

April 8, 2016

BY COURIER & RESS

Ms. Kirsten Walli  
Board Secretary  
Ontario Energy Board  
Suite 2700, 2300 Yonge Street  
Toronto, Ontario  
M4P 1E4

**RE: EB-2016-0004 – Union Gas Limited (“Union”) – Natural Gas Expansion Generic Proceeding – Interrogatories on Intervenor Evidence**

Dear Ms. Walli,

Please find attached interrogatories on behalf of Union Gas Limited on the evidence prepared by the Canadian Propane Association, EPCOR Utilities Inc., Northwestern Ontario Associated Chambers of Commerce Coalition, Northeast Midstream LP, Ontario Geothermal Association, Southern Bruce Municipalities and, the Advancing Northwestern Economic Development Through Energy Competitiveness Group.

If you have any questions with respect to this submission please contact me at 519-436-5476.

Yours truly,

*[original signed by]*

Chris Ripley  
Manager, Regulatory Applications

Encl.

cc: Charles Keizer, Torys  
All Intervenors (EB-2016-0004)

**UNION GAS LIMITED**  
**INTERROGATORIES TO ADVANCING NORTHWESTERN ECONOMIC DEVELOPMENT THROUGH**  
**ENERGY COMPETITIVENESS GROUP (“ANEDTEC”)**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Question:*

- a) Is ANEDTEC aware of any communities which it represents that have committed to Franchise Agreements to permit the distribution of natural gas? If so, please provide copies of these Agreements.
- b) If yes, please provide any tariff or rate information provided to these customers.

**UNION GAS LIMITED**  
**INTERROGATORIES ON EVIDENCE PREPARED BY THE CANADIAN PROPANE ASSOCIATION**  
**("CPA")**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* Paragraph 3 of the evidence (p.8) states that EPCOR is a new entrant to the Ontario natural gas distribution market, however, its proposal for natural gas distribution does not require any subsidy from existing customers of other utilities.

*Question:*

- a) Please provide specific references confirming that the EPCOR proposal for South Bruce Municipalities does not require any subsidy.
- b) Do any of the various references listed indicate that EPCOR is pursuing provincial support to assist customers in making the conversion to natural gas?

2. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9 (Impact of Natural Gas Distribution Systems Expansion in Ontario prepared by Gas Processing Management Inc.), it states on p.8 that, "*There is no public reporting of residential propane process. However, in spite of the lack of price transparency, the market can be considered to be efficient because residential customers can easily change suppliers. This forces the distributors to compete on a variety of levels by providing different service plans, price and term incentives, etc. Many residential fuel customers prefer this more flexible type of market as opposed to the 'one-size-fits-all' big utility cost-of-service approach for natural gas and electricity.*"

*Question:*

- (a) Please indicate what fees a customer would face if exercising their option to obtain propane from an alternative competitive retail source and under what conditions those fees would be imposed.
- (b) Please provide common minimum contract terms that would enable a customer to switch to an alternate supplier without facing any fees or penalties.
- (c) Please provide the basis for the statement "*Many customers prefer this more flexible type of market ...*" and provide any related customer surveys that support this statement.

3. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9, p.9 of the evidence, Figure 1 shows the estimated annual cost of energy.

*Question:*

- (a) Please provide the underlying data for the retail propane prices in each year plotted, including the following:
  - i. Sources for retail propane prices provided by CPA members.
  - ii. Geographic distribution area for each retail propane price factored into the costs reflected in the Figure.
  - iii. The date upon which the prices underlying the above costs were in effect.
- (b) Please provide a summary of any contractual commitments required of customers in order to obtain propane at the retail propane costs indicated in the Figure. For example, is there a rental fee on the storage tank, or a minimum volume or supply term commitment required from the customer in order to obtain propane at the prices reflected in the Figure?
- (c) Please confirm that the natural gas costs reflected in the Figure are average Ontario Union Gas costs based on a weighted average for southern and northern Ontario at weights of 75% and 25%, respectively, as provided to CPA in EB-2015-0179 Exhibit B.CPA.1.
- (d) Please indicate whether the residential propane costs on the Figure reflect a similar weighting to that noted in part c) above. If not, please indicate how southern and northern Ontario retail propane costs have been weighted in the data, or whether a more appropriate comparison to natural gas costs would be the individual costs for southern or northern Ontario as provided to CPA in EB-2015-0179 Exhibit B.CPA.1.
- (e) Please provide an opinion on the reason that the separation of auto propane prices from residential propane prices in the data represented by the Figure in 2012, 2013 and 2015 is not evident in 2014.
- (f) Please provide an opinion on the reason for the significant escalation in residential propane prices evident in 2014.
- (g) Please indicate if there has been any history of propane supply limitations in Ontario through the period from 2012 to 2015.
- (h) Please confirm whether Ontario Energy Board approved price adjustments for Union Gas customers for the period after EB-2015-0179 was filed have been reflected in the data.

4. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9, p.10 of the evidence, Figure 2 shows the cumulative residential energy costs.

*Question:*

- (a) Please confirm that the natural gas cumulative costs assume a need for replacement of the furnace at a cost of \$4,000, and an up-front Aid-to-Construction cost of \$2,500, all incurred in the first year.
- (b) Please confirm that most propane furnaces can be converted to natural gas at a significantly lower cost than the cost of furnace replacement.

5. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9, p.10 of the evidence it states, “... an expectation of relatively low propane and furnace oil prices for the foreseeable future,...” It goes on to state, “Propane and natural gas prices have both fallen in recent years but in relative terms, propane has fallen more than natural gas. In the current low price environment, consumers should expect the current fuel cost differential to be more representative of the foreseeable future.”

*Question:*

- (a) Please provide the source of data underlying these statements, and indicate what time horizon the term “foreseeable future” represents.
- (b) Please reconcile the indication that the current cost differential will be representative of the future with the U.S. Energy Information Administration (EIA) forecast provided in EB-2015-0179 at Exhibit B.Energy Probe.5, which indicates the price of residential propane will increase from approximately \$19 USD/MMbtu in 2015 to \$24 USD/MMbtu in 2025 (a 26% increase).

6. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9, p.11 of the evidence, Figure 3 illustrates a propane/gas price ratio.

*Question:*

- a) Please provide the price data for each year that underlies the values indicated in the Figure.
- b) Please provide the source for Sarnia wholesale prices for each period, and the timing that the price was in effect.
- c) Please provide the spreadsheet model (live) used to produce this Figure.
- d) Please confirm that the values for both propane and natural gas are derived on an equal (energy equivalent) basis, and include wholesale or commodity costs only.
- e) Please produce the same Figure (Figure 3) using the annual average residential propane, auto propane and natural gas cost data underlying Figure 1 (Estimated Annual Cost of Energy) on p.9 of the evidence.

7. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At Exhibit 9, Tab 9, p.18-19 of the evidence, it refers to Green House Gas (GHG) Emissions.

*Question:*

- a) Please provide a copy of the referenced Propane Education and Research Council (PERC) report.

**UNION GAS LIMITED**  
**INTERROGATORIES ON EVIDENCE PREPARED BY EPCOR UTILITIES INC.**

1. *Reference:* EB-2016-0004 – EPCOR Utilities / Adonis Yatchew Evidence

*Preamble:* The evidence filed by EPCOR Utilities (dated March 21, 2016) was prepared by Adonis Yatchew of Charles River Associates and the University of Toronto.

*Question:*

- a) Please confirm that EPCOR adopts the evidence prepared and filed by Adonis Yatchew as its own?
- b) Please provide copies of all contract and retainer details related to the services provided by Mr. Yatchew.

2. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* Paragraph 16 of each of the referenced Applications refers to recently signed Franchise Agreements between Bruce County municipalities and EPCOR.

*Question:*

Please provide copies of the applications filed by EPCOR Southern Bruce Gas Inc. with the Ontario Energy Board under docket numbers EB-2016-0137, EB-2016-0138 and EB-2016-0139.

3. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* Paragraph 16(a) of each of the referenced Applications states that Section 4 of Part II of the proposed Franchise Agreement contains termination provisions.

*Question:*

- (a) Please confirm EPCOR Utilities' understanding that the current Model Franchise Agreement resulted from agreements among stakeholders participating in the Ontario Energy Board's RP-1999-0048 proceeding.
- (b) Please confirm that EPCOR Utilities is requesting that paragraph 4(a) and (b) of the Model Franchise Agreement approved by the Ontario Energy Board be replaced by paragraphs 4(a), (c), (d), (e), (f), (g), (h) and (i) of the proposed franchise agreements with each of the South Bruce Municipalities.

- (c) Please provide all correspondence between EPCOR Utilities and the Province of Ontario regarding the Natural Gas Access Loans and the Natural Gas Economic Development Grants.

4. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* Paragraph 16(c) of each of the referenced Applications states that Section 6 of Part III of the proposed Franchise Agreements provides for a rebate of each of the Municipality's portion of any property or similar taxes payable by EPCOR pursuant to the *Ontario Assessment Act* for the first 10 years of operation of the proposed gas distribution systems.

*Question:*

- (a) Please provide an estimate of the rebate that EPCOR Utilities expects to receive in each of the first 10 years of operation of the proposed gas distribution systems in each of Arran-Elderslie, Kincardine and Huron-Kinloss. Please provide all associated calculations.
- (b) Please provide details of any other natural gas distributor in Ontario that currently receives rebates of taxes payable to a municipality.

5. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* Paragraph 26 of the EB-2016-0137 Application and Paragraph 23 of both of the EB-2016-0138 and EB-2016-0139 Applications states that EPCOR has committed over \$2 million to date on external experts that have assisted in pipeline development activities including design, routing, stakeholder engagement, and gas supply and demand analysis for EPCOR's proposed franchise areas; modeled preliminary tariffs based on costing to date and designed to encourage customer conversion; and made substantial progress on the regulatory work necessary to become the natural gas supplier in Arran-Elderslie and the other proposed franchise areas.

*Question:*

- (a) Please provide details of the gas supply and demand analyses for each of EPCOR's proposed franchise areas.
- (b) Please provide details of the preliminary tariffs and costs to be recovered in each of the proposed franchise areas.



6. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* Paragraph 29 of the EB-2016-0137 Application and Paragraph 26 of both of the EB-2016-0138 and EB-2016-0139 Applications states that EPCOR has consulted with every potential major customer in the proposed franchise areas, held three open houses and consulted with many potential residential and commercial customers.

*Question:*

- (a) Please provide details of customers that have been consulted in each municipality and the materials provided to these potential customers.
- (b) Please provide any correspondence exchanged with these potential customers and any comments / questions received during consultations.
- (c) Please provide any tariff or rate information provided to these customers.

7. *Reference:* EB-2016-0137 – Arran-Elderslie Franchise Agreement and CPCN  
EB-2016-0138 – Kincardine Franchise Agreement and CPCN  
EB-2016-0139 – Huron-Kinloss Franchise Agreement and CPCN

*Preamble:* In Schedule A to the Assignment and Assumption Agreements in each of the Applications, EPCOR refers to a letter agreement dated February 19, 2016 to EPCOR Utilities Inc. from the municipalities and a letter dated February 22, 2016 from EPCOR Utilities Inc. re: Irrevocable Option offered to the municipalities.

*Question:*

- (a) Please provide copies of the referenced letter agreement and irrevocable option letter.

8. *Reference:* EB-2016-0004 – EPCOR Utilities / Adonis Yatchew Evidence

*Preamble:* Paragraph 18 of the evidence states that the recently signed franchise agreements between two municipalities and a township in Bruce County, and EPCOR provides a clear indication of the feasibility of competition in Ontario.

*Question:*

- (a) Please provide copies of any customer rate information provided by EPCOR to the South Bruce municipalities for their evaluation of RFI respondents.
- (b) Please provide the projected revenue requirement in absence of government funding expected by EPCOR from the project to extend service to the South Bruce municipalities.

- (c) Please provide copies of all reports and business case analyses that were provided to the South Bruce municipalities which were used to support the approval provided to EPCOR Utilities.

**UNION GAS LIMITED**

**INTERROGATORIES ON EVIDENCE PREPARED BY THE NORTHWESTERN ONTARIO ASSOCIATED  
CHAMBERS OF COMMERCE (“NOACC”) COALITION**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* Section 2 of the evidence (p.2) states the NOACC Coalition represents the interests of the residential and commercial ratepayers, and in the case of communities that do not yet have access to natural gas, prospective future residential and commercial ratepayers, from Kenora and Rainy River located in the west to Marathon in the east.

*Question:*

- a) Is NOACC aware of any communities which it represents that have committed to Franchise Agreements to permit the distribution of natural gas? If so, please provide copies of these Agreements.
- b) If yes, please provide any tariff or rate information provided to these customers.

**UNION GAS LIMITED**

**INTERROGATORIES ON EVIDENCE PREPARED BY NORTHEAST MIDSTREAM (“NORTHEAST”)**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.4 of the evidence (lines 101-104) it states the cost of LNG or CNG facilities “*could be embedded in the cost of gas supplied*”.

*Question:*

- a) Please state as to what extent any incremental LNG or CNG costs for gas supply to community expansion projects should be embedded (and paid for by all ratepayers) rather than being included in the feasibility analysis for each project to which they apply.

2. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Question:*

- (a) Has Northeast entered into any form of Franchise agreement with any community located along the north shore of Lake Superior? If so, please identify the community and provide copies of the signed agreements.
- (b) If yes, please provide any tariff or rate information provided to these communities.

**UNION GAS LIMITED**  
**INTERROGATORIES ON EVIDENCE PREPARED BY THE ONTARIO GEOTHERMAL ASSOCIATION**  
**(“OGA”)**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* In the Executive Summary of the evidence (p.3), it states that geo systems can provide all of the space heating, space cooling, and water heating needs of Ontario buildings at a typical efficiency of “*about 400% for heating and 800% for cooling*”.

*Question:*

- a) Please confirm that this refers to the Coefficient of Performance (COP) for both heating (ie. COP=4.0) and cooling (ie. COP=8.0).
- b) Please provide a reference for commercially available equipment that can achieve the stated COPs.
- c) Please provide the comparable seasonal average COP that could be achieved based on the referenced equipment.

2. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.10 of the evidence, OGA references “*...EER of 27 versus an air conditioner with an EER of 9 ...*”

*Question:*

- (a) Please provide the relevant seasonal energy efficiency ratio (“SEER”) number in this example for the air conditioner with energy efficiency ratio (“EER”) of 9.
- (b) In this example, is the SEER comparable with the highest efficiency air conditioners currently available?
- (c) If not, what is the SEER rating for the highest efficiency air conditioners that are currently commercially available?
- (d) Please reconcile the SEER number provided with the existing National Energy Code of Canada for Buildings 2011 (division B, Table 5.2.12.1) requiring a minimum SEER of 14. Please explain how the example cited is a relevant efficiency comparison.

3. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* In Section 5.2 – Costs (p.23) and Section 8 – Appendix B – Geothermal vs. Natural Gas Conversion (p.32), Union seeks to understand the analysis presented.

*Question:*

- (a) On what basis does OGA assume that the average size of a home is 1,200 to 1,500 square feet? Please provide a reference for this assumption and confirm that it applies to single family detached residential dwellings in Ontario
- (b) Please provide all assumptions and calculations used to determine the values in Table 1 (p.24).
- (c) Please explain how life cycle costs have been converted to annual cost equivalents in Table 1.
- (d) Please provide the breakdown (number and length) of horizontal and vertical ground loops which underlie the estimated “with loop” geothermal costs in Table 1.
- (e) Please confirm that OGA’s Life Cycle Costs in Table 1 and Total Capital Costs shown in Table 2 (p.34) are based only on homes being converted from oil to natural gas, and do not reflect average costs for conversions from other energy forms to natural gas. Please explain why this approach was taken.
- (f) Please provide references that validate the estimated costs for each item in the oil to gas conversion estimates provided in Appendix B.
- (g) Please confirm that cost estimates for conversion from oil to gas assume that 100% of homes will install central air conditioning, and provide any references that validate that assumption.
- (h) Please provide reasons why in cases where a home has a pre-existing central air conditioning system OGA has assumed that the central air conditioning components would never be re-used when a furnace is converted.
- (i) Please indicate whether OGA has double counted any costs for converting to natural gas in the analysis presented in Table 1 by including both the gross capital costs per customer as well as the annual ongoing natural gas costs (which are in part a means to recover the gross capital costs over the economic life of each project).
- (j) Please provide data and references supporting the assumption that the heating load for a home consuming 2,200 m<sup>3</sup> of natural gas per year is equivalent to a peak heating load of 30,000 btu per hour, which in turn is equivalent to a 2.5 ton heating/cooling load.
- (k) Please confirm that geothermal ground loop costs assumed in Table 2 (p.34) include a single horizontal or vertical loop, and that their lengths are estimated at 225 metres (horizontal) or 125 metres (vertical) based on 2.5 tons times the length as specified in Section 2.3 (p.7).
- (l) Please confirm that the loop costs of \$3,750 (horizontal) and \$6,250 (vertical) provided include all installation costs, including labour and commissioning to meet relevant code requirements for a typical single residential geothermal customer in an urban setting. If not, please provide these costs. Please provide references for the figures provided.
- (m) Please provide a reference for the carbon price estimates specified, and provide a comparison to expected carbon prices announced by the Ontario Government.
- (n) On what basis does OGA assume that 25% of geothermal systems can be installed using horizontal loop systems?
- (o) Please explain the extent to which supplemental heating (ie. resistance heating) or cooling equipment or components are installed with geothermal systems in Ontario,

the approximate percentage of geothermal systems they are installed with in Ontario, their incremental cost if installed at the time a geothermal system is installed, and how they have been factored into both the installation costs and annual operating costs in OGA's analysis.

- (p) Please indicate whether the statement; "*In most jurisdictions, it is expected that in the long term the real cost of natural gas will increase at a higher rate than electricity.*" (p.25) is accurate for the Province of Ontario given the electricity price increases forecasted in the provincial Long Term Energy Plan.

4. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* In Section 5.2 – Carbon Emissions (p.25), Union seeks to understand the analysis presented.

*Question:*

- (a) Please provide assumptions and references for the estimated 48,000 tonnes/year of burner tip CO<sub>2</sub> emissions.

**UNION GAS LIMITED**  
**INTERROGATORIES ON EVIDENCE PREPARED BY THE SOUTHERN BRUCE MUNICIPALITIES**  
**("SOUTH BRUCE")**

1. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.2 of the Report prepared by the Municipality of Kincardine, the Municipality of Arran-Elderslie, the Township of Huron-Kinloss & Henley International Inc. (dated March 21, 2016) it notes that “*each of the three Municipalities signed a Franchise Agreement with EPCOR.*”

*Question:*

- a) Please provide copies of the Franchise Agreement each of the municipalities signed and provide a summary of any differences between these Franchise Agreements and the Ontario Energy Board approved Model Franchise Agreement.

2. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.8 of the Report prepared by the Municipality of Kincardine, the Municipality of Arran-Elderslie, the Township of Huron-Kinloss & Henley International Inc. (dated March 21, 2016) it references that the RFI obtained included information from interested parties about their direct experience including “distribution rate design”.

*Question:*

- a) Please provide a summary of the different rate design proposals that were included in the RFIs received by South Bruce.

3. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.10 of the Report prepared by the Municipality of Kincardine, the Municipality of Arran-Elderslie, the Township of Huron-Kinloss & Henley International Inc. (dated March 21, 2016) it cites Customer Rates Estimates under item 4 of the Benefits of the Competitive Solicitation Process.

*Question:*

- a) Please provide the tariff or customer rate information provided to the municipalities by the successful proponent to the RFI process.



4. *Reference:* EB-2016-0004 – Natural Gas Expansion Generic Proceeding

*Preamble:* At p.11 of the Report prepared by the Municipality of Kincardine, the Municipality of Arran-Elderslie, the Township of Huron-Kinloss & Henley International Inc. (dated March 21, 2016) it states that “*While all the proposals submitted were well considered the Municipalities concluded that EPCOR’s proposal provided the best opportunity to work through these complicated issues jointly and finally bring natural gas service to the communities of Southern Bruce.*”

*Question:*

- a) Please provide the detailed ranking and scoring criteria upon which the evaluation of RFI responses were based.
- b) Please provide a copy of the RFI ranking and scoring results for each submission.
- c) Please describe the extent to which demonstrable experience as a natural gas distributor was a key consideration in the evaluation of the RFI responses.
- d) Please describe the extent to which short and long term customer rates (or annual costs) were a key consideration in the evaluation of the RFI responses.