top quartile target is \$1,094 million, using a 5.88% discount rate and commodity cost used by Enbridge."*

Request:

- a. In the TRC equation, incentives are not factored into determining the TRC ratio. Please estimate the incentive costs required to drive the median performance target.
- b. Please estimate the total DSM budget that would be required (including all program costs and overhead costs, etc.) to achieve the "median performance target" and the "top quartile performance target"?
- c. If possible, please calculate the Program Administrator Cost Test to achieving the median performance. If it is not possible, please state why.

- d. Please provide your calculations and assumptions for the responses to (a) – (c).

16. Request:

Prior to 2013, and anytime in the past decade, has ED provided any formal or informal documentation suggesting to Enbridge that it consider and/or calculate peak load reductions versus annual load reductions? If so, please produce any documentation.

17. Reference: Exhibit L.EGD.ED.1, Page 12, par 1, Section 3.1.

Preamble:

Exhibit L.EGD.ED.1, Page 12, par 1, Section 3.1 states:

*“Performance based conservation begins with identifying high energy intensity buildings through benchmarking and then works systematically towards identifying and fixing the particular inefficiencies causing the high use in each building.”*

Request:

- a. Given the process for performance based conservation outlined above, please confirm that such an approach is not practical or cost-effective for large quantities of small commercial customers.

18. Reference: Exhibit L.EGD.ED.1, Page 14, Section 4.2.

Preamble:

Exhibit L.EGD.ED.1, Page 14, Section 4.2, states:

*“Identifying and addressing inefficiencies requires a savings focused approach to DSM.”*

Request:

- a. Please confirm that the current DSM framework and its programs are focused on, measured by, and incented by m3 savings of natural gas.
- b. Please confirm that Enbridge’s DSM framework is a “savings focused approach.”

19. Reference: Exhibit L.EGD.ED.1, Page 14, Section 4.2.

Preamble:

Exhibit L.EGD.ED.1, Page 14, Section 4.2 states:

*“Trained people with similar skill sets to energy analysts, commissioning agents and energy efficiency engineers focused on getting to energy savings as quickly as possible are needed to work with building operation staff.”*

Request:

- a. Please define the educational or experiential background required of the above described persons.
- b. Please confirm that Enbridge's DSM department and Enbridge's partners, including Enerlife, employ individuals with the skill sets described in the above quote and the answer to part a.

20. Reference: Exhibit L.EGD.ED.1, Page 17, Appendix A -Terms of Reference.

Preamble:

The Terms of Reference requests that EnerLife:

*“Quantify the demand side management (DSM) potential in large multi-residential, commercial and institutional buildings that can be pursued by Enbridge Gas Distribution Inc. (“Enbridge”) to potentially defer or avoid the need for part or all of the proposed GTA pipeline.”*

Enbridge understands that EnerLife has shown potential through their “Performance-Based Approach”.

Request:

- a. Please define “potential” in L.EGD.ED.2 page 4, section 1.0, Performance-Based DSM Forecast Methodology. Is it achievable potential (and if so, based on what financial scenario), technical potential, or economic potential?

Enbridge Gas Distribution Inc.  
Interrogatories for Green Energy Coalition

1. Reference: Exhibit L.EGD.GEC.1, Page 17, Line 22 to Page 18 Line 4.

Preamble:

Exhibit L.EGD.GEC.1 Page 17 Line 22 to Page 18 Line 4 states:

*"These pipelines have operated at the current pressures throughout their lives, reaching back to the 1960's. The pipeline pressure does not appear to have prompted any actions by Enbridge and has only come into this case as a supplemental justification for facilities that Enbridge wants to build for other reasons. Enbridge has not provided any evidence of an actual problem with these operating pressures."*

In the Technical Conference Transcript, Day 1, Page 55 Line 25 to Page 56, Line 21, Mr. Thalassinos, Chief Engineer at EGD, states:

*"So this project is absolutely necessary from a safety and reliability perspective. From a reliability perspective, as most recently as last week, we had some flooding on the Don Valley, on the Don River, which exposed a 50-metre section of our NPS 30 pipe, and we immediately downgraded that pressure down to 300 pounds to ensure that we're in a safe situation while we're assessing the risk. If this situation had occurred today or even this past winter, let alone 2015, we would be in a situation of losing tens of thousands of customers today. So, the issue of reliability is not a theoretical construct."*

*As recently as last week, in the evidence [Exhibit A, Tab 3, Schedule 3, Paragraph 26 and Interrogatory Response A1.EGD.BOMA.12(c)] we've seen that we lowered the pressures on the Collingwood and Cornwall lines to 80% of their design pressures through the winter. And we regularly run internal inspection tools, which often, or sometimes, find issues that we need to take immediate action on to assess their safety and risk. And sometimes those assessments extend for lengthy periods of time that can extend through the winter."*

*So I'm not sure how many close calls we need before, from a reliability perspective, we need to have more than a single feed on the NPS 30 now supplying that section of our network."*

Request:

- a) Does Mr. Chernick believe that it is prudent for Enbridge to rely on a single feed, 40+ year old, high stress pipeline, without the capability to perform a repair during even mild winter conditions, for the supply of gas to downtown Toronto?
- i. If no, what alternatives other than DSM or interruptible load arrangements would Mr. Chernick propose as a solution? Please explain the reasoning in detail.
  - ii. If yes, which of the following two alternatives would Mr. Chernick propose that Enbridge choose if forced to deal with an integrity issue requiring immediate attention during the heating season. Please explain the reasoning in detail.
    - a) Continue to operate the Don Valley pipeline above 30% SMYS, potentially risking a hazardous pipeline rupture, or;
    - b) Lower the pressure in the Don Valley line to below 30% SMYS to mitigate the safety hazard, but causing the potential loss of thousands of customers in downtown Toronto.

2. Reference: Exhibit L.EGD. GEC.1, Page 28, Lines 10 to 12

Preamble:

Exhibit L.EGD.GEC.1, Page 28 Lines 10 to 12 states:

*"The capacity of PEC is about 2.5% of Ontario's winter electric peak. In 10 most years, the Ontario electric system would have a higher capacity reserve on 11 the coldest winter day without PEC than on the peak winter day."*

IESO evidence dated June 28 2013 Page 3, within the report titled *Resource Adequacy: The Role of Gas-Fired Generators in Ontario's Supply Mix*, states:

*"...Of the over 9900 MW of gas-fired generation in Ontario, approximately 2300 MW is situated in the greater Toronto area. In accordance with Ontario Regulation 496/07, all coal-fired generation will be retired by December 31, 2014, ... While these shutdowns will not result in energy or capacity shortfalls, there will be more dependence on gas-fired generation to meet Ontario demand.*

*Further, over the next decade, there are significant projects planned affecting Ontario's nuclear generators. With the expected shutdown and refurbishments of various nuclear generating units, the dependence on gas-fired generation to meet Ontario demand is expected to increase. The Toronto electricity zone's 6*



*peak demand for the summer of 2012 was 9344 MW. The installed capacity of generators in this zone is 8954 MW which represents a mix of natural gas and nuclear generators. Natural gas generators account for 2314 MW of the Toronto zone's installed capacity. With the upcoming anticipated nuclear refurbishment projects, there will be significantly increasing dependence on the natural gas-fired generation within the Toronto zone to supply local demand...."*

*\*The Toronto electricity zone is bounded by the municipalities of Oakville to the west, Woodbridge to the north and Pickering to the east, inclusive.*

IESO evidence dated June 28 2013 Page 4, within the report titled *Transmission Security: The Role of Portlands Energy Centre in Electric Reliability for the Downtown Toronto Core*, states:

*"...Since PEC achieved commercial operation in 2009, it has played a vital role to secure the supply to downtown Toronto. Based on its location, it is not only needed to meet demand during peak demand days but also to allow maintenance outages of various local transmission elements to proceed...."*

Request:

- a) Does GEC agree that PEC may be dispatched based on the operational requirements of the Toronto electricity zone or the Downtown Toronto Core, and not necessarily based on the requirements of Ontario as a whole?
- b) If no, please explain.
- c) If yes, does GEC agree that PEC may be dispatched even though there is surplus capacity in Ontario outside the Toronto electricity zone?

3. Reference: Exhibit L.EGD.GEC.1, Page 16, Lines 1 to 12.

Preamble:

Exhibit L.EGD.GEC.1, Page 16, Lines 1 to 12 states:

*"First, it appears that most or all of the Company's projected purchases of U.S. gas could flow into the GTA even if just Parkway West and Segment A were constructed. Under those circumstances, Enbridge projects that the Parkway stations and Lisgar (where the U.S. gas would be delivered from Union and TCPL) would serve more than 2,040 10<sup>3</sup>m<sup>3</sup>/hour (Exhibit I.A1.Enbridge.5 BOMA.25 Attachment 2). In contrast, Victoria Square Station would provide 943 103m<sup>3</sup>/hour without any additional supplies to the Don Valley line (Exhibit 7 I.A1.Enbridge.BOMA.25 Attachment 1). Hence, so long as Enbridge purchases at least 30% of its peak-day supply for the GTA to be delivered from the TCPL*

*facilities to Victoria Square Station, the portion of the Company's supply that flows from the U.S. can be taken entirely through the Parkway stations and Lisgar, without Segment B."*

Exhibit L.EGD.GEC.1, Page 7 Lines 11 to 14 states:

"...the economics of accessing additional supplies of U.S. gas are not likely to be changed very much by plausible load reductions. Hence, I do not discuss those parts of the GTA Project."

Request:

- a) Please explain how the referenced 2,040 10<sup>3</sup>m<sup>3</sup>/hr was calculated as being the sendout from Parkway and Lisgar with only Parkway West and Segment A, given that Exhibit I.A1.Enbridge.5 BOMA.25 Attachment 2 shows the sendouts inclusive of both Segment A and Segment B.
- b) For the 30% to be delivered at Victoria Square, please describe the upstream path and transportation requirements that Mr. Chernick expects Enbridge to utilize and comment on the availability of such path.
- c) Mr. Chernick suggested to "purchase at least 30% of its peak-day supply for the GTA to be delivered from the TCPL facilities to Victoria Square Station". Please review Exhibit A, Tab 3, Schedule 5 and Exhibit E, Tab 1, Schedule 1. Please confirm that Mr. Chernick agrees that the economics would be less favourable and the customer bill impacts would be higher with this alternative. If Mr. Chernick cannot confirm, please explain why.
- d) Please explain whether Mr. Chernick believes it is prudent for the Company to plan for 30% of the supply to come from a supply line that the supplier has stated may not have the currently utilized transport services available, or that the services currently being offered may only be available under different contractual conditions and at higher costs.

4. Reference: Exhibit L.EGD.GEC.1, Page 13 Line 3 to 8.

Preamble:

Exhibit L.EGD.GEC.1, Page 13 Line 3 to 8 states:

*"The Board should require that the utilities integrate demand and supply options, including DSM and interruptible and curtailable rates and contracts, along with adding delivery facilities and local peaking supplies, to relieve that constraint. This process would effectively institute a form of local least-cost planning. A similar approach has been successful for dealing with local constraints on the electric system in Vermont and elsewhere."*

Request:

- a) Please define “successful” in terms of load reductions achieved, investment amounts, and time period from initiation of the plan to delivered load reductions.
- b) Please provide examples for a local distribution company in the natural gas industry that achieved similar results.
- c) Specifically compare the actual results in the examples to the forecast of Enerlife Consulting for both timing and load reductions achieved.
- d) Please explain the difference between the electric industry and natural gas industry in regards to their abilities to track and monitor peak hour load.

5. Reference: Exhibit L.EGD.GEC.2, Page 1, paragraph 4.

Preamble:

Exhibit L.EGD.GEC.2 GEC, Page 1, paragraph 4 states:

*“Mr. Neme is also intimately familiar with Enbridge’s current and past DSM efforts from serving on the current Ontario Technical Evaluation Committee (TEC), serving on all but one of Enbridge’s annual DSM Audit Committees since they were first formed in 2000 (including the current audit committee charged with reviewing the Company’s 2012 DSM savings), and having played a lead role in negotiating the settlement agreement between Enbridge Gas and stakeholder groups on Enbridge’s 2012-2014 DSM plan.”*

Request:

- a) In the past decade, has GEC or any of its member groups made previous representations to the Company and/or the Ontario Energy Board regarding the use of DSM to defer or avoid capital investment to meet distribution system requirements?
- b) In the past decade, has GEC or any of its member groups participated in OEB consultations and/or Generic Proceedings regarding the DSM framework, objectives of DSM and DSM Guidelines?
- c) In the past decade, did GEC or any of its member groups raise the issue of integrated resource planning on any of those occasions?

6. Reference: Exhibit L.EGD.GEC.2, Page 2, paragraph 1.

Preamble:

Exhibit L.EGD.GEC.2, Page 2, paragraph 1 states:

*“That includes extensive experience with the integration of DSM into system planning which culminated last year in the publication of a report on North American experience with the use of energy efficiency to defer electric transmission and/or distribution system investments.”*

Request:

- a) Please provide the report.
- b) Please list / describe any jurisdictions you are aware of that are currently using energy efficiency to defer gas distribution system investments.

7. Reference: Exhibit L.EGD.GEC.2, page 3, paragraph 5.

Preamble:

Exhibit L.EGD.GEC.2, page 3, paragraph 5 states:

*“A number of different jurisdictions are now actively assessing whether system reliability needs can be met through geographically targeted DSM.”*

Request:

Please list the jurisdictions which GEC is aware of which are considering geographically targeted DSM to meet gas system reliability needs.

8. Reference: Exhibit L.EGD.GEC.2, Page 4, paragraph 2.

Preamble:

Exhibit L.EGD.GEC.2, Page 4, paragraph 2 states:

*“Unlike some other gas utilities, the Company has never even quantified the peak hour or peak day benefits of its efficiency programs.”*

Request:

- a. Please provide a list of gas utilities which quantify peak hour or peak day benefits of energy efficiency programs.
- b. Please provide any available information on those programs.

9. Reference: Exhibit L.EGD.GEC.2, page 5, paragraph 3.

Preamble:

Exhibit L.EGD.GEC.2, page 5, paragraph 3 states:

*“The same would be true of almost any imaginable expansion of the Company’s DSM efforts – particularly if the expansion was specifically designed to defer pipeline investments.”*

Request:

Please provide references to programs of other gas utilities which are specifically designed to defer pipeline investments.

10. Reference: Exhibit L.EGD.GEC.2, Page 7, Table 2.

Request:

Please confirm that Enbridge’s apartment, commercial and industrial sectors are all achieving very respectable savings, comparable to the leading jurisdictions listed in Table 3, of just under 1% of sales.

11. Reference: Exhibit L.EGD.GEC.2, Page 7, paragraph 1.

Preamble:

Exhibit L.EGD.GEC.2, Page 7, paragraph 1 states:

*“One of the best indicators of how much additional savings could be acquired is the amount of savings other jurisdictions – particularly leading jurisdictions – are acquiring.”*

Request:

Please list the criteria which define “leading jurisdictions”.

12. Reference: Exhibit L.EGD.GEC.2, Table 3, Page 8.

Request:

- a. Please confirm that the average savings of the leading jurisdictions across the timeframe provided in Table 3 is less than 1% of sales

- b. Please confirm that in the leading jurisdictions provided across 6 years only one program achieved 1.5% savings as a percentage of sales and maintained that level of savings for 1 year.
- c. For the jurisdictions cited please list the number of years that the utility has offered DSM programs.

13. Reference: Exhibit L.EGD.GEC.2, Page 10, paragraph 2

Preamble:

Exhibit L.EGD.GEC.2, Page 10, paragraph 2 states:

*“In summary, experience from leading jurisdictions suggests it is possible to achieve market penetrations of residential thermal envelop retrofits of 1% to 2% per year – an order of magnitude more than Enbridge’s planned market penetration rate of roughly 0.1% for its combined efforts to retrofit both low income and non low income homes in 2013.”*

Request:

- a. Please provide the reports cited in footnotes 29 through 33.
- b. Using the attached tables, please provide information on the “leading jurisdictions” referenced.

Residential Program Information

	Enbridge	Questar	Mass Save	Efficiency Maine	Vermont Gas Systems
# residential customers (2012)	1,836,267				
# years gas DSM programs offered in Residential sector	17				
Total residential savings achieved to date	352,410,278m3				
Average annual residential savings over the period	20,730,016 m3				
Previous whole home retrofit programs by other agencies	Federal EcoEnergy program with additional provincial incentive				
Applicable standards re: furnace efficiency	Min AFUE – 90%				
Re: water heater efficiency	Min EF - 0. 67				
Minimum Building Code energy efficiency requirement: (EnerGuide rating or equivalent)	EnerGuide 80				
Current program(s)	Community Energy Retrofit (CER)				
Incentive / participant	Max \$1500				
Program restrictions	CER participants must complete 2 deep savings measures and achieve 25% total savings to be eligible for the incentive				

Residential Measures Offered

Measure	Questar		Mass Save		Efficiency Maine		Vermont Gas Systems	
	Offered		Offered		Offered		Offered	
	From:	To:	From:	To:	From:	To:	From:	To:
<b>Space Heating</b>								
HE Furnace								
Programmable Thermostat								
Attic Insulation								
Wall Insulation								
Windows								
Reflector Panels								
<b>Water Heating</b>								
HE Water Heater								
Faucet Aerator								
Low-flow Showerhead								
Pipe Insulation								
Drain Water Heat Recovery								
Temperature Turn Down								
Direct Vent Boilers								
Combination Units								





14. Reference: Exhibit L.EGD.GEC.2, Page 12, Table 5.

Request:

- a. Please confirm whether this table lists incremental or total achievable savings.
- b. Please provide the sources, assumptions and calculations used to calculate the peak hour savings.

15. Reference: Exhibit L.EGD.GEC.2, Page 11, par 1

Preamble:

Exhibit L.EGD.GEC.2, Page 11, par 1

*"For comparison purposes, in its 2008 Update of natural gas efficiency potential in the Enbridge service territory, Marbek projected that after 10 years Enbridge could cost-effectively save 5.0% of its residential load under a \$20 million annual DSM budget scenario, 5.7% under a \$40 million annual DSM budget scenario and 7.5% under a scenario in which budgets were constrained only by whether the savings targeted were cost-effective."*

Request:

- a. Please confirm that the Marbek Study residential potential cited is based on the list of measures on page 30 of the Marbek report.
- b. Please confirm that only some of the measures would be considered as typical measures in a home retrofit program.
- c. Please describe the cost effectiveness test which was used by the Marbek study.
- d. Please provide the definition of that cost-effective test and its components as stated in the study report.
- e. Does the cost-effective test used include all the utility's DSM program costs?
- f. Does it include the cost of incentives provided to program participants?

16. Reference: Exhibit L.EGD.GEC.2, Page 13, par 2

Preamble:

Exhibit L.EGD.GEC.2

*“The principal difference between the expanded portfolio and the Company’s current portfolio is that the Company would need to achieve much greater market penetrations of the measures it is currently promoting.”*

Request:

- a. If DSM were used to defer capital investment required to meet growth and/or system reliability needs, what level of certainty would be required of the DSM results?
- b. Would current practices regarding DSM evaluation and audit need to change? Please explain.
- c. Please describe any additional provisions for certainty of DSM results which would be required.

17. Reference: Exhibit L.EGD.GEC.2, Page 13, paragraph 2.

Preamble:

Exhibit L.EGD.GEC.2, Page 13, paragraph 2 states:

*“In general, that combination of strategies would lead to greater levels of DSM spending.”*

Additional Preamble:

Community Energy Retrofit (CER) is a new program introduced in 2012 by Enbridge for the Residential market. It is described in EB-2011-0295 DSM Plan submission to the Board. The 2012 results from the Community Energy Retrofit program show the following:

- o Total program cost - \$817,000
- o Total annual m3 savings – 225,000
- o Average incentive cost/m3 - \$3.63
- o Average TRC – 0.6

Request:

- a) Please confirm that GEC was involved in the discussions leading to development of the CER program.
- b) Please confirm that the terms of the program require that, in order to be eligible for the incentive, the participants: 1) implement at least 2 major measures, 2) achieve at least a 25% reduction in gas consumption.
- c) Using the information from Table 5 on page 12 and the CER results above, please estimate the annual cost of incremental DSM from an accelerated home retrofit program in 2014, 2015, and 2016.

18. Reference: Exhibit L.EGD.GEC.2, Page 14, paragraph 1.

Preamble:

Exhibit L.EGD.GEC.2, Page 14, paragraph 1 states:

*“However, given the cost-effectiveness of Enbridge’s current DSM portfolio, we would be surprised if the net economic benefits of the significant DSM expansion we have suggested were not at least \$1 billion over the next 12 years.”*

Request:

- a) Please clarify which cost-effectiveness test is referred to. Is it the Program Administrator test, the Ratepayer Impact test, or the Total Resource Cost test?
- b) Please describe the cost and benefit components evaluated in the test used.
- c) Does the test referred to compare the utility’s DSM program costs with the deferred cost of capital investment?
- d) Based on the cost effectiveness of the CER program shown in #14, please identify the impact on cost effectiveness.

Enbridge Gas Distribution Inc.  
Interrogatories for City of Markham

1. Reference: Exhibit L.EGD.COM.1 and Exhibit L.EGD.COM.2

- a) Please confirm that Enbridge has had on-going consultation with regards to GTA Project pipeline route and facility location with the City of Markham since December 13, 2011.
- b) Please confirm that the drawings provided in the City of Markham's June 28, 2013 evidence (Figures 1 to 4) were not previously provided to Enbridge.
- c) Please confirm the City of Markham is willing to work with Enbridge to develop a mutually beneficial plan to accommodate Enbridge and the development's needs.

2. Reference: Exhibit L.EGD.COM.1, Page 1.

Preamble:

At the April 5, 2013 meeting at the City of Markham, in attendance were representatives from Enbridge, the City of Markham, Condor Developments, Angus Glen Developments and Schaeffer & Associates. It was recognized that there is a need for the GTA Project pipeline but there were concerns related to the proposed alignment in the South Boulevard. As noted in the meeting minutes, commitments were made to provide conceptual profiles of the South Boulevard to Enbridge for review by April 22, 2013.

No documents were provided until June 28, 2013 in Exhibit L.EGB. MG.1 Appendix C as part of the regulatory proceeding.

Further, at the April 5, 2013, Enbridge indicated "There are no development setbacks associated with the pipeline, except some restrictions in the easement itself (6m wide). Enbridge can provide comment/propose mitigation to reduce potential constraints once development plans are reviewed."

Request:

- a. Please confirm City of Markham's attendance at the April 5, 2013 meeting.
- b. Please confirm the following action items were included in the minutes at the April 5, 2013 meeting:
  - *Alan Brown will send out potential dates for another meeting with Enbridge, the developers and their consultants in 1 month.*

- *Condor and Angus Glen to provide Enbridge and City of Markham more details on the proposed development including preliminary grading profiles.*
  - *Condor and Angus Glen to provide Enbridge and City of Markham conceptual profiles of South Blvd to Enbridge.*
    - i. Did City of Markham arrange subsequent follow up meetings with Enbridge and the developers? If not, why not?
    - ii. When were the plans and cross sections contained in the City of Markham's evidence (Figures 1 to 4) provided to the City of Markham?
    - iii. Was an independent City of Markham review of the cross sections provided by Schaeffer & Associates undertaken? If yes, by whom?
    - iv. Were alternative cross sections provided for review? If so, by whom?
    - v. What was the timeframe for review and comment?
    - vi. Why were the drawings not forwarded to Enbridge at the same time for review and comment?
  - c. City of Markham states: *"The data contained in the technical drawings confirms the position of the City of Markham that there is a lack of sufficient physical space in the Langstaff ROW area for the proposed EGD gas main pipeline."*
    - i. When did the City of Markham first identify there was insufficient space in the south boulevard for the GTA pipe?
    - ii. Please provide the rationale for this conclusion.
    - iii. Did the City of Markham advise Enbridge during previous consultation of their position as stated above at (c)?
  - d. Please provide minutes of meetings, relevant correspondence, drawings and presentations pertaining to south collector road ROW development plans and profiles since April 5, 2013 between Markham Gateway (and its consultants), City of Markham and all other stakeholders.
3. Reference: Exhibit L.EGD.COM.1, Page 1.

Preamble:

Exhibit L.EGD.COM.1, Page 1 states:

*"The technical drawings represent one plan view and three cross-sections of the Langstaff Right-of-way ("ROW") design for the Langstaff Gateway development. The data contained in the technical drawings confirms the position of the City of Markham that there is a lack of sufficient physical*

*space in the Langstaff ROW area for the proposed EGD gas main pipeline.”*

Request:

- a. The technical drawings attached to the statement and referenced throughout refer only to lands west of the CN Rail Corridor. Please confirm the City of Markham has no objection with the GTA Project routing from CN Rail Corridor to Bayview Ave.
4. Reference: Exhibit L.EGD.COM.1, Page 2.

Preamble:

Exhibit L.EGD.COM.1, Page 2 states:

*“The cross-sections attached hereto show that the entire right-of-way is filled with infrastructure necessary for the Langstaff Gateway development, specifically:*

- ☐ *garbage collector pipes*
- ☐ *Markham District Energy piping*
- ☐ *sanitary sewers*
- ☐ *sanitary forcemain*
- ☐ *storm sewers*
- ☐ *underground utilities*
- ☐ *planting requirements for streetscape improvements*
- ☐ *several levels of underground parking structures*
- ☐ *personal rapid train underground service”*

The underground parking structures, pedestrian underpass and the personal rapid train (“PRT”) were not identified or discussed at the April 5, 2013 meeting with Enbridge, the City of Markham and the Langstaff Developers, nor in any subsequent emails, phone calls, or correspondence.

Request:

- a. When were each of these features (underground parking structures, pedestrian underpass and the PRT) introduced into the proposed development?
  - i. Which of these features were included in the development and approval of the Secondary Plan for this development? If not, please explain.

- b. As stated in Exhibit L.EGD.COM.1 Page 2, “The cross-sections attached hereto show that the entire right-of-way is filled with infrastructure necessary for the Langstaff Gateway development...”
    - i. Define the criteria used to identify “necessary” items.
    - ii. Why were some of these items not identified in the originally approved Secondary Plan?
    - iii. Is an amendment required for inclusion of additional “necessary” items in the Secondary Plan? If yes, what is the process? What are the timelines for review, consultation and approval?
    - iv. Would a Municipal Class Environmental Assessment (MCEA) be required for these changes?
  - c. As illustrated in Figure 2 – Section 1 referencing pneumatic garbage collection system, please provide the process of approval and current status.
  - d. As illustrated in Figure 2 – Section 1:
    - i. How does the proposed cross section address the existing York Region waste water infrastructure?
5. Reference: Exhibit L.EGD.COM.1 , Page 3, Figure 2 – Section 1:

Preamble:

Exhibit L.EGD.COM.1 Page 3 states the following regarding Figure 2 – Section 1:

*“It should be noted that this proposed cross-section produced by the Consultants is only at the conceptual stage and has not yet been officially submitted for formal review and approval by the City’s Development Engineering or Planning and Urban Design Departments.”*

Request:

- a. Please provide the proposed timeline for official submission and review.
  - b. What does the review process involve with respect to schedule and circulation for review by utilities and other stakeholders?
6. Reference: Exhibit L.EGD.COM.1, Page 3, Figure 2 – Section 1.

Preamble:

Exhibit L.EGD.COM.1 Page 3 states the following regarding Figure 2 – Section 1:

*“The cross-section, as it is being proposed, does not contain any additional space to be able to accommodate Enbridge’s proposed GTA pipeline within a*



*reasonable depth and with the expected space allocation for setbacks to ensure safety and room for future maintenance.*

Request:

- a. Please state the assumptions used and the information that was reviewed to come to the above stated conclusion.
  - b. What setback considerations were used? Please provide individual setback requirements for all infrastructure.
  - c. What is considered a reasonable depth?
  - d. Please provide the requirements that were reviewed to identify what was needed for “safety and room for future maintenance”.
7. Reference: Exhibit L.EGD.COM.1, Page 3, Figure 2 –Section 1.

Preamble:

Exhibit L.EGD.COM.1 Page 3 states the following regarding Figure 2 – Section 1:

*“Any other configuration of the underground elements in this cross-section would very likely result in the same conclusion.”*

Request:

- a. Please state the assumptions used and provide the information reviewed to come to the above stated conclusion.
  - b. Were other configurations reviewed? If yes, when were they available.
  - c. Can the proposed local sanitary/storm sewer be located elsewhere (i.e. further north)? If no, please explain.
  - d. Please provide the standards used to determine the separation distance between the sanitary and storm sewer.
8. Reference: Exhibit L.EGD.COM.1 Pages 3 and 4, Figure 3 – Section 2.

Preamble:

Exhibit L.EGD.COM.1 Page 3 states the following regarding Figure 2 – Section 1:

*“The cross-section, as it is being proposed, does not contain any additional space to be able to accommodate Enbridge’s proposed GTA pipeline within a reasonable depth and with the expected space allocation for setbacks to ensure safety and room for future maintenance.”*

Request:

- a. Please state the assumptions used and provide the information reviewed to come to the above stated conclusion.
  - b. What setback guidelines are referred to by the City of Markham in the reference above?
  - c. Please provide the City of Markham's setback requirements for all infrastructure identified.
  - d. What is considered a reasonable depth?
  - e. Please detail the "safety and room requirements for future maintenance" that were used.
9. Reference: Exhibit L.EGD.COM.1 pages 3 and 4.

Preamble:

Page 3 notes that Figure 2 – Section 1 *"appears to include all of the developer's requirements while meeting the City's typical requirements and specifications"*.

Page 3 notes that Figure 3 – Section 2 *"reflects the developer's needs" and "appears to provide a realistic scenario of the City's requirements and specifications"*.

Page 4 does not make mention of the developer's requirements or needs regarding Figure 4 – Section 3, and notes that *"the City cannot comment any further on this design as the standards and specifications for Go Train facilities are neither developed nor administered by the City"*.

Request:

- a. Please explain the difference in the above statements for Figure 2 – Section 1, Figure 3 – Section 2, and Figure 4 – Section 3.
10. Reference: Exhibit L.EGD.COM.1 Figure 2 – Section 1.

Request:

- a. Figure 2 – Section 1 identifies underground parking structures as 2 levels. However, on the approved municipal plan, the underground parking structure is identified as multiple (greater than 2) levels. Has this change been reviewed with utilities?

11. Reference: Exhibit L.EGD.COM.1, Figure 3 – Section 2.

Preamble:

York Region is currently undertaking a capacity analysis for sanitary and water infrastructure. Any water or sanitary construction in York Region will be based on the infrastructure requirements and the proposed development phasing plan. If additional capacity is determined to be required, York Region has indicated they would complete an Environmental Assessment and routing analysis. Enbridge is not aware that York Region has completed its assessment.

Request:

- a. Please confirm that York Region has requested that the City of Markham include a local sanitary sewer, a 550mm sanitary sewer and a 750mm sanitary force main as identified in Figure 3 – Section 2.

12. Reference: Exhibit L.EGD.COM.1, Page 4, Figure 4 – Section 3.

Preamble:

Exhibit L.EGD.COM.1 Page 4 states the following regarding Figure 4 – Section 3:

*“The cover depth between the top of the tunnel and the proposed grade level on the surface above is being shown on the drawing as being 2.5 metres.”*

Request:

- a. What specifications, guidelines, or building codes prevent a greater depth of cover?
- b. What specifications, guidelines, or building codes would prevent Enbridge’s pipeline from being located below the tunnel?

13. Reference: Exhibit L.EGD.COM.1, Page 1.

Preamble:

Exhibit L.EGD.COM.1, Page 1 states: “Curriculum Vitae of Rachel Prudhomme...”

Request:

- a. Please confirm whether the CV provided is for Rachel Prudhomme or Alan Brown.

14. Reference: Exhibit L.EGD.COM.2, Page 2.

Preamble:

Exhibit L.EGD.COM.2, Page 2 - Statement of Support states:

*“The introduction of the proposed EGD gas pipeline through the Langstaff area would have a major and detrimental impact on the entire project plan. As the following indicates, each aspect of the plan is integrated and inter-connected and any fundamental changes would negatively affect, possibly even terminate, the entire plan.”*

Request:

- a. Please provide the analysis that was completed that identifies the detrimental impacts on the project plan with the introduction of the proposed gas pipeline.
  - i. Please provide a list of “detrimental impacts”.
- b. Define what is meant by “fundamental changes”.
- c. As referenced in the Official Plan for the City of Markham, the Growth Centre was approved by the Region of York through amendments 183 and 184. Those approved plans did not include consideration of garbage disposal collection piping, personal rapid train (“PRT”), underground pedestrian passageway and underground parking within the ROW.
  - i. Has an amendment been completed for the secondary plans? Please provide the documentation substantiating stakeholder consultation and approval to incorporate garbage disposal collection piping, PRT, underground pedestrian passageway and underground parking within the ROW.
  - ii. If the above has not occurred, when will the amendment be carried out?
- d. As part of the “integrated and inter-connected” plan, were all the utilities required to service this development included and consulted?
  - i. If yes, please provide documentation to support the above.

15. Reference: Exhibit L.EGD.COM.2 Page 4 - Markham Official Plan and Langstaff Secondary Plan section.

Preamble:

Exhibit L.EGD.COM.2 Page 4 - Markham Official Plan and Langstaff Secondary Plan section includes the following statement:

*"From a servicing standpoint, the YROP promotes a "conservation first" approach to servicing which aims to maximize the use of existing infrastructure while strategically leveraging future infrastructure investments."*

Request:

- a. The GTA Project is proposed to address growth and to provide continued system reliability and access to diversified natural gas supply sources. In Mr. Blake's experience as a planner, does the proposed Enbridge GTA infrastructure support the YROP?

16. Reference: Exhibit L.EGDI.COM.2, Page 5 - Markham Official Plan and Langstaff Secondary Plan.

Preamble:

Exhibit L.EGDI.COM.2, Page 5 - Markham Official Plan and Langstaff Secondary Plan section includes the following statement:

*"Provides for public and private utilities for development to be planned and constructed in a coordinated manner, to the greatest extent possible"*

Request:

- a. Has the City of Markham coordinated with public and private utilities during the planning of the development?

17. Reference: Exhibit L.EGD.COM.2 Page 5

Preamble:

Exhibit L.EGD.COM.2 Page 5 states:

*"Promoting shared rights of way for utility infrastructure to minimize land requirements and increase the efficiency of utility construction and maintenance; and To coordinate the provision of services and to encourage the integration of utilities."*

Request:

- a. Does “shared rights of way for utility infrastructure” include Enbridge?

18. Reference: Exhibit L.EGD.COM.2

Preamble:

Exhibit L.EGD.COM.1 provided Figures illustrating the current proposed development layout, with infrastructure plans that are not presented in the approved secondary plan.

Request:

- a. The approved secondary plan did not include the proposed PRT, underground pedestrian passageway, and underground parking structure expansion under the ROW. When were these changes made?
- b. Please provide the rationale for the changes and/or introduction in infrastructure noted in (a) above and how they meet the planning references provided in Mr. Blake’s evidence.
- c. Please justify why the changes and/or introductions for the future infrastructure noted in (a) above precludes the siting of the proposed GTA Project pipeline.

19. Reference: Exhibit L.EGDI.COM.2 Page 4.

Preamble:

Exhibit L.EGDI.COM.2 Page 4 states the following:

*“Trip reduction including the efficient use of existing and future transportation infrastructure through the use of Transportation Demand Management Strategies; active transportation strategies; transit-supportive development patterns that focus the highest densities and greatest mix of uses in compact intensification areas (like Langstaff Centre) that are or will be served by the highest order and range of transit infrastructure (subway, GO Transit, 407 Transit Way) and require buildings to be pedestrian-oriented and directly address the street;”*

Request:

- a. Is the proposed development plan based on York Region guidelines for efficient placement of transportation infrastructure? Please explain.
- b. According to the above statement supporting transportation infrastructure, would City of Markham agree that the Transportation Demand Management Strategies present restrictions to Enbridge's proposed GTA pipeline being constructed in the Parkway Belt corridor?

20. Reference: Exhibit L.EGDI.COM.2, Page 5 - Markham Official Plan and Langstaff Secondary Plan section.

Request:

- a. Please confirm the date when the Langstaff Gateway Secondary Plan was approved by City council.

21. Reference: Exhibit L.EGDI.COM.2, Pages 6 and 7.

Preamble:

Exhibit L.EGDI.COM.2, Pages 6 and 7 Conclusion section includes the following statements:

*"The introduction of the proposed EGDI gas pipeline through the Langstaff Gateway area would have a major and detrimental impact on the planned development project."*

*"Furthermore, both the YROP and Langstaff Gateway Secondary Plan require a highly coordinated approach to transportation, utility and infrastructure planning, environmental planning and land use and urban design, which strongly discourages fragmented approaches to utility planning and focuses on shared utility trenches, comprehensive utility plans and a strong integration between the planning for services and utilities and the planning of the overall community."*

Request:

- a. Define what "major and detrimental impact" the GTA Project would have on the planned development project.
- b. Provide a list of the detrimental impacts and how they were assessed.

Enbridge Gas Distribution Inc.  
Interrogatories for Markham Gateway

1. Reference: Exhibit L. EGD.MG.1, Page 1, paragraph 3.

Request:

- a. Please confirm that the review and Markham Gateway's evidence pertain to the Langstaff Gateway west of the CN Railway and does not include lands east of the CN Railway.
- b. Provide a detailed map identifying the areas referenced in Markham Gateway's evidence, including the "Richmond Hill/Langstaff Gateway Urban Growth Centre", the "company's lands" as well as the "Markham portion".

2. Reference: Exhibit L. EGD.MG.1, Page 2, paragraph 5.

Request:

- a. Please provide a map of the Richmond Hill/Langstaff Gateway Urban Growth Centre and identify the geographic limits of Markham Gateway's involvement.

3. Reference: Exhibit L. EGD.MG.1, Page 2, paragraph 6.

Preamble:

Page 1, paragraph 4 indicated that the lands and the Growth Centre were approved by the Region of York through amendments 183 and 184 to the Official Plan for the City of Markham. Those approved plans did not include consideration of garbage disposal collection piping, personal rapid train ("PRT"), underground pedestrian passageway and underground parking within the ROW.

Request:

- a. Has Markham Gateway completed an amendment for the secondary plans? Please provide the documentation substantiating stakeholder consultation and approval to incorporate garbage disposal collection piping, PRT, underground pedestrian passageway and underground parking within the ROW.
- b. If the above has not occurred, when will the amendment be carried out?



4. Reference: Exhibit L.EGD.MG.1, Page 2, paragraph 6.

Request:

- a. The original 30m ROW was planned to include local underground services.  
Please compare the services identified in the original plan with the one submitted in Markham Gateway's evidence and list all incremental infrastructure.

5. Reference: Exhibit L. EGD.MG.1, Page 3, paragraph 10.

Preamble:

Exhibit L.EGD.MG.1, Page 3, paragraph 10 states:

*"The types and extent of services which will be required in the 30 m ROW are not typical of any other roadway in Markham, the Region of York or the Greater Toronto Area. The services are far more space intensive owing to the high density development approved for the Growth Centre."*

Request:

- a. When the requirement for utilities and structures within the ROW exceeds the expectation of the original design, is it standard practice to revisit the allocated width of the ROW?
6. Reference: Exhibit L.EGD.MG.1, Page 2, paragraph 7 (Langstaff Land Use & Built Form Master Plan - Appendix B, Street Sections – Circulation & Transit, page 83)

Request:

- a. Please confirm the City of Markham/York Region approved "Langstaff Land Use & Built Form Master Plan" as illustrated on pg. 83 does not show any requirement for the PRT, underground pedestrian passageway and underground parking to extend under the road.
7. Reference: Exhibit L.EGD.MG.1, Page 2, paragraph 7 (Langstaff Land Use & Built Form Master Plan (Appendix B, Street Sections – Circulation & Transit, page 85)

Request:

- a. Cross section over the CN tracks as illustrated on pg. 85 is part of the approved "Langstaff Land Use & Built Form Master Plan" and does not show an arched

concrete structure over the CN tracks. Please provide justification for changing the design to the new structure.

- b. Please confirm that Metrolinx has been consulted. If yes, please provide a copy of the consultation record.

8. Reference: Parks & Open Spaces section of the Langstaff Land Use & Built Form Master Plan

Request:

- a. The plan identifies the south side of the 30m ROW as south linear greenway having multi use creating a pedestrian and cycle supportive neighbourhood also acting as a landscape buffer for neighbouring land uses (Holy Cross cemetery). Does placement of the PRT override this identified requirement? If yes, what is the justification for overriding this?
- b. For all changes/deviations from the approved plan, has there been public consultation?
- c. Please confirm who has been consulted on the identified changes to the approved secondary plan.
- d. What is the process for changes to the master plan?
- e. Have any of those been reviewed/approved following the approved process? If not, what is the timeline/schedule to complete? If yes, please provide documentation.

9. Reference: Exhibit L.EGD.MG.1, Page 14 - Figure 3, Section 2.

Request:

- a. The retaining wall is located above the PRT structure. Please identify the engineering requirements that were considered with respect to loading and vibration.
- b. Please provide details of the proposed retaining wall.
- c. Please justify the current location of the PRT. Identify all other locations that were considered along with the reasons for rejection.

10. Reference: Exhibit L.EGD.MG.1, Page 2, paragraph 8, and Page 3, paragraphs 9 and 11.

Preamble:

At the April 5, 2013 meeting at the City of Markham, in attendance were representatives from Enbridge, the City of Markham, Condor Developments, Angus

Glen Developments and Shaeffer & Associates. It was recognized that there is a need for the GTA Project pipeline but there were concerns related to the proposed alignment in the South Boulevard. As noted in the meeting minutes, commitments were made to provide conceptual profiles of the South Boulevard to Enbridge for review by April 22, 2013. No documents were provided until June 28, 2013 in Exhibit L.EGD.MG.1 Appendix C as part of the regulatory proceeding.

Further, at the April 5, 2013 meeting, Enbridge indicated "There are no development setbacks associated with the pipeline, except some restrictions in the easement itself (6m wide). Enbridge can provide comment/propose mitigation to reduce potential constraints once development plans are reviewed."

Request:

- a. Have the plans and cross sections provided in the evidence been reviewed by engineers with experience in pipeline design and construction?
- b. Has Markham Gateway consulted with Enbridge on limitations and coordination of uses within the 6m easement prior to release of the easement?
- c. Based on review of the South Boulevard cross section by Enbridge, there are opportunities to allow the proposed GTA Project pipeline in the ROW. Is Markham Gateway willing to work with Enbridge to develop a mutually beneficial plan to accommodate Enbridge and the development's needs?
- d. Why were the plans and cross sections not provided to Enbridge and the City in a timely manner to allow Enbridge to comment and propose mitigation with respect to the 6m easement?
- e. Please provide minutes of meetings, relevant correspondence, drawings and presentations pertaining to south collector road ROW development plans and profiles since April 5, 2013 between Markham Gateway (and its consultants), City of Markham and all other stakeholders.

11. Reference: Exhibit L.EGD.MG.1, Page 3, paragraph 10.

Preamble:

All existing City of Markham ROWs are based on current requirements. Paragraph 10 states:

*"The types and extent of services which will be required in the 30 m ROW are not typical of any other roadway in Markham, the Region of York or the Greater Toronto Area. The services are far more space intensive owing to the high density development approved for the Growth Centre."*

Request:

- a. Please provide comparative examples of existing 30m ROW vs. proposed.
- b. Will the new design be required in any other proposed developments that Enbridge should be planning for?
- c. Will this require the City of Markham to develop new cross sections with all stakeholders?
- d. Did Markham Gateway and the City of Markham consider a wider ROW to accommodate the additional space intensive services and structures being proposed? If "no", why not?
- e. What is the process and expected timing for the development and approval of unique ROW cross sections and which stakeholders will be consulted?

12. Reference: Exhibit L.EGD.MG.1, Page 3, paragraph 11.

Request:

- a. Appendix C, Figures 2 & 3 also illustrates extensive parking areas within the Municipal ROW. Please provide the rationale for introducing parking structures within the ROW since the April 5, 2013 meeting.

13. Reference: Exhibit L.EGD.MG.1, Page 3, paragraph 12.

Preamble:

Enbridge proposes the following correction to the evidence. Enbridge did not 'reject' the location for the pipeline easement on the Parkway Belt utility corridor to the north of Hwy 407. Enbridge reviewed the lands within the Parkway Belt north of the Hwy 407 with respect to availability, and constructability and determined that due to existing development and structures, Transitway and MTO setbacks and Viva expansion, routing through this area was not feasible. This information was also provided at the April 5, 2013 meeting, an email response dated April 26, 2013 (Enbridge Correspondence Table found at Exhibit B, Tab 2, Schedule 1 – Attachment 5, Page 68, Line 14. ), and at the June 12-13, 2013 Technical Conference.

Request:

- a. Has Markham Gateway reviewed Enbridge's list of route constraints that was provided April 26, 2013 and in the above noted evidence? Has feedback been provided to Enbridge on the list of route constraints?