June 7, 2013

Ontario Energy Board
2300 Yonge Street
Suite 2700
Toronto, Ontario
M4P 1E4

Attention: Ms. Kirsten Walli, Board Secretary

RE: EB-2012-0451 – Greater Toronto Area ("GTA") LTC Project
EB-2012-0433 – Parkway West Project
EB-2013-0074 – Brantford – Kirkwall/Parkway D Project
Union Gas Limited – Interrogatory Responses

Dear Ms. Walli,

Please find attached Union's responses to the interrogatories received in the above case. Copies of requested excel spreadsheets in Exhibit I.A1.UGL.TCPL.1 (Attachments 1 and 2) , and Exhibit I.A4.UGL.Energy Probe.17 (Attachments 1 through 4) will be sent by email to the Board and intervenors. Union is compiling the correspondence requested in Exhibit I.A1.UGL.CME.5 and Exhibits I.A1.UGL.CCC.6/7/10/11 and will file the correspondence no later than June 14, 2013.

If you have any questions with respect to this submission please contact me at (519) 436-5473.

Yours truly,

[original signed by]

Karen Hockin
Manager, Regulatory Initiatives

cc: Crawford Smith, Torys
All Intervenors

A1

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0451, Overall Proposal
EB-2012-0433, Overall Proposal
EB-2013-0074, Overall Proposal

Preamble: Where applicable, the following questions are to be answered by both Companies separately.

a) Please comment on the extent to which TCPL's planned "Energy East Pipeline" (the gas to oil conversion of a portion of TCPL's mainline) has affected, or will affect, should it proceed, the plans for each of the subject applications. Please specifically comment on any timing or scheduling impacts and any impacts to specific forecasts or assumptions underpinning the applications.

b) To what extent is Spectra Energy Inc.'s planned "Nexus" pipeline relevant to each of the subject OEB applications?

c) Please provide a map or schematic showing the current situation with respect to gas flowing into, within, and exiting the Province of Ontario. Please indicate what the future gas flows will be, as they are expected post-construction of the subject applications. The objective of the schematic is to show the impact of the subject projects. Please at a minimum indicate volumes and key points of delivery, import, export, and points of custody transfer. Please show, to the extent possible, the improved supply diversity, flexibility, and reduced upstream supply risk.

d) Please provide a map showing the existing major gas transmission pipelines in southern Ontario from North Bay southwards. Please indicate compressor stations, looping and pipe size. Please also show the location of the proposed facilities.

e) Please comment on the impact and implications of the recent National Energy Board TCPL Mainline tolls Decision (RH-003-2011) on the subject applications. Please indicate if there are outstanding items with respect to the implementation of the NEB's Decision that could have material implications for the OEB projects. Please provide details of any such material implications.

f) Please provide a brief narrative as to how the subject applications meet each of the Board's statutory guiding objectives for gas, as found at Part I General (2) of the *OEB Act, 1998*.

g) Please provide the annual volumetric forecast of Marcellus and Utica shale gas production expected to enter the Ontario gas market over the next 20 years.

h) Please provide the annual gas volumes received at Dawn over the past 10 years and the expected volumes over the next 20 years.

Response:

a) Crude Oil Pipeline Conversion

There is no direct link or impact to the projects in the Union applications with the proposal by TransCanada to convert one of their lines to oil. Enbridge, Gaz Métro and Union have made their decisions to access the Dawn Hub in 2015 prior to the announcement of the crude oil line conversion, and these decisions would not be impacted by the crude oil line conversion.

However the oil line conversion combined with the NEB decision (RH-003-2011), does have negative impacts for Ontario customers as discussed below. Union is generally indifferent to repurposing underutilized natural gas pipeline assets to crude oil service provided that it does not negatively impact Ontario and Québec natural gas markets. Union will require a full understanding of TransCanada's plan to assess impacts on Union's in-franchise and ex-franchise customers.

In April 2013, TransCanada announced an open season for crude oil transportation services from Alberta to eastern Canada (see attached Press Release). In conjunction with the open season release, TransCanada indicated that the proposed crude oil pipeline conversion would result in natural gas pipeline capacity to eastern markets being approximately 300 TJ/d short of current FT demand (see attached Non-Critical Notice). Based on current use of discretionary services, including that used by existing northern and eastern customers, TransCanada pipeline capacity is estimated to be short of eastern market demand by an additional 700,000 TJ/d on a cold winter day (total shortfall is estimated to be approximately 1 PJ/d). In order to achieve a 2017 in-service for the crude oil pipeline, TransCanada will remove sections of its Mainline from natural gas service starting with the Northern Ontario Line in 2015 and followed by the Eastern Triangle in 2016 (between North Bay and eastern Ontario).

TransCanada also released two open season packages to its natural gas shippers related to the proposed crude oil pipeline conversion. In March 2013, TransCanada released an open season for existing FT and FT-SN capacity on its Mainline. In the March open season, TransCanada only offered this existing capacity on the basis that existing natural gas capacity would be available for natural gas usage until that capacity is removed to facilitate the proposed conversion of existing natural gas facilities to crude oil service.

In May 2013, TransCanada released a capacity management open season as a step to assess and potentially reduce FT and STS commitments to eastern markets. TransCanada requested notice: i) if shippers do not intend to renew beyond October 31, 2016; ii) if shippers wish to terminate all or a portion of their demand; iii) if shippers are interested in converting to a new service (FT-2); and iv) if shippers may be interested in changing their receipt point to Iroquois (Waddington).

Impact on Ontario Pipeline Capacity

The crude oil pipeline conversion will leave Ontario and Québec markets short of natural gas pipeline capacity to meet current market needs.

Natural gas capacity shortfalls created by the crude oil pipeline conversion are expected to significantly impact eastern Ontario and Québec natural gas markets given that during peak periods, the amount of STFT and, potentially, IT capacity available will be greatly diminished. Insufficient pipeline capacity will likely result in higher secondary market pricing and volatility for Ontario customers. This issue is significant given that the RH-003-2011decision provides TransCanada with broad discretion to price STFT at any price equal to or greater than the FT toll (i.e. no ceiling) and IT at any price the secondary market will pay. This will impact customers in eastern Ontario and Québec such as industrials, power generators and LDCs that currently rely on discretionary services as part of their energy management portfolio. This new capacity constraint will be in addition to the existing capacity constraint between Parkway and Maple.

With 1/3 of the TransCanada capacity proposed to be removed by November 1, 2016 (1 PJ/d removed from a total capacity today of approximately 3 PJ/d) to eastern Ontario and Québec (as a result of the crude oil conversion), discretionary services during parts of the winter will be scarce with the potential for greater price spikes and associated volatility. As discussed further below, Union expects that this will result in Ontario and Québec industrial and power generation customers that currently rely on discretionary services today seeking access to the Dawn Hub for natural gas supply and associated short haul transportation in the future. As well, the eastern Canadian market is becoming more attractive to large industrial customers and the uncertainties created by the current situation are directionally negative for the Ontario and Québec economies.

As provided in Exhibit I.A4.UGL.APPRO.11, Union expects that current demand for Dawn-Parkway transportation capacity to access the Dawn Hub will increase in the future (beyond the demand expressed for 2015 Dawn-Parkway System capacity) as a result of the TransCanada crude oil line conversion. It is expected that existing customers will seek access to Dawn-based supply and short haul transportation (to address the shortages arising from the crude oil line conversion), as well as new incremental customer demands related to the possible movement of the Parkway Obligation to Dawn and/or the development of large fertilizer, power and LNG plants in Ontario, Québec and Atlantic Canada also wanting to reach back to Dawn.

Union's understanding is that in June TransCanada will offer customers currently using discretionary services access to "new" firm pipeline capacity that TransCanada would propose to build to partially replace pipeline capacity that is to be removed as part of the proposed crude oil pipeline conversion. The same open season may also attract new market growth as well. It is unclear to Union whether TransCanada will offer customers in Ontario, Québec and the U.S. Northeast the opportunity to exercise choice in the market to access to the Dawn Hub (and if they do under what terms and conditions) or only offer Empress based supply on long haul and long term TransCanada transportation capacity. For further information please see Exhibit I.A1.UGL.Staff.7. Union believes that TransCanada, as an open access, monopoly pipeline, should be focused on understanding the existing and future firm requirements of the eastern natural gas markets and ensuring that its existing natural gas infrastructure is used to meet these requirements.

Impact on TransCanada Tolls

With respect to impacts of the crude oil pipeline conversion on TransCanada Mainline tolls, there is insufficient information available to evaluate impacts on rates to serve eastern markets, including Union North. TransCanada has had very little consultation with the market and its natural gas shippers regarding the crude oil pipeline conversion. Much more discussion is required to be able to determine the impacts. Many factors could impact the tolls, including:

- The selling price of the assets transferred and whether it will be the market value or book value
- The significant shortfall created through the Energy East Pipeline as TransCanada expects to remove approximately 1 PJ/d of capacity from the Eastern Triangle
- Potential requirement for TransCanada to build new incremental natural gas transportation facilities to meet existing and new market demand versus using existing natural gas capacity for existing and new natural gas needs and building new incremental facilities to accommodate the capacity needs for crude oil service
- The recovery of Abandonment Costs as required by the National Energy Board starting in 2015
- TransCanada may need to address integrity issues on the Northern Ontario Line prior to converting one of the three pipelines to crude oil service on this segment of their system.

Impact on Union's Proposed Projects

With respect to the 2015 Dawn-Parkway demands, Union does not expect that the incremental Enbridge commitment of 400 TJ/d of Dawn-Parkway transportation capacity will be physically impacted by the proposed crude oil pipeline conversion since flow on the

TransCanada system for these volumes is limited to a 5 kilometre section downstream of Parkway. Enbridge has recently updated their evidence to detail the economic impacts that the proposed crude oil line conversion has had on their project.

Union also does not expect the crude oil pipeline conversion to impact the requirement for reliability at Parkway (Parkway West). In fact, the crude oil conversion effectively eliminates the ability to provide contracted services using the TransCanada Mainline as an alternative to the physical loss of critical unit protection provided by the Parkway West Project. See Exhibit I.A1.UGL.Staff.7 for further detail.

The incremental Gaz Métro and Union Dawn-Parkway transportation capacity is dependent upon transportation services on the TransCanada system downstream of Parkway. While this demand requires expansion between Parkway and Maple, it does not represent new incremental capacity to TransCanada on the Mainline downstream of Maple. Since the Gaz Métro and Union demands already flow on the Mainline they are not likely impacted by the crude oil pipeline conversion. The impacts of not expanding through the Parkway-Maple corridor or delays in that expansion are discussed in Exhibit I.A1.UGL.Staff.7.

Please see Attachment # 1.

b) Several projects are being considered to bring Marcellus and Utica natural gas to Ontario and the Dawn Hub. The Dawn Hub is an attractive market to Marcellus and Utica producers due to the liquidity and depth of the market, access to storage, the interconnectivity with upstream pipeline and the take away capacity to growing market downstream. Those same factors also make the Dawn Hub an attractive supply point for customers in Ontario, Québec and the U.S. Northeast. If the scenario described in Exhibit I.A1.UGL.Staff.1 part a) occurs and customers are prevented from getting back to Dawn, there will be negative consequences to Ontario and Québec customers.

A number of projects have been proposed to bring incremental natural gas supply to Ontario and the Dawn Hub. This would include the proposed NEXUS Pipeline (Spectra Energy is one of three partners) as well as use of existing and new capacity on ANR and GLGT (through the Lebanon Lateral). Natural gas supply is also contracted to Niagara and Chippawa that currently is not supported by firm transportation commitments to markets in Ontario (see Exhibit I.A1.UGL.BOMA.4). Union also understands that a potential project is being evaluated by Tennessee Gas Pipeline to bring incremental gas supply to Niagara and that Iroquois Gas Transmission is evaluating a project to reverse flow and deliver natural gas to the Ontario/New York border at Waddington. Links to publically available information is provided below:

http://www.spectraenergy.com/Operations/New-Projects-and-Our-Process/New-Projects-in-US/NEXUS-Gas-Transmission/

http://www.rbnenergy.com/return-to-sender-the-feeders-of-lebanon-anr-lebanon-lateral-reversal

Ontario does and will require new natural gas supply given the projected decline in Alberta supply available to flow to eastern markets. However, the facilities proposed by Union as part of these applications are not dependent upon any new natural gas supply project being developed, including the NEXUS Pipeline.

c) This response was provided by ICF International.

Figures 1 through 3 below provide schematics showing the current and future situation with respect to flow into, within and exiting Ontario. Figure 1 shows the ICF forecast of primary flows into and out of Ontario in 2012 with the major pipelines and pipeline interconnects impacting the Ontario Market. Figure 2 shows the same basic data with additional pipeline flow data for 2012 and for 2020. Figure 3 shows the ICF forecast of the change in regional pipeline flows between 2012 and 2020. Additional information on pipeline flows into and out of Ontario is included in the response to g) and h) below.

Figure 1: Natural Gas Flowing Into, Within, and Exiting Ontario, 2012 (Average MMBtu/d)

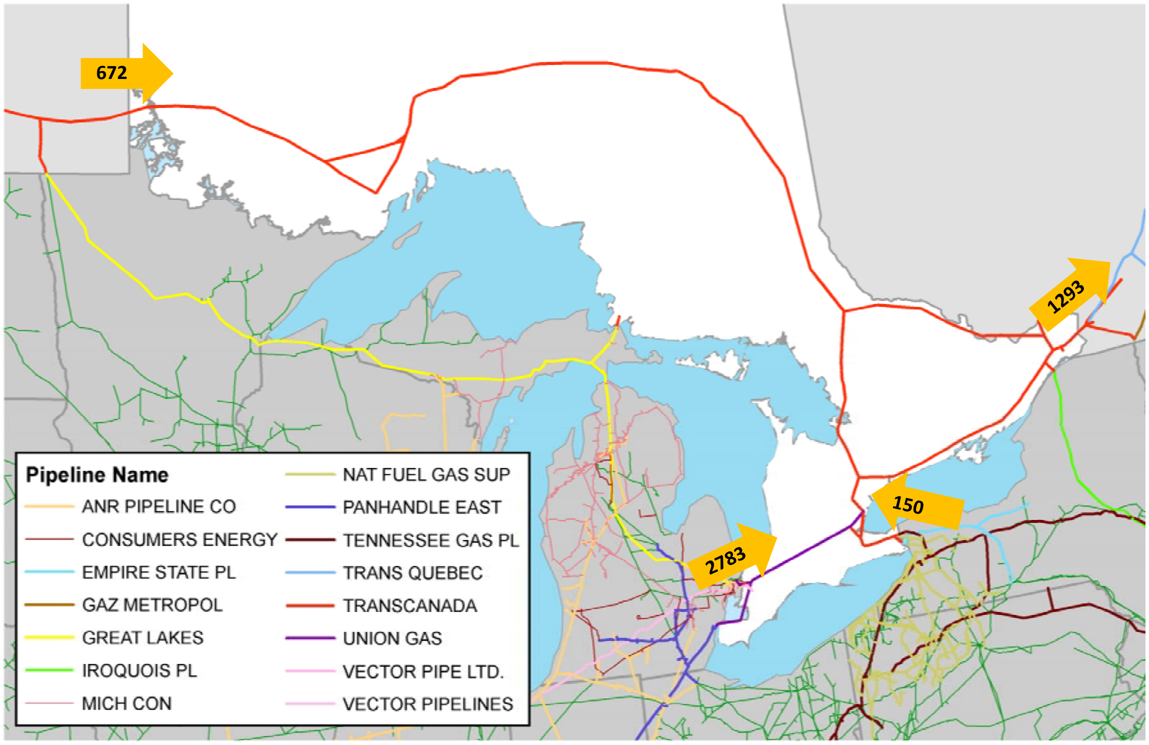
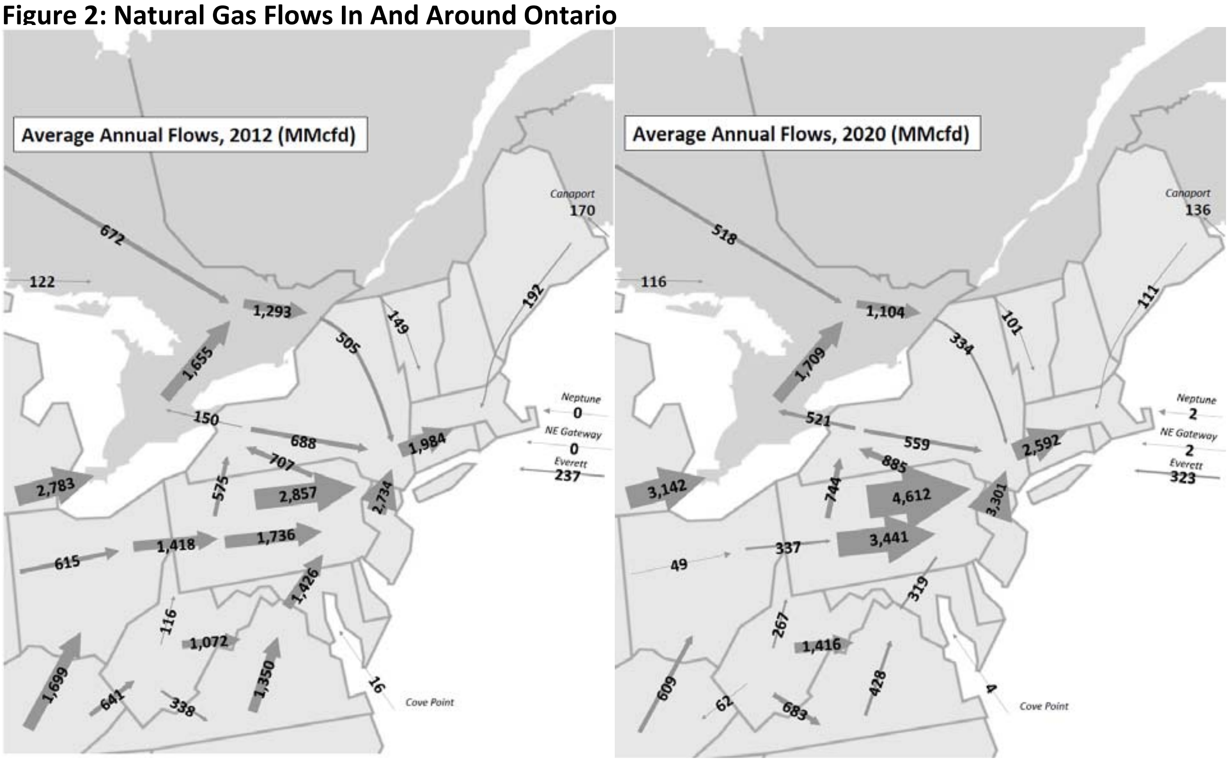
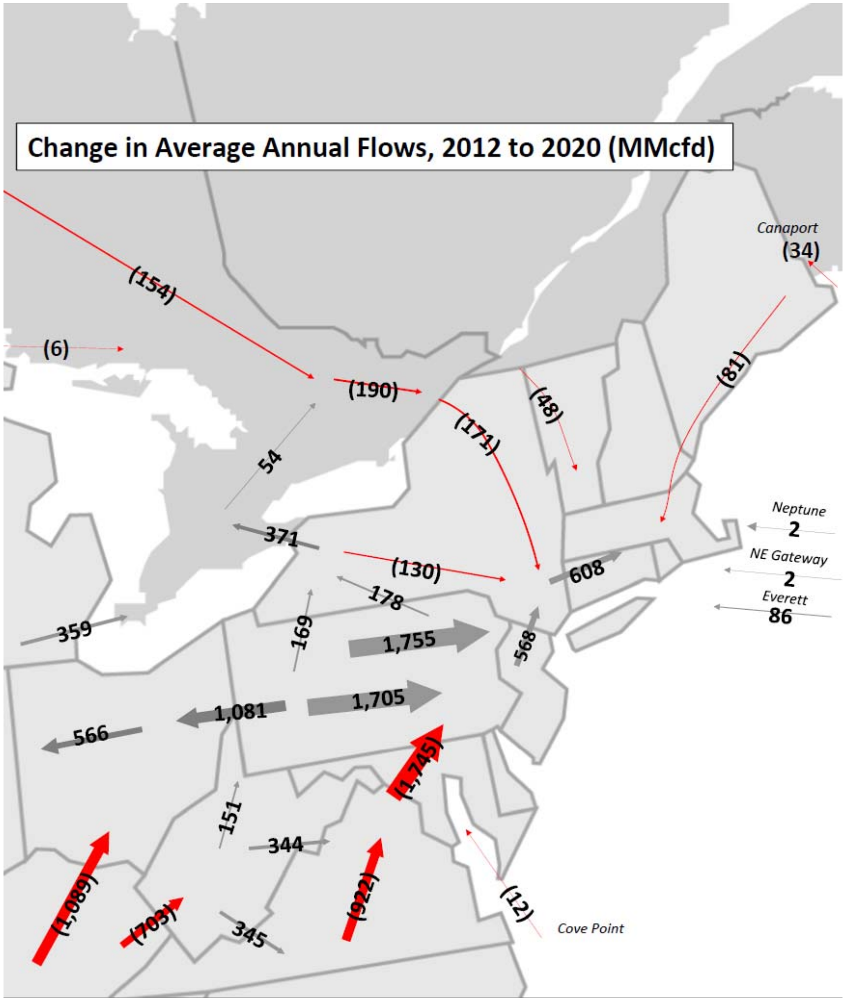


Figure 2: Natural Gas Flows In And Around Ontario

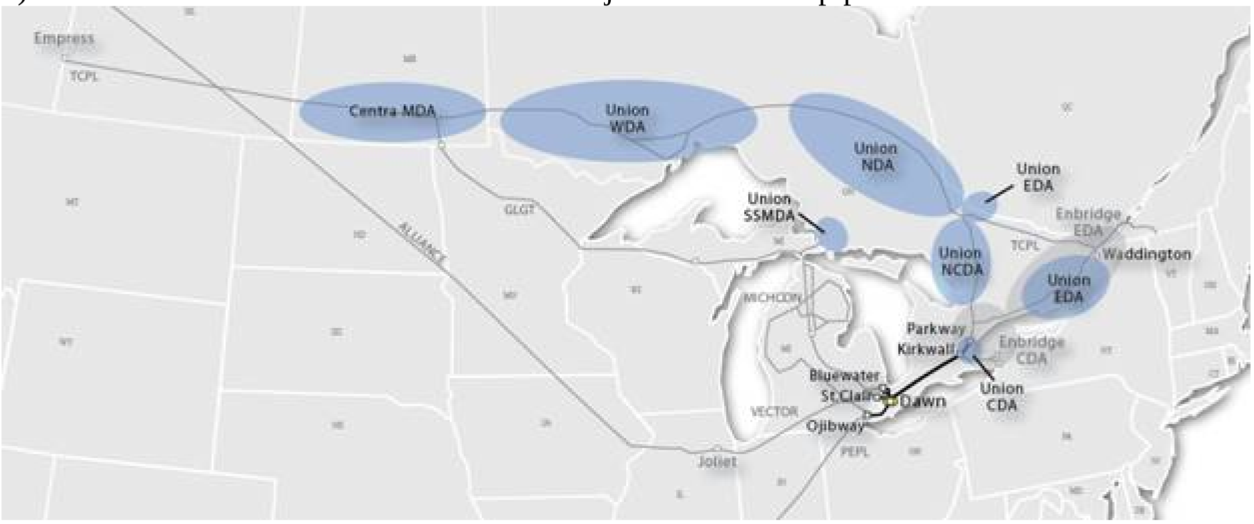




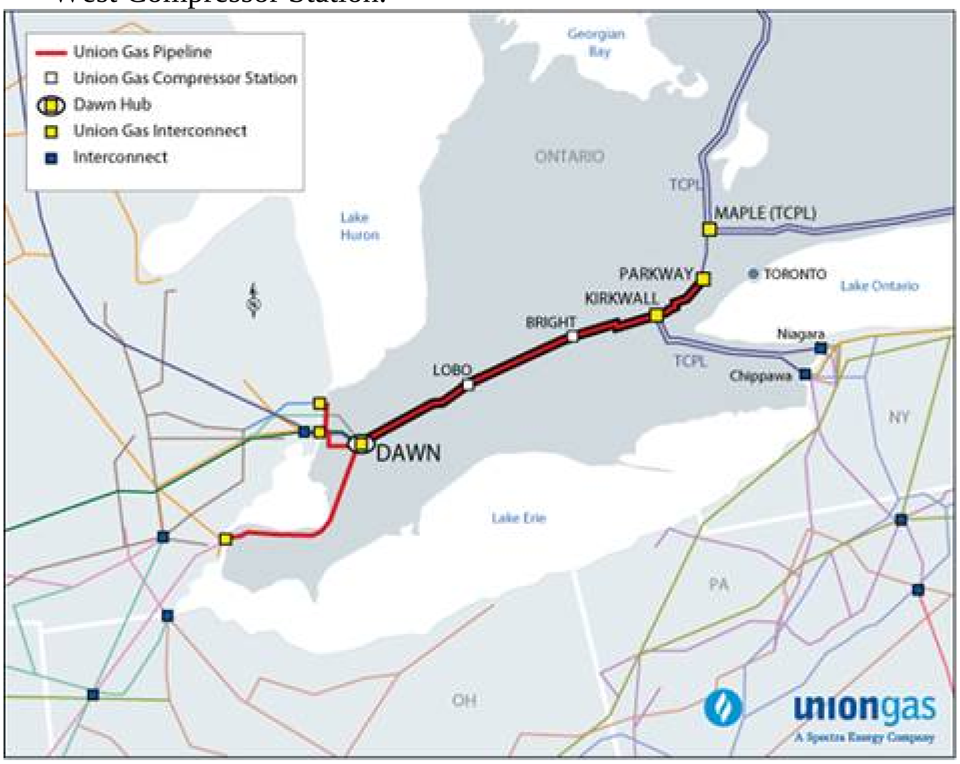
Natural gas from the WCSB will continue to be imported into Ontario from Manitoba via the TCPL mainline as well as from Michigan via Emerson and the GLGT and Vector Pipeline. The allocation of flows on the Northern and Southern routes of the TCPL system will depend to a significant degree on the operational decisions of the TCPL Pipeline.

The Parkway Projects are necessary to facilitate the changes in gas markets that are expected to occur, including increasing flows into Ontario from New York through Niagara, as well as the increase in flows from the Marcellus and Utica basins through Michigan into Ontario at Dawn, but it would be incorrect to attribute the changes shown on these maps solely to the Parkway Projects. The shift in pipeline flows and supply patterns between 2012 and 2020 are driven by a variety of changes in natural gas market supply and infrastructure, including the Parkway Projects, increased pipeline capacity out of the Marcellus and into Ontario via Niagara.

d) Please see the attached schematic for all major transmission pipelines in Ontario.



Union does not have detailed information on TCPL or Enbridge's systems. The schematic below provides more detail on Union's Dawn-Parkway system, including the location of the main compressor stations; Dawn, Lobo, Bright, and Parkway. Please see EB-2012-0433, Sections 5, 6, and 11 for detail on Union's Dawn-Parkway System and the proposed Parkway West Compressor Station.



e) NEB Decision (RH-003-2011)

The NEB Mainline tolls Decision (RH-003-2011) has changed the framework in which TransCanada operates under. In summary, to offer some protection to captive customers, the NEB has set the TransCanada firm tolls at levels that are below TransCanada's cost of service. The NEB has given TransCanada significant pricing (on interruptible service and short term firm service) and service discretion to provide them the opportunity to compete more effectively and earn additional revenue. However the NEB has also been clear that TransCanada may be at risk for revenue shortfalls captured within various deferral accounts. These changes have impacted TransCanada's approach to the market – including suspending the Parkway to Maple expansion previously committed to by TransCanada to provide service in 2015.

As discussed in Exhibit I.A1.UGL.Staff.1 part a), Ontario and Québec natural gas markets will also be impacted by the proposed crude oil pipeline conversion as part of TransCanada's Energy East Pipeline. The combined effects of TransCanada's response to the NEB Decision and the conversion of a portion of the natural gas assets to crude oil pipeline service is that TransCanada has greater ability to influence the primary and secondary natural gas markets in Ontario.

The specific impacts of the NEB Decision (RH-003-2011) on Union's application are as follows:

- Projected Gas Cost Savings - Implementation of the NEB Decision results in approximately 20% lower tolls for shippers. This impacts the results of the landed cost analyses included in EB-2013-0074. Union has not done a complete analysis and assessment due to the fact the TransCanada tolls are subject to final NEB determinations regarding TransCanada's Compliance filing and request for Review and Variance. Union has however completed a preliminary analysis using tolls included in the TransCanada Compliance filing and TransCanada Review and Variance filing. These initial results show that the annual gas cost savings of replacing Union EDA and Union NDA TransCanada long haul capacity with TransCanada short haul contracts and supplies from the Dawn Hub are reduced from $18 million to $28 million as provided in EB-2013-0074 to approximately $15 million (Compliance tolls) to $18 million per year (Review and Variance tolls).
- 2015 Facility Expansions/Long Term Short Haul Contracts - As also noted in Exhibit I.A3.UGL.Staff.20 part a), as a result of the NEB Decision, TransCanada's Board of Directors has not approved TransCanada's 2015 Eastern Mainline Facilities Expansion program and therefore TransCanada has suspended development of this project. As discussed in Exhibit I.A1.UGL.Staff.7, Union continues to discuss potential solutions

with TransCanada and other market participants to provide the needed incremental pipeline capacity in the Parkway-Maple corridor. To preserve a 2015 in-service date, Union and Gaz Métro have initiated an environmental assessment for a pipeline from Enbridge's Albion Road Station to Maple (or a point near Maple). To the extent that TCPL is either unable to build or unwilling to build between Parkway to Maple, Union (and or other third parties) will expand on this corridor. Union believes that Ontario, Québec and U.S. Northeast customers will continue to actively seek access to diverse, secure, competitively priced and reliable supplies of the Dawn Hub. For impacts to the projects proposed by Union, please refer to Exhibit I.A1.UGL.Staff.7.

- Discretionary Services - The NEB Decision also allows for TransCanada to have full discretion in setting tolls for interruptible and short term firm services. Union does not rely on these services in its gas supply plan. Union expects this to have an impact on some Ontario and Québec customers who rely on these services to supply their needs (see Exhibit I.A1.UGL.Staff.1 part a).

- Future Access to Dawn - Union expects that TransCanada will offer an opportunity for customers to commit to "new" capacity in an open season this month (see Exhibit I.A1.UGL.Staff.1 part a) for new capacity in 2016 and beyond. It is unclear to Union whether TransCanada will offer Ontario, Québec and U.S. Northeast customers with the opportunity to access to the Dawn Hub (and if they do under what terms and conditions) or just provide access to Empress based supply on long haul TransCanada transportation.

<u>Application to Review and Vary</u>

On May 1, 2013 TransCanada filed an Application to Review and Vary the NEB Decision. In summary, TransCanada's proposals in this application are as follows:

- <u>Change Tolls</u> - TransCanada has requested to change tolls according to one of the 2 options below (This proposal would have the impact of reducing the amount of dollars being deferred):
  - Option 1(Proposed): Adjust the 5 year Empress to Dawn toll from \$1.42/GJ to \$1.52/GJ as well as other tolls in an appropriate fashion
  - Option 2 (Alternative): Maintain short-haul tolls at current levels and adjust remaining tolls to recover aggregate costs over the multi-year period.
- <u>Contract renewal changes</u> – Shippers that have 1 year rolling contract renewals on TransCanada may be required to increase their terms to 10 or 15 years if they are on any segment of TransCanada that needs to be expanded. As outlined above, the conversion of capacity to oil will leave northern and eastern customers short capacity and under TransCanada's proposal would require new incremental natural gas capacity to be built. This would then require all existing contract

holders on the same path operating under 1 year rolling contracts to increase contract terms to 10 or 15 years

- Diversions and Alternate Receipt Points – Today TransCanada allows customers with an FT contract to divert their supply to other points either within the path or further downstream to an alternate point. In the Review and Vary filing TransCanada has applied to eliminate the ability for FT customers to divert supply to downstream points and redefines the primary contract path, thus altering the available Alternate Receipt Points. Union, as an LDC, finds this attribute of the service to be very valuable and uses this current feature to help balance loads between different geographic areas.
- Storage Transportation Service ("STS") - Elimination of the overrun feature of the STS service

The NEB has not yet determined whether or not this Application will be heard.

f) Union's applications support the Board's statutory guiding objectives as follows:

1. To facilitate competition in the sale of gas to users.

    - Construction of the proposed facilities will enhance and improve the competitive market for natural gas. As capacity away from Dawn increases, including downstream of Parkway, trading activity at the Dawn Hub increases, which results in increased price diversity, liquidity and competitiveness. All natural gas customers benefit from increased access to competitively priced gas supply. (Reference EB-2013-0074 Section 9 page 7)

2. To protect the interests of consumers with respect to prices and the reliability and quality of gas service.

    - Union's Parkway West application is in response to changing North American supply flows to enhance and maintain reliability for Ontario natural gas customers, as well as natural gas customers in Québec and the U.S. Northeast, at reasonable cost. Union estimates this increased reliability will cost a residential customer in Enbridge's franchise area less than $10 per year.

    - The Brantford to Kirkwall and Parkway D Project results in significant gas cost savings for Union, Enbridge and Gaz Métro. These savings, estimated to range between $273 million and $308 million annually over the next 10 years, arise from increased access to the Dawn Hub as a result of proposed expansion.

    - The Brantford to Kirkwall and Parkway D Project also provide Ontario customers greater access to the Dawn Hub and the multiple supply basins connected to it, including supplies in the Marcellus and Utica shale formations increasing security and diversify of supply.

3. To facilitate rational expansion of transmission and distribution systems.

    - By building the Brantford-Kirkwall/Parkway D Project, Union is rationally expanding its transmission system to respond to customer demand for new service as well as changing North American supply flows.

    - Union has worked cooperatively with EGD and TCPL to develop these projects in an effort to align the overall approach.

4. To facilitate rational development and safe operation of gas storage.

    - N/A

5. To promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.

    - The Parkway Projects do not explicitly further the Board's statutory objective to promote conservation and energy efficiency. They do, however, support the reliability of the natural gas system in Ontario and enhance liquidity at Dawn, which supports and enhances the economic circumstances of natural gas customers in Ontario.

5.1 To facilitate the maintenance of a financially viable gas industry for the transmission, distribution and storage of gas.

    - Union is proactively responding to the changing North American natural gas supply dynamics and the needs of its customers by making fundamental changes in its portfolio, and enhancing reliability at Parkway, as well as maintaining and enhancing the viability of the Dawn Hub as a liquid trading hub for customers.

6. To promote communication within the gas industry and the education of consumers. 1998, c. 15, Sched. B, s. 2; 2002, c. 23, s. 4 (2); 2003, c. 3, s. 3; 2004, c. 23, Sched. B, s. 2; 2009, c. 12, Sched. D, s. 2.

    - Union consulted with EGD and TCPL in developing plans, and has held numerous public information sessions regarding these applications.
    - Dealings with Landowners, Agencies and Municipalities
        - 624 letters directly mailed
        - 11 newspaper notices
        - 4 Open Houses
        - Over 100 meetings directly with landowners
    - First Nations and Métis Consultation
        - Notice sent 12 First Nation and Métis Councils
        - Consultations ongoing
    - Stakeholder Meetings
        - 11 stakeholder meetings were held with 38 participants representing 18 stakeholder groups

g) and h)

The annual gas volumes received at Dawn over the past ten years are shown below:

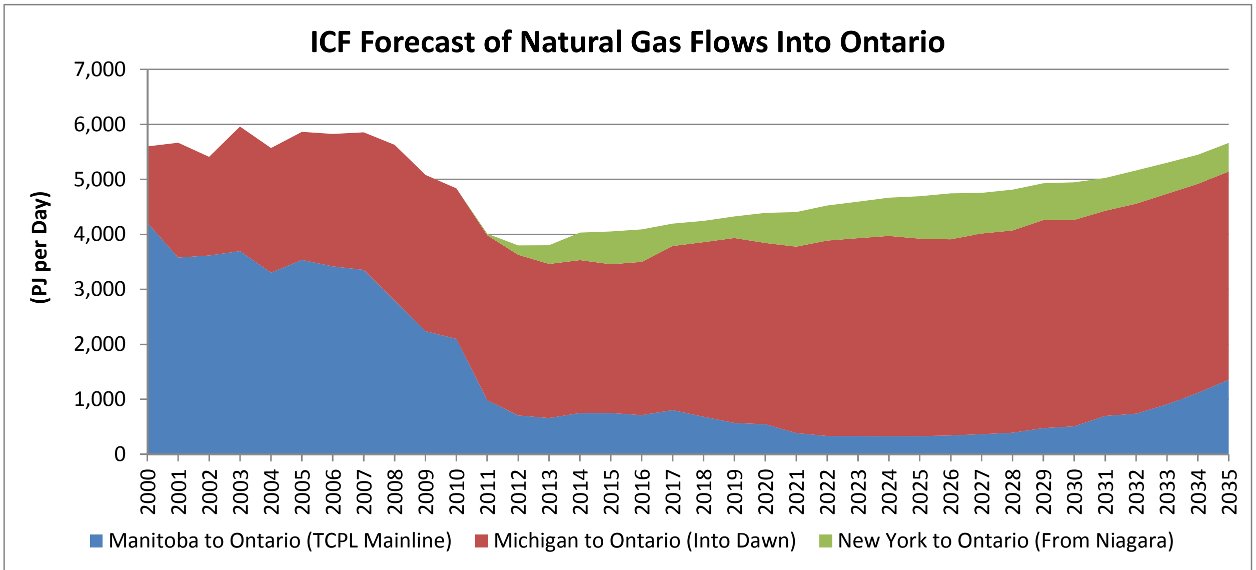
Total Annual Receipts at Dawn (PJ)

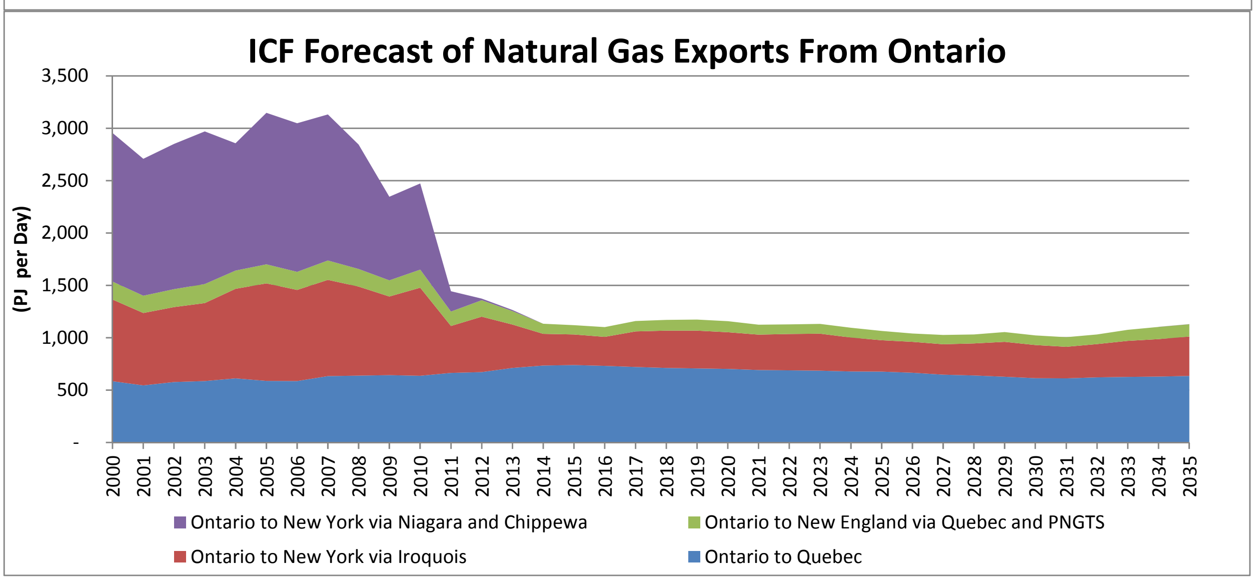
Year	PJ
2003	962
2004	940
2005	863
2006	811
2007	1,000
2008	1,010
2009	1,000
2010	1,104
2011	1,003
2012	904

This response was provided by ICF International:

ICF International forecasts flows into Ontario along the three potential paths as shown in the attached figure:

1) It is highly likely that flows from New York to Ontario will be sourced primarily from Marcellus and Utica shale gas production.
2) In addition, some but not all of the flows from Michigan into Ontario will also be sourced from Marcellus and Utica shale. The percentage of gas flowing from Marcellus and Utica shales into Ontario through Michigan has not been forecasted by ICF International, but is expected to represent a significant percentage of the total gas flowing into Ontario along this path in the future.
3) Under certain conditions, flows entering Ontario from Manitoba may include Marcellus and Utica shale gas flowing through Emerson. Marcellus and Utica shale gas is expected to be a very small percentage of the total gas entering Ontario from Manitoba.


ICF Forecast of Natural Gas Flows Into Ontario
(PJ per Day)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035
Manitoba to Ontario (TCPL Mainline)
Michigan to Ontario (Into Dawn)
New York to Ontario (From Niagara)


ICF Forecast of Natural Gas Exports From Ontario
(PJ per Day)
3,500
3,000
2,500
2,000
1,500
1,000
500
-
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035
Ontario to New York via Niagara and Chippewa
Ontario to New England via Quebec and PNGTS
Ontario to New York via Iroquois
Ontario to Quebec

TransCanada PipeLines Ltd.

Non-Critical Notice

Notice Type:	Press Release or Company News
Effective Start Date/Time:	Apr 2 2013 09:00
Subject:	TransCanada Eastern Oil Pipeline Project

TransCanada has announced that it will hold a binding Open Season to obtain firm commitments from interested parties for a pipeline to transport crude oil from Western Canada to Eastern Canadian markets. This announcement is available on the TransCanada website *http://www.transcanada.com/6280.html*

From the Mainline perspective, this project involves the transfer of approximately 3000 km of 42 inch pipeline from Burstall, Saskatchewan to Iroquois Junction, Ontario to the Eastern Oil Pipeline for conversion from gas to oil service. The project contemplates the transfer of these assets in the 2015/2016 timeframe. This transfer will result in a better and higher use of existing facilities, and is expected to lower the Mainline's annual revenue requirement.

After the transfer, there will continue to be sufficient capacity to meet current firm transportation requirements on the vast majority of the Mainline. However, current firm requirements exceed the capacity that would be available after the transfer by approximately 300 TJ/d to the EDA and export points east of and including Iroquois. However, at this point it is uncertain whether firm requirements at the time of the transfer will be lower than current levels largely due to growth in U.S. gas supplies and infrastructure. As a result, steps will be taken to assess and potentially reduce contractual requirements at the time of the transfer.

TransCanada will provide further details at the April 18, 2013 TTF meeting.

QUESTIONS

If you have any questions about this Open Season or any other, please contact your Mainline Customer Account Manager.

Calgary	**Toronto**
Gordon Betts (403) 920-6834	Amelia Cheung (416) 869-2115
Michael Mazier (403) 920-2651	Lisa DeAbreu (416) 869-2171
	Reena Mistry (416) 869-2159

Effective End Date/Time:	May 2 2013 09:00
Required Response:	No response required
Response Date/Time:	
Posting Date/Time:	Apr 2 2013 08:00
Contacts:	Gordon Betts (NrG) 4039206834
Notice #:	282507801
Revision #:	0

TransCanada
in business to deliver

TransCanada Launches Binding Open Season for Eastern Oil Pipeline

CALGARY, Alberta – **April 2, 2013** – TransCanada Corporation (TSX, NYSE: TRP) (TransCanada) announced today that it will hold a binding open season to obtain firm commitments from interested parties for a pipeline to transport crude oil from Western Canada to Eastern Canadian markets.

The Energy East Pipeline project involves converting natural gas pipeline capacity in approximately 3,000 kilometres of TransCanada's existing Canadian Mainline to crude oil service and constructing up to approximately 1,400 kilometres of new pipeline. Subject to the results of the open season, the project will have the capacity to transport as much as 850,000 barrels of crude oil per day, greatly enhancing producer access to markets in Eastern Canada. In 2012, Canada imported more than 600,000 barrels per day to supply its Eastern refineries. The Energy East Pipeline could eliminate Canada's reliance on higher priced crude oil currently being imported.

The open season follows a successful expression of interest phase and subsequent discussions with prospective shippers. Following the completion of the open season, if it is successful, TransCanada intends to proceed with the necessary regulatory applications for approvals to construct and operate the required facilities, with a potential in-service date in late-2017. TransCanada is beginning Aboriginal and stakeholder engagement and field work as part of the initial design and planning work for the project.

The open season will begin on April 15, 2013 and will close on June 17, 2013. Interested parties may submit binding bids for transportation capacity of crude oil from western receipt points to delivery points in the Montreal and Québec City, Que. and Saint John, N.B. areas. Shipper information regarding the open season is available by contacting Louis Fenyvesi at 403.920.6037 or Oliver Youzwishen at 403.920.8094, or by emailing oil_pipelines@transcanada.com

With more than 60 years' experience, TransCanada is a leader in the responsible development and reliable operation of North American energy infrastructure including natural gas and oil pipelines, power generation and gas storage facilities. TransCanada operates a network of natural gas pipelines that extends more than 68,500 kilometres (42,500 miles), tapping into virtually all major gas supply basins in North America. TransCanada is one of the continent's largest providers of gas storage and related services with more than 400 billion cubic feet of storage capacity. A growing independent power producer, TransCanada owns or has interests in over 11,800 megawatts of power generation in Canada and the United States. TransCanada is developing one of North America's largest oil delivery systems. TransCanada's common shares trade on the Toronto and New York stock exchanges under the symbol TRP. For more information visit: www.transcanada.com or check us out on Twitter @TransCanada or http://blog.transcanada.com.

FORWARD LOOKING INFORMATION This publication contains certain information that is forward-looking and is subject to important risks and uncertainties (such statements are usually accompanied by words such as "anticipate", "expect", "would", "will" or other similar words). Forward-looking statements in this document are intended to provide TransCanada security holders and potential investors with information regarding TransCanada and its subsidiaries, including management's assessment of TransCanada's and its subsidiaries' future financial and operation plans and outlook. All forward-looking statements reflect TransCanada's beliefs and assumptions based on information available at the time the statements were made. Readers are cautioned not to place undue reliance on this forward-looking information. TransCanada undertakes no obligation to update or revise any forward-looking information except as required by law. For additional information on the assumptions made, and the risks and uncertainties which could cause actual results to differ from the anticipated results, refer to TransCanada's Management's Discussion and Analysis filed February 13, 2013 under TransCanada's profile on SEDAR at www.sedar.com and other reports filed by TransCanada with Canadian securities regulators and with the U.S. Securities and Exchange Commission.

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TransCanada Media Enquiries:
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Page Updated: 2013-04-02 12:00:00h CT

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

May 13, 2013 – June 13, 2013

TransCanada PipeLines Limited ("TransCanada") announced on April 2, 2013 the Energy East project (the "Project"), which would transfer approximately 3,000 km of 42 inch pipeline from Burstall, Saskatchewan to Iroquois Junction, Ontario for conversion from gas to oil service (the "Assets"). The transfer, if approved, is expected to occur in the 2015/2016 time frame. After the transfer, there will continue to be sufficient capacity to meet firm contracts on the vast majority of the TransCanada Mainline. However, FT and STS firm contracts delivering to Cornwall, East Hereford, Enbridge EDA, GMIT EDA, Iroquois, KPUC EDA, Napierville, Philipsburg, and Union EDA with a receipt point of Empress, Niagara Falls, Union Dawn, or Union Parkway Belt (the "Eastern Firm Contracts") may exceed the capacity available after the transfer. At this point it is uncertain whether firm requirements at the time of the transfer will be less than current firm requirements, largely due to growth in the U.S. gas supplies and infrastructure. As a result, steps, including this Capacity Management Open Season (the "Open Season"), will be taken by TransCanada to assess and potentially reduce the Eastern Firm Contract requirement.

Through this Open Season, TransCanada is requesting shippers with Eastern Firm Contracts to assist TransCanada in an effort to better assess the firm contract requirements at the time the Assets are transferred.

TransCanada requests any interested shippers with Eastern Firm Contracts to advise TransCanada if any of the following apply:

- They do not intend to renew beyond October 31, 2016;
- They wish to terminate all or a portion of their contract demand;
- They may be interested in converting to a new service with a reduced toll and a priority below firm service but above all other services; or
- They may be interested in changing their receipt point to the Iroquois receipt point.

TransCanada will consider other suggestions presented by shippers including variations or combinations of the above options including changes to the terms of the FT-2 service.

In conjunction with this Open Season, TransCanada has filed a Review and Variance of the recent RH-3-2011 Decision with the National Energy Board (the "NEB") including an amendment to the renewal provisions for Mainline services to further assist TransCanada in determining its firm contract requirements subsequent to the transfer of the Assets. If implemented, TransCanada may require shippers holding Eastern Firm Contracts to either increase their contractual term up to 10 years for long-haul paths or up to 15 years for short-haul paths commencing on the date the Assets are transferred or lose their renewal rights at the end of their existing contract term.

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Capacity Management Options:

Early Notice of Non-Renewal

TransCanada is requesting interested shippers who hold Eastern Firm Contracts with an expiry date on or before October 31, 2016 to provide notice to TransCanada that they will not renew all or a portion of their contract demand beyond October 31, 2016.

Early Termination

TransCanada is requesting interested shippers who hold Eastern Firm Contracts with an expiry date after October 31, 2016, and who no longer require their contract after October 31, 2016, to submit a request to terminate all or a portion of their contract demand effective October 31, 2016. The shipper's request is conditional on acceptance of such request by TransCanada in its sole discretion and the approval of the Project and the transfer of the Assets by the NEB on terms and conditions satisfactory to TransCanada. The NEB decision on the Project and the transfer of the Assets is expected in late 2014.

If the Project and the transfer of the Assets is approved by the NEB on terms and conditions satisfactory to TransCanada, but delayed, the termination date of the early termination request will remain at October 31, 2016. If the Project or the transfer of the Assets is not approved by the NEB on terms and conditions satisfactory to TransCanada, the early termination will not occur and the contract will remain in effect until the existing expiry date.

FT-2 Service

TransCanada is requesting interested shippers who hold Eastern Firm Contracts to submit a request to convert their Eastern Firm Contract to a new service that has a lower priority than FT service in the event of curtailment; however, incorporates many of the other attributes of FT Service ("FT-2 Service"). The toll for FT-2 Service will be biddable as a percentage of the FT toll and is expected to be lower than the FT toll. Shippers may bid the percentage of the FT toll on the bid form. Shippers with Eastern Firm Contracts may convert effective November 1, 2016 all or a portion of their contract demand to FT-2 service up to an aggregate amount of 200,000 GJ/d. The Shipper request for conversion to FT-2 Service is conditional on acceptance of such request by TransCanada in its sole discretion, to sufficient interest in FT-2 Service, and NEB approval of FT-2 Service, the Project, and the transfer of the Assets on terms and conditions that are satisfactory to TransCanada. A comparison of the attributes of FT service and the proposed FT-2 Service is outlined below. For more information on FT-2 Service, please contact your Customer Account Manager.

Attribute	FT	FT-2
Valid Receipt/Delivery Points	All valid receipt/delivery points.	TransCanada will specify the valid FT contract paths available for conversion to FT-2 Service.
Priority of Service	Firm.	Authorization and curtailment priority below FT service but higher priority than diversions, alternate receipt points, and STS quantities delivered on a "best-efforts" basis. Authorization priority will be based on bid price from highest to lowest bid price based on FT-2 bid percentage times applicable FT toll.
Term	Minimum twelve months.	November 1, 2016 until the end of shipper's existing contract term.
Renewal Rights	Minimum one year renewal with six months renewal notice required.	Not renewable. Existing FT-2 shippers will have a Right of First Refusal ("ROFR") option on all or a portion of their current FT-2 contracted capacity if TransCanada determines FT-2 capacity is available past the current expiry date for FT-2 Service. The ROFR option grants existing FT-2 shippers the right to retain the applicable capacity after the expiry of the current FT-2 contracts, provided the shipper matches the highest competitive bid from other shippers for the applicable capacity. If there are no other bids for the applicable capacity, the existing shipper may match the bid floor set by TransCanada to retain their capacity. Shippers have 10 days to exercise their ROFR rights from the close of the FT-2 open season.

Attribute	FT	FT-2
Toll	Monthly FT demand toll.	Biddable as a percentage of the FT toll in effect for the applicable path. TransCanada may determine the minimum bid floor for each applicable path.
Fuel	In kind; applicable monthly fuel ratio.	Same as FT.
Pressure Charges	Applicable at export delivery points.	Same as FT.
Assignments	Contract may be assigned.	Same as FT.
Daily Nomination Windows	Four NAESB windows.	Same as FT.
Diversions	Available.	Available. Incremental daily demand charge for FT-2 shipper will be structured such that FT and FT-2 shippers pay the same aggregate daily demand charge.
Alternate Receipt Points	Available.	Available. Incremental daily demand charge for FT-2 shipper will be structured such that FT and FT-2 shippers pay the same aggregate daily demand charge.

Change of Receipt Point to Iroquois Receipt Point

TransCanada is requesting interested shippers who hold Eastern Firm Contracts to request a change in receipt point for all or a portion of their contract demand to the Iroquois receipt point with an effective date of November 1, 2016. All requests to change the receipt point to Iroquois will be conditional on acceptance of such request by TransCanada in its sole discretion, NEB approval of the Project, and the transfer of the Assets on terms and conditions satisfactory to TransCanada, and any potential facilities needed at Iroquois and the ability to effect these changes by November 1, 2016.

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Open Season Evaluation and Bidding Procedures:

- Bids must be received by TransCanada no later than 3:00 p.m. MST (Calgary time) on June 13, 2013.
- Bids may have additions or removal of conditions as specified by the bidder.
- TransCanada will evaluate all bids based on the overall impact to the system with criteria including, but not limited to, the impact on costs and revenue.

How to bid:

Service applicants must submit a binding bid via the attached paper version to TransCanada's Mainline Contracting Department at (403) 920-2343 and must be received by 3:00 p.m. MST (Calgary time) on June 13, 2013. All bids received will be evaluated together for allocation purposes and the appropriate paperwork will then be issued to successful service applicants.

Questions:

For inquiries regarding this open season please direct questions to your Customer Account Manager.

Calgary	
Gordon Betts	403.920.6834
Michael Mazier	403.920.2651
Toronto	
Amelia Cheung	416.869.2115
Lisa DeAbreu	416.869.2171
Reena Mistry	416.869.2159

Appendix:

- Mainline Tariffs: Toll Schedules & Pro Forma Contracts
- TAPs: Transportation Access Procedures
- 2012 Interim Mainline Tolls: Effective January 1, 2012
- Index of Customers showing recent contracts and renewals
- Other TransCanada information: www.transcanada.com/customerexpress

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Early Notice of Non-Renewal

To: TransCanada Pipelines Limited ("**TransCanada**")
450 – 1 Street S.W.
Calgary, Alberta T2P 5H1

Re: **Early Notice of Non-Renewal**

______________________ ("**Shipper**") hereby provides TransCanada with early notice that it will not exercise the Renewal Option set out in Section 8 of TransCanada FT-Toll Schedule ("**Early Notice of Non-Renewal**") for the Contract(s) and Contract Demand Quantity each as set out below:

Contract #	Non-Renewed Contract Demand Quantity	Expiry Date

Shipper acknowledges and agrees that:

1. this Early Notice of Non-Renewal is binding on Shipper and cannot be revoked or amended by Shipper without TransCanada's written consent;

2. the Contract(s) or portion of Contract Demand Quantity for such Contracts shall expire on the Expiry Date set out above; and

3. it shall execute an amended FT Contract(s) for the portion of Contract Demand Quantity that does not expire, within five business days from the day TransCanada provides such Contract(s).

Dated this ___ day of __________, 2013.

Shipper Name: ________________________

Per: ______________________________

Title: ______________________________

Signed: ______________________________

Per: ______________________________

Title: ______________________________

Signed: ______________________________

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Early Termination Notice

To: TransCanada Pipelines Limited ("**TransCanada**")
450 – 1 Street S.W.
Calgary, Alberta T2P 5H1

Re: **Early Termination Notice**

____________________________ ("**Shipper**") hereby provides TransCanada with early notice to terminate ("**Early Termination Notice**") the Contract(s) and Contract Demand Quantity each as set out below effective October 31, 2016 ("**Termination Date**"):

Contract #	Terminated Contract Demand Quantity

Shipper acknowledges and agrees that:

1. this Early Termination Notice is binding on Shipper and cannot be revoked or amended by Shipper without TransCanada's written consent;

2. the Contract(s) and/or terminated Contract Demand Quantity

3. shall terminate on the Termination Date subject to the following terms and conditions:

   (a) TransCanada receives approval from the National Energy Board of the Project and the transfer of the Assets on terms and conditions satisfactory to TransCanada;

   (b) if the Project and/or the transfer of the Assets is approved by the National Energy Board on terms and conditions satisfactory to TransCanada but the Project and/or transfer of the Assets is delayed, the Termination Date shall not be extended and shall remain as October 31, 2016; and

   (c) if the Project and/or the transfer of the Assets is not approved by the National Energy Board on terms and conditions satisfactory to TransCanada, this Early Termination Notice shall be deemed to be withdrawn by Shipper and of no further force and effect.

TransCanada
In business to deliver

Early Termination Notice

4. it shall execute an amended FT Contract(s) within five business days from the day TransCanada provides such Contract(s).

Dated this ____ day of __________, 2013.

Shipper Name: ______________________

Per: ______________________

Title: ______________________

Signed: ______________________

Per: ______________________

Title: ______________________

Signed: ______________________

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Request to Convert FT Contract to FT-2 Contract

To: TransCanada Pipelines Limited ("**TransCanada**")
450 – 1 Street S.W.
Calgary, Alberta T2P 5H1

Re: **Request to Convert Firm Transportation Contract ("FT Contract") to Firm Transportation-2 Contract ("FT-2 Contract")**

_________________ ("**Shipper**") hereby requests TransCanada to convert ("**Request to Convert**") the FT Contract(s) and Contract Demand Quantity each as set out below to FT-2 Contract(s) on the terms and conditions set out in TransCanada's Canadian Mainline Capacity Management Open Season held from May 13, 2013 to June 13, 2013 effective November 1, 2016 at a percentage of the FT toll in effect on November 1, 2016 as indicated in the table below:

Contract #	Converted Contract Demand Quantity	Bid % (Percentage of FT Toll)
		%
		%

Shipper acknowledges and agrees that:

1. this Request to Convert is binding on Shipper and cannot be revoked or amended by Shipper without TransCanada's written consent;

2. the FT Contract(s) or portion of Contract Demand Quantity for such FT Contract(s) set out above shall convert to FT-2 Contract(s) subject to the following terms and conditions:

   (a) TransCanada receives approval from the National Energy Board for the Project and the transfer of the Assets on terms and conditions satisfactory to TransCanada; and

   (b) TransCanada determines in its sole discretion that there is sufficient shipper interest in FT-2 Service and TransCanada receives approval from the National Energy Board of the FT-2 Service on terms and conditions satisfactory to TransCanada;

Request to Convert FT Contract to FT-2 Contract

3. it shall execute an amended FT Contract(s) and/or a new FT-2 Contract(s) for the converted Contract Demand within five business days from the day TransCanada provides such Contract(s).

Dated this ___ day of __________, 2013.

Shipper Name: ________________________

Per: ______________________________

Title: ______________________________

Signed: ______________________________

Per: ______________________________

Title: ______________________________

Signed: ______________________________

TransCanada's Canadian Mainline Capacity Management Open Season

TransCanada
In business to deliver

Request to Change Receipt Point to Iroquois Receipt Point

To: TransCanada Pipelines Limited ("**TransCanada**")
450 – 1 Street S.W.
Calgary, Alberta T2P 5H1

Re: **Request to Change Receipt Point to Iroquois Receipt Point**

________________________ ("**Shipper**") hereby requests TransCanada to change the receipt point ("**Request to Change Receipt Point**") for the Contract(s) and Contract Demand Quantity each as set out below to the Iroquois receipt point effective November 1, 2016:

Contract #	Iroquois Receipt Point Contract Demand Quantity	Current Receipt Point

Shipper acknowledges and agrees that:

1. this Request to Change Receipt Point is binding on Shipper and cannot be revoked or amended by Shipper without TransCanada's written consent;

2. the receipt points for the Contract(s) or portion of Contract Demand Quantity for such Contract(s) set out above shall change to the Iroquois receipt point effective November 1, 2016 subject to the following terms and conditions:

   (a) TransCanada receives approval from the National Energy Board of the Project and/or the transfer of the Assets on terms and conditions satisfactory to TransCanada; and

   (b) TransCanada receives approval from the National Energy Board of any additional facilities that TransCanada determines necessary to provide for this Request to Change Receipt Point and all other such requests TransCanada receives from other shippers, on terms and conditions satisfactory to TransCanada;

Request to Change Receipt Point to Iroquois Receipt Point

3. it shall execute an amended FT Contract(s) to change the receipt points set out above to the Iroquois receipt point within 5 business days from the day TransCanada provides such Contract(s).

Dated this ___ day of __________, 2013.

Shipper Name: ________________________

Per: ________________________

Title: ________________________

Signed: ________________________

Per: ________________________

Title: ________________________

Signed: ________________________

Canadian Mainline Existing Capacity Open Season – Revised April 22, 2013
March 26 – May 15, 2013

TransCanada Pipelines Limited ("TransCanada") has identified an opportunity to repurpose a portion of its Canadian Mainline natural gas pipeline system to oil service. In consideration of the growing potential of the oil project, the Mainline will be offering existing capacity that may be affected by the potential asset transfer, as non renewable firm transportation service ("FT-NR") in this Existing Capacity Open Season (the "ECOS"). Customers can contract for FT-NR for a minimum of one (1) year up to the maximum term, ending October 31, 2015.

TransCanada will be accepting bids in this ECOS for the following transportation services: Firm Transportation (FT), Non-Renewable Firm Transportation (FT-NR) and Short Notice Firm Transportation (FT-SN) with a commencement date on or after June 1, 2013. TransCanada will be accepting bids in this Existing Capacity Open Season for firm service until 8:00 a.m. MST (Calgary time) on May 15, 2013. The available existing capacity is located in the tables below.

Table 1: Available Existing Capacity (1)

Earlier start dates may be accommodated on most paths, please contact your Mainline Customer Account Manager.

Posted System Segments	FT or FT-SN(3) Capacity Starting June 1, 2013 (GJ/d)	FT-NR Capacity Starting June 1, 2013 (GJ/d)
Empress to (Domestic) (2)		
South Saskatchewan Delivery Area (SSDA)	4,267,085	830,000 (5)
Manitoba Delivery Area (MDA)	4,267,085	830,000 (5)
Western Delivery Area (WDA)	638,000	615,000 (5)
Northern Delivery Area (NDA)	638,000	615,000 (5)
North Bay Junction	638,000	615,000 (5)
Central Delivery Area (CDA)	638,000	615,000 (5)
Eastern Delivery Area (EDA) (4)	0	924,946 (5)
Eastern Delivery Area (GMi EDA)	0	213,000 (5)
Southwest Delivery Area (SWDA)	210,000	0
Empress to (Export) (2)		
Emerson 1	737,874	0
Emerson 2 (6)	3,344,785	0
Kirkwall	24,000	0
Niagara	24,000	0
Chippawa	24,000	0
Iroquois	0	472,427 (5)

Napierville	0	123,000 (5)
Philipsburg	0	7,600 (5)
East Hereford (July 1, 2013 Start Date) (6)	0	78,101 (5)

Table 2: Available Existing Capacity (1)

Earlier start dates may be accommodated on most paths, please contact your Mainline Customer Account Manager.

Posted System Segments	FT and FT-SN(3) Capacity Starting June 1, 2013 (GJ/d)	FT-NR Capacity Starting June 1, 2013 (GJ/d)
Dawn to		
Kirkwall	24,000	0
Niagara	24,000	0
Chippawa	24,000	0
Parkway to		
Southwest Delivery Area (SWDA)	210,100	0
Sault Ste. Marie to		
Union SSMDA	33,600	0
St. Clair to		
Union SWDA	1,778,900	0
Kirkwall to		
Niagara	871,300	0
Chippawa	304,100	0

Table 3: Available Existing Capacity [(1)]

Earlier start dates may be accommodated on most paths, please contact your Mainline Customer Account Manager.

Posted System Segments for FT-SN[(3)]	Capacity Starting June 1, 2013 (GJ/d)
FT-SN Metering Capacity (Subject to Segment Capacity)	
Empress to	
Goreway CDA	51,100
Victoria Square #2 CDA	41,800
Thorold CDA	63,000
Schomberg #2 CDA	14,300

[1] TransCanada is not accepting bids for firm service from all export points unless otherwise listed in the table above.
[2] Bayhurst 1, Grand Coulee, Herbert, Liebenthal, Richmound, Shackleton, Steelman, Success, Suffield 2, and Welwyn are also valid receipt points for the delivery points listed in Table 1.
[3] May not be available on all paths. Please contact your Mainline Customer Account Manager if you are interested in bidding on this service. SNB service could be contracted with FT-SN. If you are interested in SNB, please contact your Mainline Customer Account Manager for more information.
[4] Capacity available to Enbridge EDA, Union EDA, and Cornwall only.
[5] Capacity available between June 1, 2013 and October 31, 2015.
[6] Shippers and prospective shippers should be aware that TransCanada has posted firm capacity to Emerson 2 and East Hereford in excess of the downstream firm take-away capacity on Great Lakes and PNGTS. Great Lakes / PNGTS may have interruptible capacity available on certain days, depending on operating conditions. When insufficient interruptible take-away capacity is available on Great Lakes / PNGTS, those FT shippers on TransCanada that are unable to flow their gas downstream of Emerson 2 / East Hereford may instead nominate diversions to alternate Delivery Points.

Open Season & Bidding Procedure Highlights

- Bids must be received by TransCanada no later than 8:00 a.m. MST (Calgary time) on May 15, 2013.
- Term: Minimum one (1) year term for the posted Firm Transportation services. Bids with a term of one year or greater shall be in full month increments.
- Toll: The posted capacity will be at the NEB Approved Mainline Toll.
- System Segment Capacity:
  - Some posted segments share common capacity. A successful bid on one system segment may reduce the capacity on another system segment. Any bids that pertain to common capacity will be evaluated together for allocation purposes.
  - Each capacity segment requested must be on an individual bid form.
- Conditional Bidding: Mainline capacity bids can be conditioned on another Mainline capacity bid
  - If an ECOS bid is conditional on another ECOS bid, if either ECOS bid requires a reduction to the maximum daily quantity, the maximum daily quantity for the other ECOS bid will be reduced by the same percentage.
  - Please submit each set of conditional bids in a separate fax, to provide clarity on which bids are related.
- Min Acceptable Quantity: May be specified by bidder in the event that prorating capacity is necessary.
- Please refer to the TAPs: Transportation Access Procedures for more information.
- Please refer to the TAPs for information on bid deposit requirements.

How to Bid

Service applicants must submit a binding bid via the Paper Version or Electronic Version to TransCanada's Mainline Contracting Department at (403) 920-2343 and must be received by 8:00 a.m. MST (Calgary time) on May 15, 2013. All bids received each day will be evaluated together for allocation purposes and contracts will then be issued to successful Service Applicants who will then have one banking day to return the signed contract to TransCanada.

Questions

If you have any questions, please contact your Mainline Customer Account Manager.

Calgary	
Gordon Betts Phone: 1.403.920.6834 Email: gordon_betts@transcanada.com	**Michael Mazier** Phone: 1.403.920.2651 Email: mike_mazier@transcanada.com
Toronto	
Amelia Cheung Phone: 1.416.869.2115 Email: amelia_cheung@transcanada.com	**Reena Mistry** Phone: 1.416.869.2159 Email: reena_mistry@transcanada.com
Lisa DeAbreu Phone: 1.416.869.2171 Email: lisa_deabreu@transcanada.com	

Appendix

LINKS to Additional Information:

- Existing Capacity Open Season Paper Bid Form
- Existing Capacity Open Season Electronic Bid Form
- Mainline Tariffs: Toll Schedules & Pro Forma Contracts
- TAPs: Transportation Access Procedure
- 2012 Interim Mainline Tolls Effective January 1, 2012
- Index of Customers showing recent contracts and renewals
- Other TransCanada Information: www.transcanada.com/Customerexpress

GST Procedures for FT, FT-NR, and FT-SN - FOR EXPORT POINTS ONLY

TransCanada is required to charge the Goods and Services Tax (GST) or Harmonized Sales Tax (HST), whichever is applicable, on transportation of gas that is consumed in Canada. The GST is set at 5% while HST is set at 13% in Ontario.

Shippers may provide a Declaration which notifies TransCanada that the Shipper's contract is intended to serve an export market and should be charged 0% GST or 0% HST, on any Unutilized Demand Charges (UDC).

The Declaration Form is available at the following link:

FT GST/HST Declaration

Shippers may also zero-rate GST or HST on the associated transportation demand, commodity and pressure charges by making a Declaration on the nomination line in NrG Highway.

Please note:

- Declarations may only take effect on the first day of a month.
- A Declaration cannot be applied retroactively.
- A Declaration supersedes previous Contract Declarations.
- A single Declaration form is used for all of a shipper's firm export contracts eligible for zero-rating of UDC.
- If a Shipper zero-rates their nomination but does not execute a Declaration the Shipper will be charged 0% GST or 0% HST on their nomination but all associated UDCs will be charged the current applicable GST or HST rate.

Please refer to the following website for additional information on GST/HST regulations and rebates http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/gnrl/txbl/trnsprttn/menu-eng.html

For more information on TransCanada's GST/HST practices, contact Mainline_Contracting@transcanada.com.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Section 10, Application Summary, Page 97 of 121
EB-2013-0074, Section 8, Page 8 of 10

Preamble: In the Application Union has proposed to install an LCU compressor with a rating of 44,500 HP. Union has indicated that the capacity created by the proposed compressor will be held in reserve and will not be used to sell additional firm transportation capacity. In case of the Brantford-Kirkwall pipeline, Union has proposed to add another Parkway D compressor at the Parkway West Compressor Station site. In other words, Union has proposed to add two compressors at Parkway West which will amount to a total of four compressors at Parkway West.

a) Has Union performed a need analysis taking into account both projects to determine if two compressors of the specific horsepower are required? If "Yes", please provide details. If "No", please explain why.

b) Union has indicated that the LCU compressor will be held in reserve. Does this mean that at any point in time only three compressors will be operational and one compressor will be idle? Please provide a detailed response.

c) If Union intends to operate all four compressors, please explain how additional transportation capacity will not be added.

Response:

a) As part of Union's facility design process, the facilities considered are those that will meet the required conditions. Due to the LCU requirement to cover the loss of the largest compressor (Parkway B), the Parkway C compressor (LCU) needs to be the same size as the existing Parkway B compressor, rated to 44,500 ISO Horsepower.

   Several options were considered for the growth compressor (Parkway D), including a smaller 20,000 horsepower option. With the increased loads and the shift of Enbridge volumes from uncompressed to compressed, the additional compression required exceeded the smaller compression capability. Union investigated other compression options, but the Rolls-Royce 44,500 horsepower unit provided the optimal solution and allowed for future Dawn-Parkway or Kirkwall-Parkway growth without the need for additional compression at Parkway. Other benefits to the Rolls Royce engine include operation and maintenance efficiencies that result because the Parkway B compressor is a Rolls Royce-RB211 compressor as well.

b) Union's LCU philosophy requires horsepower kept in reserve. During periods of peak demand, when the consequence of a failure is at its greatest, Union may operate all four units at partial capacity to allow for quicker response in the event of a failure.

c) Union's system design reserves the LCU horsepower to cover a failure. As explained in EB-2012-0433, Section 5, page 51, no firm Dawn-Parkway transportation services are sold using the capacity created by the loss of critical unit horsepower.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 4 – Changing North American Natural Gas Supply Dynamics, page 4 of 9, Line 2-5

Preamble: Union discusses several predictions related to the production of WCSB supply.

a) Please provide the reports and/or studies that Union has relied on when analyzing the effects of WCSB supply forecasts.

b) Please discuss how long Union can continue to receive its natural gas supply from the WCSB if the Board were to reject Union's proposals.

Response:

a) In addition to the reports and studies included in the ICF Report - Impact of Changing Supply Dynamics on the Ontario Natural Gas Market filed at EB-2013-0074, Schedule 4-1, Union has discussed the changing North American natural gas supply dynamics at EB-2013-0074, Section 4 and EB-2012-0433, Section 4. The reports and studies Union relied on are referenced in those sections.

b) Union does not know how long it can continue to rely on large portions of its natural gas supply from the WCSB. Union will continue to source a portion of its gas supply from the WCSB for the foreseeable future.

   Union is pursuing increased diversity of supply for Union North to increase security of supply from sources closer to market and at more favorable pricing. The earliest Union can do that is 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 11, Pages 5, 11, and 12

Preamble: Union has indicated that the proposed Union facilities and those that will be built by TCPL and Enbridge will provide more supply options to Union's franchise area in the north. Union has further indicated that greater diversity of supply in the north will reduce the proportion of gas supply from Western Canada to about 55% from the current 95%.

a) Will this change occur in the first year of service or does Union expect a gradual change in the supply portfolio. Please provide details.

Response:

a) The change will be effective the first day of service (expected November 1, 2015).

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 4 – Changing North American Natural Gas Supply Dynamics, Page 7 of 9, Lines 16 – 22

Preamble: Union discusses the benefits that Marcellus and Utica shale gas can offer Ontario consumers.

a) If the forecasted natural gas supply from Marcellus and Utica shale basins are 50% of what has been projected, how will this affect the efficiency and economic feasibility of the proposed facilities?

b) Please discuss any reports and/or forecasts related to the long-term viability and production of natural gas from both the Marcellus and Utica basins.

Response:

a) The proposed Brantford-Kirkwall pipeline and Parkway D Compressor projects are influenced most by customers seeking access to the liquidity and diversity of the Dawn Hub. Through interconnecting pipelines, the Dawn Hub has access to most of the major supply basins in North America including the WCSB. The proposed Brantford-Kirkwall pipeline and Parkway D Compressor are not dependent upon receiving natural gas supply from Marcellus and Utica and are therefore unaffected if natural gas supply from the Marcellus and Utica shale basins are 50% of projections.

With respect to the Marcellus shale formation, ICF International reports that production from the Marcellus in 2012 was slightly less than 7 Bcf/d (Please see response to Exhibit I.A1.UGL.BOMA.51 part a). ICF International also forecasts that production from the Marcellus and Utica shale formations will increase to approximately 15 Bcf/d by 2020 and further to approximately 18 Bcf/d by 2025 (EB-2013-0074, Schedule 4-1, Exhibit 4-5, page 23 of 36). Given the current level of production, at 50% of the forecast future production, the Marcellus and Utica would produce approximately 11 Bcf/d by 2020 and approximately 12.5 Bcf/d by 2025. Even producing at 50% of forecast, the Marcellus and Utica remain large natural gas resource basins for Ontario customers. As a comparison, the WCSB at or near its peak in 2001 was approximately 14 Bcf/d.

b) This response was provided by ICF International:

Marcellus

Numerous reports have been published on the geology, gas resources, and economic impact of the Marcellus Shale. Several citations of the more important references follow:

"North American Onshore: Marcellus Play Analysis Overview," Guggenheim Securities, Sept. 2012 presentation. This presentation summarizes the current status of the play, compares it to other U.S. plays, discusses the distribution of well quality, and discusses overall potential.

"An Emerging Giant: Prospects and Economic Impacts of Developing the Marcellus Shale Natural Gas Play," Considine, et al, July, 2009. This report was the first major resource assessment of the Marcellus and remains the most authoritative public domain work.

"The Pennsylvania Marcellus Natural Gas Industry: Status, Economic Impacts, and Future Potential," by Considine,et al, July, 2011. This is a good analysis of the potential economic impact with forecasts of activity and production.

These reports highlight and support the long-term viability and production of natural gas from the Marcellus region.

Utica

While the industry is optimistic about the long-term viability and production of natural gas from the Utica basin, only limited development activity has taken place in the basin to date, and comparatively little assessment related information is available for the basin. Two of the better publications are as follows:

"Assessment of Undiscovered Oil and Gas Resources of the Ordovician Utica Shale," US Geological Survey, 2012. This brochure documents the 2012 USGS Utica assessment, which concluded that there is the potential for 37 Tcf of gas and 940 million barrels of liquids.

"Utica and Point Pleasant Shale Ohio Development," Midwest Energy Logistics, Sept. 2012. This presentation summarizes the status of the play, provides information on typical gas wells and oil wells, and presents forecasts through 2021.

In addition to the reports and assessments identified above, ICF International produces a Quarterly outlook of the North American natural gas market that includes assessments of the Marcellus and Utica gas production trends. The ICF outlook is utilized by Government, Institutional and private sector clients from all segments of the energy industry. Included in the list of clients is the Ontario Energy Board Staff.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 7 – New Dawn-Parkway System Demands, Page 8 of 14, Lines 9-11

Preamble: Union notes that the reverse open season bids will be awarded once all shipper and Union conditions precedent have been waived or satisfied in binding transportation agreements, with the exception of Union placing the facilities into service.

a) Please discuss when Union expects all shipper and Union conditions precedents to be waived or satisfied.

Response:

a) Please see the table below for a summary of Union's expectations regarding the conditions precedents.

	Enbridge - M12225 Conditions Precedent Satisfied/Waived or Expected Date to Satisfy/Waive	**Vermont - M12224** Conditions Precedent Satisfied/Waived or Expected Date to Satisfy/Waive	**Gaz Métro - M12222** Conditions Precedent Satisfied or Waived or Expected Date to Satisfy/Waive
Union Conditions			
Union has government & regulatory approval	31-Oct-13	31-Oct-13	31-Oct-13
Union internal management approvals	31-Oct-13	30-Sep-13	31-Oct-13
Union expansion facilities in service	31-Oct-15	✓	31-Oct-15
Union has received Financial Assurances	✓	✓	✓
Union has received executed FBA	✓	✓	✓
Transport agreement executed	✓	✓	✓
HUB contract signed	✓	✓	✓
Shipper Conditions			
Shipper has government & regulatory approval	30-Sep-13	✓	✓
Shipper has upstream/downstream transportation capacity in place	✓	✓	✓
Shipper has internal management approvals	✓	✓	✓

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0451, Pipeline Proposal
EB-2013-0074, Section 7 – New Dawn-Parkway System Demands, Page 10 of 14, Lines 13-14

Preamble: Union notes that it entered into a TCPL open season for transportation starting November 1, 2014 to support natural gas deliveries to Union North. However, in September 2012, Union was informed by TCPL that the incremental capacity to serve the TCPL open season bids would not be available for November 1, 2014 as provided in the open season but rather it would be available November 1, 2015. Union notes that it is expecting TCPL to expand capacity between Parkway and Maple to serve this incremental interest.

a) To what extent are the subject OEB applications dependent on any TCPL facilities expansions, such as the Parkway to Maple Expansion Project noted above? Please explain how any delays in TCPL's facilities expansions will affect the Union and Enbridge proposals?

b) Please discuss the potential risks of a further delay of incremental capacity from TCPL past November 1, 2015.

c) Please discuss Union's plans to mitigate any risks from a further delay.

d) Please discuss the potential effects of TCPL not expanding capacity between Parkway and Maple to serve the incremental interest.

Response:

(a) Gaz Métro and Union require expansion of the pipeline capacity between Parkway and Maple to realize the benefits of reduced natural gas costs for their customers. These gas cost savings are estimated to be $103-$138 million annually and are a result of Ontario and Québec customers having increased access to the liquid Dawn Hub.In order to support an efficient marketplace for energy, it is critical that natural gas be able to flow unimpeded to meet market demands. Restricting flow into, within and out of Ontario undermines the development of an efficient marketplace to the detriment of all energy consumers. The expansion of the Parkway to Maple corridor is necessary to provide Ontario industry, power generators, businesses and residents with increased access to the diverse and affordable natural gas supply of the Dawn Hub. The depth and liquidity of the Dawn Hub depends on the ability to move natural gas supplies to and from that trading point.

Union filed a letter with the National Energy Board dated April 29, 2013 that was received from TransCanada (see Exhibit I.A4.UGL.CCC.23) providing notice to Union that TransCanada did not receive its own Board of Directors approval to construct the proposed expansion project downstream of Parkway as expected in 2015, and as a result TransCanada had suspended further work. Union is very concerned by TransCanada's decision to suspend development activities for the 2015 build between Parkway and Maple.
The following is an assessment of the impacts of the suspension of TransCanada's 2015 Parkway to Maple expansion.

Impact on Union's Parkway West Project

The facilities and timing of the proposed Parkway West Project are not impacted by a lack of pipeline capacity expansion downstream of Parkway or a delay in such a project. The Parkway West Project does not depend on system growth, but rather is predicated on providing loss of critical unit coverage for the compression at Parkway and increased reliability for the substantial interconnection with Enbridge at Parkway.

As discussed in response to Exhibit I.A5.UGL.CCC.26, Union and TransCanada are discussing an alternative to the NPS 42 pipeline proposed as part of the Parkway West Project to connect the existing Parkway Compressor Station to the new Parkway West Compressor Station. This alternative would provide a new interconnection between Union and TransCanada on the west side of Highway 407 and will require new facilities to be built by TransCanada at an existing valve site. Union considers the construction of this interconnection independent of expansion of the Parkway-Maple corridor.

Impact on Union's Brantford-Kirkwall Pipeline/Parkway D Compressor Projects

The incremental Dawn-Parkway transportation demands of Gaz Métro and Union require expansion of the pipeline capacity downstream of Parkway to serve markets beyond the GTA in northern and eastern Ontario and Québec. Without expansion of the Parkway-Maple corridor and, as such, without these incremental Dawn-Parkway demands, Union would not construct the Brantford-Kirkwall pipeline project. The Parkway D Compressor would still be required to meet the gas supply needs of Enbridge.

Impact on Proposed Enbridge GTA Project

It is Union's understanding that the only potential impact to the proposed Enbridge GTA Project as a result of a TransCanada delay in the Parkway to Maple expansion could be the size of the pipe that Enbridge builds in Segment A between Parkway and the Albion Road Station. Enbridge has identified this line as being either an NPS 36 line or an NPS 42 line. It is Union's view that this line should be built as NPS 42 given the one time opportunity to right size this critical pipeline to facilitate future expansion of the Parkway-Maple corridor, allowing Ontario customers the opportunity to increase access to the liquidity and diversity of the Dawn Hub and to new affordable supply sources such as Marcellus and Utica shale production.

(b) Delay of the expansion of the Parkway to Maple corridor beyond 2015 creates a number of risks:

i. Gas Cost Savings - The customers in northern and eastern Ontario and Québec that initially requested access to Dawn in 2014, would have a further delay in increased access to the diversity, liquidity and affordability of supply at the Dawn Hub. Without access to the Dawn Hub and new supply sources, natural gas cost savings in the order of $103-$138 million annually, will not be realized for Union North and Gaz Métro customers.

ii. Access to Dawn - Without expansion of the Parkway to Maple corridor, Ontario customers in Union North will lose the benefit of increased access to the diversity of the Dawn Hub. As discussed in Exhibit I.A1.UGL.Staff.1 part a), the proposed crude oil pipeline conversion will leave eastern markets short of capacity to meet firm demand and to meet the significant demand for discretionary services (interruptible service and short term firm service) from northern and eastern Ontario industrials and power generators. As a result, Union expects that some Ontario customers will seek access to the Dawn Hub as well as firm transportation capacity from Dawn to the market area. It is unclear at this time given TransCanada's decision to suspend development of its 2015 Parkway to Maple expansion whether TransCanada's next open season for new capacity will allow access to Dawn and other points upstream of Parkway, such as Niagara and Chippawa (and if they do, under what terms and conditions), or just long haul paths back to Empress. Restricting access only to Empress should be a concern to Ontario and Québec industrials and power generators that would go without increased access to the diverse and economic supply of the Dawn Hub.

iii. Liquidity at Dawn - Another risk associated with delay of incremental pipeline capacity downstream of Parkway is the impact on liquidity at the Dawn Hub. The Dawn Hub gets its liquidity today from being an attractive place to transact for both buyers (customers) and sellers (producers and marketers). The constraint in pipeline capacity between Parkway and Maple creates risk to the liquidity at Dawn because it restricts the market driven movement of supply away from Dawn making Ontario and the Dawn Hub a less attractive trading point for both buyers and sellers. Any further delay in expansion of the Parkway-Maple corridor increases risk to the health and liquidity of the Dawn Hub. Increasing access to the Dawn Hub will help attract new supply sources to Ontario supporting a more competitive marketplace to the benefit of all Ontario energy consumers.

iv. Turn Back Management - A delay in removing the constraints downstream of Parkway will impact Union's ability to manage future turn back of Dawn-Kirkwall capacity by limiting the ability to resell it as Dawn-Parkway capacity. A discussion of this impact can be found in Exhibit I.A1.UGL.CME.14 a).

In summary, a significant delay would compromise a number of project benefits, which are summarized at EB-2013-0074, Section 9, pages 8-11.

(c) Union remains committed to serving the needs of its Union North customers and the requested demands of Gaz Métro in 2015. Union has stated in the past that a TransCanada expansion through the Parkway to Maple corridor is preferred. To that end, Union is continuing discussions with TransCanada and other market participants to determine if a build in 2015 is possible. Given the significant risk that TransCanada is not able to or not prepared to build, Union and Gaz Métro, have initiated an environmental assessment for a pipeline between Enbridge's Albion Road Station (the end of Segment A of the proposed GTA Project) and a point at or near Maple. If required, this will support an application for regulatory approval and preserve an expansion of the Parkway-Maple corridor in 2015.

(d) Please see parts a)-c) above.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 8 – Proposed Facilities, General Questions

a) Please discuss the effects of either the Board rejecting Enbridge's proposed GTA Project facilities and/or TCPL's system expansion projects not proceeding.

b) In the event that Enbridge's GTA Project is denied and/or TCPL's system expansion does not proceed please discuss if Union will still require the facilities it has requested in this application in order to adequately serve its in-franchise and ex-franchise customers. Please discuss if the project would be scaled back with regard to pipeline size, contract length, compressor size, etc.

Response:

a) and b)

1. Effects of Rejection or Delayed Approval of the Proposed Enbridge GTA Project

Impact to Union's Parkway West Project
A rejection of the proposed Enbridge GTA Project or a delay in the proposed Enbridge GTA Project does not impact the facilities or timing of Union's proposed Parkway West Project. As provided in Exhibit I.A1.UGL.CCC.26, Union expects that Enbridge would build its proposed Parkway West Gate Station for November 2014 to connect to Parkway West and provide security of supply for current Parkway(Consumers) and Lisgar deliveries.

Impact to Union's Brantford-Kirkwall Pipeline and Parkway D Compressor

Board Rejects Proposed Enbridge GTA Project
If the Board rejects all or a portion of the proposed Enbridge GTA Project then Union assumes that:

- Enbridge could not shift natural gas supply to the Dawn Hub as planned and would not require its incremental 400 TJ/d of Dawn-Parkway capacity
- Enbridge would no longer require the shift of 400 TJ/d of current Dawn-Parkway demand from Parkway(Consumers) deliveries to Parkway(TCPL) deliveries

In this case, Union would not build either the Parkway D Compressor or the Brantford-Kirkwall pipeline.

Without the construction of the proposed Enbridge GTA Project then the expansion of the Parkway-Maple pipeline capacity required by Gaz Métro and Union will also be impacted. Specifically, the efficiencies of sharing usage of Segment A of the proposed GTA Project would be lost resulting in no pipeline build from the Enbridge Albion Road Station to Maple or a point along the Parkway-Maple corridor. TransCanada or third parties would be forced to look at other alternatives to expand the Parkway-Maple corridor.
Once the Parkway-Maple corridor was expanded by TransCanada or a third party, Union would be able to flow the Gaz Métro and Union volumes without either the Brantford to Kirkwall pipeline or the Parkway D Compressor.

Board Delays Approval of Proposed Enbridge GTA Project
If the Board delays the approval of the proposed Enbridge GTA Project, then the Parkway D Compressor and the Brantford-Kirkwall pipeline projects would be delayed as well.

2. Effects of Suspension of TCPL System Expansion

The effects of TCPL's system expansion projects not proceeding is discussed in Exhibit I.A1.UGL.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 8 – Proposed Facilities, Page 4 & 5 of 10 & Figure 8-1

Preamble: Union has provided forecasted system demands for 2014/2015.

Figure 8-1

2014/2015 System Demand	6,643,094 GJ/d
in-franchise Demand Increase	70,157 GJ/d
Transportation Services Demand Increase	657,784 GJ/d
Dawn-Parkway and Dawn-Kirkwall Turn back	-217,532 GJ/d
2015/2016 System Demand	7,153,503 GJ/d
Total Demand Change	**510, 409 GJ/d**

a) Please discuss Union's forecasted system demands over the next 10 years and how these demands will be met if an increase over 2014/2015 levels is forecasted.

b) Please discuss if Union has explored alternative pipeline and facilities requirements that are larger than what has been requested in this application?

Response:

a) Please see the table below for the change in Union's system design day demands for the Winter 2014/2015 to 2017/2018. Union does not have a 10 year forecast. Union does not forecast any additional Dawn to Parkway facilities. The table below does not include any potential Dawn-Parkway System growth beyond contracted levels for Winter 2015/2016. Potential Dawn-Parkway System growth opportunities totalling up to an additional 1 PJ/d for service commencing on or before November 1, 2017 include: customers seeking access to the Dawn Hub as a result of the TransCanada crude oil line conversion, the possible movement of the Parkway Obligation to Dawn, and the development of large fertilizer, power generation and LNG Plants in Ontario, Québec and Atlantic Canada. As a result of these potential opportunities, Union expects that the surplus capacity in 2016/2017 and 2017/2018 shown in the table below will not exist.

Change GJ/d (from previous year)	**2014/2015**	**2015/2016**	**2016/2017**	**2017/2018**
In-Franchise Growth	-1,711	+70,157	0	0
Ex-Franchise Contracted Growth	+8,100	+657,784	0	0
Turnback	-37,262	-217,532	-91,746	-240,814
Total Demand Change	-30,873	+510,409	-91,746	-240,814

b) The proposed options result in the optimal cost per unit of capacity while meeting the majority of the required growth. In order to completely eliminate the system shortfall, Union would next consider compression at the Lobo Compressor Station, which would provide approximately 230 TJ/day of incremental capacity. Union did not propose this additional reinforcement due to the forecast turnback in 2016 and 2017.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 8 – Proposed Facilities, Page 5 of 10, Figure 8-2

Preamble: Union has noted that it has experienced significant turn back of capacity since 2011.

Figure 8-2

	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
in-franchise Demand Change	35,632	-33,258	-9,089	-1,711	70,157
ex-franchise Growth	211,548	386,819	0	8,100	657,784
ex-franchise Parkway Turn back	0	0	-75,067	0	-22,000
ex-franchise Kirkwall Turn back	-317,000	-375,188	-186,564	-37,262	-195,532
Total Demand Change	**-69,820**	**-21,627**	**-270,720**	**-30,873**	**510,409**

a) Please discuss the main drivers for the large increase in in-franchise and ex-franchise growth in 2015-16.

b) Please discuss the causes or factors contributing to the significant turn back of capacity for both the ex-franchise Parkway and ex-franchise Kirkwall.

c) Please discuss if Union expects to continue to witness significant turn back capacities in the future.

Response:

a) The large growth in Dawn-Parkway pipeline capacity for in-franchise and ex-franchise customers in 2015-16 is primarily driven by Ontario and Québec LDCs seeking access to the liquidity, affordability and diversity of the Dawn Hub and access to new supply sources such as production from the Marcellus and Utica shale formations. The increase in Dawn-Parkway pipeline capacity demand results in Union, Gaz Métro and Enbridge reducing reliance on

Empress natural gas supply and long-haul pipeline transportation. This gas supply portfolio shift provides customers in Ontario and Québec with significant annual natural gas cost savings, estimated to range between $273 million and $308 million (Please see Exhibit I.A3.UGL.Staff.21).

b) Union has experienced significant turn back of Dawn-Kirkwall transportation capacity as a result of a combination of declining Alberta supply and the emergence of the Marcellus shale gas. U.S. Northeast customers that hold transportation capacity on pipelines downstream of Kirkwall in the U.S. have been able to access Marcellus and other supply on those pipelines at a lower landed cost than natural gas sourced from Empress. Overall this has resulted in turn back of Dawn-Kirkwall capacity of nearly 1.0 Bcf/d since 2011.

To date, Union has not experienced significant turn back of capacity for ex-franchise Dawn-Parkway transportation capacity. In fact, as discussed above in response to part a) and as provided in EB-2013-0074, Section 7, demand for Dawn-Parkway transportation starting November 1, 2015 has increased. Union believes that there will be further demand for Dawn-Parkway System capacity in the future (Please see Exhibit I.A4.UGL.APPRO.11).

c) In EB-2011-0210, Union provided an analysis of the Dawn-Parkway System capacity at risk of turn back (Exhibit J.D-14-16-8, Attachment 2). This analysis has been updated in Table 1 below. Union does not control the timing and quantity of turn back as shippers assess their own capacity within the context of their own gas supply portfolios.

Table 2 identifies turn back that Union included in the Dawn-Parkway System modeling for the proposed projects (EB-2013-0074). The quantities identified in Table 2 are a subset of those included in Table 1. For Dawn-Kirkwall, Union is forecasting that all at risk quantities in Table 1 will be either turned back through reverse open season or at contract term expiry (Please see Exhibit I.A4.UGL.Energy Probe.21 a). For Dawn-Parkway, Union is forecasting turn back identified through reverse open season plus approximately 120 TJ/d of capacity from other shippers. Union does not forecast that the U.S. Northeast utilities will turn back Dawn-Parkway capacity before October 31, 2020.

Volumes Deemed At Risk

Path	Nov-15	Nov-16	Nov-17	Nov-18	Nov-19	Dec-20	Total
Dawn - Kirkwall	195,532	31,746	134,077	138,600	-	-	499,955
Dawn-Parkway	22,000	237,762	300,155	116,689	21,604	500	698,710
Total	217,532	269,508	434,232	255,289	21,604	500	1,198,665
Cumulative	217,532	487,040	921,272	1,176,561	1,198,165	1,198,665	

Forecasted Turnback - used for modelling

Path	Nov-15	Nov-16	Nov-17	Nov-18	Nov-19	Dec-20	Total
Dawn-Kirkwall	195,532	31,746	134,077	138,600		-	499,955
Dawn-Parkway	22,000	60,000	106,737	-	-	-	188,737
Total	217,532	91,746	240,814	138,600	-	-	688,692
Cumulative	217,532	309,278	550,092	688,692	688,692	688,692	

UNION GAS LIMITED

Answer to Interrogatory from
Association of Power Producers of Ontario ("APPRO")

Ref: EB-2013-0074 Section 7 Union North, Enbridge and GMi Capacity,

Preamble: Union filed a letter dated April 29, 2013 received from TransCanada as part of a submission to the NEB in TransCanada's Mainline tariff amendments. The letter dealt with TransCanada notice to Union that it did not receive its Board approval to construct its proposed 2015 expansion project downstream of Parkway.

a) Please file a copy of the letter(s) received from TransCanada.

b) Is Union aware if Enbridge and GMi received similar letters from TransCanada?

c) Please discuss how this lack of approval for downstream facilities affects Union's Dawn-Parkway expansion projects. This discussion should include, but not limited to the proposed facilities, potential reconfiguration of the interconnection with Enbridge's GTA project, timing, rate implications and economic and other justification for the expansion.

d) Enbridge in its GTA reinforcement project plans on transporting 400,000 GJ/d of gas on Union's expansion projects. In the event that the OEB does not approve Segment A of the GTA project please discuss how this affects the Dawn-Parkway growth projects.

e) Is the contract with Vermont Gas for 8,100 GJ/d impacted in any way by TransCanada's lack of approval to expand downstream of Parkway?

Response:

a) Please see Exhibit I.A3.UGL.Staff.20 a).

b) Union is aware that Gaz Métro received a similar letter to Union but is not aware of any letter received by Enbridge as Enbridge was not a participant in the TCPL Eastern Mainline Facilities Expansion program originally proposed for 2014 in-service and later changed by TCPL to 2015 in-service.

c) Please see Exhibit I.A1.UGL.Staff.7.

d) Please see Exhibit I.A1.UGL.Staff.8.

e) Union's contract with Vermont Gas for 8,100 GJ/d of Dawn-Parkway transportation capacity is not impacted by TransCanada's lack of approval to expand downstream of Parkway.

Vermont Gas has existing capacity downstream of Parkway. All Shipper conditions precedent in the contract have been satisfied.

UNION GAS LIMITED

Answer to Interrogatory from
Association of Power Producers of Ontario ("APPRO")

Ref: EB-2012-0433 Application

Preamble: Union is proposing to construct the Parkway West project which consists of various pipeline and compressor facilities to provide redundancy protection against potential compressor and pipeline failures. The sizing of the compressor and related piping is intended to cover the loss of the largest compressor at Parkway, which is understood to be the proposed Parkway D compressor (EB-2013-0074).

a) Please discuss the implications of the sizing and timing and other issues related to the proposed Parkway West facilities under the following circumstances:

i. The facilities that applied for under EB-2013-0074 are downsized to recognize the potential inability of shippers to transport those volumes downstream of Parkway on TransCanada.
ii. The EB-2012-0074 facilities are downsized under the assumption that Segment of Enbridge's GTA reinforcement is not approved.

iii. The combination of i. and ii. above.

Response:

a) i. Please see Exhibit I.A1.UGL.Staff.7.

ii. Please see Exhibit I.A1.UGL.Staff.8.

iii. Please see Exhibit I.A1.UGL.Staff.8.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

b) Please confirm that the proposed Unit C at Parkway West will be used only as for LCU purposes and that Union does not intend to use the compressor to compress incremental gas supplies moved over the Union/Dawn/Parkway system, or from Niagara via Kirkwall to Parkway, or over any other system. Would Union use the compressor for these purposes if it were the only compressor approved in the proceeding for Parkway West?

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

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

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

f) Please discuss whether the proposed Unit D at Parkway West, the "growth compressor" will take any of the current gas currently compressed at Parkway, and whether there is any need for it to do so, or whether it will be used to compress incremental gas volumes that are not now compressed at Parkway station, which come from Marcellus or are moved on the Union Dawn-Parkway pipeline, from Dawn or to displace gas that currently is transported over the TCPL mainline, its Northern, Central, and Eastern Delivery Areas, or to compress gas for Enbridge to take at Bram West which Enbridge currently takes at Parkway (suction) or Lisgar; or incremental gas required by Enbridge. Please discuss the amounts that fall into each category.

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

   i. laterals off the Dawn-Parkway system;
   ii. laterals off the TCPL Niagara or Hamilton lines;
   iii. by gas compressed at Parkway and moved through either Union or TCPL facilities, and which facilities. For this category of gas, please provide the transportation arrangements by which the gas is moved from Parkway to the CDA customers;
   iv. the amount of gas currently consumed on an annual, peak, seasonal average day, both in absolute terms and in percentage of total or franchise system, in Union's Central Delivery Area. Please provide a map showing the boundaries of that area.

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

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

   i. Does it intend not to renew any contracts that expire in future years?
   ii. Does Union anticipate that TCPL proposed conversion of some of its facilities to oil service will cause Union, effective November 1, 2016 (or later), to be unable to renew or complete the initial term of any of its existing contracts? To what extent? Please discuss fully.
   iii. What is Union's estimate of the likely TCPL tolls to its (Union) various delivery areas, in the event its oil east project proceeds? Compare that estimate to the current TCPL toll, the toll derived from the NEB's RH-003-2011, the tolls proposed by TCPL in its Application for Review and Variance (none of which take into account the proposed oil east project).
   iv. To what extent is Unit D going to compress incremental volumes (that is, volumes of gas that are not now provided through another transportation path, including Union's Dawn-Parkway) for the Enbridge/GTA Influence Area, and other parts of the Enbridge system, in each of the years from 2015 to 2025, inclusive?
   v. To what extent is the Unit D compressor to be used to compress gas that is destined for the Union northern delivery area:

      a) to replace gas that is now supplied through Union contracts on the mainline;
      b) incremental volume forecast to be required in the northern delivery area for the period 2015 to 2025;
      c) please discuss the geographic part of the Union's northern delivery area to which such gas will be delivered;
      d) provide the same analysis for Union's eastern delivery area.

Response:

a) Not confirmed. Parkway A does not provide LCU coverage. Although an individual unit is capable of providing a percentage of the total required flow, both Parkway A & B are required to run at full capacity to meet contracted demands.

The Enbridge contracted demands to the Parkway (Cons) and Lisgar interconnect are not dependent on the compressor, however, there are several failure modes associated with the Parkway (Cons) interconnection that would impact the flow of natural gas into the Enbridge system as outlined in EB 2012-0433, Section 8, page 71, paragraph 29.

b) Confirmed. If the Parkway LCU unit is approved the compressor capacity will be held in reserve for loss of critical unit coverage.

Please see Exhibit I.A4.UGL.Staff 23, Part (b) for the response to a single compressor being approved.

c) Not confirmed. Due to the requirement for Parkway A and Parkway B to operate at full capacity on design day, a loss of Parkway B would require a unit of similar size, such as the proposed Parkway C, to allow for Union to continue to provide 100% of firm contracted demands.

d) Union does not complete forecasts beyond a 5 year horizon. Please see the table below for percentage utilization of the Parkway compressors and throughput for 2012-2018. Please note, forecast volumes assume any available surplus has been sold and utilization after 2015 is a combination of A, B & D.

Winter	Total Volume Required through Parkway Compression (TJ/d)	Power Available (MW)	Power Utilized (MW)	Utilization (%)
12/13	2235	52.9	49.3	93.2
13/14	2537	52.9	52.8	99.8
14/15	2465	52.9	52.9	100
15/16	3290	87.9	75.0	85.3
16/17	3316	87.9	74.9	85.2
17/18	3435	87.9	75.8	86.2

e) See the response d) above for the percentage capacity and design day throughput.

Please find the actual peak, average winter day, and average summer day for 2010-2012 below. Please note, Union has calculated the utilization to respond to this question, and does not typically track this information. Additionally, Union does not track individual throughput of the compressors, and can only provide utilization percentage. Union is not able to forecast actual peak, average winter day, and average summer day.

Monthly "Peak" Export Day	Parkway A % of Max HP Utilization	Parkway B % of Max HP Utilization	Parkway A Average % Utilization for the Month	Parkway B Average % Utilization for the Month
28-Jan-2010	1%	72%	24%	34%
11-Feb-2010	0%	68%	25%	32%
26-Mar-2010	0%	78%	28%	15%
28-Apr-2010	0%	76%	39%	15%
13-May-2010	0%	81%	35%	22%
30-Jun-2010	0%	60%	30%	31%
12-Jul-2010	0%	77%	10%	49%
31-Aug-2010	81%	0%	29%	2%
16-Sep-2010	52%	0%	26%	4%
04-Oct-2010	19%	59%	37%	2%
29-Nov-2010	0%	70%	49%	20%
09-Dec-2010	0%	68%	3%	60%
10-Jan-2011	0%	89%	1%	69%
21-Feb-2011	0%	90%	13%	52%
02-Mar-2011	13%	72%	23%	24%
05-Apr-2011	0%	76%	35%	14%
16-May-2011	86%	0%	38%	0%
08-Jun-2011	70%	0%	33%	2%
21-Jul-2011	69%	0%	40%	3%
02-Aug-2011	0%	0%	2%	0%
14-Sep-2011	68%	0%	43%	0%
29-Oct-2011	0%	66%	51%	11%
23-Nov-2011	0%	89%	12%	28%
28-Dec-2011	0%	87%	11%	55%
14-Jan-2012	0%	92%	7%	60%
11-Feb-2012	0%	70%	2%	51%
05-Mar-2012	0%	82%	8%	30%
03-Apr-2012	0%	78%	25%	33%
01-May-2012	54%	8%	38%	0%
21-Jun-2012	0%	74%	29%	28%
17-Jul-2012	0%	47%	14%	17%
08-Aug-2012	70%	0%	59%	0%
06-Sep-2012	52%	0%	52%	0%
16-Oct-2012	14%	66%	33%	18%
29-Nov-2012	0%	82%	7%	69%
11-Dec-2012	0%	80%	12%	58%
23-Jan-2013	0%	87%	6%	61%
05-Feb-2013	0%	71%	5%	69%
19-Mar-2013	0%	84%	5%	60%
12-Apr-2013	0%	86%	14%	38%

f) Parkway D is required for incremental gas volumes that are not currently compressed at Parkway. Please refer to EB-2013-0074, Section 7, Page 9, Figure 7-4 for detail on the incremental volumes requiring the construction of the Parkway D compressor starting Nov 1, 2015. In addition, Enbridge has requested 400,000 GJ/d of their current M12 contract to change delivery point from Parkway Cons/Lisgar (suction) to Parkway discharge (EB-2013-0074, Section 7, Page 12, lines 13-18).

Please refer to part (i), sub-part (v) of this question, for detail on volumes displaced from the TCPL mainline.

g)

i) The term Union Central Delivery Area (Union CDA) is a TCPL term. TCPL considers the following 4 City Gate Stations as the Union CDA; Bronte, Burlington, Hamilton Gate, and Nanticoke. These TCPL stations supply part of Union's Infranchise South market. These are all points off of TransCanada's system in Union CDA. All of these demands are therefore supplied from the TransCanada System. There are currently no laterals off of the Dawn-Parkway system that supply Union's CDA.

ii) TCPL operates two pipeline systems that can feed the Union CDA. The first is a line that runs from Parkway towards Hamilton and on to the Niagara export point. It is often referred to as the TCPL Domestic Line. For Union CDA, gas can enter this line at either Parkway or Ancaster where the TCPL Kirkwall to Niagara line can feed gas to the Domestic line. The second line in the area that can feed gas to the Union CDA is the TCPL Kirkwall to Niagara Line. The Bronte and Burlington Gate Stations are fed off of the Domestic Line only. The Hamilton Gate 3 Station can be fed from either the Domestic Line or the Kirkwall Niagara Line. The Kirkwall to Dominion Gate Station (also called Nanticoke) is fed from the Kirkwall Niagara pipeline only.

As detailed in schedule 8-2, the design day demand table in the reference lists 81,571 GJ/d for Kirkwall –Dominion, 59,699 GJ/d for Hamilton #3, and 137,951 GJ/d for Burlington/Bronte.

iii) Contracts that Union has to the Union CDA for delivery on design day as of November 1, 2012 are:

a) 60,000 GJ/d from Dawn to Union CDA
b) 16,000 GJ/d from Union Parkway Belt to Union CDA
c) Union also holds a secondary market contract that is not with TransCanada which lands 64,000 GJ/d in the Union CDA.

d) Union also holds a long haul firm contract Empress to Union CDA for 67,327 GJ/d, however, on a design day, this contract is assumed to be diverted to upstream markets.

iv) The following are the flows for 2010 to 2013 at an annual, peak, and seasonal average load for the consumption from the four aforementioned taps from TCPL that make up Union CDA that outlines the amount/extent that Union receives from TCPL.

Tap	Year			Seasonal Avg (GJ/d)	
		Annual (GJ)	Peak (GJ/d)	Winter	Summer
Bronte	2010	**15,496,462**	**115,620**	**69,643**	**23,272**
	2011	**11,538,465**	**123,811**	**63,978**	**8,774**
	2012	**10,093,139**	**119,021**	**57,928**	**6,019**
	2013 *	***8,235,884***	**120,985**	***75,132***	***28,347***
Burlington	2010	**65,069**	**7,534**	**346**	**60**
	2011	**1,045,820**	**57,744**	**3,723**	**2,260**
	2012	**573,397**	**45,070**	**38**	**2,652**
	2013 *	***23,756***	***5,219***	***264***	***0***
Hamilton Gate	2010	**15,298,057**	**84,418**	**25,841**	**53,253**
	2011	**3,747,791**	**87,257**	**14,091**	**7,570**
	2012	**27,597**	**7,322**	**180**	**1**
	2013 *	***175,420***	***32,511***	***1,948***	***2***
Nanticoke	2010	**6,949,831**	**60,318**	**17,751**	**19,950**
	2011	**8,296,965**	**66,504**	**33,696**	**14,995**
	2012	**8,428,127**	**53,232**	**31,203**	**17,221**
	2013 *	***4,868,816***	**78,766**	***50,318***	***6,542***

Note: based on operational flows, the Peak day should not be assumed to be coincidental in the various areas.

** 2013 actuals to date - up to May 22, 2013*

Union does not forecast annual or seasonal average consumption. The design day demand is provided at Schedule 8.3 through 2015/2016 and is forecast to stay flat beyond that time-frame.

The following link is to a TCPL map outlining TCPL's system and delivery areas, including the CDA.

http://www.transcanada.com/customerexpress/docs/ml_system_maps/delivery_export.pdf

A more detailed map of the eastern toll zone showing the Union CDA is also available at the following link.

http://www.transcanada.com/customerexpress/docs/ml_regulatory_tariff/eastern_toll_zone.pdf

h) For the particulars of each contract Union currently holds on the TCPL Mainline, please see Attachment 1.

For 2013, Union has only requested annual renewals of existing TCPL contracts and TCPL has not declined to renew any that end October 31, 2013, 2014 or 2015.

i) Please refer to Attachment 2, which provides detail regarding capacity that Union has turned back to TCPL for the period 2008 to 2013. As can be seen from the table, other than a small amount of turnback Union did in 2011 (Empress to SSMDA), the remaining turnback has been based on specific direct-purchase customer instruction to Union.

i. Union continuously evaluates its upstream transportation contracts for all paths, including those contracts with TCPL. Union is planning to reduce certain TCPL contractual rights as is noted at EB-2013-0074 Section 11, page 17, figure 11-5.

ii. Notification by (TCPL), the proposed conversion of some of TCPL's facilities to oil service may leave the EDA short up to 300 TJ per day of existing firm transportation service. Union does not know, at this time, how this proposed conversion will impact TCPL's ability to, renew the transportation contracts that Union relies on to serve its system sales or bundled direct purchase customers. Union will work with TCPL and other stakeholders, to ensure the markets receive the services required and Ontario gas consumers are not negatively impacted by the proposed oil conversion. Please see Exhibit I.A1.UGL.Staff.1 a).

iii. Please see Exhibit I.A1.UGL.Staff.1 part a).

iv. Enbridge currently has the ability to deliver 519,088 GJ/d of natural gas into the TransCanada system at Parkway through its Dawn-Parkway transportation contracts. These volumes currently go through the compressors at Parkway.

In 2015, with the completion of the Parkway D Compressor, Enbridge will have the ability to deliver a total of 1,319,088 GJ/d into the TransCanada system through its Dawn-Parkway transportation contracts. A breakdown is shown below:

- 519,088 GJ/d of Dawn-Parkway transportation capacity can be delivered to Parkway(TCPL) today.
- 400,000 GJ/d is currently delivered to Parkway(Consumers) through Dawn-Parkway transportation capacity on the suction side of Parkway (i.e. without going through the Parkway compressors). This capacity will be shifted to Parkway(TCPL) deliveries and will go through the Parkway compression starting November 2015.
- 400,000 GJ/d of new Dawn-Parkway transportation capacity with Parkway(TCPL) deliveries will replace long haul discretionary services currently contracted on the TransCanada system

Union expects no further changes in Enbridge's Dawn-Parkway transportation capacity for the foreseeable future.

v. a) As noted in EB-2013-0074 Section 11 figure 11-5 and page 18 lines 3 through 18, the Parkway D compressor will be used to move 10,000 GJ/d from Dawn to the Union NDA.

b) Union does not have a growth forecast for the period 2015-2025.

c) The gas will be delivered to Union NDA on the TCPL mainline.

d) As noted in EB-2013-0074 Section 11 figure 11-5, and page 18 lines 3 through 18, the Parkway D compressor will be used to move 57,831 GJ/d from Dawn to the Union EDA.

Union does not have a growth forecast for the period 2015-2025.

The gas will be delivered to Union EDA on the TCPL mainline.

UNION GAS LIMITED

Summary of Union's Transportation Contracts on TCPL's Mainline

Line No.	Primary Receipt Point (a)	Primary Delivery Point (b)	Contract Type (c)	Contract Quantity (GJs) (d)	Contract Termination Date (e)
1	Empress	Centrat MDA	FT	4,522	01-Jan-2014
2	Empress	Union WDA	FT	39,880	01-Jan-2014
3	Empress	Union NDA	FT	64,715	01-Jan-2014
4	Empress	Union NCDA	FT	1,545	01-Nov-2014
5	Empress	Union NCDA	FT	9,211	01-Jan-2014
6	Empress	Union SSMDA	FT	2,700	01-Jan-2014
7	Empress	Union EDA	FT	8,675	01-Nov-2014
8	Empress	Union EDA	FT	50,426	01-Jan-2014
9	Empress	Union CDA	FT	1,004	01-Nov-2014
10	Empress	Union CDA	FT	40,000	01-Nov-2014
11	Empress	Union CDA	FT	1,979	01-Jan-2014
12	Empress	Union CDA	FT	3,699	01-Feb-2014
13	Empress	Union CDA	FT	12,500	01-Jan-2016
14	Empress	Union CDA	FT	8,145	01-Jan-2016
15	Parkway	Union NCDA	STS-WD	13,704	01-Jan-2014
16	Parkway	Union WDA	STS-WD	31,420	01-Jan-2014
17	Dawn	Union SSMDA	STS-WD	35,022	01-Jan-2014
18	Parkway	Union NDA	STS-WD	48,375	01-Jan-2014
19	Parkway	Union EDA	STS-WD	68,520	01-Jan-2014
20	Union WDA	Parkway	STS-INJ	3,150	01-Jan-2014
21	Union EDA	Parkway	STS-INJ	47,571	01-Jan-2014
22	Union NDA	Parkway	STS-INJ	49,100	01-Jan-2014
23	Niagara	Kirkwall	FT	21,101	01-Nov-2022
24	Parkway	Union EDA	FT	30,000	01-Nov-2016
25	Parkway	Union EDA	FT	5,000	01-Nov-2017
26	Parkway	Union CDA	FT	16,000	01-Nov-2014

Capacity Not Renewed by Union

Line No.	Contract Detail	Contract Type	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
1	**Empress to Union WDA**	FT	44,482	44,482	44,482	44,482	44,482	44,482
2	Capacity not renewed - customer turnback				-4,602			
3	**TOTAL REMAINING EMPRESS TO UNION WDA**		**44,482**	**44,482**	**39,880**	**39,880**	**39,880**	**39,880**
4	**Empress to Union NDA**	FT	85,665	85,665	85,665	85,665	85,665	85,665
5	Capacity not renewed - customer turnback			-2,525	-2,259	-13,256	-1,880	-1,030
6	**TOTAL REMAINING EMPRESS TO UNION NDA**		**85,665**	**83,140**	**80,881**	**67,625**	**65,745**	**64,715**
7	**Empress to Union NCDA**	FT	11,039	11,039	11,039	11,039	11,039	11,039
8	Capacity not renewed - customer turnback					-283		
9	**TOTAL REMAINING EMPRESS TO UNION NCDA**		**11,039**	**11,039**	**11,039**	**10,756**	**10,756**	**10,756**
10	**Empress to Union SSMDA**	FT	32,069	32,069	32,069	32,069	32,069	32,069
11	Capacity not renewed - customer turnback				-22,626	-300		
12	Capacity not renewed - Union turnback						-6,443	
13	**TOTAL REMAINING EMPRESS TO UNION SSMDA**		**32,069**	**32,069**	**9,443**	**9,143**	**2,700**	**2,700**
14	**Empress to Union EDA**	FT	85,989	85,989	85,989	85,989	85,989	85,989
15	Capacity not renewed - customer turnback				-24,833	-1,905	-150	
16	**TOTAL REMAINING EMPRESS TO UNION EDA**		**85,989**	**85,989**	**61,156**	**59,251**	**59,101**	**59,101**
17	**Empress to Union CDA**	FT	91,870	91,870	91,870	91,870	91,870	91,870
18	Capacity not renewed - customer turnback			-20,543				-4,000
19	**TOTAL REMAINING EMPRESS TO UNION CDA**		**91,870**	**71,327**	**71,327**	**71,327**	**71,327**	**67,327**

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

- The new pipeline capacity being created, in TJ/day or percent bcf/day
- A map providing the proposed route including its receipt and delivery points, and any pipeline interconnects made over the route
- The producer/marketer/LDC contracts underpinning the expansions
- The status of each of the projects, eg. FERC application filed, likely date of FERC ruling, FERC decision approval already approved, in which case, provide a copy of the FERC approval or a link to obtain same
- How each project would interconnect at the Canada-US border (Niagara and Chippawa) with TCPL
- Provide a similar description of the Nexus project, which is cosponsored by Spectra (Union Gas's parent), Enbridge Inc., and DTE Inc. to move Marcellus gas to Dawn
- Provide a similar description of any other project that proposes to bring Marcellus gas to Dawn.

Response:

Expansion projects that would bring Marcellus natural gas supply to Niagara and Chippawa are discussed in the pre-filed evidence for Union's application for approval of its C1 Kirkwall-Dawn and M12-X firm transportation rates (EB-2010-0296). The pre-filed evidence can be accessed at the link below.

http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/217235/view/Union_APPL_20101006.PDF

In Exhibit A, Page 5 of 14, Table 3 of that pre-filed evidence, Union summarized its understanding of the facilities expansion projects of National Fuel Gas, Tennessee Gas Pipeline and Empire State Pipeline to move Marcellus natural gas to the Niagara and Chippawa export points. That table is reproduced below.

Table 3
Pipeline Capacity Awarded Between
Marcellus Region and U.S./Canadian Border

Pipeline	Quantity Gj/day (Approx.)	Receipt Point	Delivery Point	Service Commencement Date	Term Years
Empire State Pipeline	369,000	Marcellus Shale in Tioga County, PA.	Chippawa	As early as September 2011	10
National Fuel Gas Supply Corporation	338,000	Marcellus Shale in Leidy and Ellisburg, PA.	Niagara	As early as July 2012	20
Tennessee Gas Pipeline	158,000	Marcellus Shale and Leidy	Niagara	November 2012	15

Empire State Pipeline has also proposed further system expansion that can move Marcellus natural gas for export at Chippawa as discussed in EB-2010-0296 (page 7 of 14).
Union summarized this information in its pre-filed evidence for the Parkway West Project (EB-2012-0433, Section 4, paragraph 37) and for Brantford-Kirkwall/Parkway D Compressor (EB-2013-0074, Section 6, pages 4-5).

Union understands that Tennessee Gas Pipeline may be considering additional expansion to transport natural gas from the Marcellus to Niagara. Union is not aware of any other projects proposed to move Marcellus natural gas to Niagara and Chippawa for export to Canada.

Further information regarding the expansions projects can be found at the links noted below:
Empire State Pipeline Expansion:

http://www.natfuel.com/empire/docs/Tioga1.pdf
http://investor.nationalfuelgas.com/phoenix.zhtml?c=90873&p=irol-newsArticle&ID=1419142&highlight

National Fuel Gas Expansion:

http://www.natfuel.com/supply/docs/NorthernAccess.pdf http://investor.nationalfuelgas.com/phoenix.zhtml?c=90873&p=irol-newsArticle&ID=1419142&highlight

Tennessee Gas Pipeline Expansion:

http://www.kindermorgan.com/business/gas_pipelines/east/TGP/NSD/images/NSD_Map.jpg
http://www.kindermorgan.com/business/gas_pipelines/east/TGP/NSD/

The FERC files for the National Fuel Gas, Tennessee Gas Pipeline and Empire State Pipeline projects can be found at the link below:
https://www.ferc.gov/industries/gas/indus-act/pipelines/approved-projects.asp

Information regarding each project can be accessed at the links below:

a) Empire State Pipeline - CP10-493
b) National Fuel Gas - CP11-128
c) Tennessee Gas Pipeline - CP11-30

For a discussion of other projects to bring Marcellus natural gas to Dawn please see the response to Exhibit I.A1.UGL.Staff.1 part b).

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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a) This response was provided by ICF International:

The WCSB is a world class shale gas basin, and development of this resource has only recently started. The two principal shale plays are the Montney in Alberta and BC and the Horn River Basin in NE BC. Other plays include the Cordova Basin and Liard Basin in NE BC, coalbed methane in Alberta, and a range of other plays including associated gas from tight oil. Proved gas resources of the WCSB are approximately 60 Tcf and undiscovered resources are in the range of several hundred Tcf.

Resource Assessment Summaries

ICF has reviewed the availability of government agency publications related to the assessment of remaining recoverable conventional and unconventional gas resources in Canada. We have also reviewed the availability of information on proved gas reserves. The primary agencies that periodically develop reserves or resource assessments are as follows:

- Canadian Association of Petroleum Producers (CAPP) – proved oil and gas reserves by province
- National Energy Board (NEB) – assessments of conventional and unconventional gas and liquids resources
- Alberta Energy Resources Conservation Board (ERCB) and Alberta Geological Survey – assessments of conventional and unconventional gas and liquids in Alberta

The BC Ministry of Energy and Mines tracks industry activity and evaluates geology but does not publish assessments. The Saskatchewan Geological Survey does not regularly publish resource assessments, although they did develop a conventional assessment in 2008.

Proved Reserves

CAPP publishes province level oil and gas proved reserves annually. The current reserves assessment is for wells drilled through year-end 2010. It is not known why there is now such a long lead time for reserves estimation in Canada. **Table 1** presents the current assessment of proved gas reserves. Proved reserves were 70.4 Tcf as of year end 2010. Alberta had 38.8 Tcf of reserves and BC had 27.8 Tcf of reserves. The increase of 8.6 Tcf of reserves in BC was likely mostly related to development of Montney and Horn River Shales.

Table 1 Proved Gas Reserves by Province as of Year-End 2010

2,010

Billion Cubic Feet at 14.65 psia and 60 F.

	Remaining Reserves at Previous Year	Remaining Reserves at Current Year	Net Changes in Reserves
NATURAL GAS			
Conventional Areas			
British Columbia......................................	19,183	27,758	8,575
Alberta...	39,760	38,784	-976
Saskatchewan..	2,754	2,261	-493
Ontario...	689	682	-7
New Brunswick...	142	138	-4
Mainland Territories.................................	472	467	-5
Eastcoast Offshore..................................	388	277	-111
TOTAL MARKETABLE NATURAL GAS	**63,388**	**70,366**	**6,979**

Note: Effective 2010 CAPP Reserves are based on provincial and NEB data. Year ends vary.

Undiscovered Conventional and Unconventional Gas Potential

The most recent national assessment by the NEB was published in 2011. [1] [2] The assessment basis date was year-end 2009. The assessment summarized the following categories of gas resources by province and/or by geological basin:

- Cumulative production
- Proved Reserves
- Banked Reserves (undeveloped fields)
- Undiscovered conventional resources
- Undiscovered unconventional resources

The NEB assessment is presented in **Table 2**. The total volume of remaining marketable (recoverable) gas resources was assessed to be 664 Tcf. Assuming Montney is categorized as shale gas (NEB categorizes it as tight gas) the total assessed shale gas resource was 198 Tcf. Of that, 108 Tcf was the Montney, 78 Tcf was the Horn River Basin, and 12 Tcf was "other." Tight gas sand was assessed at 62 Tcf and coalbed methane was assessed at 45 Tcf. All of the assessed unconventional gas was in the WCSB. (Note that both shale gas and coalbed methane are present in Eastern Canada).

[1] National Energy Board, 2011, "Canada's Energy Future – Energy Security and Demand Projections to 2035," November, 2011.
[2] National Energy Board and BC Ministry of Energy and Mines, 2011, "Natural Gas in Northeastern British Columbia's Horn River Basin as of Year End 2009," May 2013.

The total assessed remaining potential of the WCSB in this assessment was 432 Tcf.
The NEB assessment did not document gas in place. The next published assessment update is likely to be available in the second half of 2013 with information through 2011.

Table 2. Province Level 2011 NEB Gas Resource Assessment of Canada

		Remaining Marketable Resources Tcf	NEB Forecast Cumulative Production 2011-2035 Tcf
WCSB	Conventional	297	95
	Tight portion	170	65
	Montney portion	108	33
	CBM	45	4
	Shale gas (excl. Montney; 78 Tcf is HRB)	90	21
	Subtotal	432	120
East	Ontario	1	0
	Quebec	7	0
	Maritimes	1	0
	Subtotal	9	0
Frontiers	Nova Scotia and Newfoundland	90	4
	Mackenzie-Beaufort	76	7
	Arctic Islands	40	0
	Other Frontier	17	0
	Subtotal	223	11
Canada total		**664**	**131**
Shale total including Montney (ICF definitions)		198	54
TIght total without Montney (ICF definitions)		62	32
CBM		45	4
Conventional total (NEB definitions)		529	106
Conventional total (ICF definitions)		359	41
Unconventional total (NEB definitions)		135	25

Sproule Associates of Calgary assembled a summary in 2012 of published estimates of gas in place and recoverable gas. This summary was compiled as part of the LNG Canada export application. [3] A summary of this analysis is shown in **Table 3**.

Table 3. 2012 Sproule Associates WCSB Gas Resource Summary – Published Ranges

Play	Gas in Place Tcf	Marketable Tcf
Horn River Basin, BC	144-820	61-170
Cordova Basin, BC	83-200	29-68
Liard Basin, NWT	125	31
Montney Play, Alberta and BC	80-700	49-166
Duvernay Play, Alberta	377	n/a
	809-2222	170-435

In the BC LNG NEB Reasons for Decision document, it was stated that the recoverable potential from the Montney play likely ranges from 200 to as high as 500 Tcf. [4]

Another WCSB resource assessment was published in the NEB summary of the Nova Gas Transmission application for pipeline expansions (GH-001-2012). [5] This assessment is presented in **Table 4**.

Table 4. WCSB Resource Summary in NEB Nova Expansion Report

	Gas in Place Tcf	Marketable Tcf
Horn River Basin, BC	490	104
Cordova Basin, BC	77	17.5
Upper Peace River Conventional	15.7	9.7
Total of above	583	131

Note: This does not cover Montney or other WCSB plays

[3] Sproule, 2012, "Overview of Principal Gas Supply Basins in Western Canada – Compiled from Public Sources by Sproule Associates, Ltd for LNG Canada Development Inc," August 12, 2012.
[4] NEB Reasons for Decision memo summarizing approval of the BC LNG export application; filing GH-003-2011, February, 2012.
[5] National Energy Board Report, NOVA Gas Transmission, GH-001-2012, January, 2013.

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

However, the fact that the level of expected reserves is sufficient to meet these demands does not necessarily mean that the resources will actually be produced to meet these demands. Given growth in shale gas production in the U.S., including the Marcellus, Bakken, Eagle Ford, and other basins, Union expects North American commodity prices to remain relatively low, between $4.00 and $6.00 per Mmbtu in real terms for the next fifteen to twenty years. At these prices, much of the potential WCSB production may not be economic. Hence, while sufficient resources are available to meet the demands from many different markets, actual WCSB production is expected to be limited by the price of natural gas in the WCSB. Projected prices in the WCSB are expected to be sufficient to support production to meet demand in Western Canada, including incremental oil sands requirements, LNG exports from British Columbia, if the export facilities are built, as well as limited exports to Eastern Canadian and U.S. markets.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

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

Response:

a) to c) Union is not aware of any restrictions on importing natural gas and shale gas from the United States. Significant imports of natural gas from the United States are happening today.

Union does not have either an absolute volume or a percentage of its total requirements that it would be prepared to import from the United States or receive from any other basin.

As discussed at EB-2013-0074 Section 11 and further in EB-2013-0109, Exhibit B, Tab 3, Union's 2012, Union's Gas Supply portfolio is guided by a set of principles. These principles are designed to ensure customers have access to secure and reliable supplies at a prudently incurred cost and are as follows:

- Ensure secure and reliable gas supply to Union's service territory;
- Minimize risk by diversifying contract terms, supply basins and upstream pipelines
- Encourage new sources of supply as well as new infrastructure to Union's service territory;
- Meet planned peak day and seasonal gas delivery requirements: and,
- Deliver gas to various receipt points on Union's system to maintain system integrity

These principles are not supply basin specific and are applied regardless of the origin of the gas supply.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

Response:

The evidence states the gas flow through Parkway increased from 0.5 Bcf/d to 2.0 Bcf/d in 2012 as per EB-2012-0433 Section 4, Page 15, lines 14-15. The values represent modelled design day flow as described in EB-2012-0433 Section 5 page 49.

a) Please see Attachments 1 and 2 for actual flows.

b) The figures provided (0.5 PJ/d in 2006 and 2.0 PJ/d in 2012) represent the flow through Parkway compression.

c) The flow through the compressors and to Enbridge at Parkway was provided in part (a) of this question. Union does not understand the second part of this question. Union only forecasts design day flows, which are provided below for 2012/2013 through 2017/2018. For clarity, Union models system capacity based on a "design day" scenario. The "design day" scenario is based on the following assumptions:

- Extreme cold winter day ("Design Day" temperatures)
- Transportation customers nominating their full contracted delivery
- All interruptible volumes off
- Firm supplies into the system only
- Loss of a compressor unit at Lobo or Bright

The “peak day” volume is the highest actual flow experienced in a given time period.

	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Compressed Flow (PJ/d)	2.2	2.3	2.3	3.4	3.4	3.4
Flow to Enbridge (PJ/d)	1.6	1.6	1.6	1.2	1.2	1.2

Date	Flow through Parkway Compression, GJ	Flow to Enbridge at Parkway (Consumers), GJ
01/01/06	102,926	522,299
02/01/06	160,535	534,517
03/01/06	276,870	495,435
04/01/06	212,727	413,423
05/01/06	212,664	607,688
06/01/06	346,492	931,051
07/01/06	246,122	539,682
08/01/06	149,025	462,606
09/01/06	203,089	520,049
10/01/06	319,186	469,309
11/01/06	62,434	361,947
12/01/06	0	466,071
13/01/06	0	467,204
14/01/06	104,091	847,037
15/01/06	554,866	1,092,407
16/01/06	695,388	939,522
17/01/06	425,775	711,627
18/01/06	329,145	717,185
19/01/06	109,246	468,757
20/01/06	0	407,393
21/01/06	0	583,817
22/01/06	131,702	531,946
23/01/06	120,067	506,288
24/01/06	4,935	555,218
25/01/06	290,945	863,475
26/01/06	559,936	1,011,600
27/01/06	20,028	473,310
28/01/06	0	366,268
29/01/06	0	461,516
30/01/06	36	385,141
31/01/06	30,615	528,490
01/02/06	194,139	482,525
02/02/06	5,848	431,316
03/02/06	0	571,540
04/02/06	0	542,882
05/02/06	0	791,044
06/02/06	439,794	916,385
07/02/06	674,248	831,573
08/02/06	765,029	1,002,995
09/02/06	717,873	1,010,578
10/02/06	766,925	952,715
11/02/06	520,139	831,778
12/02/06	668,518	792,206
13/02/06	646,274	827,331
14/02/06	647,337	604,914
15/02/06	254,641	500,451
16/02/06	475,050	741,205

17/02/06	926,502	953,779
18/02/06	1,030,774	1,093,834
19/02/06	825,596	1,125,513
20/02/06	511,452	876,521
21/02/06	576,993	787,932
22/02/06	212,656	616,746
23/02/06	401,127	745,303
24/02/06	698,145	742,947
25/02/06	542,685	797,373
26/02/06	616,551	1,020,449
27/02/06	702,056	1,014,617
28/02/06	349,741	927,164
01/03/06	752,724	849,802
02/03/06	409,080	1,058,813
03/03/06	638,245	962,424
04/03/06	348,164	676,112
05/03/06	332,384	640,075
06/03/06	507,465	768,237
07/03/06	505,789	702,655
08/03/06	515,791	640,267
09/03/06	227,929	396,712
10/03/06	0	471,341
11/03/06	0	394,319
12/03/06	0	355,127
13/03/06	0	436,597
14/03/06	258,689	892,510
15/03/06	458,445	800,233
16/03/06	497,937	727,691
17/03/06	672,944	865,474
18/03/06	498,074	810,836
19/03/06	581,499	766,339
20/03/06	715,702	924,810
21/03/06	446,463	755,304
22/03/06	167,657	788,621
23/03/06	51,448	660,565
24/03/06	0	621,989
25/03/06	0	615,282
26/03/06	0	589,130
27/03/06	0	495,053
28/03/06	0	483,723
29/03/06	0	419,879
30/03/06	0	347,818
31/03/06	0	173,691
01/04/06	0	494,212
02/04/06	0	489,137
03/04/06	0	521,434
04/04/06	0	736,063
05/04/06	0	710,614
06/04/06	0	396,840
07/04/06	0	435,693
08/04/06	0	446,681
09/04/06	0	338,613
10/04/06	0	207,451
11/04/06	0	195,374
12/04/06	0	233,840

13/04/06	0	79,846
14/04/06	0	232,139
15/04/06	0	199,257
16/04/06	0	309,635
17/04/06	0	262,086
18/04/06	0	151,476
19/04/06	0	72,192
20/04/06	0	46,736
21/04/06	0	145,381
22/04/06	0	327,314
23/04/06	0	467,835
24/04/06	0	255,794
25/04/06	0	237,333
26/04/06	0	96,999
27/04/06	0	147,132
28/04/06	0	31,820
29/04/06	0	2,440
30/04/06	0	1,093
01/05/06	0	61,108
02/05/06	0	42,082
03/05/06	0	5,801
04/05/06	0	1,931
05/05/06	0	2,396
06/05/06	0	40,180
07/05/06	0	120,272
08/05/06	0	42,797
09/05/06	0	32,527
10/05/06	0	16,550
11/05/06	0	88,228
12/05/06	0	55,042
13/05/06	0	33,859
14/05/06	0	95,473
15/05/06	0	71,152
16/05/06	0	140,250
17/05/06	0	147,803
18/05/06	0	157,922
19/05/06	0	274,931
20/05/06	0	253,845
21/05/06	0	364,840
22/05/06	0	447,900
23/05/06	0	300,200
24/05/06	0	252,798
25/05/06	0	278,757
26/05/06	0	268,757
27/05/06	0	189,686
28/05/06	0	208,108
29/05/06	0	186,517
30/05/06	0	200,825
31/05/06	0	193,135
01/06/06	0	219,154
02/06/06	0	192,852
03/06/06	0	242,545
04/06/06	0	175,175
05/06/06	0	230,210
06/06/06	0	75,266

07/06/06	0	64,159
08/06/06	0	69,623
09/06/06	0	53,612
10/06/06	0	40,793
11/06/06	0	21,209
12/06/06	0	56,294
13/06/06	0	48,157
14/06/06	0	42,838
15/06/06	0	52,264
16/06/06	0	58,195
17/06/06	0	47,692
18/06/06	0	57,031
19/06/06	0	208,683
20/06/06	0	219,830
21/06/06	0	213,148
22/06/06	0	203,660
23/06/06	0	181,313
24/06/06	0	179,875
25/06/06	0	200,456
26/06/06	0	211,440
27/06/06	0	197,609
28/06/06	0	194,651
29/06/06	0	202,848
30/06/06	0	133,962
01/07/06	0	111,100
02/07/06	0	110,618
03/07/06	0	174,488
04/07/06	0	185,973
05/07/06	0	202,548
06/07/06	0	195,381
07/07/06	0	190,697
08/07/06	0	177,503
09/07/06	0	182,209
10/07/06	0	207,238
11/07/06	0	171,143
12/07/06	0	192,174
13/07/06	0	201,922
14/07/06	0	162,956
15/07/06	0	155,031
16/07/06	0	169,440
17/07/06	0	178,454
18/07/06	0	197,192
19/07/06	0	196,106
20/07/06	0	202,450
21/07/06	0	180,334
22/07/06	0	160,741
23/07/06	0	200,586
24/07/06	0	193,622
25/07/06	0	178,171
26/07/06	0	207,628
27/07/06	0	204,756
28/07/06	0	186,636
29/07/06	0	134,680
30/07/06	0	179,781
31/07/06	0	204,966

01/08/06	0	173,782
02/08/06	0	167,202
03/08/06	0	192,845
04/08/06	0	180,941
05/08/06	0	152,641
06/08/06	0	158,657
07/08/06	0	183,891
08/08/06	0	270,627
09/08/06	0	209,229
10/08/06	0	199,446
11/08/06	0	193,173
12/08/06	0	164,764
13/08/06	0	172,857
14/08/06	0	206,721
15/08/06	0	205,552
16/08/06	0	201,475
17/08/06	0	191,281
18/08/06	0	177,158
19/08/06	0	155,005
20/08/06	0	183,468
21/08/06	0	187,335
22/08/06	0	219,097
23/08/06	0	225,242
24/08/06	0	216,306
25/08/06	0	219,627
26/08/06	0	194,897
27/08/06	0	187,770
28/08/06	0	232,203
29/08/06	0	219,965
30/08/06	0	234,311
31/08/06	0	218,758
01/09/06	0	173,654
02/09/06	0	199,137
03/09/06	0	183,938
04/09/06	0	199,090
05/09/06	0	205,489
06/09/06	0	216,352
07/09/06	0	213,936
08/09/06	0	203,681
09/09/06	0	189,189
10/09/06	0	239,350
11/09/06	0	232,860
12/09/06	0	235,790
13/09/06	0	187,725
14/09/06	0	226,854
15/09/06	0	214,846
16/09/06	0	193,775
17/09/06	0	188,204
18/09/06	0	203,120
19/09/06	0	228,770
20/09/06	0	250,582
21/09/06	0	276,944
22/09/06	0	241,173
23/09/06	0	164,160
24/09/06	0	237,917

25/09/06	0	294,959
26/09/06	0	264,129
27/09/06	0	193,907
28/09/06	0	317,437
29/09/06	0	344,441
30/09/06	0	323,240
01/10/06	0	322,863
02/10/06	0	313,545
03/10/06	0	219,190
04/10/06	0	329,274
05/10/06	0	371,878
06/10/06	0	332,850
07/10/06	0	324,422
08/10/06	0	181,749
09/10/06	0	251,241
10/10/06	0	286,487
11/10/06	0	254,517
12/10/06	0	526,866
13/10/06	182,381	568,691
14/10/06	15,621	453,950
15/10/06	0	453,527
16/10/06	0	379,021
17/10/06	870	367,152
18/10/06	0	305,430
19/10/06	0	443,914
20/10/06	0	435,497
21/10/06	0	342,953
22/10/06	175	410,731
23/10/06	0	576,087
24/10/06	0	611,864
25/10/06	0	587,914
26/10/06	0	610,696
27/10/06	0	581,781
28/10/06	0	596,018
29/10/06	0	647,212
30/10/06	0	428,276
31/10/06	0	469,232
01/11/06	196,255	636,089
02/11/06	501,136	716,937
03/11/06	422,395	688,886
04/11/06	366,153	549,439
05/11/06	343,305	530,807
06/11/06	232,388	406,358
07/11/06	44,112	497,968
08/11/06	0	381,715
09/11/06	0	474,769
10/11/06	38,686	525,667
11/11/06	139,358	573,513
12/11/06	169,461	559,529
13/11/06	246,095	567,128
14/11/06	19,184	562,028
15/11/06	0	494,319
16/11/06	0	411,018
17/11/06	25,940	582,997
18/11/06	10,520	560,487

19/11/06	157,864	729,783
20/11/06	552,203	726,002
21/11/06	637,823	636,111
22/11/06	506,470	601,483
23/11/06	322,227	589,736
24/11/06	226,026	551,578
25/11/06	6,740	530,675
26/11/06	0	414,851
27/11/06	0	410,082
28/11/06	71,901	507,200
29/11/06	140,241	277,943
30/11/06	3,839	497,538
01/12/06	378,816	716,419
02/12/06	590,418	725,873
03/12/06	835,854	869,955
04/12/06	1,198,524	894,161
05/12/06	1,273,201	838,552
06/12/06	919,733	766,118
07/12/06	1,248,872	1,282,445
08/12/06	1,293,438	1,007,172
09/12/06	667,912	750,106
10/12/06	482,918	597,250
11/12/06	771,049	562,243
12/12/06	600,244	523,531
13/12/06	199,803	638,719
14/12/06	167,490	478,199
15/12/06	0	574,643
16/12/06	0	553,693
17/12/06	0	477,370
18/12/06	299,726	616,743
19/12/06	579,998	668,447
20/12/06	413,502	590,931
21/12/06	510,285	541,340
22/12/06	206,833	512,132
23/12/06	607	550,263
24/12/06	0	582,523
25/12/06	0	554,771
26/12/06	66,758	670,066
27/12/06	437,727	734,660
28/12/06	491,302	608,340
29/12/06	719,322	747,594
30/12/06	492,437	743,946
31/12/06	378,659	560,054
01/01/07	140,474	580,207
02/01/07	417,803	666,622
03/01/07	233,042	629,505
04/01/07	14,653	477,193
05/01/07	0	375,002
06/01/07	0	523,143
07/01/07	54,414	598,939
08/01/07	398,644	694,355
09/01/07	605,115	860,480
10/01/07	1,045,233	998,955
11/01/07	788,049	718,969
12/01/07	399,186	545,847

13/01/07	722,242	797,597
14/01/07	816,415	858,595
15/01/07	1,264,328	1,026,869
16/01/07	1,457,231	1,154,033
17/01/07	1,114,580	926,340
18/01/07	795,678	684,003
19/01/07	906,174	787,423
20/01/07	1,332,421	984,063
21/01/07	1,387,656	860,104
22/01/07	1,330,575	762,612
23/01/07	1,253,622	589,819
24/01/07	1,334,760	994,355
25/01/07	977,531	1,390,398
26/01/07	1,203,985	969,487
27/01/07	1,295,486	788,319
28/01/07	1,216,178	1,057,604
29/01/07	1,191,222	1,010,065
30/01/07	1,178,845	967,725
31/01/07	1,135,106	957,499
01/02/07	1,076,635	843,521
02/02/07	828,632	943,443
03/02/07	832,343	1,189,230
04/02/07	615,569	1,457,273
05/02/07	698,378	1,332,400
06/02/07	706,905	1,245,479
07/02/07	590,640	914,493
08/02/07	838,082	863,880
09/02/07	926,133	894,340
10/02/07	868,387	962,996
11/02/07	980,713	989,649
12/02/07	1,056,765	1,212,077
13/02/07	911,742	1,320,599
14/02/07	877,249	1,233,683
15/02/07	982,140	1,086,344
16/02/07	1,188,744	831,780
17/02/07	1,021,485	828,360
18/02/07	1,140,287	1,129,783
19/02/07	1,037,878	874,885
20/02/07	690,112	566,199
21/02/07	677,188	606,904
22/02/07	1,130,230	926,323
23/02/07	1,264,259	1,193,462
24/02/07	1,079,418	888,661
25/02/07	1,060,935	834,161
26/02/07	1,174,028	741,361
27/02/07	972,027	700,605
28/02/07	662,339	680,357
01/03/07	1,213,781	846,121
02/03/07	874,680	633,839
03/03/07	676,302	718,202
04/03/07	744,335	798,862
05/03/07	1,098,312	1,276,616
06/03/07	1,226,861	1,035,785
07/03/07	1,085,220	958,050
08/03/07	1,022,448	794,108

09/03/07	884,719	649,427
10/03/07	445,675	532,348
11/03/07	469,455	507,918
12/03/07	524,901	588,925
13/03/07	270,430	264,811
14/03/07	169,365	459,992
15/03/07	734,013	847,060
16/03/07	1,042,742	1,013,598
17/03/07	786,064	818,707
18/03/07	868,395	787,550
19/03/07	875,613	847,277
20/03/07	1,209,693	990,421
21/03/07	564,276	728,384
22/03/07	116,974	434,641
23/03/07	75,798	434,480
24/03/07	0	511,340
25/03/07	0	510,211
26/03/07	0	314,604
27/03/07	0	328,427
28/03/07	0	545,110
29/03/07	0	543,563
30/03/07	0	576,039
31/03/07	0	529,959
01/04/07	0	480,868
02/04/07	0	504,837
03/04/07	0	583,080
04/04/07	516,021	751,563
05/04/07	384,354	1,071,813
06/04/07	411,998	968,943
07/04/07	339,543	922,042
08/04/07	368,001	890,667
09/04/07	646,448	773,067
10/04/07	527,596	681,143
11/04/07	373,709	758,733
12/04/07	194,706	648,921
13/04/07	2,697	799,842
14/04/07	0	639,441
15/04/07	50,916	723,555
16/04/07	284,645	633,681
17/04/07	26,070	584,587
18/04/07	0	468,846
19/04/07	0	192,098
20/04/07	0	244,631
21/04/07	0	196,055
22/04/07	0	204,082
23/04/07	0	263,132
24/04/07	0	275,017
25/04/07	0	346,729
26/04/07	0	460,255
27/04/07	0	332,062
28/04/07	0	396,140
29/04/07	0	216,255
30/04/07	0	295,062
01/05/07	0	453,261
02/05/07	0	273,284

03/05/07	0	355,685
04/05/07	0	184,416
05/05/07	0	210,514
06/05/07	0	259,013
07/05/07	0	2,591
08/05/07	0	-
09/05/07	0	-
10/05/07	0	-
11/05/07	0	185,817
12/05/07	0	250,032
13/05/07	0	303,128
14/05/07	0	241,787
15/05/07	0	143,263
16/05/07	0	317,686
17/05/07	0	358,624
18/05/07	0	257,166
19/05/07	0	148,889
20/05/07	0	250,411
21/05/07	0	233,936
22/05/07	0	241,383
23/05/07	0	222,883
24/05/07	0	201,207
25/05/07	0	167,757
26/05/07	0	173,170
27/05/07	0	189,599
28/05/07	0	224,251
29/05/07	0	208,524
30/05/07	0	205,439
31/05/07	0	184,218
01/06/07	0	175,640
02/06/07	0	159,711
03/06/07	0	184,059
04/06/07	0	197,082
05/06/07	0	265,211
06/06/07	0	240,284
07/06/07	0	215,135
08/06/07	0	187,794
09/06/07	0	169,026
10/06/07	0	201,661
11/06/07	0	211,511
12/06/07	0	182,719
13/06/07	0	195,714
14/06/07	0	201,407
15/06/07	0	182,784
16/06/07	0	129,286
17/06/07	0	179,395
18/06/07	0	200,220
19/06/07	0	188,875
20/06/07	0	224,616
21/06/07	0	196,578
22/06/07	0	201,706
23/06/07	0	179,149
24/06/07	0	188,304
25/06/07	0	214,331
26/06/07	0	193,487

27/06/07	0	183,895
28/06/07	0	197,924
29/06/07	0	171,754
30/06/07	0	181,755
01/07/07	0	132,770
02/07/07	0	199,850
03/07/07	0	184,647
04/07/07	0	191,207
05/07/07	0	191,082
06/07/07	0	193,690
07/07/07	0	160,279
08/07/07	0	164,092
09/07/07	0	191,029
10/07/07	0	195,252
11/07/07	0	201,480
12/07/07	0	198,290
13/07/07	0	188,456
14/07/07	0	156,289
15/07/07	0	196,981
16/07/07	0	206,035
17/07/07	0	208,817
18/07/07	0	183,976
19/07/07	0	208,373
20/07/07	0	188,572
21/07/07	0	169,175
22/07/07	0	169,566
23/07/07	0	190,498
24/07/07	0	200,012
25/07/07	0	200,961
26/07/07	0	184,638
27/07/07	0	150,874
28/07/07	0	151,128
29/07/07	0	174,955
30/07/07	0	204,316
31/07/07	0	212,957
01/08/07	0	216,048
02/08/07	0	201,697
03/08/07	0	174,216
04/08/07	0	156,048
05/08/07	0	133,487
06/08/07	0	173,756
07/08/07	0	213,430
08/08/07	0	199,305
09/08/07	0	73,842
10/08/07	0	1,659
11/08/07	0	19
12/08/07	0	37
13/08/07	0	47
14/08/07	0	30
15/08/07	0	-
16/08/07	0	-
17/08/07	0	3,148
18/08/07	0	62,179
19/08/07	0	68,049
20/08/07	0	218,006

21/08/07	0	217,987
22/08/07	0	205,186
23/08/07	0	191,142
24/08/07	0	175,830
25/08/07	0	175,259
26/08/07	0	179,613
27/08/07	0	186,604
28/08/07	0	188,799
29/08/07	0	163,010
30/08/07	0	198,874
31/08/07	0	143,231
01/09/07	0	152,326
02/09/07	0	108,756
03/09/07	0	140,093
04/09/07	0	178,006
05/09/07	0	180,314
06/09/07	0	203,292
07/09/07	0	173,372
08/09/07	0	168,097
09/09/07	0	185,104
10/09/07	0	182,506
11/09/07	0	195,796
12/09/07	0	193,058
13/09/07	0	219,016
14/09/07	0	206,000
15/09/07	0	243,632
16/09/07	0	227,259
17/09/07	0	246,254
18/09/07	0	217,552
19/09/07	0	218,543
20/09/07	0	227,275
21/09/07	0	205,024
22/09/07	0	189,061
23/09/07	0	223,912
24/09/07	0	208,342
25/09/07	0	199,687
26/09/07	0	216,553
27/09/07	0	222,152
28/09/07	0	225,430
29/09/07	0	183,849
30/09/07	0	196,841
01/10/07	0	197,829
02/10/07	0	204,576
03/10/07	0	208,650
04/10/07	0	212,874
05/10/07	0	190,940
06/10/07	0	174,861
07/10/07	0	167,049
08/10/07	0	196,393
09/10/07	0	211,868
10/10/07	0	259,225
11/10/07	0	338,026
12/10/07	0	325,951
13/10/07	0	-
14/10/07	0	-

15/10/07	0	-
16/10/07	1	-
17/10/07	0	413
18/10/07	0	262,869
19/10/07	0	243,228
20/10/07	0	234,119
21/10/07	0	222,893
22/10/07	0	228,840
23/10/07	0	376,865
24/10/07	0	355,602
25/10/07	127,877	11,045
26/10/07	3,782	94
27/10/07	0	3,366
28/10/07	130,464	6,150
29/10/07	102,132	4,513
30/10/07	0	1,642
31/10/07	182,350	2,339
01/11/07	442,330	6,658
02/11/07	479,992	7,910
03/11/07	169,852	6,001
04/11/07	268,004	6,165
05/11/07	372,177	408,271
06/11/07	520,413	611,128
07/11/07	613,258	653,064
08/11/07	840,323	500,048
09/11/07	549,200	556,124
10/11/07	432,543	547,608
11/11/07	419,924	483,323
12/11/07	391,295	435,344
13/11/07	55,889	396,188
14/11/07	0	328,787
15/11/07	248,119	519,552
16/11/07	535,708	647,661
17/11/07	512,364	731,528
18/11/07	708,169	628,089
19/11/07	673,059	636,992
20/11/07	590,533	468,537
21/11/07	633,895	755,363
22/11/07	857,491	997,707
23/11/07	1,058,562	914,206
24/11/07	641,026	795,220
25/11/07	454,752	650,606
26/11/07	558,868	763,745
27/11/07	1,051,734	886,290
28/11/07	1,250,872	818,149
29/11/07	1,225,536	892,466
30/11/07	1,243,669	958,917
01/12/07	1,411,570	1,068,513
02/12/07	1,421,743	876,991
03/12/07	1,443,836	1,101,132
04/12/07	1,477,096	1,027,540
05/12/07	1,438,195	1,185,405
06/12/07	1,372,960	1,037,770
07/12/07	1,439,471	814,412
08/12/07	1,195,192	801,286

09/12/07	1,424,921	926,684
10/12/07	1,520,047	881,039
11/12/07	1,141,184	822,258
12/12/07	1,416,723	834,204
13/12/07	1,444,275	1,037,387
14/12/07	1,551,816	1,063,785
15/12/07	1,536,900	1,229,750
16/12/07	1,384,633	1,095,852
17/12/07	1,480,831	968,691
18/12/07	1,523,734	840,088
19/12/07	1,521,994	774,000
20/12/07	1,477,693	893,095
21/12/07	1,268,788	783,238
22/12/07	853,517	650,012
23/12/07	922,608	782,124
24/12/07	1,027,838	822,613
25/12/07	817,124	782,933
26/12/07	885,241	798,797
27/12/07	985,176	741,355
28/12/07	928,401	730,885
29/12/07	775,979	765,139
30/12/07	820,175	780,107
31/12/07	790,053	763,818
01/01/08	1,268,270	978,624
02/01/08	1,512,145	1,351,770
03/01/08	1,285,837	1,278,823
04/01/08	1,294,015	936,818
05/01/08	770,118	716,807
06/01/08	506,070	584,528
07/01/08	369,911	361,167
08/01/08	66,563	366,864
09/01/08	439,136	699,460
10/01/08	924,155	755,754
11/01/08	672,969	687,304
12/01/08	783,564	727,127
13/01/08	980,279	796,236
14/01/08	1,384,785	776,163
15/01/08	1,569,927	904,621
16/01/08	1,505,834	905,293
17/01/08	1,331,584	852,634
18/01/08	1,380,877	1,002,140
19/01/08	1,384,320	1,107,341
20/01/08	1,685,208	1,195,279
21/01/08	1,663,250	1,071,933
22/01/08	1,367,356	939,248
23/01/08	1,337,949	972,061
24/01/08	1,400,050	930,079
25/01/08	1,418,324	969,658
26/01/08	1,378,719	802,992
27/01/08	1,428,784	728,807
28/01/08	1,602,208	704,225
29/01/08	1,417,745	609,225
30/01/08	1,519,327	1,195,983
31/01/08	1,303,734	966,100
01/02/08	1,394,710	813,297

02/02/08	1,173,205	692,211
03/02/08	977,874	665,649
04/02/08	1,104,270	698,302
05/02/08	1,107,742	618,837
06/02/08	1,288,530	869,655
07/02/08	1,358,757	834,869
08/02/08	1,117,344	727,359
09/02/08	1,065,577	685,248
10/02/08	1,459,807	1,182,121
11/02/08	1,659,561	1,116,734
12/02/08	1,557,188	1,001,280
13/02/08	1,584,365	835,769
14/02/08	1,586,424	731,847
15/02/08	1,470,399	737,769
16/02/08	1,102,783	842,786
17/02/08	913,188	697,539
18/02/08	746,299	883,069
19/02/08	1,349,323	1,093,313
20/02/08	1,248,986	985,083
21/02/08	1,506,889	846,217
22/02/08	1,405,883	782,664
23/02/08	1,082,006	779,614
24/02/08	1,020,868	742,526
25/02/08	961,416	745,041
26/02/08	1,298,412	880,971
27/02/08	1,453,860	998,940
28/02/08	1,459,408	835,736
29/02/08	1,417,182	698,520
01/03/08	1,107,128	748,520
02/03/08	1,081,535	640,014
03/03/08	887,785	593,811
04/03/08	1,327,696	778,157
05/03/08	1,391,147	838,211
06/03/08	1,333,684	745,870
07/03/08	1,285,312	819,668
08/03/08	1,500,805	947,065
09/03/08	1,446,433	888,907
10/03/08	1,317,943	945,039
11/03/08	1,208,832	827,881
12/03/08	1,294,805	878,535
13/03/08	1,273,734	882,178
14/03/08	901,453	649,551
15/03/08	760,260	673,515
16/03/08	1,008,312	860,109
17/03/08	1,050,297	822,496
18/03/08	954,617	803,690
19/03/08	862,727	782,274
20/03/08	1,113,869	870,129
21/03/08	982,954	828,990
22/03/08	884,950	850,400
23/03/08	920,640	794,087
24/03/08	1,124,018	879,698
25/03/08	1,096,754	842,460
26/03/08	800,944	583,425
27/03/08	255,158	745,303

28/03/08	785,572	791,742
29/03/08	671,827	764,152
30/03/08	487,150	748,127
31/03/08	395,362	625,624
01/04/08	429,024	736,719
02/04/08	637,432	731,564
03/04/08	451,262	563,485
04/04/08	258,162	671,032
05/04/08	19,868	409,665
06/04/08	0	443,914
07/04/08	157,540	393,690
08/04/08	103,050	259,033
09/04/08	39,597	407,934
10/04/08	335,492	485,827
11/04/08	377,107	621,453
12/04/08	356,224	588,941
13/04/08	278,378	575,644
14/04/08	306,911	567,016
15/04/08	150,262	457,093
16/04/08	1,937	276,523
17/04/08	0	206,130
18/04/08	0	156,576
19/04/08	0	189,380
20/04/08	0	211,530
21/04/08	0	209,389
22/04/08	0	164,674
23/04/08	0	278,708
24/04/08	0	221,834
25/04/08	0	275,077
26/04/08	0	210,699
27/04/08	0	251,437
28/04/08	0	520,360
29/04/08	145,763	517,070
30/04/08	162,087	503,054
01/05/08	0	477,006
02/05/08	0	504,352
03/05/08	0	352,293
04/05/08	0	388,225
05/05/08	1,622	236,978
06/05/08	0	323,560
07/05/08	0	341,688
08/05/08	0	356,331
09/05/08	0	274,645
10/05/08	0	220,985
11/05/08	0	318,855
12/05/08	0	242,488
13/05/08	0	173,860
14/05/08	0	270,903
15/05/08	0	297,540
16/05/08	0	240,021
17/05/08	0	235,306
18/05/08	0	355,930
19/05/08	0	352,754
20/05/08	0	327,901
21/05/08	0	500,624

22/05/08	0	340,031
23/05/08	0	267,621
24/05/08	0	215,574
25/05/08	0	197,446
26/05/08	0	167,176
27/05/08	0	296,868
28/05/08	0	268,119
29/05/08	0	213,736
30/05/08	0	234,584
31/05/08	0	131,203
01/06/08	0	209,107
02/06/08	0	178,680
03/06/08	0	205,128
04/06/08	0	229,164
05/06/08	0	207,646
06/06/08	0	208,276
07/06/08	0	178,382
08/06/08	0	202,475
09/06/08	0	205,446
10/06/08	0	192,095
11/06/08	0	183,867
12/06/08	0	187,232
13/06/08	0	182,184
14/06/08	0	136,199
15/06/08	0	157,392
16/06/08	0	164,013
17/06/08	0	183,342
18/06/08	0	186,747
19/06/08	0	184,791
20/06/08	0	170,628
21/06/08	0	146,476
22/06/08	0	171,730
23/06/08	0	179,576
24/06/08	0	178,096
25/06/08	0	203,660
26/06/08	0	174,458
27/06/08	0	153,904
28/06/08	0	141,463
29/06/08	0	127,728
30/06/08	0	149,806
01/07/08	0	162,166
02/07/08	0	191,171
03/07/08	0	183,213
04/07/08	0	160,149
05/07/08	0	151,935
06/07/08	0	148,409
07/07/08	0	154,522
08/07/08	0	155,348
09/07/08	0	160,708
10/07/08	0	154,885
11/07/08	0	151,482
12/07/08	0	142,274
13/07/08	0	153,595
14/07/08	0	183,381
15/07/08	0	169,649

16/07/08	0	178,151
17/07/08	0	180,371
18/07/08	0	147,929
19/07/08	0	130,224
20/07/08	0	146,154
21/07/08	0	161,905
22/07/08	0	154,400
23/07/08	0	173,989
24/07/08	0	158,558
25/07/08	0	149,701
26/07/08	0	155,829
27/07/08	0	150,170
28/07/08	0	167,473
29/07/08	0	158,068
30/07/08	0	162,591
31/07/08	0	176,196
01/08/08	0	151,946
02/08/08	0	112,585
03/08/08	0	113,181
04/08/08	0	138,997
05/08/08	0	181,135
06/08/08	0	160,043
07/08/08	0	167,027
08/08/08	0	145,981
09/08/08	0	158,589
10/08/08	0	173,713
11/08/08	0	186,544
12/08/08	0	174,898
13/08/08	0	182,413
14/08/08	0	157,688
15/08/08	0	166,799
16/08/08	0	147,787
17/08/08	0	141,535
18/08/08	0	175,883
19/08/08	0	157,383
20/08/08	0	166,386
21/08/08	0	178,559
22/08/08	0	162,345
23/08/08	0	135,727
24/08/08	0	180,604
25/08/08	0	168,632
26/08/08	0	169,822
27/08/08	0	164,548
28/08/08	0	162,792
29/08/08	0	135,894
30/08/08	0	123,952
31/08/08	0	81,539
01/09/08	0	149,295
02/09/08	0	164,240
03/09/08	0	159,879
04/09/08	0	154,179
05/09/08	0	151,924
06/09/08	0	148,970
07/09/08	0	170,763
08/09/08	0	165,665

09/09/08	0	191,187
10/09/08	0	197,938
11/09/08	0	195,025
12/09/08	0	142,286
13/09/08	0	124,965
14/09/08	0	155,748
15/09/08	0	208,716
16/09/08	0	217,842
17/09/08	0	182,892
18/09/08	0	203,009
19/09/08	0	187,159
20/09/08	0	165,900
21/09/08	0	175,604
22/09/08	0	215,138
23/09/08	0	192,776
24/09/08	0	183,149
25/09/08	0	177,526
26/09/08	0	137,728
27/09/08	0	144,094
28/09/08	0	147,760
29/09/08	0	228,280
30/09/08	0	205,459
01/10/08	0	277,894
02/10/08	0	342,237
03/10/08	0	374,952
04/10/08	0	338,771
05/10/08	0	333,208
06/10/08	0	336,386
07/10/08	0	393,005
08/10/08	0	356,820
09/10/08	0	235,101
10/10/08	0	197,516
11/10/08	0	242,681
12/10/08	0	183,301
13/10/08	0	186,401
14/10/08	0	246,533
15/10/08	0	247,454
16/10/08	0	378,862
17/10/08	0	435,363
18/10/08	0	457,717
19/10/08	0	422,994
20/10/08	0	404,396
21/10/08	379,847	609,576
22/10/08	561,075	514,579
23/10/08	444,744	471,926
24/10/08	0	429,024
25/10/08	0	430,082
26/10/08	0	434,733
27/10/08	249,397	557,715
28/10/08	633,920	660,399
29/10/08	944,082	699,792
30/10/08	713,258	513,839
31/10/08	28,008	265,133
01/11/08	342,907	467,820
02/11/08	152,801	501,838

03/11/08	109,977	350,728
04/11/08	12,116	346,499
05/11/08	0	368,334
06/11/08	0	339,270
07/11/08	201,581	285,697
08/11/08	1,361	449,279
09/11/08	410,486	532,727
10/11/08	748,948	660,356
11/11/08	773,119	641,183
12/11/08	890,657	565,464
13/11/08	333,664	466,206
14/11/08	1,238	412,512
15/11/08	265,010	637,062
16/11/08	727,772	732,286
17/11/08	1,168,219	751,096
18/11/08	1,559,377	821,336
19/11/08	1,708,189	814,372
20/11/08	1,812,008	787,787
21/11/08	1,707,723	960,829
22/11/08	1,614,074	967,099
23/11/08	1,406,894	801,910
24/11/08	1,399,408	792,405
25/11/08	1,425,820	603,999
26/11/08	1,239,927	710,278
27/11/08	1,198,376	687,991
28/11/08	1,044,099	600,441
29/11/08	836,581	607,932
30/11/08	989,059	663,600
01/12/08	1,160,186	696,163
02/12/08	1,217,507	792,264
03/12/08	1,052,445	591,401
04/12/08	1,404,767	798,451
05/12/08	1,579,066	872,065
06/12/08	1,244,160	812,357
07/12/08	1,720,237	1,018,109
08/12/08	1,832,875	977,130
09/12/08	1,618,138	790,859
10/12/08	1,889,603	994,894
11/12/08	1,865,244	835,450
12/12/08	1,770,464	1,103,866
13/12/08	1,646,327	924,065
14/12/08	1,320,143	658,762
15/12/08	1,509,632	967,368
16/12/08	1,550,002	1,077,705
17/12/08	1,651,780	887,585
18/12/08	1,713,198	954,413
19/12/08	1,862,876	1,133,833
20/12/08	1,719,582	1,039,987
21/12/08	1,536,757	983,424
22/12/08	1,441,840	1,079,547
23/12/08	1,356,982	897,017
24/12/08	817,020	587,396
25/12/08	927,725	577,906
26/12/08	977,106	613,693
27/12/08	457,730	425,347

28/12/08	799,701	545,530
29/12/08	972,423	681,949
30/12/08	1,390,033	770,733
31/12/08	1,817,430	1,007,305
01/01/09	1,483,056	772,552
02/01/09	1,397,885	698,538
03/01/09	1,596,268	905,020
04/01/09	1,605,931	804,464
05/01/09	1,567,624	910,245
06/01/09	1,465,384	784,324
07/01/09	1,503,215	662,451
08/01/09	1,816,169	1,064,286
09/01/09	1,830,042	985,853
10/01/09	1,627,702	931,212
11/01/09	1,492,920	797,951
12/01/09	1,471,741	872,014
13/01/09	1,640,014	1,040,846
14/01/09	1,795,976	1,107,627
15/01/09	1,377,519	1,197,882
16/01/09	1,257,294	1,220,092
17/01/09	1,575,491	1,022,838
18/01/09	1,344,108	755,141
19/01/09	1,495,316	831,429
20/01/09	1,406,660	1,025,823
21/01/09	1,080,005	1,043,456
22/01/09	994,688	805,702
23/01/09	987,020	820,620
24/01/09	1,298,459	1,080,124
25/01/09	1,402,987	1,145,350
26/01/09	1,621,377	1,081,433
27/01/09	1,545,927	986,587
28/01/09	1,368,208	1,012,705
29/01/09	1,335,770	938,757
30/01/09	1,196,556	1,107,117
31/01/09	1,394,937	932,126
01/02/09	1,305,124	537,003
02/02/09	1,451,804	653,234
03/02/09	1,622,078	960,176
04/02/09	1,690,204	1,294,453
05/02/09	1,625,702	1,266,476
06/02/09	1,375,645	882,703
07/02/09	884,591	542,793
08/02/09	1,147,201	645,930
09/02/09	1,219,459	585,192
10/02/09	957,005	381,802
11/02/09	628,750	274,060
12/02/09	1,191,621	698,001
13/02/09	1,550,748	899,075
14/02/09	1,538,743	790,687
15/02/09	1,339,445	814,253
16/02/09	1,286,493	842,186
17/02/09	1,225,144	715,403
18/02/09	1,328,969	649,858
19/02/09	1,454,714	1,045,172
20/02/09	1,659,243	949,201

21/02/09	1,461,489	745,678
22/02/09	1,397,198	885,865
23/02/09	1,463,094	1,240,864
24/02/09	1,533,670	902,291
25/02/09	1,235,257	724,757
26/02/09	791,051	618,423
27/02/09	1,284,149	1,003,754
28/02/09	1,599,484	980,647
01/03/09	1,591,429	1,074,354
02/03/09	1,580,070	1,361,378
03/03/09	1,712,974	956,246
04/03/09	1,206,180	829,496
05/03/09	1,059,012	596,750
06/03/09	394,403	374,197
07/03/09	295,857	611,895
08/03/09	421,629	655,248
09/03/09	868,580	660,219
10/03/09	811,215	675,914
11/03/09	1,527,069	820,678
12/03/09	1,629,447	1,012,116
13/03/09	1,258,298	788,162
14/03/09	561,228	649,464
15/03/09	546,858	492,734
16/03/09	569,750	496,972
17/03/09	339,390	388,111
18/03/09	382,100	360,412
19/03/09	913,122	701,082
20/03/09	904,419	661,138
21/03/09	450,538	547,015
22/03/09	864,816	608,314
23/03/09	1,203,803	626,641
24/03/09	961,388	666,012
25/03/09	543,373	517,442
26/03/09	210,289	557,874
27/03/09	157,608	416,576
28/03/09	7,062	278,441
29/03/09	180,870	442,365
30/03/09	691,276	597,875
31/03/09	731,599	506,240
01/04/09	535,861	439,786
02/04/09	608,867	296,124
03/04/09	757,222	543,688
04/04/09	794,985	593,219
05/04/09	604,700	449,558
06/04/09	1,203,239	730,987
07/04/09	1,314,404	754,583
08/04/09	1,379,884	438,595
09/04/09	1,050,987	289,787
10/04/09	921,855	318,297
11/04/09	941,866	441,047
12/04/09	826,483	519,537
13/04/09	733,084	519,284
14/04/09	628,920	442,781
15/04/09	164,975	304,349
16/04/09	130,600	267,104

17/04/09	0	75,271
18/04/09	0	155,070
19/04/09	0	394,665
20/04/09	0	628,240
21/04/09	475,901	460,859
22/04/09	345,666	566,297
23/04/09	235,046	432,869
24/04/09	0	265,509
25/04/09	0	181,035
26/04/09	0	308,919
27/04/09	0	199,342
28/04/09	0	320,354
29/04/09	0	356,690
30/04/09	0	240,488
01/05/09	0	291,792
02/05/09	0	290,743
03/05/09	0	210,192
04/05/09	0	244,425
05/05/09	0	272,668
06/05/09	0	245,327
07/05/09	0	213,572
08/05/09	0	197,994
09/05/09	0	297,725
10/05/09	0	339,002
11/05/09	0	351,252
12/05/09	0	308,716
13/05/09	0	216,021
14/05/09	0	219,034
15/05/09	0	216,381
16/05/09	0	270,783
17/05/09	0	297,194
18/05/09	0	307,762
19/05/09	0	226,352
20/05/09	0	217,698
21/05/09	0	187,074
22/05/09	0	166,292
23/05/09	0	153,439
24/05/09	0	169,301
25/05/09	0	204,708
26/05/09	0	233,996
27/05/09	0	233,428
28/05/09	0	206,677
29/05/09	0	182,905
30/05/09	0	169,252
31/05/09	0	264,283
01/06/09	0	288,824
02/06/09	0	216,747
03/06/09	0	207,368
04/06/09	0	173,922
05/06/09	0	208,682
06/06/09	0	177,380
07/06/09	0	207,134
08/06/09	0	278,978
09/06/09	0	244,739
10/06/09	0	218,873

11/06/09	0	217,924
12/06/09	0	176,992
13/06/09	0	155,509
14/06/09	0	175,458
15/06/09	0	190,688
16/06/09	0	195,271
17/06/09	0	189,155
18/06/09	0	190,913
19/06/09	0	163,137
20/06/09	0	150,014
21/06/09	0	150,153
22/06/09	0	153,574
23/06/09	0	208,020
24/06/09	0	181,457
25/06/09	0	176,377
26/06/09	0	169,656
27/06/09	0	146,275
28/06/09	0	144,852
29/06/09	0	166,935
30/06/09	0	138,741
01/07/09	0	122,510
02/07/09	0	155,140
03/07/09	0	168,246
04/07/09	0	155,571
05/07/09	0	170,919
06/07/09	0	190,204
07/07/09	0	207,698
08/07/09	0	175,050
09/07/09	0	172,013
10/07/09	0	158,287
11/07/09	0	142,673
12/07/09	0	165,282
13/07/09	0	173,198
14/07/09	0	172,102
15/07/09	0	190,729
16/07/09	0	191,111
17/07/09	0	153,275
18/07/09	0	139,013
19/07/09	0	135,735
20/07/09	0	169,770
21/07/09	0	163,160
22/07/09	0	164,997
23/07/09	0	143,097
24/07/09	0	147,265
25/07/09	0	130,906
26/07/09	0	141,156
27/07/09	0	156,499
28/07/09	0	138,426
29/07/09	0	162,950
30/07/09	0	150,064
31/07/09	0	143,310
01/08/09	0	112,949
02/08/09	0	128,674
03/08/09	0	132,497
04/08/09	0	185,006

05/08/09	0	187,676
06/08/09	0	162,622
07/08/09	0	149,452
08/08/09	0	142,093
09/08/09	0	141,152
10/08/09	0	174,222
11/08/09	0	172,476
12/08/09	0	168,601
13/08/09	0	167,224
14/08/09	0	172,296
15/08/09	0	137,472
16/08/09	48,005	144,680
17/08/09	362,341	152,720
18/08/09	371,913	174,116
19/08/09	488,756	141,147
20/08/09	453,922	149,835
21/08/09	491,432	74,554
22/08/09	393,952	71,746
23/08/09	248,999	57,041
24/08/09	341,801	110,513
25/08/09	421,786	101,984
26/08/09	453,451	90,353
27/08/09	469,677	86,957
28/08/09	325,490	87,015
29/08/09	1,684	106,538
30/08/09	0	100,254
31/08/09	0	107,718
01/09/09	166,750	99,390
02/09/09	86,040	82,060
03/09/09	0	85,607
04/09/09	0	92,289
05/09/09	0	65,148
06/09/09	0	55,713
07/09/09	0	75,778
08/09/09	0	95,628
09/09/09	0	82,347
10/09/09	0	76,662
11/09/09	0	57,698
12/09/09	266,620	66,120
13/09/09	309,176	81,048
14/09/09	336,003	103,082
15/09/09	285,082	101,036
16/09/09	202,388	113,813
17/09/09	182,785	80,950
18/09/09	85,757	75,203
19/09/09	180,566	76,942
20/09/09	66,551	79,244
21/09/09	284,997	74,341
22/09/09	353,203	52,891
23/09/09	356,840	81,742
24/09/09	356,166	72,292
25/09/09	312,002	100,813
26/09/09	554,485	88,400
27/09/09	17,663	82,319
28/09/09	0	127,117

29/09/09	0	178,159
30/09/09	143,365	370,733
01/10/09	183,928	398,385
02/10/09	0	370,868
03/10/09	0	311,864
04/10/09	0	339,326
05/10/09	0	370,286
06/10/09	3,954	326,841
07/10/09	211,041	420,053
08/10/09	205,683	276,276
09/10/09	263,608	336,914
10/10/09	89,178	344,296
11/10/09	287,024	470,730
12/10/09	251,248	506,613
13/10/09	574,762	503,587
14/10/09	547,347	577,769
15/10/09	620,186	645,117
16/10/09	345,092	560,861
17/10/09	225,641	491,020
18/10/09	179,848	483,857
19/10/09	148,659	366,414
20/10/09	161,748	267,421
21/10/09	299,282	334,734
22/10/09	407,928	479,258
23/10/09	550,793	445,166
24/10/09	145,155	366,385
25/10/09	349,445	372,184
26/10/09	487,695	430,020
27/10/09	537,223	340,996
28/10/09	673,788	350,166
29/10/09	526,775	374,762
30/10/09	120,344	314,985
31/10/09	172,196	372,868
01/11/09	376,782	397,737
02/11/09	565,431	397,139
03/11/09	870,605	580,195
04/11/09	1,049,986	591,071
05/11/09	1,048,155	646,217
06/11/09	1,049,611	532,616
07/11/09	611,345	341,859
08/11/09	500,306	332,481
09/11/09	532,029	305,004
10/11/09	866,162	465,143
11/11/09	994,785	553,495
12/11/09	958,267	531,833
13/11/09	783,929	504,785
14/11/09	482,433	351,943
15/11/09	537,346	449,018
16/11/09	961,868	572,552
17/11/09	1,118,984	564,198
18/11/09	841,303	485,417
19/11/09	833,341	476,319
20/11/09	849,735	464,329
21/11/09	721,317	400,880
22/11/09	837,036	456,852

23/11/09	957,216	533,146
24/11/09	900,499	511,079
25/11/09	796,600	453,729
26/11/09	821,002	538,240
27/11/09	799,927	573,095
28/11/09	829,736	586,964
29/11/09	809,229	555,320
30/11/09	1,044,529	628,565
01/12/09	1,048,501	591,581
02/12/09	801,784	506,709
03/12/09	922,263	644,567
04/12/09	1,072,202	712,477
05/12/09	1,140,298	723,928
06/12/09	1,188,706	686,168
07/12/09	1,377,788	743,549
08/12/09	1,598,392	832,717
09/12/09	1,670,877	868,161
10/12/09	1,813,130	1,194,214
11/12/09	1,816,999	1,306,669
12/12/09	1,562,450	820,554
13/12/09	1,406,476	730,942
14/12/09	1,419,680	749,472
15/12/09	1,659,825	876,099
16/12/09	1,753,585	1,067,828
17/12/09	1,776,687	1,142,867
18/12/09	1,682,347	1,076,683
19/12/09	1,678,657	1,033,309
20/12/09	1,631,445	929,759
21/12/09	1,705,122	1,064,916
22/12/09	1,745,653	1,237,253
23/12/09	1,731,830	1,108,357
24/12/09	1,364,797	861,458
25/12/09	1,155,612	647,400
26/12/09	1,132,763	628,552
27/12/09	1,207,655	742,546
28/12/09	1,608,021	1,168,420
29/12/09	1,856,569	1,097,076
30/12/09	1,672,967	915,036
31/12/09	1,268,707	768,763
01/01/10	1,355,359	950,451
02/01/10	1,565,151	1,460,482
03/01/10	1,610,390	1,374,189
04/01/10	1,693,550	1,267,662
05/01/10	1,746,987	1,089,973
06/01/10	1,710,435	1,038,725
07/01/10	1,576,596	1,040,835
08/01/10	1,708,177	1,310,372
09/01/10	1,697,651	1,212,375
10/01/10	1,389,087	1,071,433
11/01/10	1,655,057	1,038,716
12/01/10	1,437,959	1,073,228
13/01/10	1,461,756	900,297
14/01/10	1,337,058	697,820
15/01/10	1,180,550	692,177
16/01/10	897,396	726,610

17/01/10	1,160,071	742,376
18/01/10	1,353,252	853,005
19/01/10	1,255,614	868,266
20/01/10	1,558,414	923,554
21/01/10	1,409,942	806,203
22/01/10	1,261,545	732,454
23/01/10	1,064,053	729,497
24/01/10	909,265	632,191
25/01/10	979,426	665,403
26/01/10	1,142,211	863,974
27/01/10	1,217,865	1,056,355
28/01/10	1,904,092	1,303,931
29/01/10	1,873,690	1,372,891
30/01/10	1,880,515	1,173,059
31/01/10	1,708,368	998,791
01/02/10	1,776,808	1,048,442
02/02/10	1,566,045	953,671
03/02/10	1,566,748	952,852
04/02/10	1,744,120	896,536
05/02/10	1,509,152	1,028,039
06/02/10	1,669,100	1,083,639
07/02/10	1,701,485	1,004,661
08/02/10	1,799,941	982,512
09/02/10	1,775,371	1,025,065
10/02/10	1,786,628	1,097,793
11/02/10	1,851,191	949,954
12/02/10	1,777,419	913,876
13/02/10	1,124,840	931,096
14/02/10	1,158,985	846,819
15/02/10	1,169,463	927,527
16/02/10	1,445,723	910,086
17/02/10	1,566,118	914,201
18/02/10	1,410,517	834,430
19/02/10	1,241,823	657,044
20/02/10	938,803	687,004
21/02/10	1,105,697	679,268
22/02/10	1,148,309	805,133
23/02/10	1,024,878	745,067
24/02/10	1,088,877	780,444
25/02/10	1,399,442	1,069,609
26/02/10	999,157	782,264
27/02/10	780,336	563,720
28/02/10	804,433	530,648
01/03/10	1,248,935	619,197
02/03/10	1,329,233	650,705
03/03/10	1,386,137	667,396
04/03/10	1,263,790	689,608
05/03/10	1,049,502	725,307
06/03/10	689,612	598,070
07/03/10	762,077	576,863
08/03/10	877,112	466,221
09/03/10	956,500	419,292
10/03/10	751,987	486,529
11/03/10	676,515	369,020
12/03/10	541,180	567,144

13/03/10	613,699	591,144
14/03/10	807,566	555,121
15/03/10	741,717	489,612
16/03/10	654,937	434,141
17/03/10	511,023	334,839
18/03/10	359,199	292,720
19/03/10	334,867	339,436
20/03/10	503,464	570,781
21/03/10	711,961	582,549
22/03/10	831,380	568,914
23/03/10	1,118,614	628,041
24/03/10	1,231,965	404,444
25/03/10	1,552,960	645,602
26/03/10	1,607,324	808,920
27/03/10	1,503,485	678,797
28/03/10	1,571,057	591,589
29/03/10	1,568,249	584,517
30/03/10	1,508,026	524,473
31/03/10	1,039,733	427,086
01/04/10	504,254	266,535
02/04/10	157,148	260,242
03/04/10	169,941	241,336
04/04/10	270,773	286,028
05/04/10	378,863	200,340
06/04/10	1,016,755	382,879
07/04/10	1,236,806	400,006
08/04/10	1,491,229	497,826
09/04/10	1,519,789	657,348
10/04/10	1,243,086	424,114
11/04/10	1,242,869	399,961
12/04/10	1,242,841	332,642
13/04/10	1,386,333	335,860
14/04/10	1,180,126	312,258
15/04/10	1,128,551	313,338
16/04/10	1,008,759	304,848
17/04/10	1,002,531	459,833
18/04/10	990,512	327,657
19/04/10	780,743	327,507
20/04/10	703,452	279,356
21/04/10	1,123,079	380,736
22/04/10	1,221,106	459,898
23/04/10	1,271,078	319,086
24/04/10	1,049,857	231,647
25/04/10	1,230,537	290,155
26/04/10	1,394,766	299,797
27/04/10	1,562,260	416,175
28/04/10	1,575,079	372,550
29/04/10	1,560,646	175,355
30/04/10	1,241,635	223,306
01/05/10	1,019,565	204,037
02/05/10	1,104,060	211,522
03/05/10	1,271,484	203,190
04/05/10	1,009,053	173,423
05/05/10	887,524	161,703
06/05/10	864,878	261,682

07/05/10	912,586	350,470
08/05/10	1,150,191	458,137
09/05/10	1,220,656	461,416
10/05/10	1,330,004	399,353
11/05/10	1,492,867	482,218
12/05/10	1,525,307	358,220
13/05/10	1,534,932	395,155
14/05/10	1,434,886	236,002
15/05/10	1,259,740	262,298
16/05/10	1,247,554	222,891
17/05/10	1,359,007	215,451
18/05/10	1,299,603	217,964
19/05/10	1,310,307	191,147
20/05/10	1,255,045	181,196
21/05/10	1,258,156	156,873
22/05/10	946,079	120,816
23/05/10	786,338	154,684
24/05/10	855,528	172,170
25/05/10	1,396,257	166,719
26/05/10	1,341,788	179,930
27/05/10	1,224,242	174,074
28/05/10	810,779	144,338
29/05/10	680,209	154,353
30/05/10	900,381	139,846
31/05/10	972,958	175,049
01/06/10	940,930	188,561
02/06/10	1,014,518	178,100
03/06/10	1,054,765	195,175
04/06/10	884,215	178,812
05/06/10	667,628	156,798
06/06/10	689,667	200,665
07/06/10	762,203	190,972
08/06/10	863,116	135,697
09/06/10	865,760	196,853
10/06/10	940,937	154,255
11/06/10	902,821	182,259
12/06/10	720,679	174,604
13/06/10	794,150	170,960
14/06/10	887,846	190,852
15/06/10	981,154	142,450
16/06/10	1,090,829	158,768
17/06/10	1,205,401	177,193
18/06/10	1,196,930	168,681
19/06/10	1,191,063	136,795
20/06/10	1,190,004	157,582
21/06/10	1,237,776	147,395
22/06/10	1,217,946	170,597
23/06/10	1,232,106	179,745
24/06/10	1,224,872	186,167
25/06/10	1,302,078	182,319
26/06/10	1,369,921	169,007
27/06/10	1,273,911	173,410
28/06/10	1,333,103	184,755
29/06/10	1,053,202	175,045
30/06/10	1,359,189	154,102

01/07/10	1,369,245	167,695
02/07/10	1,325,750	160,178
03/07/10	1,131,010	138,031
04/07/10	1,043,489	148,571
05/07/10	1,335,387	146,055
06/07/10	1,345,238	163,098
07/07/10	945,931	174,971
08/07/10	1,316,472	169,908
09/07/10	1,390,138	167,331
10/07/10	1,454,145	170,820
11/07/10	1,470,525	160,016
12/07/10	1,481,777	153,534
13/07/10	1,467,027	153,216
14/07/10	1,461,567	162,580
15/07/10	1,387,014	157,487
16/07/10	1,350,230	164,170
17/07/10	1,022,850	143,831
18/07/10	1,312,967	140,792
19/07/10	1,356,931	174,439
20/07/10	1,358,154	180,902
21/07/10	1,465,084	192,775
22/07/10	1,389,622	177,834
23/07/10	1,271,923	148,410
24/07/10	1,337,848	165,669
25/07/10	1,263,085	185,340
26/07/10	1,252,271	168,305
27/07/10	1,251,246	176,770
28/07/10	1,049,802	177,567
29/07/10	991,554	165,390
30/07/10	791,114	162,072
31/07/10	672,504	135,214
01/08/10	679,980	105,448
02/08/10	652,177	133,776
03/08/10	989,158	167,226
04/08/10	967,958	154,008
05/08/10	1,116,836	171,418
06/08/10	943,963	179,350
07/08/10	790,076	133,157
08/08/10	797,135	159,987
09/08/10	969,408	192,535
10/08/10	1,012,564	174,733
11/08/10	1,224,245	181,389
12/08/10	797,431	167,120
13/08/10	883,339	173,021
14/08/10	676,531	153,129
15/08/10	746,337	158,829
16/08/10	782,837	179,109
17/08/10	584,757	162,053
18/08/10	852,659	188,545
19/08/10	891,173	196,792
20/08/10	635,100	174,524
21/08/10	592,364	151,006
22/08/10	710,347	159,079
23/08/10	721,235	157,081
24/08/10	781,228	160,448

25/08/10	1,044,660	173,261
26/08/10	1,002,615	182,134
27/08/10	984,369	171,292
28/08/10	916,791	147,601
29/08/10	995,607	145,804
30/08/10	1,217,667	144,872
31/08/10	1,270,292	144,549
01/09/10	1,237,222	130,716
02/09/10	1,158,889	163,286
03/09/10	941,407	169,657
04/09/10	563,614	142,500
05/09/10	522,718	125,582
06/09/10	603,252	143,062
07/09/10	752,810	172,086
08/09/10	1,129,491	189,078
09/09/10	1,161,793	190,938
10/09/10	1,027,964	183,932
11/09/10	835,712	143,783
12/09/10	900,767	158,281
13/09/10	1,031,899	171,695
14/09/10	861,724	187,958
15/09/10	1,067,844	183,856
16/09/10	1,259,124	235,697
17/09/10	1,219,694	168,894
18/09/10	1,151,831	136,772
19/09/10	1,215,428	161,702
20/09/10	1,221,896	200,540
21/09/10	1,101,465	148,607
22/09/10	1,121,487	204,969
23/09/10	1,163,763	177,408
24/09/10	1,166,743	140,146
25/09/10	921,916	137,944
26/09/10	938,666	148,377
27/09/10	751,388	241,008
28/09/10	631,913	257,086
29/09/10	934,090	179,339
30/09/10	989,323	201,887
01/10/10	1,229,611	215,955
02/10/10	1,089,777	237,742
03/10/10	1,185,289	292,017
04/10/10	1,379,145	307,614
05/10/10	1,227,254	351,253
06/10/10	1,272,570	252,554
07/10/10	703,134	202,973
08/10/10	795,510	167,006
09/10/10	1,066,986	198,205
10/10/10	994,935	161,768
11/10/10	1,090,993	211,281
12/10/10	1,263,176	297,606
13/10/10	1,153,777	252,181
14/10/10	1,214,753	342,939
15/10/10	1,213,078	393,565
16/10/10	1,083,809	303,191
17/10/10	1,141,494	316,733
18/10/10	1,176,659	445,888

19/10/10	1,055,816	386,319
20/10/10	637,252	315,721
21/10/10	839,844	475,675
22/10/10	643,002	444,258
23/10/10	353,591	313,705
24/10/10	429,327	352,871
25/10/10	413,980	257,971
26/10/10	417,848	284,631
27/10/10	346,232	289,901
28/10/10	825,318	426,759
29/10/10	971,306	426,714
30/10/10	768,969	370,056
31/10/10	1,046,620	530,130
01/11/10	1,247,407	540,082
02/11/10	1,282,979	585,435
03/11/10	1,187,948	515,284
04/11/10	1,137,847	505,381
05/11/10	1,187,995	625,269
06/11/10	1,072,023	575,532
07/11/10	1,154,820	569,360
08/11/10	1,305,201	554,158
09/11/10	1,268,487	583,427
10/11/10	1,094,228	534,062
11/11/10	969,617	537,191
12/11/10	514,472	527,029
13/11/10	646,754	426,106
14/11/10	688,250	552,192
15/11/10	834,673	556,050
16/11/10	872,000	474,306
17/11/10	1,180,758	568,393
18/11/10	1,278,158	643,258
19/11/10	1,327,077	619,318
20/11/10	1,347,219	615,889
21/11/10	1,298,085	591,889
22/11/10	1,205,067	331,153
23/11/10	1,413,926	600,705
24/11/10	1,518,297	726,732
25/11/10	1,580,215	677,300
26/11/10	1,551,969	853,326
27/11/10	1,538,248	637,248
28/11/10	1,559,071	662,108
29/11/10	1,617,965	602,730
30/11/10	1,295,359	488,970
01/12/10	1,399,486	697,312
02/12/10	1,590,585	756,593
03/12/10	1,580,757	711,271
04/12/10	1,575,972	821,055
05/12/10	1,643,669	896,559
06/12/10	1,780,862	961,342
07/12/10	1,713,079	1,011,823
08/12/10	1,754,536	1,101,414
09/12/10	1,809,442	980,375
10/12/10	1,664,921	578,913
11/12/10	1,141,949	513,932
12/12/10	1,405,188	711,016

13/12/10	1,657,243	1,366,220
14/12/10	1,663,148	1,126,890
15/12/10	1,626,392	960,135
16/12/10	1,690,894	792,037
17/12/10	1,660,660	704,573
18/12/10	1,438,547	707,155
19/12/10	1,332,570	723,303
20/12/10	1,546,547	814,200
21/12/10	1,538,980	878,205
22/12/10	1,585,131	864,423
23/12/10	1,532,983	789,297
24/12/10	1,476,786	719,496
25/12/10	1,566,912	781,390
26/12/10	1,612,876	910,509
27/12/10	1,548,113	847,706
28/12/10	1,497,185	691,348
29/12/10	1,418,480	704,368
30/12/10	1,045,398	590,502
31/12/10	883,516	343,752
01/01/11	821,326	430,637
02/01/11	1,500,940	763,542
03/01/11	1,585,591	759,290
04/01/11	1,597,752	738,588
05/01/11	1,719,061	795,742
06/01/11	1,680,293	881,972
07/01/11	1,592,916	904,507
08/01/11	1,601,121	924,489
09/01/11	1,679,084	973,705
10/01/11	1,803,255	1,008,982
11/01/11	1,782,249	1,019,349
12/01/11	1,736,949	1,116,051
13/01/11	1,750,954	1,091,964
14/01/11	1,746,011	817,175
15/01/11	1,691,887	895,117
16/01/11	1,719,289	1,197,657
17/01/11	1,750,761	710,870
18/01/11	1,573,435	469,655
19/01/11	1,628,853	959,984
20/01/11	1,551,516	919,333
21/01/11	1,722,663	974,426
22/01/11	1,786,439	940,488
23/01/11	1,698,611	1,276,009
24/01/11	1,710,346	1,058,188
25/01/11	1,676,808	908,601
26/01/11	1,527,149	767,344
27/01/11	1,502,165	803,984
28/01/11	1,341,308	851,742
29/01/11	1,432,242	789,616
30/01/11	1,610,493	806,990
31/01/11	1,793,926	1,004,591
01/02/11	1,748,959	1,141,067
02/02/11	1,711,190	1,195,284
03/02/11	1,578,666	1,005,170
04/02/11	1,334,782	1,041,045
05/02/11	994,459	852,162

06/02/11	1,023,411	791,197
07/02/11	1,549,095	910,978
08/02/11	1,725,609	1,035,718
09/02/11	1,679,905	895,304
10/02/11	1,805,204	982,880
11/02/11	1,620,678	928,697
12/02/11	1,266,616	897,600
13/02/11	1,348,124	697,558
14/02/11	1,617,776	974,614
15/02/11	1,709,612	823,357
16/02/11	1,404,701	729,641
17/02/11	1,104,112	445,141
18/02/11	1,069,023	553,146
19/02/11	1,497,814	875,835
20/02/11	1,901,281	859,439
21/02/11	2,052,104	1,063,483
22/02/11	2,053,133	946,773
23/02/11	1,819,750	668,498
24/02/11	1,698,044	741,159
25/02/11	1,819,370	850,754
26/02/11	1,804,273	722,071
27/02/11	1,427,224	650,878
28/02/11	1,467,757	756,499
01/03/11	1,471,536	667,569
02/03/11	1,656,203	1,054,811
03/03/11	1,585,536	916,547
04/03/11	1,402,883	549,867
05/03/11	992,739	700,956
06/03/11	1,588,961	848,034
07/03/11	1,564,730	855,112
08/03/11	1,313,420	761,681
09/03/11	1,355,771	840,835
10/03/11	1,097,445	620,742
11/03/11	828,743	704,078
12/03/11	821,739	649,165
13/03/11	1,002,466	824,813
14/03/11	1,241,816	744,464
15/03/11	954,046	622,346
16/03/11	781,613	578,500
17/03/11	680,921	303,408
18/03/11	746,380	420,552
19/03/11	872,231	568,612
20/03/11	688,041	614,658
21/03/11	787,414	627,935
22/03/11	1,365,296	659,508
23/03/11	1,542,655	893,559
24/03/11	1,450,054	852,457
25/03/11	1,413,653	878,121
26/03/11	1,563,154	772,889
27/03/11	1,449,713	790,429
28/03/11	1,460,989	707,619
29/03/11	1,254,541	679,728
30/03/11	1,209,152	545,195
31/03/11	1,288,577	599,017
01/04/11	1,163,642	516,296

02/04/11	967,049	480,368
03/04/11	1,089,592	489,206
04/04/11	1,378,233	412,129
05/04/11	1,568,086	734,253
06/04/11	1,570,807	676,512
07/04/11	1,274,931	673,277
08/04/11	983,258	619,003
09/04/11	618,442	383,940
10/04/11	553,800	374,910
11/04/11	647,108	362,976
12/04/11	846,815	453,303
13/04/11	1,001,811	531,787
14/04/11	1,114,424	479,788
15/04/11	1,147,142	704,097
16/04/11	1,096,418	670,121
17/04/11	1,090,525	857,188
18/04/11	1,313,760	858,091
19/04/11	1,307,622	782,075
20/04/11	1,326,813	742,229
21/04/11	1,297,354	649,566
22/04/11	716,320	566,460
23/04/11	608,531	337,080
24/04/11	662,997	379,884
25/04/11	721,922	415,601
26/04/11	681,350	429,299
27/04/11	595,756	191,841
28/04/11	602,271	431,380
29/04/11	679,785	513,139
30/04/11	459,785	260,966
01/05/11	516,132	422,905
02/05/11	683,971	436,661
03/05/11	813,228	615,979
04/05/11	815,193	391,505
05/05/11	721,153	311,391
06/05/11	759,006	321,544
07/05/11	471,972	242,922
08/05/11	482,415	261,738
09/05/11	535,530	279,999
10/05/11	411,772	302,714
11/05/11	238,885	272,911
12/05/11	244,482	237,710
13/05/11	268,960	206,509
14/05/11	158,403	240,883
15/05/11	569,158	367,172
16/05/11	903,730	363,024
17/05/11	707,925	370,159
18/05/11	494,702	266,516
19/05/11	449,394	205,397
20/05/11	482,724	161,553
21/05/11	402,710	115,581
22/05/11	235,799	130,788
23/05/11	356,823	137,160
24/05/11	560,319	269,860
25/05/11	464,375	216,884
26/05/11	508,578	251,989

27/05/11	408,481	297,137
28/05/11	211,026	213,478
29/05/11	300,578	201,157
30/05/11	455,501	227,767
31/05/11	559,460	191,352
01/06/11	544,171	244,448
02/06/11	503,138	207,090
03/06/11	277,694	214,794
04/06/11	0	208,114
05/06/11	282,104	188,846
06/06/11	380,819	215,798
07/06/11	665,990	188,240
08/06/11	997,914	204,894
09/06/11	904,911	227,848
10/06/11	483,836	179,622
11/06/11	184,471	138,486
12/06/11	0	193,187
13/06/11	345,424	226,255
14/06/11	341,414	217,692
15/06/11	346,801	209,593
16/06/11	366,048	201,063
17/06/11	289,514	177,309
18/06/11	150,698	159,011
19/06/11	216,723	193,648
20/06/11	528,567	234,217
21/06/11	702,731	194,470
22/06/11	646,187	174,251
23/06/11	544,951	152,558
24/06/11	399,030	145,639
25/06/11	139,580	181,592
26/06/11	310,731	205,128
27/06/11	431,634	206,354
28/06/11	481,596	216,248
29/06/11	571,219	210,726
30/06/11	526,934	170,834
01/07/11	407,475	150,988
02/07/11	368,659	162,400
03/07/11	477,846	177,402
04/07/11	472,718	196,415
05/07/11	536,421	194,711
06/07/11	617,292	192,337
07/07/11	668,326	159,417
08/07/11	535,546	142,246
09/07/11	312,025	163,684
10/07/11	441,194	177,122
11/07/11	825,540	213,562
12/07/11	923,365	223,409
13/07/11	621,914	198,870
14/07/11	362,257	171,630
15/07/11	343,429	176,037
16/07/11	238,422	133,131
17/07/11	428,349	149,095
18/07/11	732,536	154,618
19/07/11	816,098	168,040
20/07/11	1,079,330	172,445

21/07/11	1,087,030	163,322
22/07/11	869,020	169,159
23/07/11	782,832	141,375
24/07/11	621,747	143,191
25/07/11	680,334	190,590
26/07/11	552,554	152,699
27/07/11	538,149	167,399
28/07/11	548,784	162,160
29/07/11	501,330	132,218
30/07/11	495,168	115,136
31/07/11	223,331	114,586
01/08/11	434,890	131,249
02/08/11	551,811	156,834
03/08/11	537,594	168,054
04/08/11	549,492	179,003
05/08/11	433,016	159,884
06/08/11	0	125,424
07/08/11	157,185	151,202
08/08/11	262,913	167,145
09/08/11	377,193	165,482
10/08/11	285,462	155,817
11/08/11	278,365	157,584
12/08/11	361,192	133,127
13/08/11	237,796	128,631
14/08/11	334,640	148,348
15/08/11	414,548	184,460
16/08/11	444,680	140,790
17/08/11	501,468	154,426
18/08/11	512,789	134,386
19/08/11	438,856	129,338
20/08/11	309,014	126,130
21/08/11	346,972	143,179
22/08/11	471,901	158,719
23/08/11	407,096	175,425
24/08/11	351,084	169,598
25/08/11	204,312	198,174
26/08/11	107,640	154,855
27/08/11	143,621	114,857
28/08/11	48,717	138,086
29/08/11	144,493	146,092
30/08/11	1,189	128,370
31/08/11	188,948	132,811
01/09/11	556,251	150,818
02/09/11	351,907	129,030
03/09/11	331,453	84,409
04/09/11	211,405	106,655
05/09/11	144,918	149,203
06/09/11	359,404	172,282
07/09/11	434,690	156,926
08/09/11	398,039	146,814
09/09/11	413,655	140,359
10/09/11	292,842	122,846
11/09/11	339,417	135,147
12/09/11	450,679	159,138
13/09/11	488,055	158,999

14/09/11	622,546	180,855
15/09/11	477,027	178,815
16/09/11	222,236	195,540
17/09/11	131,021	167,038
18/09/11	184,305	136,361
19/09/11	302,553	182,053
20/09/11	476,968	148,502
21/09/11	563,333	152,376
22/09/11	606,279	147,299
23/09/11	485,646	136,278
24/09/11	120,696	122,485
25/09/11	304,969	121,662
26/09/11	567,123	133,329
27/09/11	575,993	138,193
28/09/11	547,756	163,147
29/09/11	57,096	166,378
30/09/11	458,571	235,851
01/10/11	419,167	298,355
02/10/11	458,600	366,502
03/10/11	564,560	298,321
04/10/11	597,250	261,385
05/10/11	669,119	280,267
06/10/11	677,849	282,328
07/10/11	528,656	168,513
08/10/11	345,553	145,873
09/10/11	229,313	134,565
10/10/11	373,857	140,349
11/10/11	583,693	175,321
12/10/11	611,581	171,996
13/10/11	619,708	195,107
14/10/11	671,859	214,515
15/10/11	566,904	292,327
16/10/11	573,726	352,346
17/10/11	704,600	366,093
18/10/11	830,926	348,181
19/10/11	807,608	423,567
20/10/11	744,202	396,746
21/10/11	745,224	421,923
22/10/11	681,157	424,571
23/10/11	676,198	337,259
24/10/11	866,209	383,932
25/10/11	964,645	419,575
26/10/11	1,155,628	552,897
27/10/11	1,462,497	636,224
28/10/11	1,479,015	473,993
29/10/11	1,485,285	512,796
30/10/11	1,376,236	483,115
31/10/11	1,445,858	436,531
01/11/11	1,340,151	474,749
02/11/11	1,072,830	327,405
03/11/11	1,209,510	512,651
04/11/11	1,469,034	527,265
05/11/11	1,229,951	493,333
06/11/11	997,916	362,121
07/11/11	949,668	268,738

08/11/11	1,003,936	354,712
09/11/11	953,096	413,006
10/11/11	1,317,123	515,014
11/11/11	1,495,940	542,329
12/11/11	939,952	375,679
13/11/11	745,133	320,039
14/11/11	735,684	386,727
15/11/11	898,947	391,836
16/11/11	1,013,922	533,305
17/11/11	1,539,510	639,835
18/11/11	1,460,816	542,553
19/11/11	883,222	388,066
20/11/11	1,218,416	480,278
21/11/11	1,554,562	690,478
22/11/11	1,592,356	799,281
23/11/11	1,675,997	688,456
24/11/11	1,409,143	581,836
25/11/11	819,985	373,597
26/11/11	603,892	319,200
27/11/11	506,353	425,722
28/11/11	1,049,256	514,318
29/11/11	1,055,937	518,708
30/11/11	1,262,508	649,321
01/12/11	1,514,001	663,081
02/12/11	1,557,587	704,563
03/12/11	903,712	518,992
04/12/11	653,555	494,979
05/12/11	979,939	600,025
06/12/11	1,319,043	685,603
07/12/11	1,684,884	688,498
08/12/11	1,733,370	751,097
09/12/11	1,711,080	755,615
10/12/11	1,723,312	865,780
11/12/11	1,676,266	731,356
12/12/11	1,682,947	679,119
13/12/11	1,615,532	546,417
14/12/11	1,425,080	573,734
15/12/11	1,197,952	500,140
16/12/11	1,506,367	685,609
17/12/11	1,665,586	829,631
18/12/11	1,694,011	707,160
19/12/11	1,717,115	669,497
20/12/11	1,732,553	722,287
21/12/11	1,207,728	592,945
22/12/11	1,367,263	624,929
23/12/11	1,790,690	803,571
24/12/11	1,738,779	721,856
25/12/11	1,625,393	567,698
26/12/11	1,427,749	605,750
27/12/11	1,618,889	712,980
28/12/11	1,904,166	1,055,273
29/12/11	1,886,482	1,040,211
30/12/11	1,797,345	688,660
31/12/11	1,150,331	618,919
01/01/12	1,073,894	627,371

02/01/12	1,814,751	933,260
03/01/12	1,942,570	1,403,006
04/01/12	1,860,486	963,721
05/01/12	1,672,760	798,041
06/01/12	1,322,483	574,346
07/01/12	1,117,579	588,929
08/01/12	1,489,547	747,137
09/01/12	1,318,927	692,859
10/01/12	1,600,013	670,920
11/01/12	1,768,513	617,421
12/01/12	1,820,660	638,251
13/01/12	1,880,164	990,507
14/01/12	2,023,701	1,237,955
15/01/12	1,938,396	1,124,585
16/01/12	1,938,413	724,793
17/01/12	1,886,413	859,246
18/01/12	1,926,028	981,886
19/01/12	1,999,453	1,053,026
20/01/12	1,948,943	1,033,613
21/01/12	1,809,171	911,322
22/01/12	1,719,066	773,733
23/01/12	1,334,150	699,755
24/01/12	1,780,166	839,935
25/01/12	1,760,438	862,411
26/01/12	1,662,730	838,386
27/01/12	1,510,367	712,207
28/01/12	1,585,120	812,150
29/01/12	1,808,180	876,461
30/01/12	1,818,403	838,878
31/01/12	1,256,833	508,892
01/02/12	1,291,542	674,548
02/02/12	1,802,777	786,253
03/02/12	1,679,368	743,757
04/02/12	1,591,098	665,584
05/02/12	1,506,302	715,989
06/02/12	1,478,662	630,608
07/02/12	1,718,420	913,274
08/02/12	1,676,835	838,538
09/02/12	1,564,261	749,273
10/02/12	1,676,816	887,492
11/02/12	1,859,805	1,067,389
12/02/12	1,694,650	945,506
13/02/12	1,792,352	743,454
14/02/12	1,521,531	713,836
15/02/12	1,112,799	698,998
16/02/12	1,158,393	690,226
17/02/12	1,081,258	754,400
18/02/12	1,549,159	726,603
19/02/12	1,631,877	815,521
20/02/12	1,528,183	752,729
21/02/12	1,413,088	721,813
22/02/12	876,596	680,941
23/02/12	763,690	706,925
24/02/12	1,065,659	838,609
25/02/12	1,586,209	908,417

26/02/12	1,611,361	830,632
27/02/12	1,623,563	741,739
28/02/12	1,680,959	676,635
29/02/12	1,622,788	809,265
01/03/12	1,740,471	727,797
02/03/12	1,561,240	603,686
03/03/12	1,487,756	735,569
04/03/12	1,794,210	1,029,237
05/03/12	1,836,666	1,087,105
06/03/12	1,766,523	770,076
07/03/12	1,243,783	355,397
08/03/12	1,440,875	617,699
09/03/12	1,737,496	980,016
10/03/12	1,442,885	853,357
11/03/12	977,685	428,524
12/03/12	886,040	468,768
13/03/12	1,012,189	405,194
14/03/12	1,111,714	397,694
15/03/12	887,147	410,279
16/03/12	581,810	190,205
17/03/12	434,384	436,587
18/03/12	361,152	206,212
19/03/12	482,535	166,813
20/03/12	465,749	216,622
21/03/12	276,631	181,092
22/03/12	313,647	195,737
23/03/12	367,400	277,014
24/03/12	482,954	396,932
25/03/12	746,300	389,550
26/03/12	1,470,957	665,332
27/03/12	1,540,970	599,292
28/03/12	1,453,631	454,172
29/03/12	1,639,405	666,475
30/03/12	1,348,155	644,144
31/03/12	1,088,558	502,321
01/04/12	1,259,024	634,297
02/04/12	1,381,114	507,320
03/04/12	1,469,820	513,453
04/04/12	1,456,691	550,526
05/04/12	1,410,728	450,277
06/04/12	1,039,047	416,357
07/04/12	897,761	331,525
08/04/12	900,847	409,466
09/04/12	1,141,786	399,239
10/04/12	1,252,447	569,358
11/04/12	1,310,057	514,061
12/04/12	1,201,998	428,564
13/04/12	639,115	325,886
14/04/12	349,880	318,426
15/04/12	304,934	233,535
16/04/12	556,721	231,343
17/04/12	1,019,796	438,560
18/04/12	923,023	425,647
19/04/12	519,478	278,556
20/04/12	580,159	296,914

21/04/12	825,601	457,335
22/04/12	889,033	445,140
23/04/12	1,378,260	621,521
24/04/12	1,317,086	536,476
25/04/12	986,996	393,560
26/04/12	1,252,610	511,344
27/04/12	1,427,906	516,502
28/04/12	1,116,688	459,620
29/04/12	1,069,806	366,169
30/04/12	1,023,085	523,709
01/05/12	908,220	417,451
02/05/12	883,881	269,279
03/05/12	819,601	238,780
04/05/12	614,082	181,537
05/05/12	545,748	174,027
06/05/12	512,280	204,831
07/05/12	568,732	265,807
08/05/12	550,271	253,281
09/05/12	661,434	264,294
10/05/12	630,910	319,547
11/05/12	433,517	204,681
12/05/12	249,071	163,806
13/05/12	248,865	194,279
14/05/12	391,349	205,626
15/05/12	575,900	187,895
16/05/12	757,240	244,224
17/05/12	680,931	219,940
18/05/12	319,088	211,925
19/05/12	424,390	153,765
20/05/12	337,117	137,343
21/05/12	442,490	185,447
22/05/12	497,995	185,738
23/05/12	492,178	191,627
24/05/12	505,124	204,103
25/05/12	413,860	192,744
26/05/12	399,154	187,718
27/05/12	453,240	155,202
28/05/12	589,037	179,454
29/05/12	760,739	167,804
30/05/12	745,077	176,941
31/05/12	564,343	161,856
01/06/12	465,457	215,469
02/06/12	301,140	195,623
03/06/12	331,250	189,340
04/06/12	526,118	248,402
05/06/12	573,998	185,113
06/06/12	582,564	224,714
07/06/12	596,763	204,977
08/06/12	512,620	206,661
09/06/12	418,022	179,814
10/06/12	504,919	190,075
11/06/12	593,838	204,670
12/06/12	594,354	208,684
13/06/12	620,179	215,997
14/06/12	600,479	220,838

15/06/12	606,889	175,676
16/06/12	400,838	151,067
17/06/12	420,580	161,921
18/06/12	800,802	207,647
19/06/12	1,041,855	173,576
20/06/12	1,321,024	165,671
21/06/12	1,330,259	181,870
22/06/12	1,157,451	128,902
23/06/12	645,165	124,304
24/06/12	716,772	152,369
25/06/12	727,267	205,762
26/06/12	764,072	189,599
27/06/12	853,848	185,402
28/06/12	1,040,524	175,469
29/06/12	1,047,791	150,215
30/06/12	886,508	153,957
01/07/12	719,756	139,100
02/07/12	849,373	162,859
03/07/12	735,921	199,247
04/07/12	812,689	190,294
05/07/12	1,048,832	196,615
06/07/12	1,107,480	179,619
07/07/12	994,564	167,681
08/07/12	975,548	168,039
09/07/12	923,955	201,986
10/07/12	776,643	191,365
11/07/12	877,932	185,663
12/07/12	983,742	210,161
13/07/12	924,679	164,561
14/07/12	826,324	147,823
15/07/12	850,099	182,473
16/07/12	1,008,499	183,588
17/07/12	1,220,477	172,166
18/07/12	1,162,899	189,581
19/07/12	913,664	185,884
20/07/12	579,110	176,975
21/07/12	408,649	155,103
22/07/12	531,185	182,066
23/07/12	647,736	194,677
24/07/12	896,299	220,976
25/07/12	703,389	204,102
26/07/12	884,842	184,046
27/07/12	772,402	170,895
28/07/12	412,929	158,941
29/07/12	555,240	163,566
30/07/12	580,777	169,692
31/07/12	629,498	170,602
01/08/12	718,558	173,039
02/08/12	870,432	206,056
03/08/12	880,638	184,058
04/08/12	723,246	142,748
05/08/12	812,082	132,392
06/08/12	721,110	155,666
07/08/12	835,855	203,646
08/08/12	928,505	197,725

09/08/12	877,690	212,614
10/08/12	681,938	159,865
11/08/12	614,684	154,044
12/08/12	660,542	158,402
13/08/12	818,698	220,267
14/08/12	858,950	191,625
15/08/12	911,950	197,544
16/08/12	842,347	200,725
17/08/12	709,817	169,418
18/08/12	347,906	163,895
19/08/12	370,266	169,083
20/08/12	547,832	188,144
21/08/12	462,904	203,747
22/08/12	557,073	203,311
23/08/12	646,213	192,565
24/08/12	531,453	167,963
25/08/12	402,890	158,657
26/08/12	393,042	149,319
27/08/12	598,458	185,888
28/08/12	770,367	193,078
29/08/12	669,887	188,067
30/08/12	809,414	153,772
31/08/12	900,253	151,620
01/09/12	505,309	126,388
02/09/12	409,689	123,946
03/09/12	563,947	142,940
04/09/12	706,928	196,908
05/09/12	946,246	199,083
06/09/12	1,054,475	214,001
07/09/12	984,910	181,998
08/09/12	795,931	188,373
09/09/12	598,836	189,485
10/09/12	771,700	234,975
11/09/12	800,333	220,536
12/09/12	856,163	241,744
13/09/12	747,360	203,884
14/09/12	733,114	221,464
15/09/12	516,973	200,469
16/09/12	515,837	175,855
17/09/12	670,447	171,322
18/09/12	963,219	174,108
19/09/12	934,796	221,359
20/09/12	908,358	207,004
21/09/12	741,027	184,282
22/09/12	609,616	215,150
23/09/12	684,262	263,519
24/09/12	824,429	288,036
25/09/12	673,736	241,322
26/09/12	803,032	280,054
27/09/12	904,637	253,062
28/09/12	687,722	221,684
29/09/12	502,457	210,236
30/09/12	611,790	224,539
01/10/12	680,082	245,838
02/10/12	815,112	208,393

03/10/12	737,493	200,935
04/10/12	741,344	179,843
05/10/12	609,324	202,771
06/10/12	868,912	304,508
07/10/12	1,092,941	344,103
08/10/12	1,057,851	388,701
09/10/12	991,651	423,393
10/10/12	1,193,256	505,725
11/10/12	1,198,139	525,977
12/10/12	1,381,831	548,378
13/10/12	1,038,475	442,383
14/10/12	887,049	237,931
15/10/12	1,142,968	468,713
16/10/12	1,532,070	422,151
17/10/12	1,455,519	371,188
18/10/12	1,175,024	309,524
19/10/12	966,346	322,207
20/10/12	915,765	371,585
21/10/12	973,904	353,177
22/10/12	1,083,140	284,066
23/10/12	1,237,751	371,188
24/10/12	1,379,464	327,440
25/10/12	953,671	207,844
26/10/12	950,715	402,661
27/10/12	912,216	506,684
28/10/12	1,091,966	608,720
29/10/12	1,269,320	725,375
30/10/12	1,021,953	479,404
31/10/12	1,080,344	606,023
01/11/12	1,288,097	612,839
02/11/12	1,412,130	663,992
03/11/12	1,544,485	622,363
04/11/12	1,663,727	694,265
05/11/12	1,778,654	789,202
06/11/12	1,834,975	753,340
07/11/12	1,811,348	687,465
08/11/12	1,675,545	612,060
09/11/12	1,657,470	470,528
10/11/12	1,512,415	434,160
11/11/12	1,217,614	291,873
12/11/12	1,275,595	420,313
13/11/12	1,740,068	673,666
14/11/12	1,713,728	551,863
15/11/12	1,634,907	605,949
16/11/12	1,526,799	491,477
17/11/12	1,477,698	458,398
18/11/12	1,520,055	492,512
19/11/12	1,656,642	518,439
20/11/12	1,583,673	486,101
21/11/12	1,413,017	494,136
22/11/12	1,298,344	369,638
23/11/12	1,475,291	525,220
24/11/12	1,551,833	676,784
25/11/12	1,624,567	701,473
26/11/12	1,764,569	784,266

27/11/12	1,712,890	797,263
28/11/12	1,782,961	802,908
29/11/12	1,934,292	648,238
30/11/12	1,839,650	1,043,420
01/12/12	1,689,026	655,693
02/12/12	1,222,096	400,804
03/12/12	1,346,468	477,388
04/12/12	1,099,184	445,501
05/12/12	1,714,533	797,041
06/12/12	1,697,831	673,257
07/12/12	1,481,186	534,630
08/12/12	1,265,601	678,677
09/12/12	1,570,937	756,066
10/12/12	1,579,249	691,859
11/12/12	1,755,283	813,168
12/12/12	1,674,579	734,060
13/12/12	1,453,745	660,111
14/12/12	1,488,213	590,580
15/12/12	1,551,172	693,419
16/12/12	1,461,687	398,366
17/12/12	1,408,123	497,857
18/12/12	1,386,184	633,946
19/12/12	1,583,502	634,369
20/12/12	1,298,076	711,601
21/12/12	1,347,672	735,621
22/12/12	1,639,863	675,383
23/12/12	1,558,445	729,209
24/12/12	1,426,513	612,295
25/12/12	1,443,571	605,004
26/12/12	1,710,415	935,461
27/12/12	1,710,742	924,111
28/12/12	1,730,163	843,733
29/12/12	1,664,390	869,442
30/12/12	1,623,056	818,563
31/12/12	1,496,231	735,229

Month	Flow through Parkway Compression (GJ)	Flow to Enbridge at Parkway (Consumers), GJ
2006		
January	5,668,845	18,242,278
February	14,170,093	22,533,616
March	8,586,429	20,091,429
April	0	8,272,460
May	0	4,575,672
June	0	4,094,544
July	0	5,596,524
August	0	6,096,226
September	0	6,844,649
October	199,047	12,984,828
November	5,380,322	16,192,636
December	15,225,428	20,938,259
2007		
January	26,010,648	25,236,127
February	25,889,243	27,292,248
March	16,980,052	20,826,375
April	4,126,704	16,307,147
May	0	6,447,934
June	0	5,801,013
July	0	5,750,248
August	0	3,920,538
September	0	5,937,105
October	546,606	4,642,219
November	17,799,557	17,011,649
December	38,699,714	27,680,901
2008		
January	36,953,013	26,875,066
February	36,872,256	24,022,964
March	31,513,703	24,449,631
April	4,210,096	12,105,450
May	1,622	9,124,603
June	0	5,379,690
July	0	4,974,598
August	0	4,824,926
September	0	5,245,098
October	3,954,331	11,978,389
November	24,081,391	18,328,335
December	43,822,979	26,096,572
2009		
January	44,976,249	29,344,565
February	37,248,075	22,529,936
March	24,575,652	19,931,360
April	13,654,545	11,934,332
May	0	7,405,990
June	0	5,663,748
July	0	4,950,353
August	4,873,209	4,091,583
September	4,546,439	2,874,564
October	8,569,571	12,550,022
November	24,349,494	14,781,223
December	45,471,788	27,478,028
2010		
January	44,701,482	30,667,298
February	38,931,409	24,601,403
March	30,303,806	16,888,076
April	31,885,404	10,178,618
May	35,661,964	7,386,328
June	31,448,720	5,158,574
July	39,061,900	5,052,973
August	27,230,839	5,043,277
September	29,585,833	5,196,786
October	29,031,055	9,825,184
November	36,176,115	17,279,883
December	47,382,807	25,057,116
2011		
January	50,315,393	27,560,588
February	43,832,672	24,035,947
March	37,432,418	21,853,206
April	29,086,349	15,976,764
May	15,192,385	8,532,344
June	12,564,830	5,887,953
July	18,109,021	5,129,395
August	9,838,877	4,657,481
September	11,476,833	4,518,788
October	23,916,683	10,395,472
November	34,004,746	14,410,559
December	47,208,707	21,405,975
2012		
January	52,388,318	25,935,004
February	43,160,001	22,428,954
March	33,980,918	16,058,899
April	30,901,497	13,104,688
May	16,975,864	6,500,954
June	20,983,346	5,573,782
July	25,315,132	5,570,348
August	21,475,000	5,528,944
September	22,027,279	6,217,725
October	32,435,596	11,896,830
November	47,923,039	18,174,153
December	47,077,736	20,962,444

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

a) from gas compressed at Parkway;
b) from laterals off the Dawn Parkway line;
c) from laterals off the TCPL Niagara line or TCPL Hamilton line.

Response:

a) to c) Please see Exhibit I.A.1.UGL.BOMA.3 g).

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

Union has provided its assessment of the importance of the Dawn-Parkway system and the Dawn Hub in Exhibit I.A1.UGL.Staff.10.

The Dawn Parkway System is expected to remain a critical component of the natural gas system for U.S. Northeast customers. While some customers in the U.S. Northeast will find direct access to Marcellus gas to be easy and economical, thus reducing reliance on other supplies such as from the Dawn Hub, Union and ICF International believe that for most U.S. Northeast customers, particularly those outside of the footprint of the Marcellus, growth in Marcellus shale production will not reduce the importance of the Dawn Hub. Union does not forecast any turnback of Dawn-Parkway capacity by U.S. Northeast customers before October 31, 2020.

Reliance on the Dawn Hub will continue to provide significant advantages to U.S. Northeast customers, including:

1) Dawn provides additional diversity of supply that is easily accessed by U.S. Northeast customers. Access to natural gas at Dawn provides access to Marcellus gas as well as natural gas from a variety of other basins. Hence, the diversity of gas supply at Dawn provides additional supply reliability, as well as pricing stability relative to natural gas sourced solely from the Marcellus.

2) Dawn is a highly liquid market that is easily accessed by customers in the Northeastern U.S.. While these customers have access to natural gas at other market centers, including Leidy, Dracut and others, these other markets centres often suffer from liquidity issues. While there are other liquid markets in the U.S. Northeast, including TETCO M3, Dominion Southpoint and others, many customers in the U.S. Northeast are located downstream of pipeline constraints, and do not have reliable access to these market centers.

3) The available infrastructure to transport Marcellus gas to many Northeastern U.S. customers remains limited, and pipeline capacity expansions remain highly uncertain, and potentially expensive.

4) Natural gas demand in the Northeastern U.S. remains highly seasonal, placing a premium on storage capacity to store excess gas production during the summer, and to meet winter demand in excess of production capacity. Hence the storage capacity at and around the Dawn Hub will continue to make Dawn attractive to both Marcellus producers and U.S. Northeast consumers.

The overall landed cost of purchasing natural gas at different points depends on a variety of factors including differences in commodity prices as well as differences in transportation costs. The cost of moving natural gas from the Dawn Hub to U.S. Northeast consumers is currently higher than the cost of using existing pipeline capacity to transport natural gas from the Marcellus to U.S. Northeast consumers. However, current pipeline capacity from the Marcellus into New England and most of the other major demand centers in the U.S. Northeast is fully contracted, and the cost of new pipeline capacity from the Marcellus into New England is expected to be very high.

The expansion project into New England likely to be the lowest cost would be the PNGTS expansion. While this expansion is dependent on TransCanada to increase capacity to the PNGTS head station (East Hereford), the expansion of PNGTS itself would be relatively economic. Preliminary information suggests costs would be about $0.60/MMBtu/d on a 100 percent load factor basis. Customers contracting for this capacity would likely rely on natural gas purchased or stored at the Dawn Hub.

The competing projects into New England, including the Spectra Energy AIM project, which would increase capacity on Algonquin Pipeline, the Tennessee Gas Pipeline bullet line and the Constitution Pipeline, are expected to cost about $1.60/MMBtu/d to transport natural gas from the Marcellus into New England if they are built. Construction of these pipelines remains highly uncertain.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

Response:

a) Please see Exhibit I.A1.UGL.Staff.1 g).

b) Union began to purchase gas supplies (assumed to be sourced from Marcellus) to fill its TransCanada Niagara-Kirkwall transportation capacity when it began to flow in November of 2012. Union has been purchasing 21,101 GJ/d of supply at Niagara under index priced contracts with a mixed portfolio of terms (one month, winter/summer strip, one year). Union has not yet contracted for gas supply at Niagara beyond October 31, 2013 to fill this long term (10 year) firm TransCanada transportation arrangement.

c) Union's delivery point for this TransCanada Niagara-Kirkwall transportation contract is Kirkwall.

d) Union does not understand the question. Union has only assumed 21,101 GJ/d of FT capacity currently contracted by Union on the TransCanada Niagara Line.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

Response:

a) The gas supply is purchased in Michigan and the supplier delivers the gas to any of the Michigan Consolidated Gas Company Generic points. Michcon Generic is a market hub in Michigan that is similar to Dawn. The transportation path has three components:

1) Michigan Consolidated Gas Company:
   a. Receipt Point is Generic
   b. Delivery Points is Belle River Mills (connects to Great Lakes)
2) Great Lakes Gas Transmission:
   a. Receipt Point is Belle River Mills
   b. Delivery Point is SS Marie (connects to TransCanada)
3) TransCanada:
   a. Receipt Point is SS Marie
   b. Delivery Area is Union SSMDA

b) This response was provided by ICF International:

Expected Alberta production and increased demand within the province of Alberta due to oil sands production and potential LNG exports from British Columbia will impact the amount of gas available to export from the WCSB to Ontario. Due to that, expanding the options for gas supply for Ontario becomes a priority. The significant gas supply options available from shale production in Appalachia and other markets provide such options. The amount of production from the shale region and relative closeness of the supply to the eastern market will provide access for the eastern market to access that shale supply. The proximity of these supplies leads to inherent advantages over more distant supplies.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

a) Union notes that flow east on the TCPL mainline has significantly declined since 2005. Please confirm that the primary reason for the decline from average daily volume of 5.5 bcf in 2005 to 2.1 bcf in 2012 is the actions taken by eastern LDCs (Union and Enbridge) over that period to diversify their supplies away from the WCSB and to purchase more of the supplies they do continue to source in WCSB via the Alliance-Vector system to Dawn, and that the decrease in throughput has resulted in increased tolls on the mainline, thereby creating a "vicious circle" of rising tolls and declining throughputs. Please discuss fully, and set out each step in Union's diversification of its supply (between eighty-four percent and ninety percent) of Union's system supply portfolio between 1988 and 1999 (p17) and forecast fifty-five percent in 2013.

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

Response:

a) Eastern LDCs are not the primary reason for the decline from average daily volumes of 5.5 bcf in 2005 to 2.1 bcf in 2012. As shown at Section 5, page 2, Figure 5-1, since 2005 Eastern LDCs have shown a small decline of FT capacity on the TCPL mainline from Empress from just over 1.0 bcf /day to just under 1.0 bcf/day. The primary decline is shown in the red and green sections representing customers delivering to Union's delivery areas and other marketers and end use customers respectively.

In addition, the decline during that time is not related to Alliance-Vector system to Dawn as Alliance-Vector has been in service since December 1, 2000.

Given the declining WCSB and the growth of Marcellus/Utica supply, many market participants have either left the TCPL system entirely or have shifted from long-haul to short-haul contributing to the declining throughput on TCPL.

b) Alliance Pipeline Limited Partnership (Canadian portion of the Alliance pipeline) is owned by the Enbridge Income Fund (50%) and Veresen Inc. (50%). Alliance Pipeline L. P. (U.S. portion of the Alliance pipeline) is owned by Enbridge Inc. (50%) and by Veresen Inc. (50%).

(Source: http://www.alliancepipeline.com/AboutUs/OurCompany/Pages/Ownership.aspx)
Vector Pipeline L.P. is a joint venture between Enbridge Inc.(60%) and DTE Energy Company (40%).

(Source: http://www.vector-pipeline.com/vector/main.aspx?id=6734&tmi=6734&tmt=1)

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

Response:

a) The suspension of TransCanada's integrity programs is discussed in EB-2012-0433, Section 4, paragraphs 31(c). References to materials filed by TransCanada in RH-003-2011 are provided that identify segments and reduction of capacity. Union notes that TransCanada has submitted several O&M compliance notifications of planned work to the NEB this year however the full extent of this and/or other work planned by TransCanada to reinstate its integrity programs for 2013 -2014 and beyond is not known. Union is aware that if the crude oil conversion does proceed, TransCanada will have to complete some of the suspended integrity work to meet current firm transportation demands. Union is concerned with the impact of serving Ontario customers, with one of the three TransCanada natural gas pipelines from Empress to Québec converted to crude oil service and one of the three natural gas pipelines in northern Ontario having integrity issues. This effectively leaves only one pipeline across northern Ontario fully available for service.

b) The Dawn-Dawn(TCPL) interconnect provides TransCanada with the ability to transport natural gas westward from Dawn into the TransCanada system and subsequently into the GLGT system. TransCanada nominates natural gas to flow on the Dawn-Dawn(TCPL) and GLGT paths based on nominations for transportation services from its customers. Union is not aware of the ultimate path and destination of natural gas flowing on this path. Union does not supply the SSMDA through the combined Dawn-Dawn(TCPL) and GLGT paths (see response to Exhibit I.A1.UGL.BOMA.48 a).

c) Please see response to Exhibit I.A1.UGL.BOMA.3 part i) for response to TCPL mainline system contract information. Alliance-Vector has been in service since December 1, 2000 and the transportation quantity contracted has stayed consistent at 84,405 GJ/d. Union does not transport WCSB sourced gas on the Great Lakes system.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

c) For facilities that are before FERC, the date of the application, a link to the evidence, and a likely decision date by FERC

d) For those that have been announced by not yet filed, please include copies of the announcements

e) For those that require state approval, rather than FERC approval, analogous information.

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

g) Please comment on the ability of Union/TCPL to move gas from Marcellus or gas sourced at Dawn-Niagara/Chippawa (separately) through Parkway and deliver to US customers via Iroquois or other border station on a competitive basis with gas to supply to those same northeast markets directly from Marcellus by US pipelines. Please discuss fully.

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

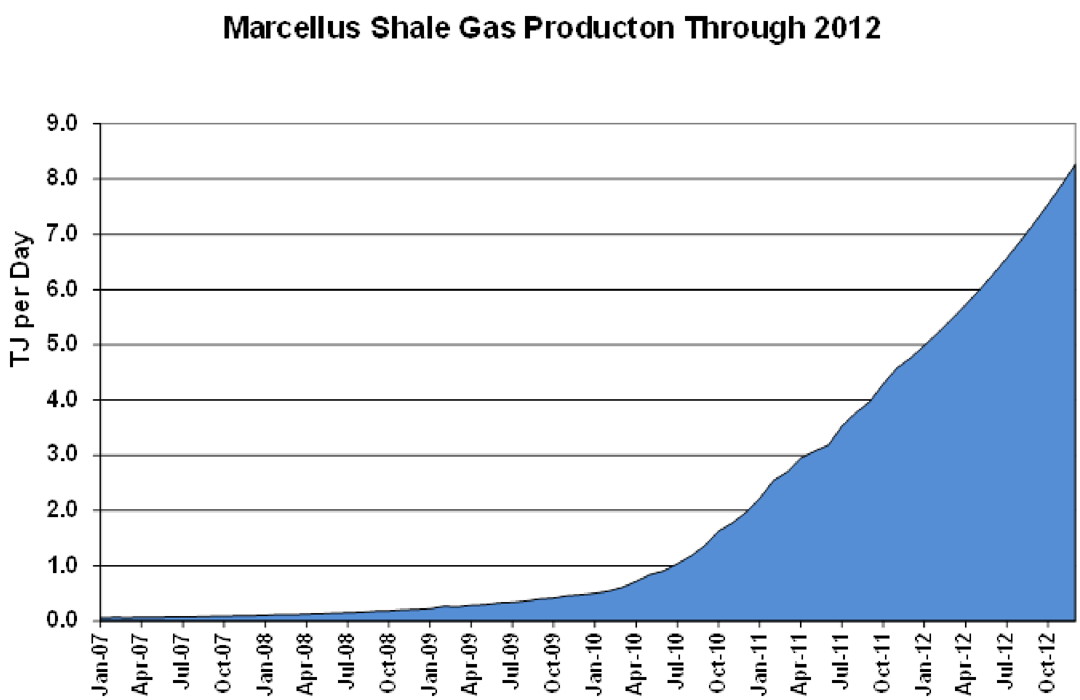
i) Please provide the volume of customers in Union's northern and eastern zones that it considers capture to mainline TCPL service in 2008 to 2013 and for the years 2014, 2015, 2016, 2017, 2018. Please quantify the response. Please provide the volumes of customers in northern region that it is currently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

Response:

a) This response was provided by ICF International.

ICF International has evaluated Marcellus shale gas production from Pennsylvania and West Virginia. The results of this analysis are presented as Figure 1 below. Production continues to increase rapidly, despite a large reduction in rig activity over the past year. This is because a large number of un-connected wells are present in the play. In addition, operators have concentrated activities in very highly productive portions of the play, such as NE Pennsylvania.

Figure 1. ICF Analysis of Historical North America Shale Gas Production Through 2012



(b) and (c) Attached is a summary below of projects proposed to transport natural gas from Marcellus to New York City, New Jersey and New England markets since 2007. All of the projects listed are subject to FERC regulation. Union has sourced this information from the FERC web-site and may not be aware of all proposed or completed project to transport Marcellus natural gas to the U.S. Northeast.

Algonquin Gas Transmission, LLC and Texas Eastern Transmission, LP are Spectra Energy companies.
For projects currently before the FERC, Union is not aware of likely FERC decision dates.

Approved & Pre-Filed Pipeline Projects Capable of Delivering Marcellus Shale to New Jersey, New York City & New England						
FERC Pre-Filing Page: https://www.ferc.gov/industries/gas/indus-act/pre-filing.asp						
FERC Approved Projects Page: https://www.ferc.gov/industries/gas/indus-act/pipelines/approved-projects.asp						
Pipeline Company	Project Name	Capacity *MMcf/d*	Status	Markets Served	Link to Evidence/ Decision	Pre-File Date
Columbia Gas Transmission, LLC	East Side Expansion Project	305	Incomplete	PA, NJ	PF13-7	25/02/2013
Transcontinental Gas Pipeline Company, LLC	Leidy Southeast Expansion Project	462	Incomplete	PA, NJ	PF13-5	14/01/2013
Transcontinental Gas Pipeline Company, LLC	Northeast Connector Project	100	Incomplete	NY	CP13-36	N/A
Transcontinental Gas Pipeline Company, LLC	Rockaway Delivery Lateral Project	647	Incomplete	NY	CP13-36	N/A
Transcontinental Gas Supply Co., LLC	Northeast Supply Link Expansion	250	Incomplete	NJ, NY	CP12-30	N/A
Tennessee Gas Pipeline Company	Northeast Upgrade Project	636	Incomplete	PA, NJ	CP11-161 (PF10-23)	N/A
Texas East Tran, LP/Algon Gas Tran, LLC	NJ-NY Expansion Project	800	Incomplete	NJ, NY	CP11-56 (PF10-17)	N/A
Tennessee Gas Pipeline Company	Line 300 Expansion	350	Complete	PA, NJ	CP09-444 (PF09-1)	N/A
Transcontinental Gas Pipeline Company, LLC	Bayonne Delivery Lateral Project	250	Complete	NJ	CP09-417	N/A
Algonquin Gas Transmission, LLC	Hubline/East to West Project	282	Complete	NJ, CT	CP08-420, et al.	N/A
Algonquin Gas Transmission,	J-2 Loop Project	140	Complete	MA	CP08-256	N/A

LLC						
Algonquin Gas Transmission, LLC	Kleen Energy Lateral	131	Complete	CT	CP08-462	N/A
Transcontinental Gas Pipeline Company, LLC	Sentinel Expansion Project	140	Complete	PA, NJ	CP08-31	N/A
Iroquois Gas Transmission System, L.P.	08/09 Expansion Project	200	Complete	NY, CT	CP07-457	N/A

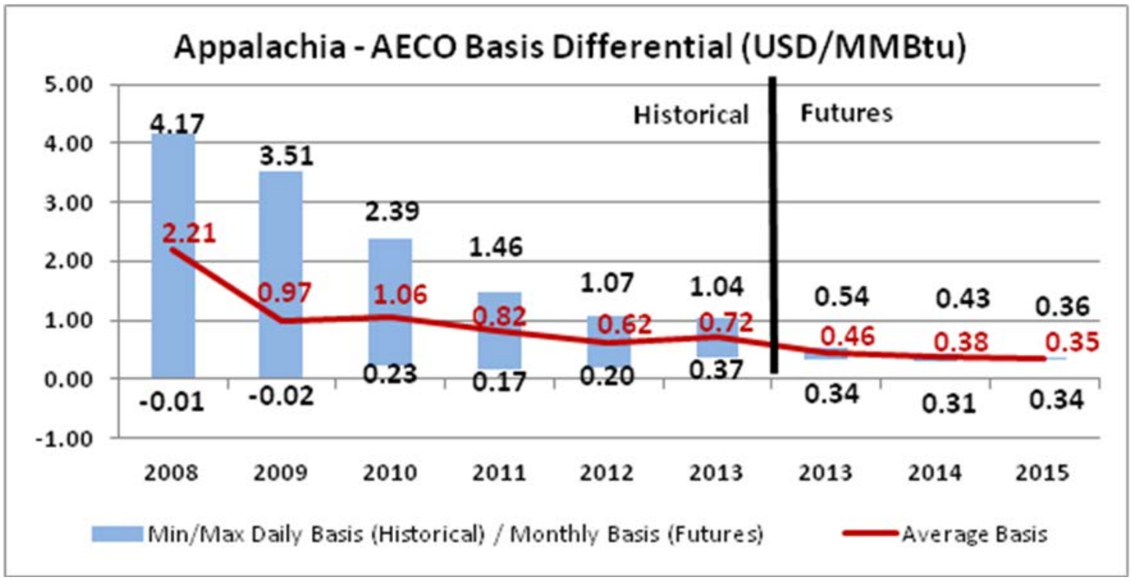
Planned Pipeline Projects Capable of Delivering Marcellus Shale to NJ, NYC & New England					
Pipeline Company	**Project Name**	**Capacity** *MMcf/d*	**Status**	**Markets Served**	**Announcement Link**
Algonquin Gas Transmission, LLC	Algonquin Incremental Market Project	450	Incomplete	N/A	AIM Project
Transcontinental Gas Pipeline Company, LLC	Woodbridge Lateral Project	264	Incomplete	NJ	Woodbridge Lateral

d) The ability of Union and TransCanada to move natural gas from the Marcellus, including natural gas sourced at Dawn or Niagara/Chippawa for U.S. customers will continue to depend upon several factors.

Natural gas sourced at Dawn, Niagara or Chippawa and delivered through Parkway for U.S. customers via Iroquois Gas Transmission or PNGTS will continue to be valued by LDCs in the U.S. Northeast for a number of different reasons as provided in response to Exhibit I.A1.UGL.BOMA.46 and Exhibit I.A4.UGL.APPRO.11. These reasons include access to the liquid Dawn Hub, access to storage, access to diverse natural gas supply from multiple production basins and an opportunity to maintain diversity in transportation paths to the U.S. Northeast market.

Increasing flows from Dawn or Niagara/Chippawa through Parkway to Iroquois Gas Transmission or PNGTS will require additional facilities between Parkway and those delivery points. As evidenced by the incremental request for capacity by Union and Gaz Métro, TransCanada will require expansion between Parkway and Maple. If TransCanada removes a pipeline from natural gas service in eastern Ontario as part of the Energy East Pipeline, additional capacity to support this transportation path will likely need to be constructed.

e) The attached graph illustrates historical and future gas basis differential between the AECO Hub and Dominion South Point (Appalachia) reported by Intercontinental Exchange Inc. ("ICE"). The historical data is the based on the daily trading activity and the futures data is based on the monthly futures as traded on May 21, 2013.



This chart shows that in 2008 natural gas supply from the WCSB along with long haul transportation on the TransCanada system could be competitive with supply purchased in Appalachia. A shipper could pay on average $2.21/GJ/d to transport natural gas to the Appalachia area from the WCSB in 2008. Since 2008, with the decline in supply in the WCSB and the emergence of the Marcellus shale gas production, the difference in price of natural gas between Appalachia and the WCSB has significantly decreased. In 2015, the basis is forecast to be only $0.35/GJ/d which is far less than even the TransCanada toll from the WCSB to Niagara/Chippawa. This is the primary reason why throughput on the TransCanada Mainline has declined.

f) All of the customers in these zones are served directly from TransCanada interconnects and are considered captive to TransCanada as they are served via laterals connected to the TransCanada mainline. With the exception of a portion of supply from MichCon for Union SSMDA (Sault Ste. Marie, Ontario), these zones are also served entirely with WCSB supply. The actual consumption for bundled direct purchase and system sales customers in these delivery areas from 2008-2013 is shown below (note: in addition T-service customers in these areas are also dependent on TransCanada services). It is Union's goal to provide supply diversity to the customers in Union NDA and EDA by moving a portion of the volumes serving those markets from Empress (WCSB) to Dawn.

Bundled Direct Purchase and System Sales Customer Annual Consumption (TJ)

Zone	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Forecast
Northern zone (1)	23,332	22,393	19,810	21,239	20,324	20,556
Eastern zone (2)	23,361	22,281	20,583	21,301	20,148	20,902
Total	46,693	44,674	40,392	42,540	40,471	41,458

Note:

(1) Union NDA and Union SSMDA

(2) Union EDA and Union NCDA

Effective November 1, 2015, it is Union's expectation that the two TransCanada contracts from Parkway to Union EDA and Parkway to Union NDA (or something similar) will be in effect. The portion of supply from WCSB vs. Dawn is shown below.

	Eastern Zone		Northern Zone	
Supply Source	**EDA (1)**	**NCDA**	**SSMDA (3)**	**NDA (2)**
Dawn	98%	0%	0%	20%
WCSB	2%	100%	Unknown	80%

Note:

(1) assumes 1,000 GJ/d at Dawn and 57,831 GJ/d at WCSB - Section 11 page 17, Figure 11.5

(2) assumes 10,000 GJ/d at Dawn and 39,077 GJ/d at WCSB - Section 11 page 17, Figure 11.5

(3) Transportation contracts from MichCon-Union SSMDA expire at October 31, 2014. Union has not determined what the portfolio will be at November 1, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

Response:

This response was provided by ICF International.

a) Rapid growth in production in certain markets where liquid rich gas is produced has created infrastructure constraints in some regional markets for NGLs including ethane. In those markets, the price of ethane has been negatively impacted. The price of ethane will remain under pressure in those markets until additional infrastructure to utilize the ethane in the region or infrastructure to transport ethane to other markets where the product can yield a higher price is placed into service. In many regions, there are a number of proposed infrastructure projects to address those constraints. We anticipate that NGL prices will increase once the infrastructure constraints are addressed.

   However, even at current prices, the average value of NGL production is significantly above the per Btu value of natural gas. The majority of the value in NGL production comes from the heavier products, including propane, butane and pentanes plus where prices have remained well above the price of natural gas.

   As a result, so long as the prevailing price for ethane and other NGLs remains higher than the price for pipeline quality gas, liquid rich gas basins will be more attractive to producers over the production lifetime of the wells since temporary constraints that negatively affect the value of the liquids can be addressed.

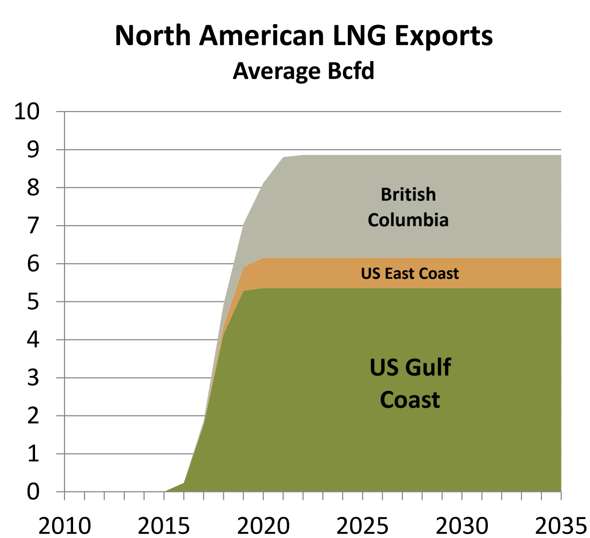
b) Drilling activity will be affected by all product prices including both pipeline quality gas and NGLs. ICF projects that the recent increase in pipeline quality gas price combined with the value of NGLs will allow for a rebound in drilling activity sufficient to provide for renewed growth in gas deliverability.

c) Low drilling activity resulting from low gas prices in the first quarter of 2013 resulted in nearly flat US shale gas production outside of the Marcellus and associated gas.

d) In a May 2013 ICF International study commissioned by API, ICF International concluded that:

> "LNG exports are expected to have moderate impacts on domestic natural gas prices of about $0.32 to $1.02 per million British Thermal Units (MMBtu) on average between 2016 and 2035. Another key conclusion of this study is that LNG exports are expected to have moderate impacts on domestic natural gas prices of about $0.08 to $0.11/MMBtu for each one Bcfd of exports."

ICF International believes that the international market demand for LNG exports will constrain the number of LNG facilities that get built, and that some facilities that are approved may not be built. The projection of LNG exports from the ICF April Base Case is shown below.



UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

c) Please confirm Union's most recent understanding, based on the TCPL recent oil east open season and industry reports, of the amount by which the capacity on the TCPL Northern Ontario line will be reduced, and starting when. Union's evidence filed on January 29, 2013 suggested at page 32, lines 18-19, that capacity would be reduced "by 0.4 to 1.4 bcf/day, depending upon which of the three pipelines would be converted".

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

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

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

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

Response:

a) A summary of Dawn-Parkway System expansion is provided as Attachment 1. Union cannot determine if each shipper's commitment coincided with the release of capacity on the TransCanada Mainline or a decision not to renew initial contracts on Alliance. The timing is unlikely to coincide with the expiry of initial contracts on Alliance given that the primary terms of Alliance contracts were for 15 years starting in 2000.

b) Gaz Métro has contracted for 257,754 GJ/d of M12 Dawn-Parkway transportation capacity starting November 1, 2015. Based on the TransCanada Contract Demand Energy (CDE) Report as of May 1, 2013, Gaz Métro had 180,000 GJ/d of Empress-GMIT EDA capacity and 15,327 GJ/d of Empress-GMIT NDA capacity.

   As per the Régie's Decision (D-2012-175, R-3809-2012), the TransCanada long haul capacities are subject to turn back when Gaz Métro shifts the Direct Purchase delivery point from Empress to Dawn. Gaz Métro Direct Purchase customers currently have the option to deliver supply to Gaz Métro at either Empress or in the GMIT delivery area. Upon implementation of the change in delivery point from Empress to Dawn, Gaz Métro Direct Purchase customers will have the option to deliver supply to Gaz Métro at either Dawn or GMIT delivery area. As noted in the Régie's Decision (D-2012-175, R-3809-2012), Gaz Métro Direct Purchase customers have the option of contracting for transportation capacity upstream of either of these delivery points.

c) Please see Exhibit I.A1.UGLStaff.1a.

d) Please see Exhibit I.A1.UGL.Staff.1a.

e) It is Union's understanding that Alliance is continuing its consultations and has not yet finalized the suite of services to offer to the market. Alliance presentations regarding their potential suite of services can be found at the link below.

   http://www.alliancepipeline.com/Media/Multimedia/Pages/Presentations.aspx

   Union believes that after the introduction of the new Alliance services, the type of services and cost of the services that shippers could contract from Alliance will be similar to the current Alliance services contracted.

f) Please refer to response to Exhibit I.A1.UGL.BOMA.4 for a discussion with respect to the status of the various Tennessee Gas Pipeline, National Fuel Gas and Empire State Pipeline projects.

   The shippers, with quantities, that hold transportation to Niagara or Chippawa on Tennessee Gas Pipeline, National Fuel Gas and Empire State Pipeline can be found on web-site informational postings at the links provided below.

Tennessee Gas Pipeline:

http://webapps.elpaso.com/PortalUI/DefaultB.aspx?TSP=TGP

Empire State Pipeline:

http://www.natfuel.com/empire/infopost/infopost_frame.htm

National Fuel Gas:

http://www.natfuel.com/supply/infopost/infopost_frame.htm

g) Details of the Dawn-Kirkwall capacity turned back are provided in EB-2012-0433, Schedule 4-4 and EB-2013-0074, Schedule 6-1. Union has received turn back or notice to turn back almost 1 Bcf/d of Dawn-Kirkwall transportation capacity since 2009. The summary below highlights the capacity re-deployed commencing November 1, 2011 or later.

		Capacity (GJ/d)
Turn Back	Dawn- Kirkwall since 2011	978,809
Re-deployed	Dawn-Parkway (M12, M12x,C1)	385,061
	Dawn-Kirkwall	31,746
	Kirkwall-Parkway	300,000
	Reduce Winter Peaking Service	200,000
	Total	916,807

A detailed contract summary of the Dawn-Parkway capacity or Kirkwall-Parkway capacity sold as a result of the Dawn-Kirkwall turn back is included in Attachment 2.

)

Dawn-Parkway System Expansion 2006-2008

Dawn-Parkway Expansion Facilities	Year	Dawn-Parkway Capacity Added (GJ/d)	Shipper	Contracted Capacity (GJ/d)	Contract Start Date	Contract End Date
Brooke-Strathroy	**2006**	**399,108**	Gaz Métro Limited Partnership	35,000	01-Nov-06	31-Oct-16
Hamilton-Milton			TransAlta Cogeneration, LP	11,809	01-Nov-06	31-Oct-16
Dawn F Plant			UBS Energy Canada Ltd	10,000	01-Nov-06	31-Oct-16
			City of Kitchener	4,000	01-Nov-06	31-Oct-16
			Energy Source Canada Inc.	2,500	01-Nov-06	31-Oct-16
			Hamilton School Boards Consortium	2,131	01-Nov-06	31-Oct-16
			Yankee Gas Services	43,116	01-Nov-06	31-Oct-17
			Southern Connecticut Natural Gas	34,950	01-Nov-06	31-Oct-17
			Bay State Gas Company	27,803	01-Nov-06	31-Oct-17
			Connecticut Natural Gas Corp	18,077	01-Nov-06	31-Oct-17
			Brooklyn Union Gas Company	12,953	01-Nov-06	31-Oct-17
			Keyspan Gas East Corporation	12,303	01-Nov-06	31-Oct-17
			Central Hudson Gas & Electric	10,792	01-Nov-06	31-Oct-17
			National Fuel Gas Distribution	10,791	01-Nov-06	31-Oct-17
			Boston Gas Company	9,282	01-Nov-06	31-Oct-17
			Colonial Gas Company	6,475	01-Nov-06	31-Oct-17
			Northern Utilities Inc	6,333	01-Nov-06	31-Oct-17
			Nstar	4,857	01-Nov-06	31-Oct-17
			Energynorth Natural Gas	4,317	01-Nov-06	31-Oct-17
			Essex Gas Company	2,158	01-Nov-06	31-Oct-17
			Enbridge Gas Distribution Inc.	106,000	01-Nov-06	31-Oct-18
			Stelco Inc.	17,351	01-Nov-06	31-Oct-18
			BP Canada Energy Company	20,000	01-Nov-06	31-Oct-19
			Energy Source Canada Inc.	2,500	01-Nov-06	31-Oct-21
Parkway B Plant	**2007**	**492,175**	Vermont Gas System	20,000	01-Nov-07	31-Oct-17
Strathroy-Lobo			Keyspan Gas East Corporation	138,600	01-Nov-07	31-Oct-18
			Keyspan Gas West	30,217	01-Nov-07	31-Oct-18
			Keyspan Gas East	22,772	01-Nov-07	31-Oct-18
			Yankee Gas	20,560	01-Nov-07	31-Oct-18
			Connecticut Natural	13,490	01-Nov-07	31-Oct-18
			Southern Connecticut	8,903	01-Nov-07	31-Oct-18
			GTAA	7,500	01-Nov-07	31-Oct-18
			Enbridge Gas Distribution	57,100	01-Nov-07	31-Oct-19
			Gaz Métro LP	65,000	01-Nov-07	31-Oct-27
			Sithe Goreway	125,000	01-Nov-07	31-Oct-28
Bright Compression	**2008**	**360,380**	Thorold Cogen L.P.	49,500	01-Nov-08	31-Oct-18
			Portlands Energy Centre	100,000	01-Nov-08	31-Oct-28
			TransCanada Energy	132,000	01-Nov-09	31-Oct-29
			Union Gas	110,000	01-Nov-08	N/A

M12, M12-X and C1 Contracts Sold to Replace Dawn-Kirkwall Turn Back Since 2009

Dawn-Kirkwall Turnback	M12, M12-X and C1 Contracts Sold to Replace Dawn-Kirkwall Turn Back Since 2009						
	Customer Name	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ/d)	Start Date	End Date
317,000 GJ/d of turn back effective November 1, 2101	Ag Energy Co-operative Ltd.	M12167	Dawn	Parkway	1,900	01-Nov-11	31-Oct-21
	Central Hudson Gas & Electric Corporation	M12182	Dawn	Parkway	5,467	01-Nov-11	31-Oct-16
	Connecticut Natural Gas Corporation	M12166	Dawn	Parkway	6,410	01-Nov-11	31-Oct-16
	Consolidated Edison Company of New York, Inc.	M12171	Dawn	Parkway	21,825	01-Nov-11	31-Oct-16
	KeySpan Gas East Corporation d/b/a National Grid	M12163	Dawn	Parkway	43,837	01-Nov-11	31-Oct-16
	Niagara Mohawk Power Corporation d/b/a National Grid	M12186	Dawn	Parkway	55,123	01-Nov-11	31-Oct-16
	The Brooklyn Union Gas Company d/b/a National Grid NY	M12165	Dawn	Parkway	44,019	01-Nov-11	31-Oct-16
	The Narragansett Electric Company d/b/a National Grid	M12164	Dawn	Parkway	1,081	01-Nov-11	31-Oct-16
	Consolidated Edison Company of New York	M12162	Dawn	Kirkwall	31,746	01-Nov-11	31-Oct-16
	York Energy Centre LP	M12184	Dawn	Parkway	76,000	01-Apr-12	31-Oct-22
	Greenfield South Power Corporation (1)	M12187	Dawn	Parkway	46,950	01-Nov-12	31-Oct-32
					334,358		
437,883 GJ/d of turn back effective November 1 2012 (2)	York Energy Centre LP	C10102	Dawn	Parkway	11,654	01-Apr-12	31-Mar-15
	Emera Energy Incorporated	M12221	Kirkwall	Parkway	36,751	01-Nov-12	31-Oct-22
	TransCanada PipeLines Limited	M12219	Kirkwall	Parkway	88,497	01-Nov-12	31-Oct-22
	TransCanada PipeLines Limited	M12X013	Dawn	Parkway	62,695	01-Nov-12	31-Oct-23
					199,597		
186,664 GJ/d of turnback effective November 1, 2013	TransCanada PipeLines Limited	M12220	Kirkwall	Parkway	**174,752**	01-Nov-13	31-Oct-23
37,262 GJ/d of turnback effective November 1, 2014	Vermont Gas	Pending	Dawn	Parkwy	**8,100**	01-Nov-14	31-Oct-24
TOTAL **978,809**					**716,807**		

Notes:
(1) Greenfield South Power Corporation capacity was turned back effective April 19, 2013.
(2) Total turnback of 437,883 GJ/d includes 62,695 GJ/d of Dawn-Kirkwall M12 service for TCPL converted to M12-X service.
Approximately 200,000 GJ/d of turnbacked capacity was used to reduce Union's own Winter Peaking Service requirement.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

   i. the additional 400,000 GJ/day contract by Enbridge for delivery to Parkway in 2015;
   ii. the additional 257.8 GJ/day contract by GMI from Dawn to Parkway in 2015;
   iii. the 8,100 for Dawn-Parkway for Vermont Gas;
   iv. the 0.1 bcf Union, November 2015, in itself requires for incremental in-franchise load, to serve its eastern and northern Ontario customers;

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

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

Response:

a) The modelled design day flows through Parkway compression from Winter 2005/2006 to Winter 2014/2015 are listed below. The 2.1 Bcf/d referred to in this question represents the maximum firm design day flow for Winter 2014/2015, not including the system surplus of 157,840 GJ/d.

W05/06 438,500 GJ/d

W06/07 1,003,936 GJ/d
W07/08 1,356,443 GJ/d
W09/10 1,336,012 GJ/d
W10/11 1,336,088 GJ/d
W11/12 1,731,048 GJ/d
W12/13 2,204,487 GJ/d
W13/14 2,327,817 GJ/d
W14/15 2,307,500 GJ/d

b) The increase of 1.1 PJ/d is made up of the contracts listed in EB-2013-0074, Section 7, Figure 7-4, page 9 and the Enbridge suction to discharge shift detailed in EB-2013-0074, Section 7, Page 12.

c) The contracted design day deliveries to Enbridge at Parkway (Consumers) and Lisgar from Winter 2009/10 through Winter 2012/13 are as follows:

W09/10 1,627,393 GJ/d
W10/11 1,627,393 GJ/d
W11/12 1,627,393 GJ/d
W12/13 1,638,085 GJ/d

The design capacity of the interconnect with Enbridge at Parkway is 1.4 PJ/d. The design capacity of the interconnect with Enbridge at Lisgar is 0.8 PJ/d. The annual deliveries are as follows:

Actual Annual Deliveries (GJ)	**2009**	**2010**	**2011**	**2012**
Enbridge (Parkway Cons & Lisgar)	159,273,320	152,757,980	145,832,462	144,229,462

d) The compressor horsepower required to move the various contracts are as follows:

i. Union requires 12,800 hp to compress the additional 400,000 GJ/d for Enbridge
ii. Union requires 8,300 hp to compress the additional 257,800 GJ/d for GMI
iii. Union requires 260 hp to compress the additional 8,100 GJ/d
iv. Union requires 2,300 hp to compress the additional 70,157 GJ/d

e) Union will utilize this capacity beginning November 1, 2015.

f) The Vermont contract has a Nov 1, 2014 in-service date and can be served from existing compression. In Winter 2015/16, approximately 300,000 GJ/d can be served by the existing Parkway compression from a combination of the existing Winter 2014/15 surplus and the forecast Dawn-Kirkwall /Dawn-Parkway turnback.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

Union's present intention is to provide a witness from ICF.

The balance of this question is inappropriate.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

Response:

a) Union has contracted for 21,101 GJ/d of capacity on the Niagara line.

b) & c) Please see the response to Exhibit I.A1.UGL.BOMA.47 part b).

d) As discussed at EB-2013-0074, Section 11, pages 22 to 33, Union considered various factors in deciding to source gas at Dawn for Union North customers. In addition to the economic benefits, enhanced security of supply and diversity of supply were key considerations. Accessing supplies at Dawn will increase the security and reliability of supply as well as the diversity and availability of gas supply in the Union North Portfolio due to the multiple sources of supply connected at Dawn. Niagara does not have the same liquidity, access to multiple supply basins, supplier activity or market maturity that the Dawn Hub provides.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

The table below details the Trafalgar usage between 2007 and 2012. The Trafalgar compressors were used mainly during low flow situations. In Summer 2009, an extended outage of Parkway B drove an increased number of days of operation for the Trafalgar compressors.

Season	**Number of Days of Use**
W07/08	1
S08	13
W08/09	6
S09	56
W09/10	10
S10	7
W10/11	0
S11	0
W11/12	0

The former Trafalgar compressor station site has been sold to the City of Mississauga and has been incorporated into parkland. The connecting pipelines continue to be used by Union Gas to deliver volumes to the Lisgar interconnect with Enbridge, located east of Trafalgar. The aerial map below highlights the Parkway and Trafalgar stations, with a black line added to highlight the location of the connecting pipelines.


Lisgar
Trafalgar
Parkway
Image © 2013 DigitalGlobe

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

Response:

a) Union's 2013 Gas Supply Plan is filed at EB-2011-0210, Exhibit D1, Tab 1 and the volumetric and financial information is summarized in the Gas Purchase Expense Schedules which are filed as part of Union's cost of service rate applications. A copy of the Gas Purchase Expense Schedule from Union's 2013 rates application (EB-2011-0210, Exhibit D3, Tab 2, Schedule 1). Please refer to Attachment 1.

As noted at EB-2013-0074, Page 31, Lines 6-10, the 2013 Gas Supply Plan was adjusted to reflect the changes outlined in EB-2013-0074, Section 11, Pages 20-32 provides an analysis of the benefits of replacing the Empress-based longhaul TCPL supplies with two short haul contracts sourcing Dawn-based supplies.

As directed by the Board in EB-2011-0210 Decision with Reasons, Union engaged Sussex Economic Advisors to report on Union's Gas Supply Planning Principles and recommends Union develop a gas supply memorandum or narrative to supplement its current reporting. Union has accepted this recommendation and will be preparing this document going forward.

b) Parkway obligations (system and direct purchase) are delivered to the discharge side of the Parkway Compressor Station (EB-2012-0433, Page 103, Lines 28-29) at the interconnection with TransCanada (Parkway (TCPL)).

c) Confirmed. The surplus system capacity in winter 2014/2015 is 157,840 GJ/d or approximately 0.2 PJ/d.

The cost of the surplus system capacity of 0.2 PJ/d is approximately $0.8 million. The costs associated with a surplus of capacity are already included in Board-approved rates and are recovered from all in-franchise, ex-franchise customers who utilize the Dawn-Parkway transmission system.

This cost assumes an increase in M12 Dawn to Parkway demands of 0.2 PJ/d, which would reallocate $0.8 million in Dawn-Parkway costs to the M12 rate class from Union South and Union North in-franchise rate classes.

UNION GAS LIMITED
Gas Purchase Expense
Year Ending December 31, 2013

Line No.	Particulars	Volume (TJ)	Cost ($000's)	% of Total Volume
		(a)	(b)	(c)
Section A				
	Supply Transportation			
1	Western Canadian Firm	94,306	194,446	
2	U.S. Firm	43,546	20,475	
3	Adjustments	-	(105)	
4	Total Supply Transport	137,852	214,817	
	Supply Commodity			
5	Western Canadian Firm	75,809	346,611	49%
6	U.S. Firm	43,546	223,660	28%
7	Ontario Delivered Supplies	16,356	88,742	11%
8	Northern Bundled T-Service	18,497	-	12%
9	Adjustments	-	-	0%
10	Other	-	-	0%
11	Total Supply Commodity	154,208	659,013	100%
	Storage			
12	STS and Related Services		19,874	
13	Total Supply at Cost		893,703	
Section B				
	Storage Inventory Change			
14	LNG	-	-	
15	Other Company Owned	(1,596)	(8,569)	
16	3rd Party	-	-	
17	Total Gas (to) from Storage	(1,596)	(8,569)	
Section C				
18	Total Third Party Storage		425	
19	Total Section A, B, & C		885,559	

UNION GAS LIMITED
Gas Purchase Expense
Year Ending December 31, 2013

Line No.	Particulars	Volume (TJ)	Cost ($000's)	
		(a)	(b)	
	Gas Supply			
1	Total Supply at Cost	154,208	894,128	
2	Deferred Costs		(135,680)	
3	Total Gas Supply	154,208	758,448	
4	Gas (to) from Storage	(1,596)	(8,569)	
5	Winter Peaking Service		-	
6	Other Transportation		972	
7	Company Use Adj.		(1,960)	
8	Linepack		(32)	
9	Deferral Adjustment		(42,790)	
10	UFG Adjustment		(7,671)	/u
11	Accounting Adjustment		-	
12	Total Cost of Gas	152,613	698,398	/u
13	Less: Unregulated costs		(2,252)	/u
14			696,146	/u
15	Add: Costs related to short-term storage revenue		1,692	/u
16	Total Utility Cost of Gas		697,838	/u

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

Response:

a) Spectra Energy's Western Canadian operations model their peak day demands on the system at 105% of required allowing for some coverage during unplanned outages. After Parkway C is in-service to provide LCU coverage at Parkway, Union's LCU design will provide capacity for approximately 105% of design day demands with all compressors in operation. However, since Union's Dawn-Parkway system is a relatively short system which moves a large volume of gas, LCU is the appropriate design standard.

b) Please see the response to Exhibit I.A1.UGL.TCPL.1 b) for contracted Parkway deliveries that includes contracts commencing November 1, 2012 and November 1, 2013. Contracted deliveries at Parkway commencing November 1, 2014 and November 1, 2015 as listed below.

Dawn-Parkway Contracts Commencing November 1, 2014 and November 1, 2015

Customer Name	Receipt Point	Delivery Point	Quantity (GJ/d)	Start Date	End Date
Vermont Gas	Dawn	Parkway	8,100	01-Nov-14	31-Oct-24
Enbridge Gas Distribution Inc.	Dawn	Parkway	400,000	01-Nov-15	31-Oct-25
Gaz Métro LP	Dawn	Parkway	257,784	01-Nov-15	31-Oct-25

At this point in time there are no new contracts commencing in 2016, 2017 or 2018.

c) Enbridge has contracted M12 Dawn-Parkway transportation capacity as shown below:

Enbridge Contracted Parkway Deliveries*

Year (Starting November 1)	Contracted Quantity with Parkway Delivery Point (GJ/d)
2008	2,157,173
2009	2,157,173
2010	2,157,173
2011	2,157,173
2012	2,157,173
2013	2,157,173
2014	2,157,173
2015	2,557,173

* Includes deliveries to Parkway(TCPL), Parkway(Consumers), and Lisgar

The following are the quantities compressed through Parkway for Union's in-franchise customers (GJ/d):

Year	North	East	South	Total In-franchise Quantity through Parkway
2008	138,909	86,475	183,747	409,131
2009	175,660	86,927	149,613	412,200
2010	160,998	101,589	160,599	423,186
2011	159,067	103,520	139,096	401,683
2012	164,852	97,735	137,375	399,962
2013	167,784	94,803	138,095	400,682
2014	168,037	94,550	137,951	400,538

d) As detailed in EB-2012-0433, page 56, lines 24-30, Plant A and Plant B have individual delivery capability of 1.3 PJ/d and 2.0 PJ/d respectively, based on a 2014-2015 gas year design day.

The compressors at the Parkway site currently operate separately and are independent of each other. They, however, share the same upstream pipeline which determines each compressors' capability. The capability of a compressor unit is dependent upon the suction pressure into the unit, which is dependent upon the volume of gas being transported on the upstream pipeline system. As the suction pressure decreases, the capability of the compressor unit also decreases.

Please see the response to Exhibit I.A1.UGL.BOMA.3 c) for more detail on the interdependency of compression at Parkway.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

"The Board is satisfied that the gas resource base in Canada, as well as North America, is large and can easily accommodate reasonably foreseeable Canadian demand as well as the proposed LNG exports regardless of whether the gas supply originates from the specific corporate supply pool presented in the Application. The Board further accepts that the incremental cost of adding new production to displace any exported LNG is low, which is another indicator of a well supplied market. The Board agrees with Mr. Priddle and Ziff that the North American gas market is large, integrated, transparent, liquid, flexible, and responsive such that market participants have a multitude of options for securing gas supplies.

The Board notes that the evidence in this Application is generally consistent with the Board's own market monitoring. Since deregulation in 1985, North American gas markets have functioned efficiently and there is no evidence to suggest that they will not continue to do so in the future.

Based on all of the foregoing, the Board is satisfied that the quantity of gas to be exported does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard to the trends in the discovery of gas in Canada". [E1-Gas-GL-L384-2012-01, February 4, 2013]

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

Response:

Please see Exhibit I.A1.UGL.BOMA.6.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

a) Please explain the components of the proposed "design day flow to meet firm commitments" in 2014-15 and 2015-16 into TCPL and Enbridge system at Parkway and Lisgar is 3.9 PJ/day and 4.5 PJ/day, respectively. What is the relationship of the amounts delivered at Lisgar to the need for LCU at Parkway? Please discuss fully.

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

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

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

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

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

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

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

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

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

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

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

Response:

a) Between 0.8-1.4 PJ/d of the 1.6 PJ/d of Enbridge volume is delivered to the Parkway (Consumers) connection within the existing Parkway compressor site, while between 0.2-0.8 PJ/d is delivered to the Lisgar connection. Enbridge requires an additional connection to the Dawn to Parkway system at the new Parkway West site where natural gas can be delivered in the event of a loss of throughput at the Parkway (Consumers) and/or Lisgar. None of the volumes for Parkway (Consumers) or Lisgar are compressed and as such do not require the LCU compressor.

   The components of the proposed design day demands at Parkway include both uncompressed and compressed volumes and are detailed in EB-2013-0074, Schedules 8-1 and 8-2

b) Union considers an extended system failure to be any failure lasting more than 48 hours.

c) The turbine engine installed at Parkway B is a newer style “low emission” Rolls-Royce RB211. Union has only one other similar engine in their fleet, located at the Dawn Compressor Station. There are fewer of these style engines in the market, and available as spares. To compound the issue, there are several generations of low emission engines, and many are not able to be used without significant modifications. In the event of a failure, Union would be searching a limited field for a replacement engine and may have difficulty locating a spare.

d) Union stocks many of the critical parts needed to maintain its compressor fleet. It is not practical or cost effective to hold in inventory all the parts necessary to deal with the different individual power turbines and compressor internal components in order to address all of the potential equipment failure scenarios at Parkway.

   Further, even if it were practical to hold all of the inventory necessary to repair the compressors at Parkway in all failure scenarios, the spare parts would not eliminate the need for an LCU compressor. The LCU compressor is needed to provide immediate response to a compressor outage, regardless of the duration of that outage.

   As for repair depots, the vast majority of equipment repairs would need to go to either the original equipment manufacturer’s (OEM) facilities in the United States or Europe; an independent repair facility specializing in gas turbine repairs located in Western Canada; or to sub-vendor shop locations (generally in North America) depending on the equipment in need of repair.

e) Union filed the Scandpower report (Schedule 8-1 in EB-2012-0433) in confidence with the Board on February 21,2013. A copy of the confidential report can be provided to counsel for BOMA upon receipt of a signed declaration and undertaking form for confidential filings.

f) Union seeks to sell all surplus Dawn-Parkway capacity on a firm basis.

g) Union filed the Scandpower report (Schedule 8-1 in EB-2012-0433) in confidence with the Board on February 21,2013. A copy of the confidential report can be provided to counsel for BOMA upon receipt of a signed declaration and undertaking form for confidential filings.

h) Please refer to Enbridge EB-2010-0231.
http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/204991/view/EGDI_Corrected%20SystemReliability_20100719.PDF

i) Enbridge currently has contracts to transport 519,088 GJ/d from Dawn to Parkway discharge. Union understands that natural gas transported downstream of Parkway enters Enbridge's distribution system at various gate stations along the TransCanada Mainline.

Please see Exhibit I.A1.UGL.BOMA.3 i) and iv).

j) Union's design philosophy represents an appropriate balance between the practicality of available space on typical multiple plant station properties, and potential impact of equipment or piping failures between adjacent operating plants.

The plant spacing being utilized between Parkway C (LCU) and Parkway D (Growth) is in line with long standing design philosophies currently used at all of Union's multiple plant compressor stations. This spacing philosophy was developed in the early 1980's in response to a major compressor station piping failure at Nova Gas Transmission's (now TCPL) Princess Compressor Station in the spring of 1980. The failure caused significant damage to equipment and facilities within the station yard, and serious short term disruptions to Eastern Canadian gas supplies. Union's design philosophy was developed based on a study of the actual impact zones from that particular incident.

k) Please see Exhibit I.A4.UGL.Staff.22 a), c) and e).

l) Although this was referenced in TCPL's pre-filed evidence in EB-2011-0210, Union understands that TCPL is not relocating the existing TransCanada compressor unit in the vicinity of Parkway to provide loss of critical unit protection for Union and its shippers. Also, please see the response to Exhibit I.A1.UGL.CCC.7.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2013-0074, cover letter, and Interrogatory A.1-LPMA 3

LPMA has asked whether Union intends to file updated evidence as a result of the TCPL Toll Decision (RH-003-2011) which was issued on March 27, 2013. In answering that question, CME requests that Union also advise whether it intends to file updated evidence addressing TCPL's application, which was filed on or about May 1, 2013, for review and variance of that decision.

Response:

Please see the response to Exhibits I.A1.UGL.Staff.1 e) and I.A1.UGL.LPMA.3.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2012-0451, Exhibit A, Tab 3, Schedule 1, page 10 of 14

EGD confirms that it has had discussions with Union centering on Dawn Supply, incremental transportation on the Dawn Parkway system and reliability concerns with supply concentration at Parkway.

a) Please provide all written communications, memoranda, papers or PowerPoint/slide presentations provided by Union to EGD, or provided by EGD to Union, addressing any or all of these issues;

b) Without limiting the generality of subparagraph (a), CME requests that EGD and Union provide all written documents exchanged that address:

  i. Incremental compression as a result of additional volumes contracted from Dawn and Niagara;

  ii. Back-up feed into EGD's system; or

  iii. Loss of critical unit protection at Parkway West.

Response:

a) and b): Union previously provided materials presented or exchanged with Enbridge regarding Union's proposed projects in EB-2011-0210 in Exhibit J.B-1-7-8(e) as attachments 9 through 13 and in Exhibit J.B-1-7-9, attachments 1 and 2.

Union also filed materials presented to Enbridge with respect to the proposed projects in EB-2012-0433, Schedule 8-4 and EB-2013-0074, Schedule 9-2.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2013-0074, Section 1, page 2 of7

Union states that its Brantford-Kirkwall/Parkway D Project is predicated on the completion of TCPL's proposed expansion to relieve the current transportation capacity constraint on the TCPL system between Parkway and Maple.

a) What would be the impact, if any, on the Union Brantford-Kirkwall/Parkway D Project if TCPL's proposed expansion between Parkway and Maple were not approved by the NEB, or modified, or the timing was changed?

b) What would be the impact, if any, on the Parkway West Project if TCPL's proposed expansion of its system between Parkway and Maple were not approved by the NEB, or modified, or the timing was changed?

Response:

a) and b) Please see Exhibit I.A1.UGL.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2013-0074, Section 1, page 4 of 7

Union is seeking an Order from the Board, pursuant to section 36 of the *Act*, for pre-approval of the cost consequences two long-term short-haul transportation contracts on the TCPL system. Union states that the pre-approval is sought because:

a) The significant construction plan by TCPL, EGD and Union, along with the long- term contracting for transportation capacity supports a fundamental change in how the Union North operating area will be served;

b) The long-term TCPL contracts are directly related to and support the construction of new facilities planned by EGD and TCPL;

c) There are significant economic benefits of $18-28 million annually to ratepayers in Union North that would otherwise not occur;

d) The contracts represent significant financial and term commitments by Union; and

e) There is no other forum for the Board to review the prudence of this fundamental change to Union's gas supply portfolio prior to Union making the contractual commitment to the change.

Within this context, please answer the following questions:

a) What would be the impact, if any, on the economic benefits of $18 million to $28 million annually to the ratepayers in Union North if the construction plans by TCPL, EGD or Union are not approved, or are modified, or the timing is changed?

b) If EGD's GTA Project, Union's Brantford-Kirkwall/Parkway D Project or Union's Parkway West Project is not approved, will the two long-term short-haul transportation contracts on TCPL's systems still produce significant economic benefits? If yes, please explain how the contracts will provide economic benefit in the absence of the planned construction. If no, please set out the potential economic burden that the two long-term short-haul transportation contracts represent.

c) If the Board approves EGD's GTA Project, Union's Parkway West Project and Brantford-Kirkwall/Parkway D Project, but the NEB does not approve the TCPL expansion between Parkway and Maple, will the two long-term short-haul transportation contracts in the TCPL systems still provide significant economic benefits? If yes, please explain what those economic benefits would be. If no, please set out the potential economic burden of these two contracts.

d) What distinguishes the two long-term short-haul transportation contracts in this Application from the three long-term natural gas transportation contracts that were the subject matter of Union's Application in EB-2010-0300. In EB-2010-0300 the Board concluded that the long-term transportation contracts did not qualify for pre-approval of their cost consequences.

Response:

a) b) & c) Please see the response to Exhibit I.A1.UGL.Staff.7 regarding TCPL expansion and Exhibit I.A1.UGL.Staff.8 for the interdependencies and impacts of the EGD’s GTA Project, Union’s Parkway West Project and Union’s Brantford-Kirkwall/Parkway D Project.

As noted at Exhibit I.A1.UGL.Staff .7 d), without expansion downstream of Parkway Union North customers will not realize the $18-$28 million in projected gas cost savings.

Union notes that the new estimated range of savings is $15-18 million. Estimated updated savings are provided at Exhibit I.A1.UGL.Staff.1 e).

Please see the response to Exhibit I.A3.UGL.Staff.20 a) for an update on the status of the long-term short haul TCPL contracts. Estimated updated savings are provided by the response to Exhibit I.A1.UGL.Staff.1 e).

d) In EB 2010-0300, the Ontario Energy Board did not make any findings on the two transportation contracts originating at Parkway as approval was not sought with respect to these contracts. The Board did issue a Decision on the request for pre-approval of the Niagara to Kirkwall contract (for 21,101 GJ/d on the TCPL system for a 10 year term and annual demand commitment of $697,000 per year) the Board’s Decision is referenced in the evidence at EB-2013-0074 Section 11, page 3:

> *In EB-2010-0300, the Board considered a request by Union for pre-approval of a TCPL Niagara to Kirkwall contract. This contract was for a volume commitment of 21,101 GJ/d for a 10 year term commencing November 1, 2012. In its Decision, the Board denied pre-approval of the Niagara to Kirkwall contract, the Board commented on the importance of evidence pertaining to security of supply and supply portfolio diversity, and the relationship between the contracts at issue and supporting infrastructure.*

In EB-2010-0300 Decision, the Board discussed the pre-approval process as an option available to the utility to be used to support new infrastructure to access new natural gas supply sources.

"…the purpose of the pre-approval process is to support the development of new transportation facilities to access new natural gas supply source. …the contracts for which pre-approval has been sought provide access to new natural gas supply that would not be accessible if pre-approval is not granted." (EB-2010-0300/0333, page 9 and 10)

In EB-2008-0280 Decision which established the Filing Guidelines for the Pre-Approval of Long-term Natural Gas Supply and/or Upstream Transportation Contracts, the Board discussed the pre-approval process as an option available to the utility to be used to support new infrastructure.

"Further, the Board is of the view that this pre-approval process should be an option available to the utility and not a requirement (even if the long-term contract involves an affiliate). As a consequence, the Board offers utilities the opportunity to apply on a case-by-case basis for pre-approval of these long-term contract that support new natural gas infrastructure."

Throughout the evidence but primarily in Section 11, Union describes the link between the long-term contracts and their role in supporting new natural gas infrastructure in Ontario.

In Section 11, page 5 beginning on line 7, Union details the reasons why these guidelines apply in this circumstance; the magnitude of the volumes of gas, the high level of dollars committed, related to the significant facilities build that is well defined in this filing, and it reflects fundamental changes to Union's gas supply portfolio by providing access to Dawn and the multiple supply basins accessible.

The magnitude of the cost consequences of the contracts ($110 million over 10 years) and the significant capital investment required by Union Gas, Enbridge and TransCanada (estimated to be between $600 and $700 million) give rise to Union's request for pre-approval of the cost consequences (dollar references in Section 11, page 5).

Finally, Union specifically addresses Security of Supply, Diversity of Supply, Economic Benefits and Risks starting at page 22-38 of Section 11, which the Board specifically addressed as lacking in its Decision EB-2010-0300.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 2/121

Please explain, specifically, how the changing North American gas supply dynamic brings "heightened security of supply concerns" for the Ontario market. Why do theses changes not enhance security of supply through increased supply diversity?

Response:

Please see the response to Exhibit I.A1.UGL.CCC.2 with respect to heightened security of supply concerns arising from the growth which are driven by increased flows at Parkway. This response specifically refers to the consequences of failure for Union to deliver to either TransCanada or Enbridge at Parkway. These consequences are more fully discussed in EB-2012-0433, Section 8.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 3/121

Please explain why Parkway is currently the only site on the Dawn-Parkway System that does not have critical unit coverage. Why has an LCU not been required in the past? Why is the unit required now?

Response:

Loss of critical unit coverage is important to ensure reliable service to Union's customers for natural gas deliveries intended for existing and growing markets in Ontario, Québec, Atlantic Canada and the U.S. Northeast. It has become of critical importance now because: i) natural gas flows through the Parkway compression into the TransCanada system now occur on a year-round basis; and ii) natural gas flows through Parkway have increased substantially and will continue to increase in the future.

Between November 1, 2008 and March 31, 2009, the compressor unit at Parkway (Parkway B compressor) operated 33% of the time. Between November 1, 2012 and March 31, 2013, this same compressor operated over 90% of the time. With such a heavy reliance on the operation of the Parkway B compressor, a major failure of that critical unit would impact markets in Ontario, Québec and the U.S. Northeast, including residential, commercial, power generation and industrial customers.

Year Round and Increasing Throughput at Parkway

Historically during the summer months, the direction of natural gas flow at Parkway was from the TransCanada system into Union's Dawn-Parkway System as customers delivered natural gas to Dawn to fill storage. In the winter months, the direction of flow was from Union's Dawn-Parkway system into the TransCanada system to meet peak winter demand in the GTA, eastern Ontario, Québec and the U.S. Northeast. In 2005/2006, design day flow through Parkway compression into the TransCanada system was less than 0.54 PJ/d and only required capacity provided by the Parkway A compressor. When loss of critical unit protection was provided for Dawn and Lobo/Bright, design day throughput of the Dawn-Parkway System was 2.3 PJ/d. Loss of critical unit protection was not deemed critical for Parkway at flows of less than 0.54 PJ/d on a design day.

As more natural gas for eastern markets was sourced at or transported through Parkway, the capacity of the Parkway A compressor was exceeded and a much larger Parkway B compressor was constructed and placed into operation in 2007. This increase in demand was largely supported by i) U.S. Northeast utilities and Gaz Métro adjusting natural gas supply portfolios and shifting from long haul transportation to short haul transportation, resulting in an increase in their Dawn-Parkway transportation capacity; and ii) Ontario gas-fired power generator growth. Since 2009, the direction of flow at Parkway has consistently been from the Dawn-Parkway System into the TransCanada system during the summer and winter months requiring the use of the Parkway compressors more frequently. This significant change to year round discharge through the Parkway compressors into TransCanada started in 2009. This increased demand for Dawn-Parkway capacity and this shift in flow pattern resulted in Union identifying the potential need for loss of critical unit protection at Parkway.

Starting in 2011, Union was able to resell Dawn-Kirkwall turn back capacity, largely to interconnecting pipelines, which increased the demand for Dawn-Parkway capacity. Design day demand for deliveries into the TransCanada system reached approximately 1.9 PJ/d in 2011/2012. With system modifications and expansions in Pennsylvania, New York and Ontario, Marcellus natural gas production was able to access Ontario through Niagara and reach Ontario markets downstream of Parkway. With these demands, deliveries to TransCanada at Parkway are forecast to grow further to approximately 2.3 PJ/d on a design day by November 1, 2103. This quantity is similar to the design day throughput on the Dawn-Parkway System when loss of critical unit protection was installed at Lobo/Bright and Dawn and is within 0.2 PJ/d of the maximum capability of the two existing Parkway compressors.

As discussed in EB-2013-0074, requests for incremental Dawn-Parkway capacity commencing November 1, 2015 have been received from Enbridge, Gaz Métro and Union, which will further increase design day flow through compression at Parkway to 3.3 PJ/d in 2015/2016. As discussed in the response to Exhibits I.A4.UGL.APPRO.11 and I.A1.UGL.BOMA.46, Union expects that demand for Dawn-Parkway transportation capacity will continue to further grow with opportunities that include: the TransCanada crude oil conversion bringing customers back to Dawn, possible movement of the Parkway Obligation to Dawn and the development of large fertilizer, chemical, power and LNG plants in Ontario, Québec and Atlantic Canada.

Impact of Loss of Critical Unit

At Parkway the critical unit is the Parkway B compressor. In 2014/2015, a loss of the critical unit at Parkway results in reduced design day throughput to the TransCanada system of approximately 1.0 PJ/d. At maximum capability of the existing compressors, a loss of the critical unit at Parkway results in reduced design day throughput of approximately 1.1 PJ/d. Enbridge modeling indicates that such a loss of critical unit results in a loss of upstream supply of 0.3-0.4 PJ/d and a loss of service to approximately 150,000-225,000 GTA customers. Impacts as a result of a loss of critical unit event at Parkway are more thoroughly discussed in EB-2012-0433, Section 8, pages 68-70.

With significant potential impacts to the natural gas markets in Ontario, Québec and the U.S. Northeast, the continued growth of the Dawn-Parkway System and the unpredictable nature of failures associated with compressor stations, loss of critical unit protection is needed to provide reliable deliveries for its transportation and in-franchise customers at Parkway. As discussed in EB-2012-0433, Section 10, Union also believes that there is no alternative that can provide reliability and resilience for its Parkway deliveries into the TransCanada system as effectively and cost efficiently as the physical loss of critical unit protection proposed in the Parkway West Project.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 4/121

Union has indicated that the option for the majority of the land expires on July 31, 2013, and accordingly, it is seeking approval by July 25, 2013. The current Board schedule for the proceeding will not allow for approval by the end of July. What are the implications for the project if approval cannot be granted by July 25?

Response:

Please see Exhibit I.A3.UGL.LPMA.13.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Please provide all materials and correspondence provided to Union's Board of Directors when seeking approval to proceed with the Parkway West Project. When was the project approved by Union's Board of Directors?

Response:

Union is requesting Board of Directors approval of the Parkway West Project in June of this year.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Schedule 7-3

Please provide the terms of reference for the study undertaken by Dr. Stephen Flynn regarding asset resiliency. Was Dr. Flynn asked to review the costs of the project? If not, why not? If so, please provide that analysis.

Response:

Please see Attachment 1.

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November 6, 2012

BY EMAIL

PRIVILEGED AND CONFIDENTIAL

Dr. Stephen E. Flynn
Stephen E. Flynn Associates LLC
Wilmington, Delaware
USA

Dear Dr. Flynn:

Re: Union - Parkway West

We represent Union Gas Limited ("Union") which is a natural gas distributor, tramitter and storage company located in the Province of Ontario. The principal transmission asset owned by Union is its Dawn to Parkway transmission line. In order to ensure security of supply to its Ontario customers Union is proposing a project (the "Parkway West project") which would involve, among other things, the installation of a second metering and header system connected to the transmission line, as well as loss of critical unit protection at the Parkway station.

We confirm that Torys LLP has agreed to retain Stephen E. Flynn Associates LLC ("you") as an expert in this matter, to:

(a) provide us with expert advice in relation to the issues raised by Union's planned development of the Parkway West project;

(b) prepare an expert report, or provide affidavit evidence within your area of expertise, if requested; and

(c) testify , or attend to be cross-examined on your report or affidavit evidence, at any subsequent hearing if requested.

Our agreement with you is subject to the following terms:

1. You agree to hold in confidence: (a) all information provided to you, and (b) your advice and opinions to us as they relate to the information, whether the information, advice or opinions are documentary or oral. You will not disclose the information, advice or opinions to any person unless we authorize you in writing to do so. All documents given to you in connection with this retainer remain the property of our firm, and are held in trust by you as our agent. You agree to return or destroy these documents on request.

2. You agree during this engagement not to provide, directly or indirectly, without our written consent, your consulting services to any party opposite to Union in respect of the Parkway West project, or to any person, corporation or other entity related to them.

3. You confirm that you are free to provide your services to us in connection with the representation of our client in this litigation, and that our firm and our client are free to use and disclose such your advice and opinions in any manner whatsoever.

4. You agree to refrain from referring to our firm or our client, directly or indirectly, in connection with the promotion of your services, without obtaining the prior written approval of our firm.

5. You are to be compensated at your normal hourly rates for all services. Please direct your accounts to my attention at the address above.

Please indicate your agreement to the terms of your retainer as set out above, by signing a copy of this letter and returning it to me.

Thank you for your assistance.

Yours truly,

Crawford G. Smith

CGS/tm

Agreed, this 6TH day of NOVEMBER, 2012

Stephen E. Flynn

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 78/121

Please provide all correspondence between Union and EGD regarding the Parkway West Project. Is EGD fully supportive of Union's proposals? If not, please explain where there is not agreement between EGD and Union.

Response:

Yes, Enbridge is fully supportive of the Parkway West Project. The Parkway West Project provides the reliability and resilience required for Enbridge to increase its reliance on natural gas delivered at or through Parkway. This allows Enbridge to adjust its natural gas supply portfolio to increase access to the Dawn Hub and reduce gas costs to its customers by an estimated $170 million annually (EB-2012-0417, Exhibit E, Tab 1, Attachment page 2 of 5).

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 78/121

Please provide all correspondence between TCPL and Union regarding the Parkway West Project. Is TCPL fully supportive of Union's proposals? If not, please explain where there is not agreement between TCPL and Union regarding the proposed facilities.

Response:

Union previously provided materials presented or exchanged with TransCanada regarding Union's proposed projects in EB-2011-0210 in Exhibit J.B-1-7-8(e) as attachment 6 and in Exhibit J.B-1-7-9, attachments 1 and 2.

Union also filed materials presented to TransCanada with respect to the proposed projects in EB-2012-0433, Schedule 8-4 and EB-2013-0074, Schedule 9-2.

Union, Enbridge and TransCanada discussed the infrastructure required in Ontario to provide reliability and security of supply at Parkway and to serve the changing transportation demands of Union, Gaz Metro and Enbridge. By letter dated January 31, 2013, Union requested TransCanada's agreement with respect to the results of those discussions, specifically Union's proposed Parkway West Project and the Brantford-Kirkwall pipeline/Parkway D Compressor projects.

By letter dated February 8, 2013 (Exhibit I.A4.UGL.CCC.23),TransCanada has indicated to Union that it is not opposed to the addition of a compressor for loss of critical unit protection as part of the proposed scope of the Parkway West Project.

Please see Attachment 1 for the two letters between TCPL and Union referenced above.

iongas
A Spectra Energy Company

January 31, 2013

TransCanada Pipelines Limited
450 – 1st Street S.W.
Calgary, Alberta
T2P 5H1

Attention: **Dave Schultz**
Vice-President, Commercial East, Canadian Natural Gas Pipelines

Dear Dave:

Re: Union Gas Limited – Parkway LCU Protection and Related Issues

I am writing further to the discussions between our respective companies and Enbridge which have been ongoing since last year.

As you know, our discussions have considered matters beyond the need for loss of critical unit (LCU) protection at Parkway to include Enbridge's GTA reinforcement project, the impact on Ontario of the changing North American gas supply dynamics occasioned by the development of Marcellus shale gas and, generally, the development of the natural gas market in Ontario and the need for facilities to address that development.

I believe our discussions have been productive in considering each of the above issues. We have made significant progress in understanding our companies' respective points of view and in determining how the needs of Ontarians can best be met going forward, all as encouraged by the Ontario Energy Board.

Beginning with Enbridge's GTA reinforcement project, we understand that it is intended to:

1. Reinforce downtown Toronto to permit for more growth post 2015, with the capability to source supply from multiple directions (as opposed to today where supply is sourced down the DVP).
2. Manage the existing dependency on Parkway. This is being addressed as follows, by: (i) building a line from Parkway to Albion; (ii) rebuilding the Albion Gate Station into a major feed (one of four such stations); (iii) supporting the development of LCU protection at Parkway; (iv) supporting a second feed from the suction side of Parkway to back up the Parkway Consumers and Lisgar feeds; and (v) diversifying the supply at Parkway to include direct delivery from TCPL (Niagara to Parkway) along TCPL's domestic line.
3. Restructure Enbridge's gas supply portfolio away from long haul discretionary services to more short haul supply on Union's system.

We understand that, consistent with the GTA project, Enbridge is currently negotiating new supply contracts with Union and a Memorandum of Understanding with TCPL. The MOU includes a new joint development of the Parkway to Albion line (by EGD and TCPL), with a further expansion of the line by TCPL from Albion to Maple. We understand this work is scheduled to be completed by November 1, 2015. Union strongly supports this expansion provided it can be done by the end of 2015.

Turning to the Parkway project and the need for physical LCU protection at Parkway, it is consistent with the GTA project and Enbridge's objectives. The Parkway project also addresses Union's own significant operational and risk management needs which have been driven by the changing gas supply dynamics discussed above. Enbridge, GMi, Vermont Gas and the other ex-franchise shippers who will bear the majority of the costs associated with the project all support it. Marcellus and the changes it has brought about are here to stay. The potential benefits to Ontarians (and others) in terms of reduced gas supply costs are significant. While Marcellus volumes coming into Ontario may have an impact on Mainline flows, ultimately, facilitating Marcellus supply will benefit Ontario and ensure that TCPL's eastern triangle continues to grow.

I understand that having considered all of the issues outlined above including the shippers' perspective, Union's operational needs, the best interests of Ontarians and the various alternatives we have discussed in the past, TCPL now similarly supports the Parkway projects.

As a final matter, we have advised you that Union has entered into contracts for the incremental transportation of 700,000 Gj/d of growth. These contracts drive the need for a new growth compressor at Parkway West and a loop of the Dawn to Parkway transmission system (Brantford to Kirkwall). TCPL and Enbridge have indicated their support for that compressor given the new incremental contracted volumes. Union would expect that support (and for the Union Gas contracts on TCPL from Parkway to the NDA and Parkway to the EDA) to continue going forward.

As always, please feel to give me a call should you wish to discuss any of the above further. It would be appreciated if you could please confirm back TCPL's agreement with respect to all of the matters described above by February 8th, 2013.

Yours truly,

Mark Isherwood
Vice President, Business Development
Storage & Transmission

cc: Malini Giridhar (Enbridge)

TransCanada
In business to deliver

February 8, 2013

TransCanada PipeLines Limited
450 – 1st Street S.W.
Calgary, Alberta, Canada T2P 5H1

tel 403.920.5574
fax 403.920.2384
email dave_schultz@transcanada.com
web www.transcanada.com

Dave Schultz, P. Eng.
Vice President, Commercial East

Mr. Mark Isherwood, P.Eng, M.B.A.
Vice President, Business Development, Storage and Transmission
Union Gas Limited
P.O Box 2001
50 Keil Drive North
Chatham, ON
N7M 5M1

Dear Mark:

Re: Union Gas Limited – Parkway LCU Protection and Related Issues

I am writing in response to your letter sent to me on January 31, 2013 regarding "Parkway LCU Protection and Related Issues". In your letter, you describe a number of items, some of which I will not respond to at this time as they pertain to discussions occurring with other third parties. With respect to the proposed Union Gas facilities at Parkway West, as noted in your letter, TransCanada is not opposed to Union's facility plans related to incremental growth requirements supported by firm contractual commitments. Specifically this is related to the new compressor at the proposed Parkway West site and associated metering. Additionally, TransCanada has determined it is not opposed to the addition of a Loss of Critical Unit protection compressor unit to the proposed scope of the Parkway West site. Finally, TransCanada continues to progress its plans that will facilitate having the required capacity in place to accommodate the incremental Union Gas contract volumes from Parkway to the NDA and EDA for November 2015.

If you need to contact me, I can be reached at 403-920-5574.

Sincerely,

Dave Schultz
Vice President, Commercial East
Canadian Natural Gas Pipelines

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 1/p. 2

The evidence indicates that the project is predicated on the completion of TCPL's proposed expansion to relieve the current transportation capacity constraint in the TCPL system between Parkway and Maple. What is the current status of that proposed expansion?

Response:

Please see Exhibit I.A3.UGL.Staff.1 e) and Exhibit I.A1.UGL.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 8/p. 5

Please explain why there is an increase in in-franchise demand in 2015/2016 of 70,157 GJ/day?

Response:

Please see Exhibit I.A1.UGL.LPMA.4.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 8, p. 9

Please provide all correspondence between Union and EGD regarding the Brantford-Kirkwall/Parkway D Project. Is EGD fully supportive of Union's proposals? If not, please explain where there is not agreement between Union and EGD regarding the proposed facilities.

Response:

Enbridge has executed contracts to secure an incremental 400 TJ/d of Dawn-Parkway transportation capacity. The agreements include the M12225 transportation agreement, a precedent agreement and a financial backstopping agreement, which provides financial assurances during the development of the facility. Please see Attachment 1.

UNION MASTER COPY

PRECEDENT AGREEMENT

THIS PRECEDENT AGREEMENT ("**Precedent Agreement**") dated this 7th day of May, 2012 by and between Union Gas Limited, an Ontario corporation ("**Union**"), and Enbridge Gas Distribution Inc. ("**Shipper**") (Union and Shipper may sometimes be referred to separately as "**Party**" or jointly as "**Parties**" in this Precedent Agreement) witnesseth that:

WHEREAS, Union owns and operates a natural gas transmission system in south-western Ontario, through which Union offers firm transportation services;

WHEREAS, Union intends, subject to Shipper's execution of this Precedent Agreement, Shipper's execution of the Transportation Agreement defined below, and Union's determination of capacity requirements, to own, build and operate certain facilities, being the Brantford to Kirkwall NPS 48 pipeline loop, the Parkway D compression facilities and the Parkway (GTA) Interconnect, all proposed to be in service by November 1, 2015 (the "**Dawn-Parkway Expansion Facilities**"); and the Parkway (Consumers2) Interconnect, proposed to be in service by November 1, 2014, and the Parkway C compression facilities, proposed to be in service by November 1, 2015 (the "**Parkway West Project Facilities**") (the Dawn-Parkway Expansion Facilities and the Parkway West Project Facilities, collectively, the "**Expansion Facilities**");

WHEREAS, this Precedent Agreement is executed as evidence of Shipper's request for firm transportation service as well as Shipper's acknowledgement that Union requires the benefit of certain construction and regulatory conditions precedent not contained in the tariff applicable to the Transportation Agreement, defined below;

WHEREAS, Shipper acknowledges that Union is relying on Shipper's commitments and obligations set forth in this Precedent Agreement in order to own, build and operate the Expansion Facilities;

WHEREAS, the design of the Expansion Facilities may change based on the final capacity requirements or project design as determined by Union in Union's sole discretion, which may result in a reduction in scope or elimination of the requirement for Expansion Facilities;

WHEREAS, Shipper agrees to enter into a transportation agreement whereby Union will provide service and Shipper will receive service in Ontario in accordance with and in the form included in Union's M12 Rate Schedule (such transportation agreement shall be referred to herein as the "**Transportation Agreement**"); and

WHEREAS, Shipper agrees to enter into a financial backstopping agreement (the "**Financial Backstopping Agreement**") associated with this Precedent Agreement and the Transportation Agreement (attached hereto at Schedule 1) whereby Shipper agrees to financially indemnify Union, subject to the terms and conditions as provided for pursuant to the Financial Backstopping Agreement, for the costs to develop and construct the Expansion Facilities.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound, Union and Shipper agree as follows:

1.0 Effective Date and Term

This Precedent Agreement shall become effective as of the date first stated above and shall remain in effect until the earlier of: (a) all of the conditions precedent in Section 3.0 have been satisfied or waived by the Party claiming the benefit thereof, or (b) either Union or Shipper exercises their respective termination rights pursuant to this Precedent Agreement.

2.0 Firm Transportation Services

Shipper agrees that it will execute the firm Transportation Agreement necessary to satisfy Shipper's firm transportation requirements under the terms set forth below and in the form attached as Schedule 1, Transportation Agreement (M12225). The Transportation Agreement (M12225) shall provide firm transportation services including, without limitation, the following terms:

(a) Contract Demand
(b) Start and End Dates
(c) Receipt Point(s)
(d) Delivery Point(s)
(e) Demand Charge
(f) Renewal Rights

Shipper shall be responsible for all charges, pursuant to Union's M12 or C1 Rate Schedule, as applicable.

3.0 Conditions Precedent

3.1 The obligations of Union to provide the Transportation Services as defined in the Transportation Agreement are subject to the conditions precedent for Union's benefit in the Transportation Agreement and to the following conditions precedent, which are for the sole benefit of Union and which may be waived or extended in whole or in part in the manner provided for in this Precedent Agreement:

(a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under, all governmental, regulatory and other third party approvals, consents, orders, and authorizations that are required to:

i. construct and operate the Expansion Facilities; and
ii. provide the Transportation Services,

under a regulatory framework satisfactory to Union, in its sole discretion;

(b) Union shall have obtained all internal approvals (by the dates noted below) that are necessary or appropriate to provide the Transportation Services and to construct and operate:

i. the Parkway West Project Facilities, no later than September 30, 2013; and
ii. the Dawn-Parkway Expansion Facilities, no later than October 31, 2013.

(c) Union shall have completed and placed into service the Expansion Facilities;

(d) Union, where applicable, shall have received from Shipper an executed Financial Backstopping Agreement, in form and substance reasonably acceptable to the Parties; and

(e) Shipper shall have executed the Transportation Agreement.

3.2 The obligations of Shipper under the Transportation Agreement are subject to the conditions precedent for the benefit of Shipper in the Transportation Agreement and to the following conditions precedent, which are for the sole benefit of Shipper, and which may be waived or extended in whole or in part in the manner provided for in this Precedent Agreement:

(a) Enbridge shall have obtained, in form and substance satisfactory to Enbridge, and all conditions shall have been satisfied under all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required from federal, state or provincial authorities for the gas quantities handled under the Contract, including, without limitation, approvals, consents, orders and authorizations related to any required new Enbridge facilities.

3.3 Union and Shipper shall each use due diligence and reasonable efforts to satisfy and fulfill the conditions precedent, if applicable, specified in Section 3.1 (a), (c), (d), and (e), and the conditions precedent specified in Section 3.2 (if any). Each Party shall notify the other forthwith in writing of the satisfaction or waiver of each condition precedent for such Party's benefit. Subject to Section 3.5 herein, if a Party concludes that it will not be able to satisfy a condition precedent that is for its benefit, that Party may, upon written notice to the other Party, terminate this Precedent Agreement and the Transportation Agreement and upon the giving of such notice, this Precedent Agreement and the Transportation Agreement shall be of no further force and effect and each of the Parties shall be released from all further obligations hereunder.

3.4 Subject to Section 3.5 herein, if any of the conditions precedent in Section 3.1 (d) or (e) are not satisfied or waived by the Party entitled to the benefit of such condition, by January 29, 2013, (or if any of the conditions precedent in Section 3.2 are not satisfied or waived by the Party entitled to the benefit of such condition, by September 30, 2013), then either Party may, upon written notice to the other Party, terminate this Precedent Agreement and the Transportation Agreement and upon the giving of such notice, this Precedent Agreement and the Transportation Agreement shall be of no further force or effect and each of the Parties shall be released from all further obligations hereunder.

3.5 In the event of termination of the Precedent Agreement and Transportation Agreement pursuant to Sections 3.3, 3.4 or 4.0 herein, then (i) such termination shall be without prejudice to any rights or remedies that a Party may have for breaches of this Precedent Agreement and the Transportation Agreement prior to such termination and any liability a Party may have incurred before such termination shall not thereby be released; and (ii) any obligations and any liabilities that the Shipper may have incurred or be liable for pursuant to the Financial Backstopping Agreement shall not thereby be released, affected or diminished.

4.0 Union's Authorizations and Approvals

During the term of this Precedent Agreement, Shipper agrees to support and cooperate with, and to not oppose, obstruct or otherwise interfere with in any manner, the efforts of Union to obtain all authorizations and/or exemptions and supplements and amendments thereto necessary for Union to construct, own, operate, and maintain, under Union's proposed regulatory framework, the Expansion Facilities and to provide the firm transportation service contemplated in this Precedent Agreement and to perform its obligations as contemplated by this Precedent Agreement; provided however, that Shipper's obligations in this regard shall not obligate Shipper to support any aspect of Union's efforts to the extent that it is not reasonable or prudent for Shipper to do so having regard to any material adverse impact Union's efforts may have on Shipper. In the event that Shipper does not support any aspect of Union's efforts to obtain all authorizations and/or exemptions and supplements and amendments thereto necessary for Union to construct, own, operate, and maintain, under Union's proposed regulatory framework, the Dawn-Parkway Expansion Facilities and/or the Parkway West Project Facilities, Union may, subject to Section 3.5, upon written notice to Shipper, terminate this Precedent Agreement and the Transportation Agreement and upon the giving of such notice, this Precedent Agreement and the Transportation Agreement shall be of no further force and effect and each of the Parties shall be released from all further obligations hereunder.

5.0 Allocation of Capacity in the Event of Partial Completion of Expansion Facilities

If Expansion Facilities are required to satisfy any Transportation Service,

(a) then to the extent that such Expansion Facilities are only partially completed and placed in service by the Commencement Date or at any time thereafter, then any firm capacity available on such partially completed Expansion Facilities (the "**Partial Expansion Capacity**") will be allocated in accordance with this Section 5.0 to all Transportation Agreements: (a) which require the same Expansion Facilities for the Contract Demand; and (b) under which all conditions precedent have been satisfied or waived except for such conditions precedent that relate to the completion and placing in-service of the Expansion Facilities.

(b) Such allocation shall be made in priority of the NPV as such term is defined in Article XVI of Schedule "A2010" of the M12 Rate Schedule, and allocated in accordance with said Article.

(c) If, pursuant to this Section, a Transportation Agreement is allocated any portion of Partial Expansion Capacity, then the conditions precedent that relate to the completion and placing in-service of the Expansion Facilities shall be deemed to have been waived such that the Initial Term under the Transportation Agreement will commence. If a Transportation Agreement is not allocated the entirety of the Contract Demand under such Transportation Agreement, then such Contract Demand shall be deemed to be such lower allocated amount (and for greater certainty, the Initial Term shall nevertheless be deemed to have commenced) until such time as the Transportation Agreement is allocated additional Partial Expansion Capacity pursuant to this Section or until the entirety of the Expansion Facilities are completed and placed in-service.

(d) The procedure contemplated by this Section will be applicable from time to time on each occasion that the Expansion Facilities are incrementally completed and placed in service.

6.0 Limitation of Damages

THE PARTIES HERETO AGREE THAT NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY PUNITIVE, SPECIAL, EXEMPLARY, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS OR BUSINESS INTERRUPTIONS) ARISING OUT OF OR IN ANY MANNER

RELATED TO THIS PRECEDENT AGREEMENT, AND WITHOUT REGARD TO THE CAUSE OR CAUSES THEREOF OR THE SOLE, CONCURRENT OR CONTRIBUTORY NEGLIGENCE (WHETHER ACTIVE OR PASSIVE), STRICT LIABILITY (INCLUDING, WITHOUT LIMITATION, STRICT STATUTORY LIABILITY AND STRICT LIABILITY IN TORT) OR OTHER FAULT OF EITHER PARTY. THE IMMEDIATELY PRECEDING SENTENCE SPECIFICALLY PROTECTS EACH PARTY AGAINST SUCH PUNITIVE, EXEMPLARY, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES EVEN IF WITH RESPECT TO THE NEGLIGENCE, GROSS NEGLIGENCE, WILLFUL MISCONDUCT, STRICT LIABILITY OR OTHER FAULT OR RESPONSIBILITY OF SUCH PARTY, AND ALL RIGHTS TO RECOVER SUCH DAMAGES OR PROFITS ARE HEREBY WAIVED AND RELEASED. NOTWITHSTANDING THE FOREGOING, IN NO EVENT SHALL THIS SECTION 6.0 HEREIN LIMIT OR EXCLUDE ANY PRE-SERVICE COSTS THAT THE SHIPPER MAY INCUR OR BE LIABLE FOR PURSUANT TO THE FINANCIAL BACKSTOPPING AGREEMENT.

7.0 Modification or Waiver

No modification or waiver of the terms and provisions of this Precedent Agreement may be made except by the execution of a written amendment to this Precedent Agreement. The waiver by any Party of a breach or violation of any provision of this Precedent Agreement shall not operate as or be construed to be a waiver of any subsequent breach or violation thereof.

8.0 Supersedes Other Agreements

This Precedent Agreement, Transportation Agreement and the Financial Backstopping Agreement reflect the whole and entire agreement among the Parties with respect to the subject matter hereof and supersede all prior agreements and understandings among the Parties with respect to the subject matter hereof.

9.0 Notices

Notices under this Precedent Agreement must be sent,

If to Union:

Union Gas Limited
50 Keil Drive North
Chatham, ON N7M 5M1
Attention: Director, Business Development and Strategic Accounts
Facsimile: (519) 436-4643

If to Shipper:

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON M2J 1P8
Attention: Director, Energy Supply and Policy
Facsimile: (416) 495-5802

Any Party may change its address by written notice to that effect to the other Party. Notices given under this Section are deemed to have been effectively given upon receipt, if mailed via prepaid overnight mail by a reputable carrier or if delivered by courier. Notices sent by mail will be deemed effectively given on the third (3rd) business day following the day when the notice properly addressed and postpaid is placed in the Canadian mail. It is expressly understood and agreed, however, that any notices must first be delivered by facsimile or other similar means, and if mailed or sent by courier, must be mailed or sent by courier as soon as practicable thereafter.

10.0 Governing Law

This Precedent Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and each of the parties shall attorn to the exclusive jurisdiction of the courts of the Province of Ontario.

11.0 No Third Party Beneficiaries

This Precedent Agreement shall not create any rights in third parties, and no provision of this Precedent Agreement shall be construed as creating any obligations for the benefit of, or rights in favor of, any person or entity other than the Parties.

12.0 No Drafting Presumption

No presumption shall operate in favor of or against any Party as a result of any responsibility that any Party may have had for drafting this Precedent Agreement.

13.0 Recitals

The recitals and representations appearing first above are hereby incorporated in and made a part of this Precedent Agreement.

14.0 Counterparts

This Precedent Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument.

15.0 In Service Timing

Notwithstanding anything in this Precedent Agreement or the Transportation Agreement, Shipper agrees that it shall have no cause of action or claims against Union if the in-service date for the Expansion Facilities is later than the date stated in the recitals. This Section 15.0 is intended to survive the termination of this Precedent Agreement.

16.0 Definitions

Capitalized terms used in this Precedent Agreement shall have the meaning given those terms in the Transportation Agreement, unless defined herein.

17.0 Assignment

The Parties hereto shall not assign this Precedent Agreement without the prior written consent of the other Party, which shall not be unreasonably withheld. This Precedent Agreement shall be binding upon and shall enure to the benefit of the Parties hereto and their permitted successors and assigns. In no event will the assignment of this Precedent Agreement be permitted unless the Transportation Agreement and the Financial Backstopping Agreement are also assigned to the same permitted assignee.

18.0 Conflict

For the period that this Precedent Agreement is in effect, in the event of any conflict between the provisions of the main body of this Precedent Agreement and the Transportation Agreement (M12225) included as Schedule 1 herein, the provisions of the main body of this Precedent Agreement shall prevail over the Transportation Agreement.

[signature page follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Precedent Agreement to be duly executed by their duly authorized officers effective as of the date first written above.

UNION GAS LIMITED

By: ______________________
Authorized Signatory

Mark J. Isherwood
Vice-President, Business Development, Storage & Transmission

Execution Date: Feb 14, 2013

ENBRIDGE GAS DISTRIBUTION INC.

AP ED
AS TO RM
ENBRIDGE LAW TP

By: ______________________ D. Guy Jarvis
President
Authorized Signatory

Execution Date: Jan 28, 2013

By: ______________________ Malini Giridhar
Vice President, Gas Supply
Authorized Signatory

Execution Date: Jan 28, 2013

Contract No. M12225

Schedule 1 to the Precedent Agreement

Transportation Agreement (M12225)

THIS FIRM M12 TRANSPORTATION CONTRACT dated as of the 7th day of May, 2012,

UNION GAS LIMITED, a company existing under the laws of the Province of Ontario,
(hereinafter referred to as "**Union**")

\- and -

ENBRIDGE GAS DISTRIBUTION INC., a company continued under the laws of the Province of Ontario,
(hereinafter referred to as "**Shipper**")

WHEREAS, Union owns and operates a natural gas transmission system in south-western Ontario, through which Union offers "Transportation Services", as defined in Article II herein;

AND WHEREAS, Shipper wishes to retain Union to provide such Transportation Services, as set out herein, and Union has agreed, subject to the terms and conditions of this Contract, to provide the Transportation Services requested;

NOW THEREFORE, this Contract witnesses that, in consideration of the mutual covenants and agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

ARTICLE I - INTERPRETATION AND DEFINITIONS

1.01 Divisions, Headings and Index: The division of this Contract into Articles, Sections and Subsections, and the insertion of headings and any table of contents or index provided are for convenience of reference only, and shall not affect the construction or interpretation hereof.

1.02 Industry Usage: Words, phrases or expressions which are not defined herein and which, in the usage or custom of the business of the transportation, storage, and distribution or sale of natural gas have an accepted meaning shall have that meaning.

1.03 Extended Meaning: Unless the context otherwise requires, words importing the singular include the plural and vice versa, and words importing gender include all genders. The words "herein" and "hereunder" and words of similar import refer to the entirety of this Contract, including the Schedules incorporated into this Contract, and not only to the Section in which such use occurs.

1.04 Conflict: In the event of any conflict between the provisions of the main body of this Contract (including Schedule 1) and Union's M12 Rate Schedule, as defined below, the provisions of Union's M12 Rate Schedule shall prevail over the main body of this Contract.

1.05 Currency: All reference to dollars in this Contract shall mean Canadian dollars.

1.06 Schedules: Refers to the schedules attached hereto which are specifically included as part of this Contract, and include:
Schedule 1 – Contract Parameters

1.07 Rate Schedule: "Union's M12 Rate Schedule" or the "M12 Rate Schedule" or "M12" shall mean Union's M12 Rate Schedule, (including the Storage and Transportation Rates, Schedule "A 2010" ("**General Terms and Conditions**"), Schedule "B 2010"("**Nominations**"), Schedule "C" ("**Monthly Fuel Rates and Ratios**") and Schedule "D 2010" ("**Receipt and Delivery Points and Pressures**")), or such other replacement rate schedule which may be applicable to the Transportation Services provided hereunder as approved by the Ontario Energy Board, and shall apply hereto, as amended from time to time, and which is incorporated into this Contract pursuant to Section 5.03 hereof.

1.08 Measurements: Units set out in SI (metric) are the governing units for the purposes of this Contract. Units set out in Imperial measurement in parentheses beside their SI (metric) equivalent are for reference only and in the event of a conflict between SI (metric) and Imperial measurement herein, SI (metric) shall prevail.

ARTICLE II - TRANSPORTATION SERVICES

2.01 Transportation Services: Union shall, subject to the terms and conditions herein, transport Shipper's gas on a firm basis on Union's system (the "**Transportation Services**"). Shipper agrees to the following upon nomination to Union for the provision of the Transportation Services:

(a) Contract Demand, Term, Receipt Point and Delivery Point shall be as set out in Schedule 1.

(b) Gas Transported by Union:

(i) Union agrees, on any Day, and subject to Sections (b) ii) and (b) iii), to receive on Shipper's behalf at the Receipt Point, any quantity of gas which Shipper nominates and which Union has authorized for Transportation Service and to deliver that quantity of gas to Shipper at the Delivery Point as per Shipper's nomination; and,

(ii) Under no circumstances shall Union be required to transport a quantity of gas in excess of the Contract Demand; and,

(iii) Union agrees that it shall, upon the request of Shipper, use reasonable efforts to transport gas in excess of the Contract Demand, as Authorized Overrun, on an interruptible basis; and,

(iv) Union agrees that it shall, upon request of Shipper, use reasonable efforts to accommodate changes to either the Receipt Point or Delivery Point, after the Timely Nomination Cycle, on an interruptible basis.

(c) Fuel:

Shipper shall provide the fuel requirements per the M12 Rate Schedule based on the Authorized Quantity.

2.02 Accounting for Transportation Services: All quantities of gas handled by Union shall be accounted for on a daily basis.

2.03 Commingling: Union shall have the right to commingle the quantity of gas referenced herein with gas owned by Union or gas being stored and/or transported by Union for third parties.

2.04 Imbalances: The parties hereto recognize that with respect to Section 2.01, on any Day, receipts of gas by Union and deliveries of gas by Union may not always be exactly equal, but each party shall cooperate with the other in order to balance as nearly as possible the quantities transacted on a daily basis, and any imbalances arising shall be allocated to the Facilitating Agreements and shall be subject to the respective terms and charges contained therein, and shall be resolved in a timely manner.

ARTICLE III - CHARGES AND RATES

3.01 Except as otherwise stated herein, the charges and rates to be billed by Union and paid by Shipper for the Transportation Services provided under this Contract will be those specified in Union's M12 Rate Schedule.

ARTICLE IV - NOMINATIONS

4.01 Transportation Services provided hereunder shall be in accordance with the prescribed nominations procedure as set out in Schedule "B 2010" of Union's M12 Rate Schedule.

ARTICLE V - MISCELLANEOUS PROVISIONS

5.01 Notices: All communications provided for or permitted hereunder shall be in writing, personally delivered to an officer or other responsible employee of the addressee or sent by registered mail, charges prepaid, or by facsimile or other means of recorded telecommunication, charges prepaid, to the applicable address set forth below or to such other address as either party hereto may from time to time designate to the other in such manner, provided that no communication shall be sent by mail pending any threatened, or during any actual, postal strike or other disruption of the postal service. Any communication personally delivered shall be deemed to have been validly and effectively received on the date of such delivery. Any communication so sent by facsimile or other means of telecommunication shall be deemed to have been validly and effectively received on the Business Day following the day on which it is sent. Any communication so sent by mail shall be deemed to have been validly and effectively received on the seventh Business Day following the day on which it is postmarked.

Notwithstanding the above, nominations shall be made by facsimile or other recorded electronic means, subject to execution of an agreement for use of the secured portion of Union's website (the secured portion of Union's website is known as "***Unionline***") or such other agreement, satisfactory to Union, and will be deemed to be received on the same Day and same time as sent. Each party may from time to time change its address for the purpose of this Section by giving notice of such change to the other party in accordance with this Section.

5.02 Law of Contract: Union and Shipper agree that this Contract is made in the Province of Ontario and that, subject to Article X of the General Terms and Conditions, the courts of the Province of Ontario shall have exclusive jurisdiction in all matters contained herein. The parties further agree that this Contract shall be construed exclusively in accordance with the laws of the Province of Ontario.

5.03 Entire Contract: This Contract (including Schedule 1), all applicable rate schedules and price schedules, and any applicable Precedent Agreement and Financial Backstopping Agreement constitutes the entire agreement between the parties hereto pertaining to the subject matter hereof and supersedes any prior or contemporaneous agreements, understandings, negotiations or discussions, whether oral or written, of the parties in respect of the subject matter hereof.

5.04 Time of Essence: Time shall be of the essence hereof.

5.05 Counterparts: This Contract may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original but all of which together shall constitute one and the same agreement. This Contract may be executed by facsimile or other electronic communication and this procedure shall be as effective as signing and delivering an original copy.

5.06 Severability: If any provision hereof is invalid or unenforceable in any jurisdiction, to the fullest extent permitted by law, (a) the other provisions hereof shall remain in full force and effect in such jurisdiction and shall be construed in order to carry out the intention of the parties as nearly as possible and (b) the invalidity or unenforceability of any provision hereof in any jurisdiction shall not affect the validity or enforceability of any provision in any other jurisdiction.

5.07 General Liability: The liability of the parties hereunder is limited to direct damages only and all other remedies or damages are waived. In no event shall either party be liable for consequential, incidental, punitive, or indirect damages, in tort, contract or otherwise.

[signature page follows]

THIS CONTRACT SHALL BE BINDING UPON and shall enure to the benefit of the parties hereto and their respective successors and permitted and lawful assigns.

IN WITNESS WHEREOF this Contract has been properly executed by the parties hereto by their duly authorized officers effective as of the date first above written.

UNION GAS LIMITED

Per: ______________________
Authorized Signatory

Mark J. Isherwood
Vice-President, Business Development, Storage & Transmission

Execution Date: Feb 14, 2013

ENBRIDGE GAS DISTRIBUTION INC.

Per: ______________________ D. Guy Jarvis
President
Authorized Signatory

APPROVED AS TO FORM
TP

Execution Date: Jan 28, 2013.

Per: Malini Giridhar Malini Giridhar
Vice President, Gas Supply
Authorized Signatory

Execution Date: Jan 28, 2013

SCHEDULE 1

CONTRACT PARAMETERS

Contract Demand

Union shall transport a quantity of gas, on a firm basis, on any one Day, of:

- up to 400,000 GJ (the "**Contract Demand**").

Receipt Points, Delivery Points and Transportation Services Paths

A "**Receipt Point**", as noted in the chart below, shall mean the point where Union shall receive gas from Shipper on a firm basis and a "**Delivery Point**", as noted in the chart below, shall mean the point where Union shall deliver gas to Shipper on a firm basis, which points are more particularly described in the M12 Rate Schedule.

The Transportation Services are available for the following paths:

Path	Receipt Point(s)	Delivery Point(s)
1	Dawn (Facilities), Dawn (TCPL), Dawn (Vector), Dawn (Tecumseh), Dawn (TSLE)	Parkway (GTA)

Term

This Contract shall be effective as of the date of execution hereof; however, the obligations, terms and conditions for the Transportation Services herein shall commence on the later of:

- November 1, 2015;
- the date that Shipper provides in writing to Union, on or before November 15, 2013, such date representing the in-service date for Shipper's GTA Project (EB-2012-0451) and being no later than January 1, 2016;
- the day following the date that all of the conditions precedent set out in Article XXI of Schedule "A 2010" of Union's M12 Rate Schedule have been satisfied or waived by the party entitled to the benefit thereof;
- and the day following the date that all of the conditions precedent set out in the agreement setting out certain construction and related conditions ("**Precedent Agreement**") dated May 7, 2012 have been satisfied or waived by the party entitled to the benefit thereof;

(such later date being referred to as the "**Commencement Date**" and shall continue in full force and effect until October 31, 2025 (the "**Initial Term**").

SCHEDULE 1
Contract No. M12225

Conditions Date

As referred to in Article XXI of Schedule "A 2010": January 29, 2013

Contact Information

Communications to the parties hereto shall be directed as follows:

IF TO SHIPPER:	Enbridge Gas Distribution Inc. 500 Consumers Road North York, ON M2J 1P8
Nominations: Attention:	Manager, Gas Supply Operations Telephone: 780-420-8469 Facsimile: 780-420-8533
Secondary Contact: Attention:	Director, Energy Supply and Policy Telephone: 416-495-5255 Facsimile: 416-495-5802
IF TO UNION:	Union Gas Limited, 50 Keil Drive North, CHATHAM, Ontario N7M 5M1
Nominations: Attention:	Manager, Gas Management Services Telephone: 519-436-5360 Facsimile: 519-436-4635
Secondary Contact: Attention:	Manager, Strategic Accounts Telephone: 519-436-5356 Facsimile: 519-436-4643

Shipper's Representations and Warranties

Check here if Article XIX.3 of Schedule "A 2010" (Point of Consumption Warranty) is applicable: [ ]

Check here if Article XIX.4 of Schedule "A 2010" (Non-Resident and Non-GST Registrant) is applicable: [ ]

Special Provisions

Intentionally blank

UNION MASTER COPY

THIS FINANCIAL BACKSTOPPING AGREEMENT made as of the 7th day of May, 2012

BETWEEN:

UNION GAS LIMITED, a company existing under the laws of the Province of Ontario,

(hereinafter referred to as "**Union**")

- and -

ENBRIDGE GAS DISTRIBUTION INC., a company continued under the laws of the Province of Ontario,

(hereinafter referred to as "**Shipper**")

WHEREAS Shipper has participated in an Open Season held by Union and is one of a group of shippers that have requested and entered into agreements with Union for the provision by Union of transportation services requiring all or a portion of the Expansion Facilities (collectively, the "**Open Season Shippers**");

AND WHEREAS Union and Shipper have entered into a Precedent Agreement dated May 7, 2012 (the "**Precedent Agreement**") and an associated firm transportation contract, M12225, of even date (the "**M12225 Contract**"), for transportation service, as defined therein, on Union's pipeline system;

AND WHEREAS pursuant to the Precedent Agreement, Expansion Facilities, as defined therein, must be constructed in order to enable Union to provide the required transportation service for Shipper and potentially other Open Season Shippers by the Commencement Date, as set out in the M12225 Contract;

AND WHEREAS the conditions precedent for the benefit of Shipper outlined in Article XXI, Section 2 of Schedule "A2010" of the M12225 Contract and Section 3.2 of the Precedent Agreement (the "**Shipper Conditions**") must be satisfied or waived by Shipper prior to the applicable date(s) provided in the M12225 Contract and the Precedent Agreement, as applicable, (each date a "**Shipper Conditions Precedent Date**");

AND WHEREAS the M12225 Contract and Precedent Agreement provide for certain conditions precedent for the benefit of Union;

AND WHEREAS Shipper has agreed to financially indemnify Union, subject to certain limitations as provided herein, for any and all Pre-Service Costs, as defined hereinafter;

THIS CONTRACT WITNESSETH that in consideration of the foregoing and mutual covenants herein contained, the parties hereto agree as follows:

1. DEFINITIONS

"**Cancelled Facilities**" means; (i) that portion of the Expansion Facilities not built as a result of Union's decision pursuant to the provisions of Subsection 3.a. herein; or (ii) one hundred (100) percent of the Expansion Facilities not built as a result of Union's inability to meet or waive any of the conditions precedent as outlined in Subsection 3.b. herein.

"**Contractually Obligated**" means, for any Pre-Service Costs that Union is obligated to pay, Pre-Service Costs in respect of which Union has entered into a contract in writing.

"**Indemnity Date**" means June 30, 2012.

"**Good Engineering and Operating Practices**" means any of the practices, methods and activities, consistent with Laws and Regulations, adopted by Union when constructing facilities similar to the Expansion Facilities.

"**Laws and Regulations**" means:

a. applicable federal, provincial or municipal laws, orders-in-council, by-laws, codes, rules, policies, regulations and statutes;

b. applicable orders, decisions, codes, judgments, injunctions, decrees, awards and writs of any court, tribunal, arbitrator, governmental authority or other person having jurisdiction;

c. applicable rulings and conditions of any licence, permit, certificate, registration, authorization, consent and approval issued by the Crown, any federal, provincial, or municipal government, parliament or legislature, or any regulatory authority, agency, tribunal, commission, board or department of any such government, parliament or legislature, or any court or other law, regulation or rule-making entity, having jurisdiction in the relevant circumstances;

d. any requirements under or prescribed by applicable common law; and

e. any codes issued by the Ontario Energy Board.

"**Pre-Service Costs**" shall mean Union's reasonable costs, consistent with Good Engineering and Operating Practices, incurred by Union, or which have accrued to or will accrue to Union, or which have been allocated to or which will be allocated to Union, or for which Union is Contractually Obligated to pay, which are incurred on or after the Indemnity Date, in conjunction with its efforts to develop and construct the Expansion Facilities. Pre-Service Costs shall include, but shall not be limited to, those expenditures and/or costs (including cancellation costs, carrying costs, third party claims and litigation costs), incurred by Union, or which have accrued to or will accrue to Union, or which have been allocated to or which will be allocated to Union, or for which Union is Contractually Obligated to pay, associated with engineering, construction, materials and equipment, environmental, the obtaining of land rights, regulatory, and/or legal activities, interest during construction and any other costs, expenses, losses, demands, damages and obligations incurred in furtherance of Union's efforts to develop and construct the Expansion Facilities; *provided however*, that Pre-Service Costs for the Parkway West Project Facilities component of the Expansion Facilities shall only include all costs incurred by Union that are necessary for a full and complete Ontario Energy Board facilities filing and approvals related to the Parkway West Project Facilities, including without limitation, detailed compressor package engineering, acquisition of land or options for land, engineering design, detailed costing, environmental reviews, site permitting, re-zoning and all regulatory costs, including any appeals Union deems necessary, in its sole discretion. The Pre-Service Costs for the Parkway West Project Facilities component of the Expansion Facilities specifically exclude compressor ordering or cancellation, materials ordering and primary contractor commitments.

2. CONSTRUCTION

Unless the context requires otherwise: (a) any capitalized term used herein not specifically defined shall have the definition given to it in the Precedent Agreement or the M12225 Contract; (b) the gender (or lack of gender) of all words used in this Financial Backstopping Agreement includes the masculine and feminine; (c) the singular form of nouns, pronouns and verbs shall include the plural and vice versa; (d) "shall" and "will" have equal force and effect; (e) the words "include," "including," or "includes" shall be read to be followed by the words "without limitation" or words having similar import; and (f) the word "or" will have the inclusive meaning represented by the phrase "and/or".

3. TERMS

a. **Partial Facilities or Cancelled Facilities, with Precedent Agreement Terminated**: Subject to Subsection 3.c., if Shipper fails to satisfy or waive any Shipper Conditions by the associated Shipper Conditions Precedent Date and the Precedent Agreement is terminated in accordance with the terms thereof, and Union, based on such Shipper's failure, has decided to:

i. cancel the development and construction of all of the Expansion Facilities; or

ii. cancel the development and construction of a portion of the Expansion Facilities,

then such Shipper shall reimburse Union for the Pre-Service Costs pertaining to the Cancelled Facilities.

In addition, in the event that Union has decided to:

i. cancel the development and construction of all of the Expansion Facilities; or

ii. cancel the development and construction of a portion of the Expansion Facilities,

based on Shipper's failure to satisfy or waive any Shipper Conditions by the associated Shipper Conditions Precedent Date and the Precedent Agreement is terminated in accordance with the terms thereof AND the similar failure of any other Open Season Shippers to satisfy or waive their shipper conditions by the associated shipper conditions precedent date; then, provided Shipper has been treated no less advantageously than any other Open Season Shipper, Shipper shall reimburse Union for Shipper's proportionate share (as prorated based on initial contract demand among the other Open Season Shippers who failed to satisfy or waive their shipper conditions by the associated shipper conditions precedent date and whose transportation services would have required the development and construction of the Cancelled Facilities) of Pre-Service Costs pertaining to the Cancelled Facilities.

b. **Union Unable to Meet or Waive Conditions Precedent, with Precedent Agreement Terminated**: Subject to Subsection 3.c., if Union, acting in a commercially reasonable manner:

i. fails to satisfy or waive any of the conditions precedent for its benefit in Article XXI, Section 1 of Schedule "A2010" of the M12225 Contract and the Precedent Agreement is terminated in accordance with the terms thereof;

ii. fails to satisfy or waive the condition precedent for its benefit set out in Subsection 3.1(a) or Subsection 3.1(b) in the Precedent Agreement, and the Precedent Agreement is terminated in accordance with the terms thereof; or

iii. terminates the Precedent Agreement pursuant to Section 4.0 of the Precedent Agreement,

then Shipper shall reimburse Union for Shipper's proportionate share (as prorated based on initial contract demand among all Open Season Shippers whose transportation services would have required the development and construction of the Cancelled Facilities) of Pre-Service Costs.

c. **Union Obligation to Minimize Pre-Service Costs:** Union shall use commercially reasonable efforts to minimize all Pre-Service Costs payable by Shipper to Union, including without limitation, mitigating costs by soliciting one or more replacement customers for excess transportation services if applicable.

4. FINANCIAL ASSURANCES

Subject to the terms and conditions hereinafter, Union may request, from time to time, and Shipper shall provide to Union, the requisite financial assurances reasonably necessary to ensure Shipper's ability to honour the provisions of this Financial Backstopping Agreement in the form and amount reasonably required by Union (the "**FBA Financial Assurances**"). The FBA Financial Assurances, if required, will be as determined solely by Union. As at the date written above, Union has determined that no FBA Financial Assurances are required at this time; however, in the event that Shipper experiences one or more of the following events, each such event a "**Material Event**";

a. Shipper is in default, which default has not been remedied, of the Contract or is in default of any other material contract with Union or another party; or,

b. Shipper's corporate or debt rating falls below investment grade according to at least one nationally recognized rating agency; or,

c. Shipper ceases to be rated by a nationally recognized agency; or,

d. Shipper has exceeded credit available as determined by Union from time to time, then Shipper shall, within fourteen (14) days of receipt of written notice by Union, obtain and provide to Union a letter of credit or other security in the form and amount reasonably required by Union (the "**Security**"). The Security shall not exceed the then current Projected Pre-Service Costs Estimate. Shipper represents and warrants that the financial assurances (including the FBA Financial Assurances and Security) (if any) shall remain in place throughout the term hereof, unless Shipper and Union agree otherwise. Shipper shall notify Union in the event of any changes to the financial assurances provided hereunder, throughout the term hereof.

5. INVOICING PROCESS

Upon final determination by Union of any amounts owing by Shipper under this Financial Backstopping Agreement, Union shall provide an invoice to Shipper, with sufficient supporting evidence, reasonably satisfactory to Shipper, justifying the invoiced amount, including a detailed breakdown of each of the individual amounts or items comprising such sum and demonstrating to the satisfaction of Shipper, acting reasonably, that all such amounts and items pertain directly to, or were incurred directly in connection with, the Cancelled Facilities, and Shipper shall pay such amounts within fifteen (15) days following Shipper's receipt of any invoices. Shipper acknowledges and understands that the final determination of any amounts owing by Shipper might not be capable of determination until such time as the Expansion Facilities are completed and placed into service. If Shipper fails to pay any invoice in full within the time herein required, interest on the unpaid portion shall accrue from the date such payment is first overdue until payment is made at a rate of interest equal to an effective monthly interest rate of 1.5%, compounded monthly, for an effective annual interest rate of 19.56%, and such interest shall be immediately due and payable.

6. TERMINATION OF AGREEMENT

This Financial Backstopping Agreement shall terminate on the date that the Expansion Facilities are placed into service; provided however, that any rights or remedies that a party may have for breaches of this Financial Backstopping Agreement prior to such termination and any liability a party may have incurred pursuant to the Financial Backstopping Agreement before such termination shall not thereby be released.

7. ESTIMATE OF PRE-SERVICE COSTS

Shipper acknowledges that it has been provided an initial estimate for the Pre-Service Costs after mitigation (the "**Estimated Pre-Service Costs**") and that the initial estimate is attached at Schedule 1. Union shall provide an update of the Estimated Pre-Service Costs on a monthly basis beginning at February 1, 2013 in a form similar to Schedule 1. Shipper and Union acknowledge and agree that the Estimated Pre-Service Costs are estimates provided for information purposes only and that to the extent Shipper's liability pursuant to this Financial Backstopping Agreement is greater than or less than any Estimated Pre-Service Costs, Shipper shall be obligated to pay its share of Pre-Service Costs as calculated pursuant to the provisions of this Financial Backstopping Agreement.

8. MISCELLANEOUS

a. The parties hereto shall not assign this Financial Backstopping Agreement without the prior written consent of the other party, which shall not be unreasonably withheld. This Financial Backstopping Agreement shall be binding upon and shall enure to the benefit of the parties hereto and their permitted successors and assigns. In no event will the assignment of this Financial

Backstopping Agreement be permitted unless the Precedent Agreement and M12225 Contract are also assigned to the same permitted assignee.

b. This Financial Backstopping Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and each of the parties shall attorn to the exclusive jurisdiction of the courts of the Province of Ontario.

c. This Financial Backstopping Agreement was negotiated and prepared by both parties with the advice and participation of counsel. The parties have agreed to the wording of this Financial Backstopping Agreement and none of the provisions hereof shall be construed against one party on the ground that such party is the author of this Financial Backstopping Agreement or any part hereof.

d. The recitals and representations appearing first above are hereby incorporated in and made a part of this Financial Backstopping Agreement.

e. This Financial Backstopping Agreement may be executed in multiple counterparts (including by means of facsimile or electronic signature pages), each of which shall be deemed an original and all of which shall constitute one and the same instrument.

f. A waiver of any default, breach of non-compliance under this Financial Backstopping Agreement is not effective unless in writing and signed by the party to be bound by the waiver. No waiver shall be inferred from or implied by any failure to act or delay in acting by a party in respect of any default, breach, non-observance or by anything done or omitted to be done by the other party. The waiver by a party of any default, breach or non-compliance under this Financial Backstopping Agreement shall not operate as a waiver of the party's rights under this Financial Backstopping Agreement in respect of any continuing or subsequent default, breach or non-compliance (whether of the same or any other nature).

g. This Financial Backstopping Agreement, the Precedent Agreement and the M12225 Contract reflect the whole and entire agreement among the parties with respect to the subject matter hereof and supersede all prior agreements and understandings among the parties with respect to the subject matter hereof.

h. For the period this Financial Backstopping Agreement is in effect, in the event of any conflict between the provisions of this Financial Backstopping Agreement and the main body of the Precedent Agreement and/or the M12225 Contract, the provisions of this Financial Backstopping Agreement shall prevail over the main body of the Precedent Agreement and the M12225 Contract.

[signature page follows]

IN WITNESS WHEREOF this Financial Backstopping Agreement has been properly executed by the parties hereto by their duly authorized officers effective as of the date first above written.

UNION GAS LIMITED

By: ______________________
Mark J. Isherwood
Authorized Signatory Vice-President, Business Development, Storage & Transmission

Execution Date: Feb 14, 2013

ENBRIDGE GAS DISTRIBUTION INC.

APPROVED AS TO FORM
ENBRIDGE LAW
TP

By: ______________________ D. Guy Jarvis
President
Authorized Signatory

Execution Date: Jan 28, 2013

By: Malini Giridhar Malini Giridhar
Vice President, Gas Supply
Authorized Signatory

Execution Date: Jan 28, 2013

Schedule 1

Initial Estimated Pre-Service Costs for Enbridge Gas Distribution Inc.

March 31, 2013	Parkway West Project Facilities		Dawn-Parkway Expansion Facilities			Total
	LCU	Second Feed and Site Development	Parkway 'D'	Brantford-Kirkwall	GTA Measurement	
Compressor Engine Package	-	-	-	-	-	-
Engineering & Consultants	$0.6	$0.3	$0.2	0.3	-	**$1.4**
Land & Easements	-	$0.4	-	-	-	**$0.4**
Contingency/IDC	-	$0.1	-	0.1	-	**$0.2**
Total	**$0.6**	**$0.8**	**$0.2**	**$0.4**	**$0.0**	**$2.0**

June 30, 2013	Parkway West Project Facilities		Dawn-Parkway Expansion Facilities			Total
	LCU	Second Feed and Site Development	Parkway 'D'	Brantford-Kirkwall	GTA Measurement	
Compressor Engine Package	-	-	-	-	-	-
Engineering & Consultants	$0.7	$0.4	$0.5	$0.3	-	**$1.9**
Land & Easements	-	$0.4	-	$0.1	-	**$0.5**
Contingency/IDC	-	$0.1	-	$0.1	-	**$0.2**
Total	**$0.7**	**$0.9**	**$0.5**	**$0.5**	**$0.0**	**$2.6**

Union's Conditions Precedent Date*	Parkway West Project Facilities		Dawn-Parkway Expansion Facilities			Total
	LCU	Second Feed and Site Development	Parkway 'D'	Brantford-Kirkwall	GTA Measurement	
Compressor Engine Package	-	-	$0.3	-	-	**$0.3**
Engineering & Consultants	$1.0	$0.6	$0.9	$0.4	-	**$2.9**
Land & Easements	-	$1.7	-	$0.1	-	**$1.8**
Contingency/IDC	-	$0.1	$0.1	$0.1	-	**$0.3**
Total	**$1.0**	**$2.4**	**$1.3**	**$0.6**	**$0.0**	**$5.3**

*Note: Union's internal approval Conditions Precedent Date for the Parkway West Project Facilities is September 30, 2013 and for Dawn-Parkway Expansion Facilities is October 31, 2013.

Cost Mitigation Assumptions:

1. Mitigation assumes recovery or salvage of spent costs in the following percentages:
    a. Compressor Engine Package – 50%
    b. Station Equipment – 25%
    c. Other Materials
        i. Materials (Pipes, Valves, Fittings) – 65%
        ii. Buildings – 50%
        iii. Miscellaneous Materials – 50%
    d. Engineering & Consultants – 0%
    e. Land – 80%
    f. Contingency / IDC – 0%
2. Costs assume ordering new compressors for the Parkway West Project Facilities and Dawn-Parkway Expansion Facilities in October 2013 based on current Rolls Royce requirements to achieve delivery to meet November 1, 2015 in-service.

Notes:

1. The above table provides Enbridge's share of the Parkway West Project Facilities (which is 50% of Pre-Service Costs).
2. The above table provides Enbridge's share of the Dawn-Parkway Expansion Facilities (which is 50.4% of the Pre-Service Costs (shared prorata among Open Season Shippers whose transportation service requires the development and construction of the Dawn-Parkway Expansion Facilities)).
3. Union has incurred costs prior to the Indemnity Date of June 30, 2012 of approximately $1.3 million.

May 7, 2012

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON
M2J 1P8

Attention: Ms. Malini Giridhar

Re: The M12 Firm Transportation Contract between Union Gas Limited ("Union") and Enbridge Gas Distribution Inc. ("Shipper") dated May 7, 2012, Contract No. M12225 (the "Contract")

Dear Malini:

Pursuant to the provisions of Section 3 of the Precedent Agreement between Shipper and Union, dated May 7, 2012, and the provisions of Schedule "A 2010", Article XXI, Section 3 of the Contract, which provide that Union will give notice to Shipper when the conditions precedent have been met, Union hereby provides notice to Shipper that the condition precedent of Schedule "A 2010", Article XXI, Section 1c. and 1d. of the Contract have been fulfilled.

By signing below, Shipper warrants and represents that Shipper has satisfied or waived the conditions precedent of Schedule "A 2010", Article XXI, Section 2 a., b. and c. of the Contract.

Please acknowledge receipt and agreement to this letter by signing below.

Yours very truly,

Wayne Passmore

Wayne Passmore, P.Eng.
Manager, Strategic Accounts

Acknowledged and Accepted
this_____day of ___________, 2012

ENBRIDGE GAS DISTRIBUTION INC.

____

Authorized Signatory

ENBRIDGE

500 Consumers Road
North York ON M2J 1P8
Canada
P.O. Box 650
Scarborough ON M1K 5E3
Canada

Malini Giridhar
VP Gas Supply
Tel: (416) 495-5255
Fax: (416) 753-6224
Email: malini.giridhar@enbridge.com

January 28, 2013

Union Gas Limited
50 Keil Drive
Chatham, ON
N7M 5M1

Attention: Mr. Jim Redford

Re: The M12 Firm Transportation Contract between Union Gas Limited ("Union") and Enbridge Gas Distribution Inc. ("Shipper") dated May 7, 2012, Contract No. M12225 (the "Contract")

Dear Jim:

This is further to Mr. Passmore's letter dated May 7, 2012 providing Union's notice that the conditions precedent of Schedule "A 2010", Article XXI, Sections 1c. and 1d. of the Contract have been fulfilled.

Shipper hereby warrants and represents that Shipper has satisfied or waived the conditions precedent of Schedule "A 2010", Article XXI, Sections 2a. and 2c. of the Contract.

ENBRIDGE GAS DISTRIBUTION INC.

Malini Giridhar

Malini Giridhar, VP Gas Supply

Guy Jarvis, President

UNION MASTER COPY

Contract No. M12079B

THIS FIRM M12 TRANSPORTATION CONTRACT dated as of the 21st day of December, 2012,

UNION GAS LIMITED, a company existing under the laws of the Province of Ontario,
(hereinafter referred to as "**Union**")

- and -

ENBRIDGE GAS DISTRIBUTION INC., a company existing under the laws of the Province of Ontario,
(hereinafter referred to as "**Shipper**")

WHEREAS, Union owns and operates a natural gas transmission system in south-western Ontario, through which Union offers "Transportation Services", as defined in Article II herein;

AND WHEREAS, Shipper wishes to retain Union to provide such Transportation Services, as set out herein, and Union has agreed, subject to the terms and conditions of this Contract, to provide the Transportation Services requested;

NOW THEREFORE, this Contract witnesses that, in consideration of the mutual covenants and agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

ARTICLE I - INTERPRETATION AND DEFINITIONS

1.01 Divisions, Headings and Index: The division of this Contract into Articles, Sections and Subsections, and the insertion of headings and any table of contents or index provided are for convenience of reference only, and shall not affect the construction or interpretation hereof.

1.02 Industry Usage: Words, phrases or expressions which are not defined herein and which, in the usage or custom of the business of the transportation, storage, and distribution or sale of natural gas have an accepted meaning shall have that meaning.

1.03 Extended Meaning: Unless the context otherwise requires, words importing the singular include the plural and vice versa, and words importing gender include all genders. The words "herein" and "hereunder" and words of similar import refer to the entirety of this Contract, including the Schedules incorporated into this Contract, and not only to the Section in which such use occurs.

1.04 Conflict: In the event of any conflict between the provisions of the main body of this Contract (including Schedule 1) and Union's M12 Rate Schedule, as defined below, the provisions of Union's M12 Rate Schedule shall prevail over the main body of this Contract.

1.05 Currency: All reference to dollars in this Contract shall mean Canadian dollars.

1.06 Schedules: Refers to the schedules attached hereto which are specifically included as part of this Contract, and include:

Schedule 1 – Contract Parameters

1.07 Rate Schedule: "Union's M12 Rate Schedule" or the "M12 Rate Schedule" or "M12" shall mean Union's M12 Rate Schedule, (including the Storage and Transportation Rates, Schedule "A 2010" ("**General Terms and Conditions**"), Schedule "B 2010"("**Nominations**"), Schedule "C"("**Monthly Fuel Rates and Ratios**") and Schedule "D 2010"("**Receipt and Delivery Points and Pressures**")), or such other replacement rate schedule which may be applicable to the Transportation Services provided hereunder as approved by the Ontario Energy Board, and shall apply hereto, as amended from time to time, and which is incorporated into this Contract pursuant to Section 5.03 hereof.

1.08 Measurements: Units set out in SI (metric) are the governing units for the purposes of this Contract. Units set out in Imperial measurement in parentheses beside their SI (metric) equivalent are for reference only and in the event of a conflict between SI (metric) and Imperial measurement herein, SI (Metric) shall prevail.

ARTICLE II - TRANSPORTATION SERVICES

2.01 Transportation Services: Union shall, subject to the terms and conditions herein, transport Shipper's gas on a firm basis on Union's system (the "**Transportation Services**"). Shipper agrees to the following upon nomination to Union for the provision of the Transportation Services:

(a) Contract Demand, Term, Receipt Point and Delivery Point shall be as set out in Schedule 1.

(b) Gas Transported by Union:

(i) Union agrees, on any day, and subject to Sections (b) ii) and (b) iii), to receive on Shipper's behalf at the Receipt Point, any quantity of gas which Shipper nominates and which Union has authorized for Transportation Service and to deliver that quantity of gas to Shipper at the Delivery Point as per Shipper's nomination;

(ii) Under no circumstances shall Union be required to transport a quantity of gas in excess of the Contract Demand;

(iii) Union agrees that it shall, upon the request of Shipper, use reasonable efforts to transport gas in excess of the Contract Demand, as Authorized Overrun, on an interruptible basis; and,

(iv) Union agrees that it shall, upon request of Shipper, use reasonable efforts to accommodate changes to either the Receipt Point or Delivery Point, after the Timely Nomination Cycle, on an interruptible basis.

(c) Fuel:

Shipper shall provide the fuel requirements per the M12 Rate Schedule based on the Authorized Quantity.

2.02 Accounting for Transportation Services: All quantities of gas delivered to/by Union shall be accounted for on a daily basis.

2.03 Commingling: Union shall have the right to commingle the quantity of gas referenced herein with gas owned by Union or gas being stored and/or transported by Union for third parties.

2.04 Imbalances: The parties hereto recognize that with respect to Section 2.01, on any day, receipts of gas by Union and deliveries of gas by Union may not always be exactly equal, but each party shall cooperate with the other in order to balance as nearly as possible the quantities transacted on a daily basis, and any imbalances arising shall be allocated to the Facilitating Agreements and shall be subject to the respective terms and charges contained therein, and shall be resolved in a timely manner.

ARTICLE III - CHARGES AND RATES

3.01 Except as otherwise stated herein, the charges and rates to be billed by Union and paid by Shipper for the Transportation Services provided under this Contract will be those specified in Union's M12 Rate Schedule.

ARTICLE IV - NOMINATIONS

4.01 Transportation Services provided hereunder shall be in accordance with the prescribed nominations procedure as set out in Schedule "B 2010" of Union's M12 Rate Schedule.

ARTICLE V - MISCELLANEOUS PROVISIONS

5.01 Notices: All communications provided for or permitted hereunder shall be in writing, personally delivered to an officer or other responsible employee of the addressee or sent by registered mail, charges prepaid, or by facsimile or other means of recorded telecommunication, charges prepaid, to the applicable address set forth below or to such other address as either party hereto may from time to time designate to the other in such manner, provided that no communication shall be sent by mail pending any threatened, or during any actual, postal strike or other disruption of the postal service. Any communication personally delivered shall be deemed to have been validly and effectively received on the date of such delivery. Any communication so sent by facsimile or other means of telecommunication shall be deemed to have been validly and effectively received on the business day following the day on which it is sent. Any communication so sent by mail shall be deemed to have been validly and effectively received on the seventh business day following the day on which it is postmarked.

Notwithstanding the above, nominations shall be made by facsimile or other recorded electronic means, subject to execution of an agreement for use of the secured portion of Union's website (the secured portion of Union's website is known as "***UnionLine***") or such other agreement, satisfactory to Union, and will be deemed to be received on the same day and same time as sent. Each party may from time to time change its address for the purpose of this Section by giving notice of such change to the other party in accordance with this Section.

5.02 Law of Contract: Union and Shipper agree that this Contract is made in the Province of Ontario and that, subject to Article X of the General Terms and Conditions, the courts of the Province of Ontario shall have exclusive jurisdiction in all matters contained herein. The parties further agree this Contract shall be construed exclusively in accordance with the laws of the Province of Ontario.

5.03 Entire Contract: This Contract (including Schedule 1 and Union's M12 Rate Schedule) constitutes the entire agreement between the parties hereto pertaining to the subject matter hereof. This Contract supersedes any prior or contemporaneous agreements, understandings, negotiations or discussions, whether oral or written, of the parties in respect of the subject matter hereof.

5.04 Time of Essence: Time shall be of the essence hereof.

5.05 Counterparts: This Contract may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original but all of which together shall constitute one and the same agreement. This Contract may be executed by facsimile.

5.06 Severability: If any provision hereof is invalid or unenforceable in any jurisdiction, to the fullest extent permitted by law, (a) the other provisions hereof shall remain in full force and effect in such jurisdiction and shall be construed in order to carry out the intention of the parties as nearly as possible and (b) the invalidity or unenforceability of any provision hereof in any jurisdiction shall not affect the validity or enforceability of any provision in any other jurisdiction.

5.07 General Liability: The liability of the parties hereunder is limited to direct damages only and all other remedies or damages are waived. In no event shall either party be liable for consequential, incidental, punitive, or indirect damages, in tort, contract or otherwise.

THIS CONTRACT SHALL BE BINDING UPON and shall enure to the benefit of the parties hereto and their respective successors and permitted and lawful assigns.

IN WITNESS WHEREOF this Contract has been properly executed by the parties hereto by their duly authorized officers as of the date first above written.

UNION GAS LIMITED

Per: ______________________
Authorized Signatory

Mark J. Isherwood
Vice-President, Business Development, Storage & Transmission

ENBRIDGE GAS DISTRIBUTION INC.

APPROVED AS TO FORM	
ENBRIDGE LAW	TP

Per: ______________________ **D. Guy Jarvis**
President
Authorized Signatory

Per: ______________________
Authorized Signatory **Malini Giridhar**
Vice President, Gas Supply

CONTRACT PARAMETERS

Contract Demand

Union shall transport a quantity of gas, on a firm basis, on any one day, of:

- up to 1,764,678 GJ (the "**Contract Demand**") to Lisgar, Parkway (Consumers) and Parkway (TCPL) combined, with not more than 137,285 GJ to Parkway (TCPL), all such transport subject to compliance with the Operating Agreement relative to the combined hourly flows at Lisgar and Parkway (Consumers).

Receipt Points, Delivery Points and Transportation Services Paths

A "**Receipt Point**", as noted in the chart below, shall mean the point where Union shall receive gas from Shipper on a firm basis and a "**Delivery Point**", as noted in the chart below, shall mean the point where Union shall deliver gas to Shipper on a firm basis, which points are more particularly described in the M12 Rate Schedule.

The Transportation Services are available for the following paths:

Path	Receipt Point(s)	Delivery Point(s)
1	Dawn (Facilities), Dawn (TCPL), Dawn (Vector), Dawn (Tecumseh), Dawn (TSLE)	Lisgar, Parkway (Consumers), Parkway (TCPL)

Term

This Contract shall be effective as of the date of execution hereof; however, the obligations, terms and conditions for the Transportation Services herein shall commence on the later of:

- April 1, 2014 (the " **Commencement Date**"); and

- the day following the date that all of the conditions precedent set out in Article XXI of Schedule "A 2010" of Union's M12 Rate Schedule have been satisfied or waived by Union;

and shall continue in full force and effect until October 31, 2022 (the "**Initial Term**").

Conditions Date

As referred to in Article XXI of Schedule "A 2010": January 18, 2013.

Contact Information

Communications to the parties hereto shall be directed as follows:

IF TO SHIPPER:	Enbridge Gas Distribution Inc. 500 Consumers Road North York, ON M2J 1P8
Nominations: Attention:	Manager, Gas Supply Operations Telephone: 780-420-8469 Facsimile: 780-420-8533
Secondary Contact: Attention:	Director, Energy Supply and Policy Telephone: 416-495-5255 Facsimile: 416-495-5802
IF TO UNION:	Union Gas Limited, 50 Keil Drive North, CHATHAM, Ontario N7M 5M1
Nominations: Attention:	Manager, Gas Management Services Telephone: 519-436-5360 Facsimile: 519-436-4635
Secondary Contact: Attention:	Manager, Strategic Accounts Telephone: 519-436-5356 Facsimile: 519-436-4643

Shipper's Representations and Warranties

Check here if Article XIX.3 of Schedule "A 2010" (Point of Consumption Warranty) is applicable: [ ]

Check here if Article XIX.4 of Schedule "A 2010" (Non-Resident and Non-GST Registrant) is applicable: [ ]

Special Provisions

The Contract will continue in full force and effect beyond the Initial Term automatically renewing for a period of one (1) year, and every one (1) year thereafter, subject to notice in writing by Shipper of termination at least **five (5)** years prior to the expiration thereof.

UNION MASTER COPY

December 21, 2012

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON
M2J 1P8

Attention: Ms. Malini Giridhar

Re: The M12 Firm Transportation Contract between Union Gas Limited ("Union") and Enbridge Gas Distribution Inc. ("Shipper") dated December 21, 2012, Contract No. M12079B (the "Replacement Contract")

Dear Malini:

Pursuant to the provisions of Schedule "A 2010", Article XXI, Section 3 of the Replacement Contract, which provide that Union will give notice to Shipper when the conditions precedent have been met, Union hereby provides notice to Shipper that the conditions precedent of Schedule "A 2010", Article XXI, Section 1 of the Replacement Contract have been fulfilled.

By signing below, Shipper warrants and represents that Shipper has satisfied or waived the conditions precedent of Schedule "A 2010", Article XXI, Section 2 a., b. and c. of the Replacement Contract.

Please acknowledge receipt and agreement to this letter by signing below.

Yours very truly,

Wayne Passmore

Wayne Passmore
Manager, Strategic Accounts

Acknowledged and Accepted as of
~~this~~ the 18th day of January, ~~2012~~ 2013

APPROVED AS TO FORM
ENBRIDGE LAW
TP

ENBRIDGE GAS DISTRIBUTION INC.
Authorized Signatory

Malini Giridhar

Malini Giridhar
Vice President, Gas Supply

D. Guy Jarvis
President

uniongas
A Spectra Energy Company

10145

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 8, p. 9

Please provide all correspondence between Union and TCPL regarding the Brantford-Kirkwall/Parkway D Project. Is TCPL fully supportive of Union's proposals? If not please explain where there is not agreement between TCPL and Union regarding the proposed facilities.

Response:

Union also filed materials presented to TransCanada with respect to the proposed projects in EB-2012-0433, Schedule 8-4 and EB-2013-0074, Schedule 9-2.

Union, Enbridge and TransCanada discussed the infrastructure required in Ontario to provide reliability and security of supply at Parkway and to serve the changing transportation demands of Union, Gaz Métro and Enbridge. By letter dated January 31, 2013, Union requested TransCanada's agreement with respect to results of these discussions, specifically Union's proposed Brantford-Kirkwall pipeline/Parkway D Compressor projects.

By letter dated January 8, 2013, TransCanada indicated to Union that it is not opposed to Union's facility plans related to incremental growth requirements supported by firm contractual commitments. Specifically this related to the new compressor at the proposed Parkway West site and associated metering. See letters attached to Exhibit I.A1.UGL.CCC.7.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Ref: EB-2012-0451: Exhibit A, Tab 3, Schedule 5 - "NATURAL GAS DEMAND, SUPPLY & EXPECTED GAS SUPPLY BENEFITS," p. 14, Enbridge says that:

In its Annual Energy Outlook 2012, the [US Energy Information Administration] EIA indicates that the largest contributor to natural gas production growth in the United States will be shale gas for the next two and a half decades. Specifically, the EIA expects gas production in the US Northeast7 to increase from about 1.5 tcf (4.2 bcf/d) in 2010 to approximately 5.4 tcf (14.7 bcf/d) in 2035[8]. Marcellus production is expected to account for roughly 3.0 tcf (8.2 bcf/d) of this projected production increase. Furthermore the EIA is projecting production growth, relative to other natural gas production regions in the US, to be greatest for the Northeast region.

a) Please provide any assessment of the supply risk associated with shale gas resources, and in particular those of the Marcellus and Utica formations, including risks arising from an overestimate of the resource supply, or from proposed or potential legislative or regulatory measures promulgated by federal or state governments.

b) Would Enbridge agree that the AEO 2012 projections are based generally on Federal, State, and local laws and regulations in effect as of the end of December 2011 and that the potential impacts of pending or proposed legislation, regulations, and standards (and sections of existing legislation that require implementing regulations or funds that have not been appropriated) are not reflected in the projections? If not, why not?

Response:

a) Please Exhibit I.A1.UGL.COC.3 and Exhibit I.A1.UGL.Staff.5 a).

b) Enbridge response.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Preamble**:** Enbridge and Union Gas have both emphasized the merits of diversifying their respective supply sources to enhance access to mostly US- based shale gas resources. Enbridge and Union Gas have also described the reduction of demand for services on the TransCanada Mainline, and the resulting impact this has had on the cost and future availability of these services. Substituting shale gas supply for that from the WCSB will exacerbate

Reference: EB-2012-0451: Exhibit A, Tab 3, Schedule 5, para. 52

52. TransCanada recently held an Existing Capacity Open Season for non-renewable service on various Mainline paths with service terminating in October 201522. In addition TransCanada also announced that it will be holding a binding open season to obtain firm commitments from interested parties for a pipeline – The Energy East Pipeline - to transport crude oil from Western Canada to Eastern Canadian markets23. The Energy East Pipeline involves converting approximately 3,000 kilometers of the Mainline to crude oil service in addition to the construction of approximately 1,400 kilometers of new pipeline.

a) Would Enbridge agree that the reduction or loss of gas supply service on the TCPL Mainline undermines supply diversity to the GTA, and if not, why not?

b) Would Union agree that the reduction or loss of gas supply service on the TCPL Mainline undermines supply diversity to the GTA, and if not, why not?

Response:

a) Enbridge response.

b) No, Union disagrees with this statement. Replacing supplies from one basin, the WCSB, with access to multiple supply basins, through additional access to Dawn, creates increased diversity. Through the GTA project and the Union facilities being proposed, Enbridge will be gaining additional access to Dawn based supplies which may include WCSB supplies delivered via TCPL. Dawn is a diversified and liquid supply point with many pipeline connections providing access to multiple supply basins.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Ref: EB-2013-0074 - Application Section 11, p. 35:

(ii) Shale Basin Supply Risk

The new Contracts will obtain supply from the Dawn Hub. Changes in legislation or regulation might limit the available supply from shale basins. This risk is mitigated by the fact that the Dawn Hub is connected to many diverse supply basins.

a) Please describe the nature of the potential legislative or regulatory measures that a may affect the Shale Basin gas supply, and the extent to which such changes may impact supply from this source.

b) Please indicate whether such potential measures would be federal or state specific and which particular Shale Basins would be affected?

c) Please explain why, and the extent to which connection to diverse supply basins would ameliorate this risk.

Response:

This response was provided by ICF International.

a) While it is not possible to anticipate specific legislative or regulatory measures that may affect Shale Basin gas supply in the United States and/or Canada, we note that there have been a variety of proposals regarding the environmental impacts of shale development and the appropriate response to protect the environment. In some locations including New York and Quebec, moratoria on shale development have been imposed. In many more regions, studies of the impact of shale exploration have been conducted, and the results have been used to develop new regulations and regulatory proposals addressing air emissions, and water and land use, as well as requiring disclosure of the constituents of the hydraulic fracturing fluids used in well completions.

   Additional regulation has the potential to add some additional costs to the development of shale gas wherever it is located. This would include shale from the Marcellus and Utica formations in proximity to Ontario, but also the shale formations in western Canada. The economic production of shale in western Canada is critical to the availability of gas supplies for use in Alberta, export to other domestic markets and/or export as LNG. . Any fundamental change in the nature of the legislative and regulatory landscape could have the potential for affecting the development of western Canadian resources without which, little if any gas supplies would be available for transport to Ontario via the TCPL mainline.

New regulations could also lead to the lifting of the moratoria on shale developments in New York and eastern Canada. It is important to note, however, that ICF's projection of future shale gas production is not contingent on relaxation of existing restrictions on shale gas development in areas such as New York. The projection is consistent with existing restrictions. To the extent the environmental concerns can be address, any additional development would allow the development of even greater volumes.

Moreover, the environmental concerns regarding large volume hydraulic multi-stage fracturing have been an issue that has been featured in legislative and regulatory forums for years. Despite the public debate, shale gas production has in North America has increased from less than 4 Billion Cubic Feet per day (Bcfd) which is approximately 4.2 TJs per day to 29 Bcfd in 2012 or 36 Percent of total production. In the Marcellus, the growth has been particularly strong, growing from approximately 0.1 Bcfd to more than 8 Bcfd. Finally, we note the progress that is being made to sustainable development of shale resources. Efforts by organizations such the Center for Sustainable Shale Development (CSSD), based in Pennsylvania, are establishing performance standards and third-party certification for the sustainable development of shale. Initially the CSSD has developed 15 initial performance standards for operators that are protective of air quality, water resources and climate.

b) Potential legislation could come from any number of jurisdictional entities including federal, state, or Provincial, or local decisions. For instance, in New York, the Governor has proposed to allow individual counties to choose whether or not to allow the development of shale resources rather than to continue the state wide moratorium.

c) The features of diversity of access that ameliorate risk and improve reliability of gas supply fall into two broad categories:

1) Physical security of supply – Access to supply utilizing multiple transportation paths provides supply security in the event of planned or unplanned reductions in pipeline capacity. Planned reductions in capacity can occur as a result of scheduled maintenance or scheduled construction or replacement of facilities along a transportation path. Pipeline Integrity Program activity has created a number of these scheduled reductions in capacity. Unplanned reductions in capacity can occur as a result of a pipeline incident, the loss of a prime mover in a

compressor station or other equipment failure.

2) Diversification of gas supply prices – A diverse portfolio of gas supply sources reduces basis risk within a gas supply plan. Shifting locations of gas production or gas demand can create forces in the gas market that significantly change basis differentials i.e., the difference in the price of gas in two locations. Diversification of gas supply basins can reduce the exposure to basis risk in a gas supply portfolio.

In both cases, the benefits can be significant and tangible to gas consumers. These benefits can be further expanded when connections to diverse supply basins are integrated with storage.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Ref: EB-2013-0074, Schedule 4-1, p. 12

ICF was engaged to prepare a report that examines the rapidly changing dynamics of North American natural gas markets and the implications of these changes on consumers and businesses in Ontario. ICF states that: "In addition to declining WCSB production and high toll rates on the eastern mainline system, LNG exports and oil sands development in western Canada, which rely on WCSB production, may further limit Ontario's access to declining WCSB supplies."

a) Would Union Gas agree that competition for shale gas supply, including for LNG exports are a factor in assessing the availability and cost of supply from Marcellus and Utica shale gas reserves.

b) Please provide any assessment that Union Gas has carried out of any proposals to establish pipelines, LNG terminals, or other infrastructure projects intended to transport shale gas from the Marcellus and Utica reserves to markets outside Ontario.

Response:

a) The competition for shale gas supply, including for LNG exports, is one of many factors in assessing the availability and cost of natural gas supply from the Marcellus and Utica shale formations.

b) Union has not made any proposal to establish pipelines, LNG terminals or other infrastructure projects intended to transport shale gas from the Marcellus and Utica reserves to markets outside of Ontario.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Preamble: The rapid development of shale gas in the United States has played a key role in displacing demand on the TCPL mainline and exerted considered price pressure on those still shipping on that pipeline. In response TCPL has taken various steps to deal with the problem of decreasing shipments.

Reference: EB- 2012, Exhibit A, Schedule 5, para. 27; and EB-2012 – 0433, Application Section 4, Changing Gas Supply Dynamics, para. 31(c), p.33/121:

Suspension of the integrity work results in discrete sections of the Northern Ontario Line being "locked in" at derated pressures allowing no natural gas to flow on these sections of pipeline. These sections remain filled with natural gas and can be used in emergency situations to backstop deliveries to northern Ontario customers.

Union is not aware of any publically released long-term plans to complete the 2012 integrity program to restore capacity across northern Ontario. Combined with the conversion of a further portion of the TCPL Mainline to crude oil service, suspension of the integrity programs would significantly impact the capacity of the Northern Ontario Line and TCPL's ability to supply natural gas to Ontario. IDEM

a) Do TCPL actions in regard to its Mainline present consumers in Ontario and/or the GTA with a supply risk with respect access to WCSB gas resources, and if so, have efforts been made by Enbridge and/or Union to ameliorate this risk.

b) Would Enbridge agree that replacing gas supply from the WCSB with imports from the United States will exacerbate the problems that have lead TCPL to take the steps that will reduce the capacity of the Mainline to supply natural gas to Ontario?

c) Would Union agree that replacing gas supply from the WCSB with imports from the United States will exacerbate the problems that have lead TCPL to take the steps that will reduce the capacity of the Mainline to supply natural gas to Ontario?

Response:

a) Union believes that TCPL's actions related to the Mainline create risk for customers in Ontario. Please see the response to Exhibit I.A1.UGL.Staff.1 a) and Exhibit I.A1.UGL.Staff.3.

Actions taken by Union to date include:

1. Ongoing discussions with TCPL
2. Participation at the NEB related to TCPL's Review and Variances application.
3. Ongoing dialogue with the stakeholders in the eastern market to gain better understanding and alignment
4. Commenced an environmental assessment for 2015 Albion to Maple build.
5. Advancement of the Parkway projects

c) No, Union does not agree. Union is modifying its gas supply portfolio to respond to the changing natural gas markets within North America as discussed at EB-2013-0074, Section 4. Many industry participants have taken action and decreased their reliance on TCPL long haul prior to Union as shown at Exhibit-2013-0074, Section 4 and Exhibit I.A1.UGL.BOMA.49.

In addition, declining WCSB supplies represents a risk for Union's North customers. As discussed at EB-2013-0074, Section 11, pages 27-31, sourcing supply at Dawn provides significant savings to Union North customers. Union is taking action to ensure diverse, secure, reliable and economic supplies are available to Union North customers.

UNION GAS LIMITED

Answer to Interrogatory from
Council of Canadians ("COC")

Ref: EB-2013-0074 Schedule 4-1, Page 23 of 36

ICF estimates that production of unconventional natural gas (including shale gas, tight gas, and CBM) will generally be much lower cost on a per-unit basis than conventional sources.

Please provide the estimated production cost referred to, and where possible indicate the specific conventional and unconventional sources for which these costs were estimated or projected.

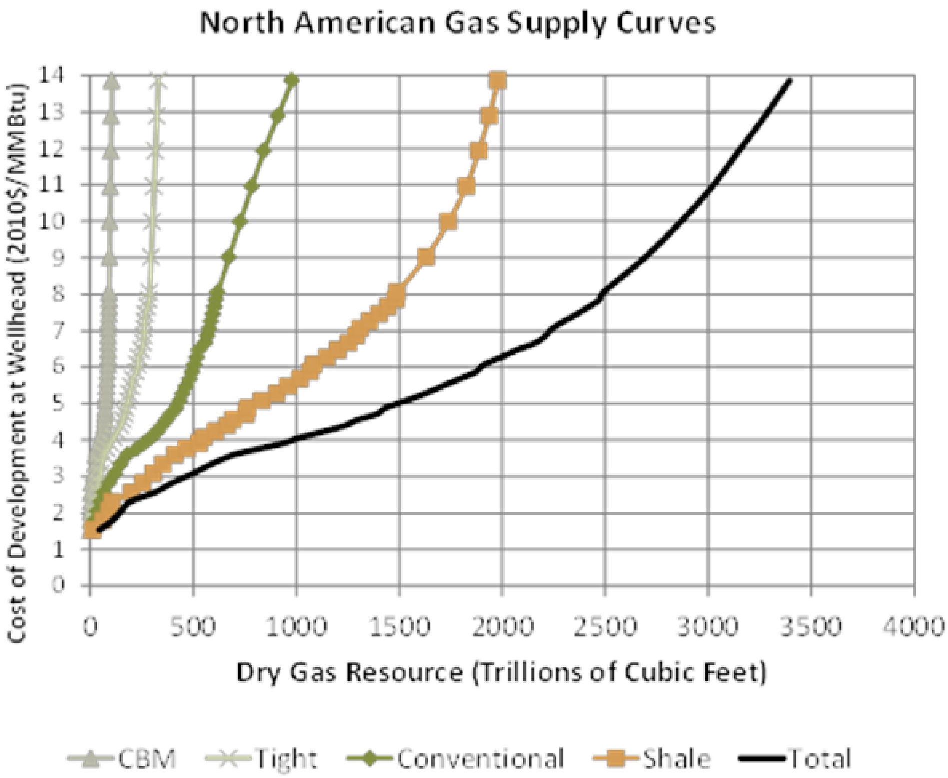
Response:

This response was provided by ICF International.

Gas production costs in any basin or resource category are not homogeneous. Within any region, there is a distribution of costs for the resource. As a result, the estimated production costs change over time with the cumulative production of the resource from the region.

The analysis presented in Schedule 4-1 is based upon detailed analysis of the distribution of these costs for various resource categories and subcategories. The detailed production costs are proprietary to ICF International and commercially valuable.

Presented below is the summary of the distribution of resource production costs that is publically available.



Source: ICF April 2013 GMM Base Case

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433 and EB-2013-0074 Parts 1-5; Section 1 Page 6 para. 11 (list of the facilities)

Preamble: Clarification of ownership and costs of land and site development and the proposed allocation of these site costs to the three projects for Economic Evaluation purposes:

a) Please confirm the following:
   - LCU located on Part 2
   - Parkway D Compressor also located on Part 2
   - Enbridge Gate station/Measurement on Part 1

b) Please provide a table with PW land and site development costs and how these are allocated to the economic evaluation of the 3 projects.

Cost Item	Ownership	Cost	Allocation for Economic Evaluation				
			LCU	EGD	Parkway D	Other	TOTAL
Land							
Land Part 2							
Land Part 3							
Land Part 4							
Land Part 5							
Subtotal							
Site Develop							
Part 1							
Part 2							
Part 3							
Part 4							
Part 5							
Subtotal							

c) Please reconcile to prefiled evidence.

Response:

a) Confirmed.

b) and c) Parkway land and site development costs are allocated to the Parkway West Project.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Section 8, page 68, para 20-21

Please provide the most update to date scenario analyses performed by the ECMAP.

a) Please provide any additional recent scenario analyses provided by any other mutual assistance group or service provider.

Response:

The Eastern Canadian Mutual Assistance Plan (ECMAP) is maintained to provide the logistics on the "how, when, and who" to contact when requesting assistance from other LDC's in Ontario and Quebec. The group also reviews the logistics of the agreement periodically to ensure a general understanding of the process by all the groups involved, including the information required in order to provide assistance to another company. ECMAP has not completed any scenario analysis in the recent past.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario (“FRPO”)

Ref: EB-2013-0074 Schedule B, paragraph 6

Preamble: Union's evidence states: "By building the Project, Union is pro-actively addressing the impacts of future turn back. Union will be better positioned to re-purpose or re-sell turn back capacity provided market opportunities exist. The ability to re-purpose or re-sell turn back capacity would help mitigate future rate risk for Union’s customers"

Please provide schematic diagrams showing the before and after impact of the Brantford to Kirkwall loop providing:

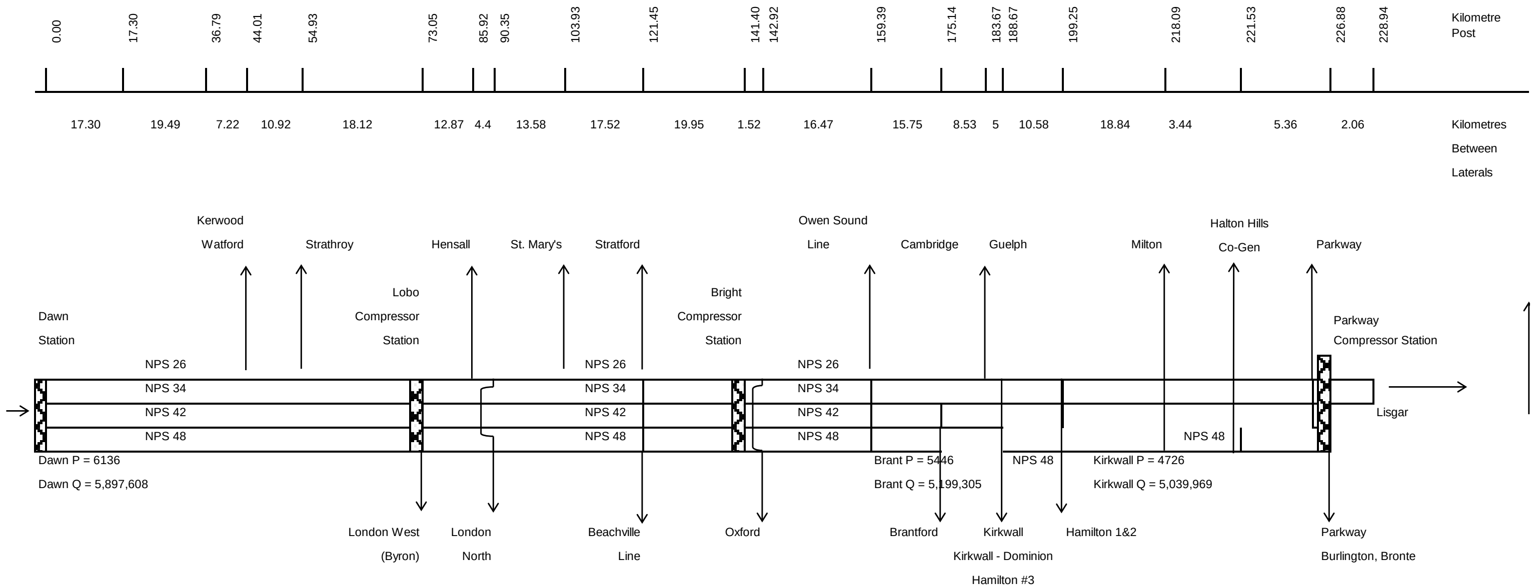
a) Design day pressures and throughputs at key nodes in the system:

i. Dawn
ii. Lobo
iii. Bright
iv. Brantford
v. Kirkwall
vi. Parkway

Response:

a) Please see Attachments 1 and 2.

DAWN to PARKWAY SYSTEM



Design Day Demands

		(GJ/d)
	Southern Ontario	
	Forest, Watford	6943
	Strathroy	7716
	London West	110641
U	Hensall	28569
N	London North	95825
I	St. Mary's	6384
O	Stratford	35714
N	Beachville	51808
	Oxford Line	42634
M	Owen Sound Line	233987
A	Cambridge	69021
R	Brantford	97294
K	Kirkwall - Dominion	81571
E	Guelph	80392
T	Hamilton 3	59699
S	Hamilton 1&2	254837
	Milton	71134
	Halton Hills	139754
	Parkway (Greenbelt)	35050
	Burlington, Bronte	137951
	Total Southern Ontario	1,646,924
	North and Eastern Ontario	332,744
	Kirkwall	354,023
	Parkway TCPL	3,581,727
M	Parkway Cons/Lisgar	1,238,085
1	**Total M12**	5,173,835
2	**Total Design Day Demands**	7,153,503

System Capacity

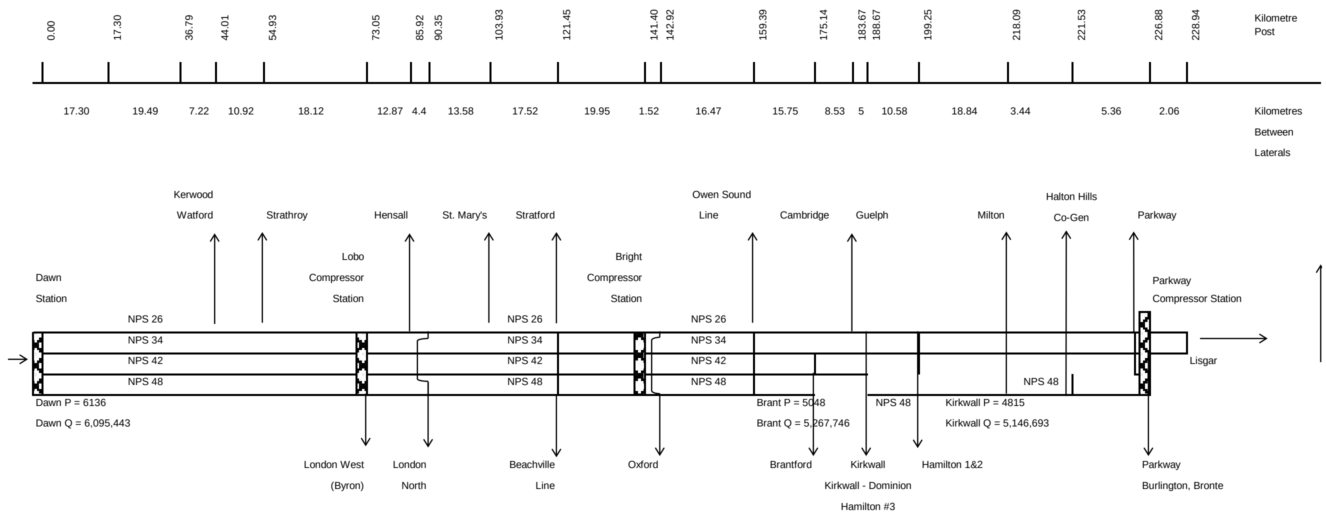
	(GJ/d)
Total System Capacity	**6,832,262**
(Including Firm Service Receipts of 638,626 GJ/d)	
Total Requirements	**7,153,503**
Total (Shortfall) Surplus	**-321,241**
Union Markets	
M12 Transportation	
Kirkwall	
Lisgar, Parkway	-321,241

Compressor Stations Operating Conditions at Peak Hour

STATION	LOBO	BRIGHT	PARKWAY
Power Available (MW)	36.8	91.9	87.9
Power Required (MW)	36.8	91.9	75.2
Pressure			
Suction (kPa)	4,477	3,806	3,511
Discharge (kPa)	5,252	5,922	6,453
Compression Ratio	1.17	1.56	1.84
Flow (GJ/d)	5,948,940	5,815,267	3,091,417
Daily Fuel (GJ/d)	11,513	23,421	15,821

WINTER DESIGN DAY
DAWN-PARKWAY SYSTEM
WINTER 2015/16
without Brantford to Kirkwall

DAWN to PARKWAY SYSTEM



Design Day Demands

		(GJ/d)
	Southern Ontario	
	Forest, Watford	6943
	Strathroy	7716
	London West	110641
U	Hensall	28569
N	London North	95825
I	St. Mary's	6384
O	Stratford	35714
N	Beachville	51808
	Oxford Line	42634
M	Owen Sound Line	233987
A	Cambridge	69021
R	Brantford	97294
K	Kirkwall - Dominion	81571
E	Guelph	80392
T	Hamilton 3	59699
S	Hamilton 1&2	254837
	Milton	71134
	Halton Hills	139754
	Parkway (Greenbelt)	35050
	Burlington, Bronte	137951
	Total Southern Ontario	1,646,924
	North and Eastern Ontario	332,744
	Kirkwall	354,023
	Parkway TCPL	3,581,727
M	Parkway Cons/Lisgar	1,238,085
1	**Total M12**	5,173,835
2	**Total Design Day Demands**	7,153,503

System Capacity

	(GJ/d)
Total System Capacity	**7,029,940**
(Including Firm Service Receipts of 638,626 GJ/d)	
Total Requirements	**7,153,503**
Total (Shortfall) Surplus	**-123,563**
Union Markets	
M12 Transportation	
Kirkwall	
Lisgar, Parkway	-123,563

Compressor Stations
Operating Conditions at Peak Hour

STATION	LOBO	BRIGHT	PARKWAY
Power Available (MW)	36.8	91.9	87.9
Power Required (MW)	36.8	91.9	75.0
Pressure			
Suction (kPa)	4,488	3,653	3,513
Discharge (kPa)	5,229	5,616	6,453
Compression Ratio	1.17	1.54	1.84
Flow (GJ/d)	6,077,691	5,783,356	3,290,020
Daily Fuel (GJ/d)	11,513	23,538	17,288

WINTER DESIGN DAY
DAWN-PARKWAY SYSTEM
WINTER 2015/16
Brantford to Kirkwall

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2013-0074 Section 6, Figure 6-1

Preamble: Figure 6-1 provides history showing the contracted capacity between Dawn and Kirkwall decreasing over time.

Please provide data on how adding an additional loop of pipe between Dawn and Kirkwall would be preferential to expanding facilities capacity between Kirkwall and Parkway.

Response:

As detailed in EB-2013-0074, Figure 8-4, the construction of an additional loop between Dawn and Kirkwall provides a lower cost per unit of capacity than expanding facilities between Kirkwall and Parkway.

The Brantford-Kirkwall section is the only portion of the Dawn-Parkway system that does not have an NPS48 pipeline. Installing a loop of NPS48 pipe dramatically increases the capacity of that section, which increases overall system capacity.

UNION GAS LIMITED

Answer to Interrogatory from
Green Energy Coalition ("GEC")

Union, Issue A.1. Need, Ref: 4/30/13 Transcript of Issues/Process Day, p. 59, paragraphs in which Mr. Redford refers to several pieces of Union's project that are "growth projects" or "required…to serve growth volume".

a) Please provide a comprehensive list of all project components that are designed to address growth, as well as a separate list of all project components that are designed to address reliability and or other objectives.

b) What exactly does Mr. Redford mean by "growth projects" and "required…to serve growth volume"? Is the "growth" that is referenced growth in total demand for gas or a growth in volume of gas from Dawn hub (i.e. shifting sources of gas) or something else?

c) Putting aside questions of feasibility and cost-effectiveness, how much would total GTA demand for gas have to decline, relative to baseline projections, for the growth related elements of the Union project to either no longer be needed or no longer be economically viable?

Response:

a) Reliability - Parkway West Project (EB-2012-0433).
Growth - Brantford-Kirkwall pipeline and the Parkway D Compressor (EB-2013-0074).

b) The reference to growth projects refers specifically to the Brantford-Kirkwall pipeline and the Parkway D Compressor (EB-2013-0074). These proposed facility additions are supported by increased demand for Dawn-Parkway System capacity.

For clarity, Enbridge, Gaz Métro and Union are replacing existing supply and transportation capacity with supply from the Dawn Hub and transporting that supply to intended markets using incremental Dawn-Parkway System capacity. This shifting of source of supply results in growth in volume of natural gas sourced from the Dawn Hub, but not necessarily growth of natural gas use in Ontario and Québec.

c) Enbridge would need to determine the level at which it would no longer proceed with a build of the GTA project. Without the proposed GTA project, Enbridge would not be able to move the 400 TJ/d requested to shift from Parkway (Consumers) to Parkway (TCPL). This will impact the facilities required, specifically the need for Parkway D compressor.

Putting aside questions of feasibility and cost-effectiveness, Union provides the following table for purposes of responding to the hypothetical scenario posed by this question:

Reduction in Enbridge Incremental Demand By:	**Union Facilities Required**
100 TJ/d	Parkway D Compressor and Brantford-Kirkwall Pipeline
200 TJ/d	Parkway D Compressor
300 TJ/d	Parkway D Compressor
400 TJ/d	Parkway D Compressor

This analysis assumes that the demands of Union and Gaz Métro are met as is Enbridge's request to shift 400 TJ/d from Parkway (Consumers) deliveries to Parkway (TCPL) deliveries.

UNION GAS LIMITED

Answer to Interrogatory from
Industrial Gas Users Association ("IGUA")

Union's Brantford-Kirkwall Looping and Parkway D Compressor facilities are put forward as needed in response to incremental demands for Dawn to Parkway capacity totalling approximately 727 Tj/day.

Evidence in Union's 2013 rate case indicates potential turn back of Dawn to Parkway M12 capacity commencing in 2016. Union has forecast "at risk" M12 capacity as follows:

Deemed at risk for turn back M12 Capacity (Tj) [EB-2011-0210 Exhibit J.D-14-16-8, Attachment 2]:

	2016	**2017**	**2018**	**2019**	**Total**
Dawn - Kirkwall	31.7	10.8	262.6	0.0	305.1
Dawn - Parkway	177.8	193.4	116.7	21.6	509.5
Total	209.5	204.2	379.3	21.6	814.6
Cumulative Total	209.5	413.7	793.0	814.6	

a) Please update the EB-2011-0210 forecast of "at risk" M12 turn back capacity.

b) Assuming that the applied for facilities are approved, please quantify the incremental rate impact on Union's ex-franchise and in-franchise customers if M12 capacity turn back of the capacity provided in response to part a. is realized in full.

Response:

a) The "at risk" capacity is provided in Table 1 of Exhibit I.A1.UGL.Staff.10 c) and I.A3.UGL.Staff.18.

b) Please see the response to Exhibit I. A3.UGL.Staff.18.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 1

a) What would be the impact, if any, on the Parkway West project if the Enbridge pipelines as requested in EB-2012-0451 were not approved or modified or the timing was changed?

b) What would be the impact, if any on the Parkway West project if the Union Brantford to Kirkwall and Parkway D compressor expenditures in EB-2013-0074 were not approved or modified of the timing was changed?

Response:

a) Please see Exhibit I.A1.UGL.Staff.8.

b) The Parkway West Project would not be impacted if the Brantford-Kirkwall and Parkway D Compressor facilities were not approved. The Parkway West Project would also not be impacted if the timing of the Brantford-Kirkwall and Parkway D Compressor facilities were changed.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Schedule B

a) What would be the impact, if any, on the Brantford to Kirkwall and Parkway D compressor project if the Enbridge pipelines as requested in EB-2012-0451 were not approved or modified or the timing was changed?

b) What would be the impact, if any on the Brantford to Kirkwall and Parkway D compressor project if the Union Parkway West expenditures in EB-2012-0433 were not approved or modified of the timing was changed?

Response:

a) Please see the response to Exhibit I.A1.UGL.Staff.8.

b) The incremental demand for Dawn-Parkway transportation capacity will require the Brantford-Kirkwall and the Parkway D Compressor to be constructed.

   If the Parkway West Project was not approved by the Board, there would be a direct impact on the Parkway D Compressor project which, in turn, would result in an indirect impact on the Brantford-Kirkwall project. Union notes that Enbridge may re-evaluate its proposed GTA Project if the Parkway West Project was not approved given the significance of the supply and reliability risks detailed in EB-2012-0433 Section 8 and in Enbridge's EB-2012-0451 pre-filed evidence as may be amended.

   Without the approval of the Parkway West Project some of the costs included in the Parkway West Project would have to be included in the Parkway D Compressor project. Specifically those costs would include the site development and station infrastructure costs, replacement of the NPS 26 and NPS 34 Dawn-Parkway pipelines, the Dawn-Parkway valve site, the station headers, and the land costs. This would increase the cost of the Parkway D Compressor by approximately $90 million.

   Union notes that Enbridge may re-evaluate its proposed GTA Project if the Parkway West Project was not approved given the significant concentration of supply and the reliability risks detailed in EB-2012-0433, Section 8 and in Enbridge's EB-2012-0451 pre-filed evidence.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Cover Letter

Does Union intend to file updated evidence as a result of the TCPL Toll Decision (RH-003-2011) on March 27th, 2013?

Response:

Yes, Union will provide an update to the evidence once the resulting tolls from that decision are final.

Please also see Exhibit I.A1.UGL.Staff.1 e).

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Section 8, Figure 8-2

Please explain what is driving the increase in in-franchise demand in 2015/2016 despite reductions in the previous three years.

Response:

There is no increase in Union North in-franchise demand.

A portion of the existing demands, 70,157 GJ/d, in Union EDA and Union NDA will be fed from Dawn and this increases the requirement on the Dawn-Parkway system.

Please refer to EB-2013-0074, Section 11, Page 18, Lines 3 to 18 for detail on the changes to in-franchise demand in 2015/2016. These changes result in gas cost savings of approximately $15-18 million.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Please detail the impacts on the proposed Parkway West Project, of the Board rejecting Enbridge's proposed GTA project (EB-2012-0451) and/or Union's proposed Brantford-Kirkwall-Parkway D Project (EB-2013-0074).

Response:

The impacts on the Parkway West Project if the Board rejects the proposed Enbridge GTA Project are provided in response to Exhibit I.A1.UGL.Staff.8.

The impacts on the Parkway West Project if the Board rejects the Brantford- Kirkwall and Parkway D Compressor projects are discussed at Exhibit I.A1.LPMA.1 part b).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[RH-003-2011 TCPL Mainline Restructuring Decision] Please provide all impacts of the TransCanada National Energy Board Mainline Restructuring Decision on the assumptions that underlie the business case for the Parkway West project.

Response:

Please see Exhibit I.A1.UGL.Staff.1 e).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Please provide the probability of failure of:

a) the Dawn to Parkway System
b) a single compressor at Parkway
c) the Dawn to Parkway system with the addition of the proposed facilities

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Response:

The probability of failure for each of the scenarios are provided below:

a) The probability of failure of the Dawn-Parkway System is a function of the probability of failure of the compressors and pipelines throughout the system. Based on the last three years of operating data, the probability of failure for a major component is 2.7%. The most likely failure is related to compression which, based on the recent analysis of Parkway A and Parkway B, is likely to occur between 1-3 times per year per compressor. This failure rate is based on a compressor operating 2000 hours per year, which is considered low for Union's fleet. Union operates 17 compressors on the Dawn-Parkway System, two of which were constructed for LCU protection. Based on 15 operating compressors, a single compressor failure is likely to occur between 15-45 times per year. These failures could be short in duration (less than 30 minutes) or very long in duration (days, weeks, or months). This forecasted failure rate is aligned with Union 's recent experience, with 130 failures across Union's compressor fleet occurring between January 1, 2009 and August 29, 2012. Of these failures, 59 were between one hour and 48 hours in duration, and 13 exceeded 48 hours in duration.

b) Based on a recent analysis, the estimated frequency of failure for Parkway A and Parkway B is 1.1 events per calendar year and 3 events per calendar year respectively, based on individual unit operation of approximately 2000 hours per year. As operating time increases, the estimated frequency of failure will increase proportionally.

Demand at Parkway has increased significantly over the past 10 years, with the capacity of both Parkway A and Parkway B fully utilized by 2014/2015. Additionally, the days of required compression at Parkway have increased substantially, increasing the likelihood of a failure. Union has been fortunate to date that outages of Parkway A and Parkway B have not occurred during periods of high demand.

c) The likelihood of a failure on the Dawn-Parkway System will not change following the installation of the Parkway West facilities. The new facilities will ensure Union is able to maintain firm deliveries in the event of a compressor failure at Parkway A or Parkway B.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Is Union aware of any industry or standards outlining the level of an acceptable pipeline and/or compressor failure? If so, please provide details.

Response:

Union is not aware of an industry standard allowing for any "acceptable" pipeline or compressor failure. Customers who contract for firm capacity expect firm deliveries and system design must ensure firm demands are met. Industry practice for system design is to use critical unit coverage, percentage reserve margin or a combination on the entire system. Union's system is designed with loss of critical unit protection due to the nature of the system; a relatively short system which moves a large volume of gas. As a result, the impact of an outage anywhere on the Dawn-Parkway system is felt almost immediately and Union has very little line pack to mitigate short-term outages.

As outlined in Section 5 of EB 2012-0433, loss of critical unit was introduced at Union during EBRO 462, with a proposal to construct a new compressor at the Lobo station for protection covering Dawn-Parkway in-franchise and ex-franchise firm transportation requirements. Although the Board identified this as a significant change in Union's approach to system design, loss of critical unit protection costs were approved for inclusion in Union's rate base. The Decision with Reasons from EBRO 462 stated:

> *"In reaching its finding, the Board has been mindful of the fact that accidents and equipment failures do occur. By nature they are unpredictable both as to timing and extent. A complete failure of the LCU (Bright compressor) could have serious consequences for all of Union's customers, especially if the outage is prolonged. A major shutdown could not, according to the evidence, be confined to any particular class of customers. Interruptible customers cannot be relied upon to get off the system quickly enough and line-pack gas is of little, if any, use. Most persuasively, the need for speedy reaction is apparent from the evidence which referred to the compressor problems of January, 5, 1988. The Board has concluded that, as a safe and reliable provider of distribution, sales, transmission and storage services, Union requires the type of protection that it is seeking. Accordingly, the Board finds that the cost of LCU protection, as proposed by Union in this case, is appropriate for inclusion in rate base."*

Loss of critical unit protection is a common feature of system design across storage and transmission companies. For example, loss of critical unit protection is an element of the system design of the TCPL Mainline (EB-2011-0210: IR Union-TCPL 13(c)) with firm transportation on the Mainline backed by loss of critical unit protection. See also TCPL's 21 section 58 application in connection with its 2012 Eastern Canadian Mainline Expansion.

Spectra Energy's Western Canadian operations utilize a percent reserve margin to provide protection in case of a loss of throughput in their facilities. Their system is designed to meet 105% of design demands.

Alliance Pipeline Ltd also uses a critical unit outage model for their system design.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[p.65] Please provide a copy of the report and/or findings prepared by the third-party consultant engaged to perform a risk assessment of Parkway to identify likelihood of a failure to impacting delivered to the TransCanada Mainline.

Response:

Union filed the Scandpower report (Schedule 8-1 in EB-2012-0433) in confidence with the Board on February 21, 2013. A copy of the confidential report can be provided to counsel for SEC upon receipt of a signed declaration and undertaking form for confidential filings.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[p.71] Please provide a copy of the report and/or findings prepared by the third-party consultant engaged to perform a risk assessment of Parkway to identify likelihood of a failure to impacting delivered to the Enbridge.

Response:

Union filed the Scandpower report (Schedule 8-1 in EB-2012-0433) in confidence with the Board on February 21, 2013. A copy of the confidential report can be provided to counsel for SEC upon receipt of a signed declaration and undertaking form for confidential filings.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[EB-2011-0210, Decision p.126] Has Union engaged in a consultative process, the purpose of which to jointly consider the need for the Parkway West project, explore reasonable alternatives (including the repurposing of existing facilities) in order to maximize the benefit to Ontario ratepayers? If so please provide details and the results of the consultations.

Response:

Union has consulted with shippers and stakeholders regarding the Parkway West Project and Brantford-Kirkwall pipeline/Parkway D Compressor projects. Consultations held were provided in EB-2012-0433, Section 9 – Stakeholder Discussions and Section 10 - Alternatives and EB-2013-0074, Section 8 - Consultations.

Union has held additional consultations with shippers and stakeholders to discuss these projects as follows:

- Association of Power Producers of Ontario – April 5, 2013
- Ontario Power Authority – April 22, 2013
- Association of Power Producers of Ontario Gas Committee – April 26, 2013
- Ontario Power Generation – June 3, 2013

Union has also held a number of discussions with TransCanada and Enbridge to discuss existing and required natural gas infrastructure to support the growth and reliability of natural gas deliveries in the GTA, Union North and Québec. As discussed in response to Exhibit I.A5.UGL. CCC.26, joint technical meetings are also being held with TransCanada and Enbridge to ensure alignment of the various facility in-service dates, discuss engineering design for the interconnections and to discuss project development efficiencies. The most recent joint technical meeting discussions were held in April and May 2013.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Section 1, p.3] Please provide further details and the current status of the proposed TransCanada expansion of the Parkway to Maple corridor.

Response:

Please see Exhibit I.A1.UGL.Staff.7 and I.A1.UGL.Staff 1 part e).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Section 1, p.3] Please detail the impacts on the proposed Brantford-Kirkwall-Parkway D Project, of the Board rejecting Enbridge's proposed GTA project (EB-2012-0451) and/or Union's proposed Parkway West Project (EB-2012-0433),

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Response:

The impacts on the Brantford-Kirkwall and Parkway D Compressor projects if the Board rejects the proposed Enbridge GTA Project are provided in response to Exhibit I.A1.UGL.Staff.8.

The impacts on the Brantford-Kirkwall and Parkway D Compressor projects if the Board rejects the Parkway West Project are provided in response to Exhibit I.A1.UGL.LPMA.2 b).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Section 6/p.6] When did Union complete modifications to Kirkwall to enable gas from Niagara and Chippewa to access Daw and Parkway.

Response:

The Kirkwall flow reversal modifications were completed on October 31, 2012.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[RH-003-2011 TCPL Mainline Restructuring Decision] Please provide all impacts of the TransCanada National Energy Board Mainline Restructuring Decision on the assumptions that underlie the business case for the Brantford-Kirkwall-Parkway D Project.

Response:

Please see Exhibit I.A1.UGL.Staff.1e) and I.A1.UGL.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref:
a) EB-2013-0074, Application Schedule 6-1; and
b) EB-2012-0433, Application, Schedule 6-1.

Preamble: Schedule 6-1 of EB-2012-0433 shows Union's Dawn-Parkway M12 contracts, and Schedule 6-1 of EB-2013-0074 shows Union's Dawn-Kirkwall M12 and C1 contracts.

a) Please provide all M12, M12-X and C1 contracts on the Dawn-Parkway system that have a term of 1 year or longer in pdf and excel format showing the same columns as the referenced documents.

b) Please sort the contracts by expiry date and by customer.

Response:

a) and (b)Tables listing all M12, M12-X and C1 contracts on the Dawn-Parkway System with a term of one year or longer, are attached. Please see Attachment 1 sorted by expiry date and Attachment 2 sorted by customer. These have also been provided in Excel via email at the time of filing.

M12, M12x and C1 Dawn-Parkway Contracts as at May 1, 2013 - Sorted by Expiry Date

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Contracted Parkway-TCPL (GJs)	Start Date	End Date
J. Aron & Company	M12192	Dawn	Parkway	50,000	50,000	01-Aug-10	31-Oct-13
TransCanada PipeLines Limited	M12124	Dawn	Parkway	64,147	64,147	01-Nov-08	31-Oct-13
York Energy Centre LP	C10102	Dawn	Parkway	11,654	11,654	01-Apr-12	31-Mar-15
1425445 Ontario Limited o/a Utilities Kingston	M12127	Dawn	Parkway	2,113	2,113	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12125	Dawn	Parkway	10,692	0	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12188	Dawn	Parkway	18,703	18,703	01-Nov-11	31-Oct-15
St. Lawrence Gas Company, Inc.	M12126	Dawn	Parkway	10,785	10,785	01-Nov-08	31-Oct-15
Suncor Energy Products Partnership Produits Suncor Energie, S.E.N.C.	M12217	Dawn	Parkway	15,000	15,000	01-Nov-11	31-Oct-15
1425445 Ontario Limited o/a Utilities Kingston	M12077	Dawn	Parkway	11,322	11,322	01-Apr-04	31-Mar-16
Gaz Métro Limited Partnership	M12132	Dawn	Parkway	52,343	52,343	01-Apr-09	31-Mar-16
Gaz Métro Limited Partnership	M12172	Dawn	Parkway	22,908	22,908	01-Apr-10	31-Mar-16
Gaz Métro Limited Partnership	M12176	Dawn	Parkway	88,728	88,728	01-Apr-11	31-Mar-16
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12182	Dawn	Parkway	5,467	5,467	01-Nov-11	31-Oct-16
Connecticut Natural Gas Corporation	M12166	Dawn	Parkway	6,410	6,410	01-Nov-11	31-Oct-16
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12171	Dawn	Parkway	21,825	21,825	01-Nov-11	31-Oct-16
Gaz Métro Limited Partnership	M12007D	Dawn	Parkway	21,021	21,021	01-Nov-91	31-Oct-16
Gaz Métro Limited Partnership	M12092	Dawn	Parkway	35,000	35,000	01-Nov-06	31-Oct-16
KeySpan Gas East Corporation d/b/a National Grid	M12163	Dawn	Parkway	43,837	43,837	01-Nov-11	31-Oct-16
Niagara Mohawk Power Corporation d/b/a National Grid	M12186	Dawn	Parkway	55,123	55,123	01-Nov-11	31-Oct-16
The Brooklyn Union Gas Company d/b/a National Grid NY	M12165	Dawn	Parkway	44,019	44,019	01-Nov-11	31-Oct-16
The Corporation of the City of Kitchener	M12090	Dawn	Parkway	4,000	4,000	01-Nov-06	31-Oct-16
The Narragansett Electric Company d/b/a National Grid	M12164	Dawn	Parkway	1,081	1,081	01-Nov-11	31-Oct-16
TransAlta Cogeneration, L.P.	M12081	Dawn	Parkway	11,809	11,809	01-Nov-06	31-Oct-16
TransCanada PipeLines Limited	M12086	Dawn	Parkway	119,787	119,787	01-Nov-06	31-Oct-16
Bay State Gas Company dba Columbia Gas of Massachusetts	M12204	Dawn	Parkway	27,803	27,803	01-Nov-10	31-Oct-17
Boston Gas Company d/b/a National Grid	M12197	Dawn	Parkway	9,282	9,282	01-Nov-10	31-Oct-17
Boston Gas Company d/b/a National Grid	M12199	Dawn	Parkway	2,158	2,158	01-Nov-10	31-Oct-17
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12195	Dawn	Parkway	10,792	10,792	01-Nov-10	31-Oct-17
Colonial Gas Company d/b/a National Grid	M12198	Dawn	Parkway	6,475	6,475	01-Nov-10	31-Oct-17
Connecticut Natural Gas Corporation	M12201	Dawn	Parkway	18,077	18,077	01-Nov-10	31-Oct-17
EnergyNorth Natural Gas, Inc.	M12200	Dawn	Parkway	4,317	4,317	01-Nov-10	31-Oct-17
KeySpan Gas East Corporation d/b/a National Grid	M12194	Dawn	Parkway	17,162	17,162	01-Nov-10	31-Oct-17
Northern Utilities, Inc.	M12205	Dawn	Parkway	6,333	6,333	01-Nov-10	31-Oct-17
The Brooklyn Union Gas Company d/b/a National Grid NY	M12193	Dawn	Parkway	12,953	12,953	01-Nov-10	31-Oct-17
The Southern Connecticut Gas Company	M12202	Dawn	Parkway	34,950	34,950	01-Nov-10	31-Oct-17
Yankee Gas Services Company	M12203	Dawn	Parkway	43,116	43,116	01-Nov-10	31-Oct-17
Connecticut Natural Gas Corporation	M12206	Dawn	Parkway	9,170	9,170	01-Nov-10	31-Oct-18
Enbridge Gas Distribution Inc.	M12080	Dawn	Parkway	106,000	106,000	01-Nov-06	31-Oct-18
Greater Toronto Airports Authority	M12120	Dawn	Parkway	7,500	7,500	01-Nov-07	31-Oct-18
KeySpan Gas East Corporation d/b/a National Grid	M12209	Dawn	Parkway	22,772	22,772	01-Nov-10	31-Oct-18
The Brooklyn Union Gas Company d/b/a National Grid NY	M12208	Dawn	Parkway	30,217	30,217	01-Nov-10	31-Oct-18
The Southern Connecticut Gas Company	M12207	Dawn	Parkway	13,970	13,970	01-Nov-10	31-Oct-18
TransCanada Power, a Division of TransCanada Energy Ltd.	M12131	Dawn	Parkway	132,000	132,000	01-Nov-09	31-Oct-18
U.S. Steel Canada Inc.	M12085	Dawn	Parkway	17,351	17,351	01-Nov-06	31-Oct-18
Vermont Gas Systems, Inc.	M12119	Dawn	Parkway	20,000	20,000	01-Nov-07	31-Oct-18
Yankee Gas Services Company	M12210	Dawn	Parkway	20,560	20,560	01-Nov-10	31-Oct-18
Connecticut Natural Gas Corporation	M12214	Dawn	Parkway	6,489	6,489	01-Nov-10	31-Oct-19
Enbridge Gas Distribution Inc.	M12108	Dawn	Parkway	57,100	57,100	01-Nov-07	31-Oct-19
GreenField Ethanol Inc.	M12156	Dawn	Parkway	3,000	3,000	01-Nov-08	31-Oct-19
The Southern Connecticut Gas Company	M12213	Dawn	Parkway	9,735	9,735	01-Nov-10	31-Oct-19
Yankee Gas Services Company	M12212	Dawn	Parkway	5,380	5,380	01-Nov-10	31-Oct-19
Ag Energy Co-operative Ltd.	M12151	Dawn	Parkway	1,600	1,600	01-Nov-08	31-Oct-20
Vermont Gas Systems, Inc.	M12190	Dawn	Parkway	500	500	01-Nov-10	31-Oct-20
TransCanada PipeLines Limited	M12X004	Dawn	Parkway	50,000	50,000	01-Sep-11	31-Aug-21
TransCanada PipeLines Limited	M12X005	Dawn	Parkway	78,316	78,316	01-Sep-11	31-Aug-21
Ag Energy Co-operative Ltd.	M12167	Dawn	Parkway	1,900	1,900	01-Nov-11	31-Oct-21
BP Canada Energy Group ULC	M12087	Dawn	Parkway	20,000	20,000	01-Nov-06	31-Oct-22
Enbridge Gas Distribution Inc.	M12079B *	Dawn	Parkway	1,764,678	137,285	01-Apr-04	31-Oct-22
Enbridge Gas Distribution Inc.	M12X006	Dawn	Parkway	200,000	200,000	01-Nov-12	31-Oct-22
York Energy Centre LP	M12184	Dawn	Parkway	76,000	76,000	01-Apr-12	31-Oct-22
TransCanada PipeLines Limited	M12X013	Dawn	Parkway	62,695	62,695	01-Nov-12	31-Oct-23
Gaz Métro Limited Partnership	M12109	Dawn	Parkway	65,000	65,000	01-Nov-07	31-Oct-27
Goreway Station Partnership by its managing partner Goreway Power Station Holdings ULC	M12110	Dawn	Parkway	140,000	140,000	01-Nov-07	31-Oct-28
Portlands Energy Centre L.P. ,by its General Partner, Portlands Energy Centre Inc.	M12130	Dawn	Parkway	100,000	100,000	13-Jan-09	31-Oct-28

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Contracted Parkway-TCPL (GJs)	Start Date	End Date
Emera Energy Incorporated	M12221	Kirkwall	Parkway	36,751	36,751	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12219	Kirkwall	Parkway	88,497	88,497	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12220	Kirkwall	Parkway	174,752	174,752	01-Nov-13	31-Oct-23

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Start Date	End Date
TransCanada PipeLines Limited	M12157	Dawn	Kirkwall	53,440	01-Nov-10	31-Oct-13
TransCanada PipeLines Limited	M12122	Dawn	Kirkwall	146,560	01-Nov-08	31-Oct-14
Dynegy Gas Imports, LLC	M12170	Dawn	Kirkwall	38,306	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12079A *	Dawn	Kirkwall	32,123	01-Apr-04	31-Oct-15
Enbridge Gas Distribution Inc.	M12175	Dawn	Kirkwall	35,806	01-Nov-10	31-Oct-15
TransCanada PipeLines Limited	M12012	Dawn	Kirkwall	62,602	01-Nov-94	31-Oct-15
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	158,003	01-Nov-08	31-Oct-15
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	Dawn	Kirkwall	31,746	01-Nov-11	31-Oct-16
National Fuel Gas Distribution Corporation	M12196	Dawn	Kirkwall	10,791	01-Nov-10	31-Oct-17
KeySpan Gas East Corporation d/b/a National Grid	M12116	Dawn	Kirkwall	138,600	01-Nov-07	31-Oct-18
National Fuel Gas Distribution Corporation	M12211	Dawn	Kirkwall	15,904	01-Nov-10	31-Oct-20
Thorold CoGen L.P. by its General Partner Northland Power Thorold Cogen GP Inc.	M12129	Dawn	Kirkwall	49,500	01-Sep-09	31-Aug-29

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Start Date	End Date
Enbridge Gas Distribution Inc.	C10059	Parkway	Dawn	236,586	01-Apr-06	31-Mar-16
St. Lawrence Gas Company, Inc.	C10076	Parkway	Dawn	10,785	01-Apr-07	31-Mar-16
Gaz Métro Limited Partnership	C10087	Parkway	Dawn	100,000	01-Apr-11	31-Mar-16

*Note: these contracts were formerly recognized as M12079 that started April 1, 2004 and both were shown on the most recent Index of Customers - Transport

M12, M12x and C1 Dawn-Parkway Contracts as at May 1, 2013 - Sorted by Customer

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Contracted Parkway-TCPL (GJs)	Start Date	End Date
1425445 Ontario Limited o/a Utilities Kingston	M12127	Dawn	Parkway	2,113	2,113	01-Nov-08	31-Oct-15
1425445 Ontario Limited o/a Utilities Kingston	M12077	Dawn	Parkway	11,322	11,322	01-Apr-04	31-Mar-16
Ag Energy Co-operative Ltd.	M12151	Dawn	Parkway	1,600	1,600	01-Nov-08	31-Oct-20
Ag Energy Co-operative Ltd.	M12167	Dawn	Parkway	1,900	1,900	01-Nov-11	31-Oct-21
Bay State Gas Company dba Columbia Gas of Massachusetts	M12204	Dawn	Parkway	27,803	27,803	01-Nov-10	31-Oct-17
Boston Gas Company d/b/a National Grid	M12197	Dawn	Parkway	9,282	9,282	01-Nov-10	31-Oct-17
Boston Gas Company d/b/a National Grid	M12199	Dawn	Parkway	2,158	2,158	01-Nov-10	31-Oct-17
BP Canada Energy Group ULC	M12087	Dawn	Parkway	20,000	20,000	01-Nov-06	31-Oct-22
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12182	Dawn	Parkway	5,467	5,467	01-Nov-11	31-Oct-16
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12195	Dawn	Parkway	10,792	10,792	01-Nov-10	31-Oct-17
Colonial Gas Company d/b/a National Grid	M12198	Dawn	Parkway	6,475	6,475	01-Nov-10	31-Oct-17
Connecticut Natural Gas Corporation	M12166	Dawn	Parkway	6,410	6,410	01-Nov-11	31-Oct-16
Connecticut Natural Gas Corporation	M12201	Dawn	Parkway	18,077	18,077	01-Nov-10	31-Oct-17
Connecticut Natural Gas Corporation	M12206	Dawn	Parkway	9,170	9,170	01-Nov-10	31-Oct-18
Connecticut Natural Gas Corporation	M12214	Dawn	Parkway	6,489	6,489	01-Nov-10	31-Oct-19
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12171	Dawn	Parkway	21,825	21,825	01-Nov-11	31-Oct-16
Enbridge Gas Distribution Inc.	M12125	Dawn	Parkway	10,692	0	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12188	Dawn	Parkway	18,703	18,703	01-Nov-11	31-Oct-15
Enbridge Gas Distribution Inc.	M12080	Dawn	Parkway	106,000	106,000	01-Nov-06	31-Oct-18
Enbridge Gas Distribution Inc.	M12108	Dawn	Parkway	57,100	57,100	01-Nov-07	31-Oct-19
Enbridge Gas Distribution Inc.	M12079B *	Dawn	Parkway	1,764,678	137,285	01-Apr-04	31-Oct-22
Enbridge Gas Distribution Inc.	M12X006	Dawn	Parkway	200,000	200,000	01-Nov-12	31-Oct-22
EnergyNorth Natural Gas, Inc.	M12200	Dawn	Parkway	4,317	4,317	01-Nov-10	31-Oct-17
Gaz Métro Limited Partnership	M12132	Dawn	Parkway	52,343	52,343	01-Apr-09	31-Mar-16
Gaz Métro Limited Partnership	M12172	Dawn	Parkway	22,908	22,908	01-Apr-10	31-Mar-16
Gaz Métro Limited Partnership	M12176	Dawn	Parkway	88,728	88,728	01-Apr-11	31-Mar-16
Gaz Métro Limited Partnership	M12007D	Dawn	Parkway	21,021	21,021	01-Nov-91	31-Oct-16
Gaz Métro Limited Partnership	M12092	Dawn	Parkway	35,000	35,000	01-Nov-06	31-Oct-16
Gaz Métro Limited Partnership	M12109	Dawn	Parkway	65,000	65,000	01-Nov-07	31-Oct-27
Goreway Station Partnership by its managing partner Goreway Power Station Holdings ULC	M12110	Dawn	Parkway	140,000	140,000	01-Nov-07	31-Oct-28
Greater Toronto Airports Authority	M12120	Dawn	Parkway	7,500	7,500	01-Nov-07	31-Oct-18
GreenField Ethanol Inc.	M12156	Dawn	Parkway	3,000	3,000	01-Nov-08	31-Oct-19
J. Aron & Company	M12192	Dawn	Parkway	50,000	50,000	01-Aug-10	31-Oct-13
KeySpan Gas East Corporation d/b/a National Grid	M12163	Dawn	Parkway	43,837	43,837	01-Nov-11	31-Oct-16
KeySpan Gas East Corporation d/b/a National Grid	M12194	Dawn	Parkway	17,162	17,162	01-Nov-10	31-Oct-17
KeySpan Gas East Corporation d/b/a National Grid	M12209	Dawn	Parkway	22,772	22,772	01-Nov-10	31-Oct-18
Niagara Mohawk Power Corporation d/b/a National Grid	M12186	Dawn	Parkway	55,123	55,123	01-Nov-11	31-Oct-16
Northern Utilities, Inc.	M12205	Dawn	Parkway	6,333	6,333	01-Nov-10	31-Oct-17
Portlands Energy Centre L.P. ,by its General Partner, Portlands Energy Centre Inc.	M12130	Dawn	Parkway	100,000	100,000	13-Jan-09	31-Oct-28
St. Lawrence Gas Company, Inc.	M12126	Dawn	Parkway	10,785	10,785	01-Nov-08	31-Oct-15
Suncor Energy Products Partnership Produits Suncor Energie, S.E.N.C.	M12217	Dawn	Parkway	15,000	15,000	01-Nov-11	31-Oct-15
The Brooklyn Union Gas Company d/b/a National Grid NY	M12165	Dawn	Parkway	44,019	44,019	01-Nov-11	31-Oct-16
The Brooklyn Union Gas Company d/b/a National Grid NY	M12193	Dawn	Parkway	12,953	12,953	01-Nov-10	31-Oct-17
The Brooklyn Union Gas Company d/b/a National Grid NY	M12208	Dawn	Parkway	30,217	30,217	01-Nov-10	31-Oct-18
The Corporation of the City of Kitchener	M12090	Dawn	Parkway	4,000	4,000	01-Nov-06	31-Oct-16
The Narragansett Electric Company d/b/a National Grid	M12164	Dawn	Parkway	1,081	1,081	01-Nov-11	31-Oct-16
The Southern Connecticut Gas Company	M12202	Dawn	Parkway	34,950	34,950	01-Nov-10	31-Oct-17
The Southern Connecticut Gas Company	M12207	Dawn	Parkway	13,970	13,970	01-Nov-10	31-Oct-18
The Southern Connecticut Gas Company	M12213	Dawn	Parkway	9,735	9,735	01-Nov-10	31-Oct-19
TransAlta Cogeneration, L.P.	M12081	Dawn	Parkway	11,809	11,809	01-Nov-06	31-Oct-16
TransCanada PipeLines Limited	M12124	Dawn	Parkway	64,147	64,147	01-Nov-08	31-Oct-13
TransCanada PipeLines Limited	M12086	Dawn	Parkway	119,787	119,787	01-Nov-06	31-Oct-16
TransCanada PipeLines Limited	M12X004	Dawn	Parkway	50,000	50,000	01-Sep-11	31-Aug-21
TransCanada PipeLines Limited	M12X005	Dawn	Parkway	78,316	78,316	01-Sep-11	31-Aug-21
TransCanada PipeLines Limited	M12X013	Dawn	Parkway	62,695	62,695	01-Nov-12	31-Oct-23
TransCanada Power, a Division of TransCanada Energy Ltd.	M12131	Dawn	Parkway	132,000	132,000	01-Nov-09	31-Oct-18
U.S. Steel Canada Inc.	M12085	Dawn	Parkway	17,351	17,351	01-Nov-06	31-Oct-18
Vermont Gas Systems, Inc.	M12119	Dawn	Parkway	20,000	20,000	01-Nov-07	31-Oct-18
Vermont Gas Systems, Inc.	M12190	Dawn	Parkway	500	500	01-Nov-10	31-Oct-20
Yankee Gas Services Company	M12203	Dawn	Parkway	43,116	43,116	01-Nov-10	31-Oct-17
Yankee Gas Services Company	M12210	Dawn	Parkway	20,560	20,560	01-Nov-10	31-Oct-18
Yankee Gas Services Company	M12212	Dawn	Parkway	5,380	5,380	01-Nov-10	31-Oct-19
York Energy Centre LP	C10102	Dawn	Parkway	11,654	11,654	01-Apr-12	31-Mar-15
York Energy Centre LP	M12184	Dawn	Parkway	76,000	76,000	01-Apr-12	31-Oct-22

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Contracted Parkway-TCPL (GJs)	Start Date	End Date
TransCanada PipeLines Limited	M12219	Kirkwall	Parkway	88,497	88,497	01-Nov-12	31-Oct-22
Emera Energy Incorporated	M12221	Kirkwall	Parkway	36,751	36,751	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12220	Kirkwall	Parkway	174,752	174,752	01-Nov-13	31-Oct-23

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Start Date	End Date
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	Dawn	Kirkwall	31,746	01-Nov-11	31-Oct-16
Dynegy Gas Imports, LLC	M12170	Dawn	Kirkwall	38,306	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12079A *	Dawn	Kirkwall	32,123	01-Apr-04	31-Oct-15
Enbridge Gas Distribution Inc.	M12175	Dawn	Kirkwall	35,806	01-Nov-10	31-Oct-15
KeySpan Gas East Corporation d/b/a National Grid	M12116	Dawn	Kirkwall	138,600	01-Nov-07	31-Oct-18
National Fuel Gas Distribution Corporation	M12196	Dawn	Kirkwall	10,791	01-Nov-10	31-Oct-17
National Fuel Gas Distribution Corporation	M12211	Dawn	Kirkwall	15,904	01-Nov-10	31-Oct-20
Thorold CoGen L.P. by its General Partner Northland Power Thorold Cogen GP Inc.	M12129	Dawn	Kirkwall	49,500	01-Sep-09	31-Aug-29
TransCanada PipeLines Limited	M12157	Dawn	Kirkwall	53,440	01-Nov-10	31-Oct-13
TransCanada PipeLines Limited	M12122	Dawn	Kirkwall	146,560	01-Nov-08	31-Oct-14
TransCanada PipeLines Limited	M12012	Dawn	Kirkwall	62,602	01-Nov-94	31-Oct-15
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	158,003	01-Nov-08	31-Oct-15

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Start Date	End Date
Enbridge Gas Distribution Inc.	C10059	Parkway	Dawn	236,586	01-Apr-06	31-Mar-16
St. Lawrence Gas Company, Inc.	C10076	Parkway	Dawn	10,785	01-Apr-07	31-Mar-16
Gaz Métro Limited Partnership	C10087	Parkway	Dawn	100,000	01-Apr-11	31-Mar-16

*Note: these contracts were formerly recognized as M12079 that started April 1, 2004 and both were shown on the most recent Index of Customers - Transport

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref:
a) EB-2012-0433, Application Schedule 6-1.

Preamble: Schedule 6-1 of EB-2012-0433 shows a Dawn-Parkway M12 contract held by Greenfield South Power Corporation for 46,950 GJd with an expiry date of October 31, 2032. It is our understanding that this capacity is associated with the power plant that was moved from Mississauga to the Sarnia/Lambton area.

a) Please comment on the current status of this contract and whether it is included in the Dawn-Parkway capacity requirements in this application.

Response:

a) The referenced Greenfield South Power Corporation transportation contract has been terminated. When Union completed the reverse open season in May/June 2012, this capacity was not turned back. Therefore it was assumed that this capacity would be used in 2015.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref:
a) EB-2013-0074, Section 7, Page 1

Preamble: Union states: "Demand for transportation on the Dawn-Parkway System continues to grow. Customers interested in contracting on the Dawn-Parkway System are generally driven by: …
3) growing demand in central, eastern and northern Ontario as well as Québec and the U.S. Northeast."

a) Please provide the studies and analysis supporting this statement.

Response:

Union addresses future Dawn-Parkway System growth opportunities in response to Exhibit I.A4.UGL.APPRO.11 Potential Dawn-Parkway System growth opportunities totalling up to an additional 1 PJ/d for service commencing on or before November 1, 2017 include: the TransCanada crude oil line conversion which will bring customers back to Dawn; the possible movement of the Parkway Obligation to Dawn; and the development of large fertilizer, power generation and LNG plants in Ontario, Québec and Atlantic Canada.

ICF International addressed demand growth in EB-2013-0074, Schedule 4-1, Section 3.1 (Ontario Natural Gas Demand) and Section 4.1 (North American Demand).

The National Energy Board and the U.S. Energy Information Administration are also forecasting that demand will grow for the combined markets of Ontario, Québec and US Northeast. These forecasts predict an increase in demand of nearly 740 PJ by 2035. Details of these studies are summarized below.

Regional Natural Gas Demand (PJ)

	2013	2014	2015	2020	2025	2030	2035	Total growth 2035 vs. 2013
Ontario*	1,157	1,201	1,217	1,293	1,318	1,388	1,462	304
Quebec*	273	278	284	309	329	348	367	94
U.S. Northeast**	3,991	3,918	3,992	4,044	4,046	4,152	4,330	339
Total	5,421	5,397	5,493	5,646	5,692	5,888	6,159	**738**

** Source: NEB, November 2011*
*** Source: EIA, December 2012*

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref:
a) EB-2013-0074, Application Section 7, Page 8, and Schedule 8-2.

Preamble: Union states: "The National Fuel Gas turnback is conditional upon National Fuel Gas management approval."
TransCanada also wishes to better understand the effect the Dawn to Kirkwall turnback quantity has on the applied for facilities

a) Please confirm whether National Fuel Gas has received management approval to turn back its capacity.

b) Is the National Fuel Gas capacity turnback now final?

c) Assuming that the Dawn to Kirkwall turnback quantity (26,695 GJ/d) is not turned back please describe the impact on the proposed facilities and the impact to the shortfall in capacity.

d) Please provide a winter design day 2015/16 schematic similar to the one in Schedule 8-2 assuming that the Dawn to Kirkwall quantity is not turned back.

Response:

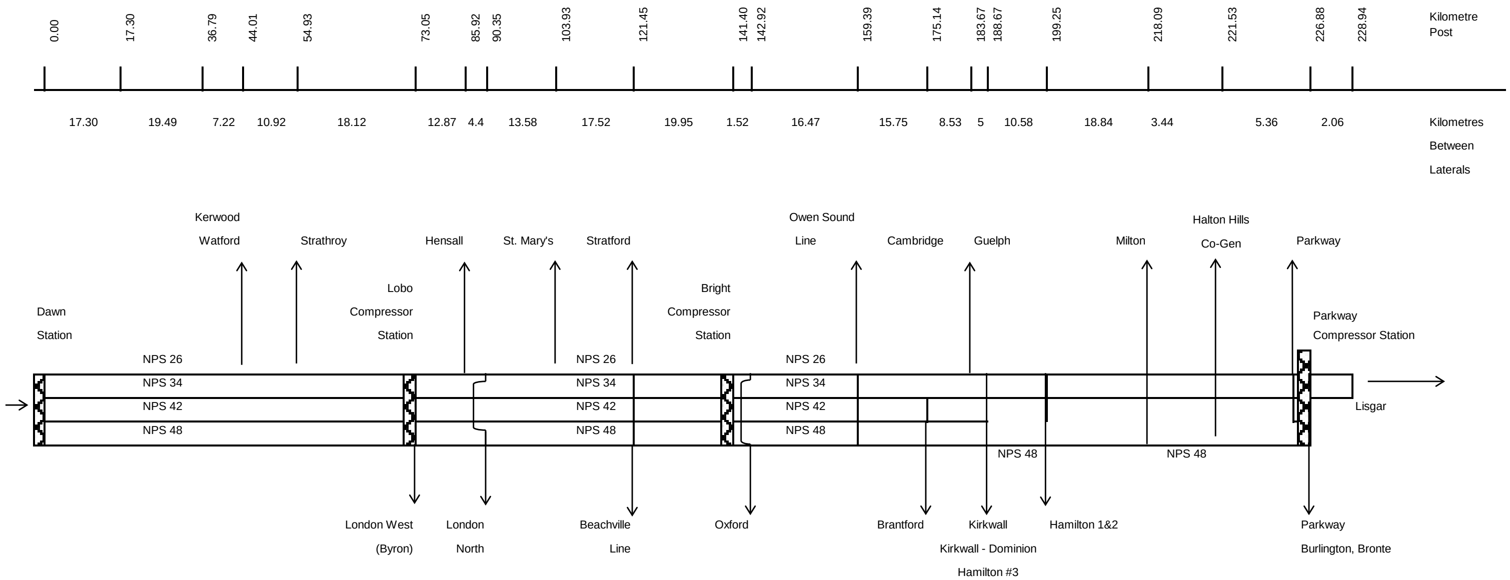
a) National Fuel Gas has not received management approval to turn back its capacity identified in EB-2013-0074, Section 8, Schedule 8-2.

b) The National Fuel Gas turn back capacity still requires management approval and thus the turn back will not be final until their management approval has been received.

c) The impact of the Dawn to Kirkwall quantity not being turned back equates to approximately 7,900 GJ/d increase in shortfall. The volume is small and does not change the scope of the proposed projects.

d) Please see Attachment 1.

DAWN to PARKWAY SYSTEM



Design Day Demands

UNION MARKETS		(GJ/d)
	Southern Ontario	
	Forest, Watford	6943
	Strathroy	7716
	London West	110641
	Hensall	28569
	London North	95825
	St. Mary's	6384
	Stratford	35714
	Beachville	51808
	Oxford Line	42634
	Owen Sound Line	233987
	Cambridge	69021
	Brantford	97294
	Kirkwall - Dominion	81571
	Guelph	80392
	Hamilton 3	59699
	Hamilton 1&2	254837
	Milton	71134
	Halton Hills	139754
	Parkway (Greenbelt)	35050
	Burlington, Bronte	137951
	Total Southern Ontario	1,646,924
	North and Eastern Ontario	332,744
M12	Kirkwall	380,718
	Parkway TCPL	3,581,727
	Parkway Cons/Lisgar	1,238,085
	Total M12	5,200,530
	Total Design Day Demands	7,180,198

System Capacity

	(GJ/d)
Total System Capacity	**7,033,265**
(Including Firm Service Receipts of 638,626 GJ/d)	
Total Requirements	**7,180,198**
Total (Shortfall) Surplus	**-146,933**
Union Markets	
M12 Transportation	
Kirkwall	
Lisgar, Parkway	-146,933

Compressor Stations Operating Conditions at Peak Hour

STATION	LOBO	BRIGHT	PARKWAY
Power Available (MW)	36.8	91.9	87.9
Power Required (MW)	36.8	91.9	75.0
Pressure			
Suction (kPa)	4,488	3,649	3,513
Discharge (kPa)	5,228	5,608	6,453
Compression Ratio	1.16	1.54	1.84
Flow (GJ/d)	6,080,418	5,782,372	3,265,719
Daily Fuel (GJ/d)	11,513	23,526	17,139

WINTER DESIGN DAY
DAWN-PARKWAY SYSTEM
WINTER 2015/16 no NFG turnback (26695 GJ/d)

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref:
a) EB-2013-0074, Application Section 7, Page 9.

Preamble: At lines 9 and 10 Union states: "Union now has binding transportation agreements with Enbridge, Gaz Métro and Vermont Gas subject to conditions precedent."

a) Please provide the "conditions precedent" for each of the contracts mentioned above.

Response:

a) The conditions precedent for each of the transportation agreements noted above are summarized in response to Exhibit I.A1.UGL.Staff.6 a).

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref: EB-2013-0074, Application, Schedule 8-2.

Preamble: The Design Day Demand Table in the reference lists 81,571 GJ/d for Kirkwall-Dominion, 59,699 GJ/d for Hamilton #3 and 137,951 GJ/d for Burlington/Bronte. TransCanada wishes to understand some of the delivery quantities to TransCanada at Kirkwall and Parkway.

a) What, if any, of these demands are transported on the TransCanada System for delivery to the TransCanada Nanticoke, Hamilton Gate, Burlington or Bronte Meter Stations.

b) If the answer to a) above is greater than zero, what contracts does Union have with TransCanada for delivery of those design day demands.

Response:

a) and b) Please see Exhibit I.A1.UGL.BOMA.3 g).

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref: EB-2013-0074, Application Section 8, Page 2 of 10, Lines 18 and 19; and b) EB-2013-0074, Application Schedule 8-2.

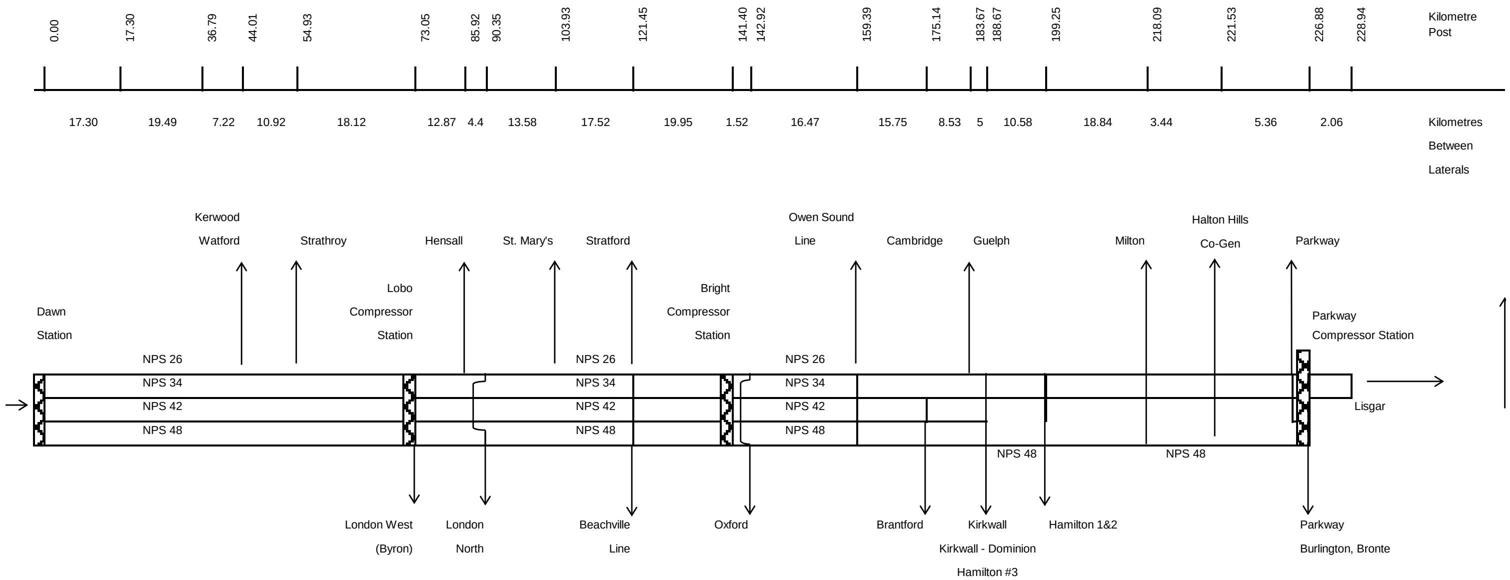
Preamble: TransCanada wishes to understand the capability of the Dawn to Parkway System on winter days when all units are available including units designated as required for loss of critical unit conditions.

a) Please provide a schematic similar to the schematic in Schedule 8-2 with all the same assumptions except that instead of assuming a critical compressor outage has occurred on the system assume that all units are available. That is to say that all three units at Lobo C/S and all four units at Parkway, including units C and D at Parkway West are available. Also, do not constrain the capacity of the Dawn to Parkway System based on any upstream or downstream constraints.

Response:

a) This is not a realistic scenario. The increase in system capacity of approximately 5% through use of all compressors is based on the assumptions of no upstream or downstream capacity constraints, despite the known constraints downstream and limited compression at Dawn (upstream). Please see Attachment 1.

DAWN to PARKWAY SYSTEM



Design Day Demands

		(GJ/d)
	Southern Ontario	
	Forest, Watford	6943
	Strathroy	7716
	London West	110641
U	Hensall	28569
N	London North	95825
I	St. Mary's	6384
O	Stratford	35714
N	Beachville	51808
	Oxford Line	42634
M	Owen Sound Line	233987
A	Cambridge	69021
R	Brantford	97294
K	Kirkwall - Dominion	81571
E	Guelph	80392
T	Hamilton 3	59699
S	Hamilton 1&2	254837
	Milton	71134
	Halton Hills	139754
	Parkway (Greenbelt)	35050
	Burlington, Bronte	137951
	Total Southern Ontario	1,646,924
	North and Eastern Ontario	332,744
	Kirkwall	354,023
	Parkway TCPL	3,581,727
M	Parkway Cons/Lisgar	1,238,085
1	**Total M12**	5,173,835
2	**Total Design Day Demands**	7,153,503

System Capacity

	(GJ/d)
Total System Capacity	**7,408,722**
(Including Firm Service Receipts of 638,626 GJ/d)	
Total Requirements	**7,153,503**
Total (Shortfall) Surplus	**255,219**
Union Markets	
M12 Transportation	
Kirkwall	
Lisgar, Parkway	255,219

Compressor Stations Operating Conditions at Peak Hour

STATION	LOBO	BRIGHT	PARKWAY
Power Available (MW)	66.8	91.9	123.0
Power Required (MW)	66.8	91.9	81.5
Pressure			
Suction (kPa)	4,213	3,909	3,516
Discharge (kPa)	5,585	5,880	6,453
Compression Ratio	1.33	1.50	1.84
Flow (GJ/d)	6,497,658	6,313,918	3,667,853
Daily Fuel (GJ/d)	19,195	23,719	18,671

WINTER DESIGN DAY
DAWN-PARKWAY SYSTEM
WINTER 2015/16
No loss of Critical Unit

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref: EB-2013-0074, Application Section 10. pg.6.

Preamble: Union states: "Based on the current Board-approved allocation of Dawn-Parkway costs, adjusted to include the increase in Union North demands of approximately 70,000 GJ/d and M12 demands of 363,000 GJ/d associated with the Project (for a total of 433,000 GJ/d), in-franchise rate classes are allocated approximately 16% of the costs directly attributable to the Project. The remaining 84% of costs directly attributable to the Project are allocated to ex-franchise rate classes."

a) Please explain the difference in M12 volumes of 433,000 GJd mentioned above and the M12 volumes shown in Figure 7-4 of 736,000 GJd and the 48,695 GJd of capacity turnback shown in Figure 7-3. If the difference is future capacity turnback please provide turnback volumes by delivery point and by year.

Response:

a) The 736,041 GJ/d of new demands is served from:

- the 165,940 GJ/d surplus gas available from Winter 14/15 before applying Vermont Gas' 8,100 GJ/d contract (165,940 – 8,100 =157,840 GJ/d [1]);
- the 137,101 GJ/d of capacity available at Parkway discharge resulting from contract turn back in Winter 15/16 of 217,532 GJ/d[2] , system changes of (203,994) GJ/d [3] and 123,563 GJ/d shortfall in Winter 15/16 [4]; and
- the proposed facilities of 433,000 GJ/d[5].

As noted in the preamble, the 433,000 GJ/d are not all M12 demands. Included are 363,000 GJ/d of M12 demands plus 70,000 GJ/d of Union North demands. Similarly, the 736,000 GJ/d of demands referenced are not all M12 demands.

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[1] 157,840 GJ/d surplus system capacity in winter 2014/2015 - Section 8, pg 6 line 4

[2] 217,532 = 195,532 + 22,000 GJ/d turn back – Section 8 Figure 8-2. Note the 48,695 GJ/d turn back referenced in Section 7 Figure 7-3 is included in this total.
The amount of capacity available at discharge of Parkway is less than the amount of turn back of Dawn to Kirkwall.

[3] Section 8 pg 6

[4] Schedule 8-2
[5] Section 8, pg 6

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Ref: EB-2012-0433, Schedule B, page 3, paragraphs 10 and 11

The referenced paragraphs state:

10. Parkway is the only site on the Dawn-Parkway System which does not have loss of critical unit coverage. The construction of a compressor to provide reserve horsepower will ensure that Union will be able to meet its contractual commitments and ensure that natural gas continues to be delivered to customers downstream of Parkway, including those customers which will be served by Enbridge's GTA Project application.

11. If there were a major failure at Parkway, Union would not be able to meet its contractual commitments. To address this significant operational risk, Union proposes to build a loss of critical unit compressor and an additional connection to Enbridge. Failure could result in nearly 70% of GTA customers losing gas service, including all gas-fired power generators.

a) Is the lack of LCU coverage at Parkway a "new issue" or should LCU coverage have already been provided at Parkway at some time prior to this application?

b) Have there been any incidents in the past where Union was either unable to meet its contractual commitments or unable to ensure that natural gas was delivered downstream of Parkway due to the lack of an LCU at Parkway?

Response:

a) Please see Exhibit I.A1.UGL.CCC.2.

b) Union has not experienced a significant compressor loss at Parkway that resulted in the inability to meet contractual commitments. Union has, however, experienced those types of losses in other locations on our system (e.g. Dawn, Lobo and Bright). These are described in EB-2012-0433 Section 8 paragraph 15. The LCU compressors for those stations allowed Union to meet all commitments despite those outages.

A2

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0451, Overall Proposal
EB-2012-0433, Overall Proposal
EB-2013-0074, Overall Proposal

a) Does the GTA Project propose to move gas with a destination outside of the Enbridge franchise or are all volumes intended to serve only in-franchise customer requirements? Please explain.

b) With respect to EBO 134, please provide a summary assessment of the impacts of the GTA and Union projects, on the existing transportation infrastructure in Ontario and the impacts on Ontario customers in terms of costs, rates, reliability, and access to supplies.

Response:

a) Enbridge to answer.

b) For the Brantford-Kirkwall pipeline/Parkway D Compressor projects, a summary of the potential impacts with respect to EBO 134 has been provided at EB-2013-0074, Section 9, Page 2-3, Figure 9-1. Please see Attachment 1 for the Parkway West Project (EB-2012-0433) that features references to the EB-2012-0433 pre-filed evidence where more detail can be found.

Ontario's economic competitiveness and prosperity depends on industry and other energy-intensive businesses having access to competitive energy prices. The depth and liquidity of the Dawn Hub continue to attract incremental demand for natural gas supply from Ontario, Québec and U.S. Northeast customers driving increased demand for transportation on the Dawn-Parkway System. Ontario's industry, power generators, business and residents benefit from a liquid and cost competitive Dawn Hub. As a result, Parkway has become a much more important infrastructure point in the delivery of natural gas in Ontario, fueling a large portion of Ontario's economic engine. The Parkway Projects are an essential link in the natural gas delivery chain for customers in Ontario, Québec and the U.S. Northeast. The Parkway Projects provide reliable natural gas delivery at a critical infrastructure point increasing security of supply for Ontario industries, businesses and residents. The Parkway Projects will allow GTA customers as well as northern and eastern Ontario customers increased access to the liquidity and diversity of the Dawn Hub resulting in estimated annual gas cost savings of $185-188 million in Ontario alone. Québec customers of Gaz Métro will also save an additional $88-120 million annually with increased access to the Dawn Hub. Access to downstream markets through the Parkway Projects will help Ontario attract new cost-competitive supply from nearby sources such as the Marcellus and Utica shale formations. Increased demand and new supply will support the health and liquidity of the Dawn Hub and provide Ontario with the opportunity to increase security, diversity, reliability and affordability in Ontario's energy portfolio.

Assessment of Potential Impacts of the Parkway West Project

Entity Impacted		Summary of Impact	Reference
Impacts to Existing Infrastructure	Union	Union's proposal is to construct a connection to Union's existing Dawn-Parkway System to flow natural gas to the proposed Parkway West site includes a measurement and control station to connect to Enbridge, a loss of critical unit compressor, an NPS 42 pipeline between the new site and the existing Parkway station and general infrastructure and land to operate the Parkway West site. Providing loss of critical unit protection at Parkway provides increased system reliability consistent with the protection afforded along the remainder of Union's Dawn-Parkway System.	Section 11
	Enbridge	Union's proposed project will connect to Enbridge's pipeline system. The project is necessary to provide a new interconnection to Enbridge that will increase reliability for natural gas supplies to the GTA. The new interconnection will be capable of handling the combined flows of the Parkway(Consumers) and Lisgar interconnections. Enbridge will be constructing a new Parkway West Gate Station.	Section 8, Section 11
	TCPL	The installation of a loss of critical unit compressor at the proposed Parkway West site will ensure contracted volumes to TransCanada are maintained in the event of an outage at the existing Parkway site.	Sections 8, Section 11
Impacts to Ontario consumers	Costs and Rates	The cost of the Parkway West Project is $203 million. The project will decrease Union's in-franchise rate class annual costs by approximately $2.1 million, and increase ex-franchise annual rate class costs by $17.4 million. The result for in-franchise customers is a reduction in the average annual bill for Rate M1 residents in Union South by approximately $1.25, and Rate 01 residents in Union North by approximately $1.00. The increase in costs allocated to the ex-franchise rate class results in an increase in M12 transportation rates from $.078/GJ/d to $.088/GJ/d, well within the historical range of $0.07-$0.10/GJ/d. Union is not in a position to evaluate the possible related effects of the Parkway West Project on costs and rates for other Ontario energy consumers.	Section 12
	Reliability and Access to Supplies	This project is fundamental to delivering increased reliability to customers in the GTA, northern and eastern Ontario, Québec, and the U.S. Northeast. Currently, Parkway is the only compressor site on the Dawn-Parkway System without loss of critical unit protection. Loss of the critical compressor unit at Parkway during peak periods would compromise gas service to hundreds of thousands of gas and electricity customers. Without loss of critical unit protection, Union deliveries to TransCanada would be short up to 1.1 PJ/d during peak times, affecting customers in the GTA, northern and eastern Ontario, Québec, and the U.S. Northeast. Enbridge estimates that 150,000-225,000 GTA customers, including gas-fired power generators, would lose service	Section 8

		during a loss of critical unit event at Parkway. Union expects that it will also lose service to some Union North customers during a loss of critical unit at Parkway. Enbridge estimates that an outage at the Parkway(Consumers) interconnection would result in a delivery shortfall of up to 0.8 PJ/d and a loss of approximately 270,000 customers. Increasing the reliability and resilience of Union's Dawn-Parkway System through the Parkway West Project protects customers downstream of Parkway in the GTA, northern and eastern Ontario, Québec and the U.S. Northeast. Confidence in security of supply will help maintain the Dawn-Parkway System as fully contracted as possible supporting the liquidity of the Dawn Hub. A liquid Dawn Hub can increase choice of competitive supply options available to customers at Dawn.	

UNION GAS LIMITED

Answer to Interrogatory from
Association of Power Producers of Ontario ("APPRO")

Ref: EB-2013-0074 Schedules 9-1 to 9-3B, EB-2012-0433 Section 11

Preamble: Union provides the PI calculation in Schedules 9-3 A and B which are based on the underlying assumptions included in Schedules 9-1 and 9-2. Union is also proposing to construct Parkway West, a LCU compressor and related piping that will cost approximately $203 million.

a) Please confirm that the PI calculations included in EB-2013-0074 exclude any cost allocation for the LCU compressor project.

b) It appears that some of the piping infrastructure that is being developed as part of the Parkway West LCU project is required to facilitate the development and operation of Parkway D. Please discuss the rationale to exclude any of the Parkway West project costs in the PI calculation for The EB-2013-0074 project.

c) Please recalculate the PI for the EB-2013-0074 project assuming that a percentage of the capital and operating costs of the Parkway West project were attributable to the EB-2013-0074 project. Please use a percentage that represents the ratio that Parkway D horse power represents to the total horsepower of Parkway A, B and D.

Response:

a) Confirmed.

b) Union has attributed the land and site development costs appropriately to each project. Parkway West and Parkway D are separate projects based on separate economic and operational considerations. The land and site development costs have been allocated to the Parkway West project as that is the first project required. Attributing Parkway West land and site development costs to the Parkway D project for purposes of economic decision making defeats the basis of the Discounted Cash Flow (DCF) analysis which is an incremental cost approach. Put another way, if the timing of the Parkway D project were separated by say 2 years parties would not suggest that Parkway West costs be attributed to Parkway D. In present circumstances the timing of the two projects is concurrent but it does not detract from the principle that Parkway D is an incremental decision independent of Parkway West.

c) The project PI for EB-2013-0074 drops from 1.46 to 1.05 with the requested allocation of Parkway West project costs. The percentage allocation was 40.8% based on the ratio of

Parkway D horse power of 44,500 to the total horsepower of Parkway A, B and D of 109,000. Union does not accept that any allocation of Parkway West projects to EB-2013-0074 projects is appropriate for the reasons described in the response to b) above.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: Union EB-2012-0433 No reference

Please confirm that Union's position is that for LCU Economic Evaluation under EBO 134 or E.B.O. 188 is not required

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Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 9-3A &
Schedule 11-8

a) Please confirm that the Incremental Capital does not include PW site acquisition and development costs.

b) Please provide the derivation of the $9.2 million annual revenue amount.

c) Please show the derivation of the Gas Supply Cost Savings of $28,200 million.

d) Reconcile to the costs and cost savings in Schedule 11-8.

e) Please explain why the gas cost savings are not escalated/discounted based on the projections of future gas costs in the evidence.

f) Please provide a version of the DCF PI Analysis (schedule 9-3A) that includes the approximately $90 million of PW acquisition and development capital

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Response:

a) Confirmed.

b) Please see the response to Exhibit I.A2.UGL.TCE.3

c) The calculation of the Gas Supply Cost Savings of $28.2 million per year can be found in EB-2013-0074, Section 11 beginning on Page 27 and summarized in Figure 11-7 on Page 29.

d) Please see Attachment 1 (EB-2013-0074, Schedule 11-5) for the reconciliation of the gas supply cost savings of $28.2 million to the gas supply cost savings of $31.3 million shown at Schedule 11-8, page 2 of 2, line 78.

e) The gas cost savings were calculated based on the using the average 10 year forecasted commodity cost at Empress and Dawn (based on the ICF April 2012 base case) to ensure consistency with the Landed Cost Analysis performed in Schedule 11-3 and Schedule 11-4

Union reviewed the impact to the net present value (NPV) of the gas cost savings using the 10 year average forecasted commodity cost and the annual forecasted commodity cost at Empress and Dawn. The result was no material impact to the NPV of the gas cost savings.

f) Please see Attachment 2.

UNION GAS LIMITED
Union North - Reconciliation of Gas Transport, Storage and Commodity Cost Savings

Line No.	Particulars ($ Millions)	Cost of Gas Figure 11.4.2 (1)	Updated for Board-Approved Gas Supply Plan (2)	Variance	Cost of Gas for Rate Impacts (3)	Variance
		(a)	(b)	(c) = (a - b)	(d)	(e) = (b - d)
	Transportation					
1	FT Demand & Diversions	(43.1)	(41.6)	(1.5)	(41.6)	0.0
2	FT Commodity	(2.8)	(2.8)	0.0	(2.8)	0.0
3	Total Transportation	(45.9)	(44.4)	(1.5)	(44.4)	0.0
	Storage					
4	STS and Related Services	(1.1)	(1.9)	0.8	(1.9)	0.0
5	Union Dawn-Parkway (4)	2.7	2.7	0.0	2.5	0.2
6	Total Storage	1.6	0.8	0.8	0.6	0.2
7	Total Transportation and Storage (line 3 + line 6)	(44.3)	(43.6)	(0.7)	(43.8)	0.2
	Commodity					
8	Commodity (5)	18.4	18.7	(0.3)	13.3	5.5
9	FT Fuel	(2.3)	(0.7)	(1.6)	(0.7)	0.0
10	Total Commodity	16.1	18.0	(1.9)	12.5	5.5
11	Union North Annual Savings (line 7 + line 10)	(28.2)	(25.6)	(2.6)	(31.3)	5.7

Notes:
(1) The cost of gas savings provided at Figure 11.4.2 are based on the forecast information available at May 2012 for the respective gas year.
(2) The cost of gas savings from Figure 11.4.2 updated to reflect the Board-approved 2013 Gas Supply Plan in EB-2011-0210.
(3) The gas transport, storage and commodity details used to calculate rate impacts are provided at Schedule 11 - 8.
(4) The estimated Dawn to Parkway cost from Figure 11.4.2 was based on the 2013 Board approved M12 D-P toll of $0.078 per GJ and winter fuel of $0.7 million. The Dawn to Parkway cost used for rate impact calculations has been updated to reflect the allocated Dawn to Parkway cost for Union North, including the incremental cost for the Brantford to Kirkwall and Parkway D Compressor project in the highest year revenue requirement.
(5) The supply commodity from Figure 11.4.2 includes gas supply purchases of $12.9 million for system customers and $5.5 million for direct purchase bundled customers. The bundled customer commodity costs are excluded from rate calculations. There is also an incremental $0.3 million in commodity costs associated with the change in Union North inventory as compared to the Board approved gas supply plan.

Schedule 9-3A
(Amended to include $90.6 Million)

Project Year ($000's)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(3,675)	(2,554)	(3,361)	(4,104)	(4,749)	(5,309)	(5,797)	(6,223)	(6,595)	(6,920)
Net Cash Inflow	32,234	33,356	32,548	31,805	31,161	30,600	30,112	29,686	29,315	28,989
Cash Outflow										
Incremental Capital	290,669	4,007	-	-	-	-	-	-	-	-
Change in Working Capital	(15)	-	-	-	-	-	-	-	-	-
Cash Outflow	290,654	4,007	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	31,442	62,400	91,142	117,865	142,776	166,052	187,846	208,288	227,495	245,567
Cash Outflow	290,654	294,467	294,467	294,467	294,467	294,467	294,467	294,467	294,467	294,467
NPV By Year	(259,212)	(232,067)	(203,325)	(176,601)	(151,690)	(128,414)	(106,621)	(86,179)	(66,972)	(48,899)
Project NPV	13,788									
Profitability Index										
By Year PI	0.1082	0.2119	0.3095	0.4003	0.4849	0.5639	0.6379	0.7073	0.7726	0.8339
Project PI	1.0468									

Schedule 9-3A
(Amended to include $90.6 Million)

Project Year ($000's)	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(202)	(452)	(672)	(865)	(1,036)	(1,186)	(1,320)	(1,438)	(1,543)	(1,636)
Net Cash Inflow	9,282	9,032	8,812	8,619	8,448	8,298	8,164	8,046	7,941	7,848
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	44	-	-	-	-	-	-	-	-	-
Cash Outflow	44	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	251,073	256,171	260,903	265,307	269,414	273,252	276,845	280,214	283,378	286,353
Cash Outflow	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494
NPV By Year	(43,420)	(38,323)	(33,591)	(29,187)	(25,080)	(21,242)	(17,648)	(14,279)	(11,115)	(8,140)
Project NPV										
Profitability Index										
By Year PI	0.8526	0.8699	0.8859	0.9009	0.9148	0.9279	0.9401	0.9515	0.9623	0.9724
Project PI										

Schedule 9-3A
(Amended to include $90.6 Million)

Project Year ($000's)	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(1,720)	(1,794)	(1,861)	(1,920)	(1,974)	(2,022)	(2,065)	(2,104)	(2,139)	(2,171)
Net Cash Inflow	7,764	7,690	7,623	7,564	7,510	7,462	7,419	7,380	7,345	7,313
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	-	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	289,154	291,793	294,283	296,633	298,853	300,952	302,937	304,817	306,596	308,282
Cash Outflow	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494	294,494
NPV By Year	(5,340)	(2,700)	(211)	2,139	4,359	6,458	8,444	10,323	12,103	13,788
Project NPV										
Profitability Index										
By Year PI	0.9819	0.9908	0.9993	1.0073	1.0148	1.0219	1.0287	1.0351	1.0411	1.0468
Project PI										

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Schedules 9-3A & 9-5

Please explain the decrease in gas supply cost savings from $28,200 in years 1 through 10 to $1,775 in years 11 through 30.

Response:

Please see the response to Exhibit I.A2.UGL.TCE.1.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Schedules 9-2 & 9-3A

a) Please explain why there is no land cost associated with the Parkway D compressor shown in the schedule.

b) Please recalculate the profitability index shown in Schedule 9-3A if the Parkway D compressor costs includes a pro-rata share of the land costs shown the Parkway West filing based on the percentage of the land that will be utilized by the Parkway D compressor and associated infrastructure.

c) Please confirm that there is no impact on the forecasted rate impacts for any rate class (in-franchise or ex-franchise) of allocating a portion of the Parkway West land costs to the Parkway D compressor costs. If this cannot be confirmed, please provide a table that shows the rate impacts (in dollars and percentages) of the two scenarios.

Response:

a) The cost estimate for the Parkway D project assumes the land has been purchased as part of the Parkway West project. As a result, no land is required for the installation of the Parkway D compressor.

   Please see the response to Exhibit I.A2.UGL.APPRO.8 b).

b) Union does not accept that allocating a portion of the land to the Parkway D compressor is appropriate for the reasons described in a) of the question.

   In order to estimate a pro-rata share, Union looked at the map provided as Schedule 1-1 page 2 of 2 in EB-2103-074 which indicates Parkway D compressor occupies approximately 15% of the site. The rest of the site is required for the other assets including a buffer zone from neighbouring properties.

   Including 15% of the $29.85 million land costs found in Schedule 11-1 of EB 2012-0433 to the analysis in Schedule 9-3A would reduce the PI from 1.46 to 1.43. PI = 1.43.

c) Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref: EB-2013-0074, Application Schedule 9 – 3A, page 1 and 2; and b) EB-2013-0074, Application Schedule 11-5, column (a)

a) Please confirm if the amount of $28,200,000 indicated at the line labeled "Gas Supply Cost Savings" of the document at reference a) is the amount calculated at reference b), if not please confirm the source of the amount of $28,200,000.

b) Please explain why the amount of $28,200,000 indicated at the line labeled "Gas Supply Cost Savings" of reference a) decreases to $1,775,000 for the years 11 to 30 of the analysis.

c) Please provide the calculation and assumptions in support of the amount of $1,775,000 indicated for the years 11 to 30 of the analysis.

Response:

a) Confirmed

b) & c) The gas supply savings have not been forecasted beyond the initial term of 10 years. After year 10 the Discounted Cash Flow (DCF) assumes the 70 TJ of Dawn-Parkway capacity would be utilized by either a) other gas supply contracts, or b) M12 service. In the case of other gas supply contracts it is assumed the gas savings using this route would be at least equal to the M12 toll. No specific gas costs savings are attributed to the DCF beyond 10 years other than the equivalent of the M12 toll. For the years 1-10 the gas supply savings inherently include the M12 toll because the savings are the difference between the landed costs of gas using Dawn and WCSB sources.

The figure $1.775 million is derived from $2.113 * 70 * 12 = $1.775 million.

Where:

- $2.113 ($/GJ/month) is the M12 toll excluding the Dawn Compression
- 70 TJ is the gas supply contract capacity
- 12 is the number of months in a year

Evidence Sources:

- Schedule 9-5 (middle of page) references Years 11-20 M12 margin applied = $1.8 million per year (the rounded figure of $1.775 million above)
- Schedule 9-4 –Describes ($2.113 $/GJ/month)

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref: EB-2013-0074, Application Schedule 9 – 3A, page 1

a) Please explain and provide the detail calculation of the amount of $59,593,000 presented at the line "Cash inflow" for the second year of the analysis. In the explanation provided, please specify if the revenues are assumed to be monthly payments or end of year payments.

b) Please confirm that the discount rate used for the NPV calculation is 5.1%. If not please provide the discount rate(s) used throughout the analysis.

Response:

a) The figure $59.593 million is the cumulative NPV of the cash inflows. It is derived as the NPV of the cash inflows for years 1 and 2 found in the 6th line labelled "Net Cash Inflows". Inflows are discounted using the annual rate of 5.1% discounted to mid year. The discount factor for year 1 is 1.0252. The factor for year 2 is 1.0775.

The calculation is (30,644 / 1.0252) + (32,003/1.0775) = $59.593 million.

b) Confirmed, the annual discount rate is 5.1%.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref:
a) EB-2013-0074, Application Schedule 9 – 3A, page 1;
b) EB-2013-0074, Application Schedule 9 – 3B, page 1; and c) EB-2013-0074, Application Schedule 9 – 4, page 1

Preamble: Schedule 9 – 4 shows the amount of $9,204,000 indicated at the line "Revenue" of reference a), and Schedule 9-3B shows an amount of $10,979,000 at the line "Revenue".

a) Please provide detail calculations of the amount of $10,979,000 indicated at the line "Revenue" of reference b).

b) Please explain why the amounts indicated at the line "Revenue" of reference a) and b) are not the same and the assumptions and reasoning for their difference.

Response:

a) The figure $10.979 million is derived from $2.113 * 433 * 12 = $10.979 million.

- $2.113 $/GJ/month is the M12 toll excluding the Dawn Compression
- 433 TJ is the incremental Dawn-Parkway capacity
- 12 is the number of months in a year

Evidence Sources:
- Schedule 9-4 –Describes $2.113 $/GJ/month, and the 433 TJ

b) The revenue in Schedule 9-3A is $9.204 million ($2.113 * 363 * 12 = $9.204 million) and the revenue in Schedule 9-3B is $10.979 million. The difference between the two schedules is $1.775 million, which is the M12 margin attributed to the 70 TJ for the gas supply contracts. Schedule 9-3A has 70 TJ of capacity for the gas supply contracts and 363 TJ for M12 service (total 433 TJ). Schedule 9-3B is based a scenario with no gas supply contracts. In this later case all 433 TJ of capacity would be attributed to M12 service.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0451, Overall Proposal
EB-2012-0433, Overall Proposal
EB-2013-0074, Overall Proposal

Preamble: Where applicable, the following questions are to be answered by both Companies separately.

a) Please summarize the rate and bill impacts of the GTA Project on Enbridge's rate classes. Please separately summarize the rate and bill impacts of the two Union Projects on Enbridge's rate classes. Please provide a 5-year projection that shows the impacts of the GTA and Union Projects on the overall customer bill, and the delivery rates, transportation rates and load balancing rates.

b) Please provide an assessment of the impact on Enbridge's and Union's transactional services business of the subject applications.

c) Please provide an overview of the procurement and tendering process at Enbridge and Union for the services and assets required for the GTA Project and the Union projects. Please explain how gas customers, stakeholders and shareholders can be assured that they are getting the best possible value for money from the procurement process.

d) Please describe how the projects are financed to completion. Please include a discussion of financial support timing and any interim financing, debt issuances, relevant interest rates, debt servicing costs and interest during construction. How and when will the projects close to Rate Base for each company?

e) With respect to the volume forecast underpinning Enbridge's need, to what extent is the downtown Toronto residential condominium development, current and proposed, driving the need? Please discuss.

f) For large capital projects $50 million and over, what is Enbridge and Union's 10-year track record on estimated vs. actual project costs? Were they over or under budget? Were they completed per planned date, or not? Please list each project $50 million and over. What are the main areas of divergence in the actual vs. estimated costs and what are the main areas of risk in estimating costs?

Response:

a) Enbridge response.

b) Union does not expect that its forecast of its transactional services business will be impacted as a result of the Parkway West Project. Union is uncertain of the impact of the Brantford-Kirkwall pipeline/Parkway D Compressor projects and the proposed Enbridge GTA Project on Union's transactional services business until Union has experience operating with these new facilities in-service. Other factors that may impact Union's transactional services business and the day-to-day market demands for Dawn-Parkway capacity include: the timing and size of pipeline capacity expansion downstream of Parkway; market adjustments and the TransCanada Mainline pipeline capacity in eastern Canada resulting from a crude oil pipeline conversion; and market adjustments as a result of TransCanada tariff changes and discretionary service availability and pricing.

Union is not in a position to provide an assessment of the impact of the subject applications on Enbridge's transactional services business.

c) Union uses comprehensive competitive sourcing processes to minimize the total cost of ownership and ensure the best possible value. Competitive sourcing includes leveraging the purchasing power of the enterprise and utilizing existing contracts and vendor relationships to drive further savings whenever possible. Union utilizes automation to streamline procurement transactions and drives process efficiency through elimination, simplification, and standardization.

d) Union does not link its financing to specific projects. During the construction phases of a project, capital expenditures are classified as construction work in progress and financing costs are charged to the project using interest during construction (IDC) at rates prescribed by the Ontario Energy Board (OEB). Upon project completion, the project will be rolled into Union's total plant investment and financed based on Union's OEB approved capital structure. For purposes of the economic analysis filed in this application the projects are deemed to be financed 64% long-term debt and 36% common equity based on current approved capital structure and economic feasibility guidelines approved by the OEB. The forecasted cost of long-term debt reflected in the analysis is 4% and the common equity return is 8.93%.

Project capital is closed to gas plant in service and included in rate base investment at the project in-service date. The determination of when a project is considered in-service is made on a case by case basis taking into account project specific factors and circumstances, including:

a) whether care, custody and control has been transferred to Union Gas;

b) whether the warranty period has begun;
c) whether the 24-hour test has been successfully completed;
d) whether gas is flowing to the pipeline.

For example, a capital project for a pipeline would be considered in-service when the gas is flowing, even though ground repairs and landscaping still need to be completed. On the date the project is placed in-service, the company would cease to record any interest charge for funds used during the construction of the plant.

e) Enbridge response.

f) The table below lists the costs and in-service timing for Union's projects over $50M, including explanations for variances. The main areas of risk in estimating costs are related to contract labour and material costs. Steel markets are a key driver for pipe and fittings and can be difficult to predict. Construction labour costs are driven by many variables including accurate designs, scope changes and labour markets.

The cost variances on the Parkway B and Bright compression projects were driven by increased construction labour costs due to scope changes and OEM (Original Equipment Manufacturer) quality issues. Both of these projects were completed on "brownfield" properties with new design consultants, which led to changes to the original scope. Additionally, a labour strike occurred during the Parkway B project, which created a significant delay. The Bright project was a compressor retrofit, and the OEM had significant on-site quality issues.

Since 2008, Union has improved its cost estimating processes and project controls to improve the accuracy of cost estimates, cost tracking and schedules. The Parkway West Compressor Station will be completed on a new site, which will significantly reduce risk around on-site constructability issues. Union is also planning to use the same design consultants and construction labour as the last two compressor projects. In addition, Union has included the construction contractor in the early design process to ensure accurate estimates and minimize field delays.

The Brantford-Kirkwall pipeline will be constructed in an area paralleling two existing pipelines utilizing as-built information for estimating costs. In addition, Union will be selecting a contractor through a competitive sourcing process to ensure early involvement in construction plans, determination of construction cost and schedule and commitment to the project.

Project **(OEB Filed)**	**In-service**	**Schedule**	**Cost Estimate (Millions)**	**Actual Costs (Millions)**	**Explanation**
TFEP 2006 (Hamilton to Milton & Brooke to Strathroy)	2006	On time	$114.6	$108.2	- Reduced material costs - Contractor efficiency - reduced requirement for contingency
TFEP 2007 (Strathroy to Lobo)	2007	On time	$52.9	$58.4	- Steel market and foreign exchange on materials - Contractor labour market, dewatering requirements - Increased landowner commitments
Parkway B Compression	2007	2 Months Late	$48.4	$70.8	- Contractor costs -field changes due to design issues - Labour strike - OEM quality issues - Brownfield site
Bright Compression	2008	1 Month Late	$57.4	$73.3	- Compressor retrofit - OEM on site quality issues - Contractor costs - design consultant scope changes -
Dawn J Compression	2011	1 Month Early	$41.7	$40.5	- Contractor and design efficiencies - Improved estimating processes

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Schedule B, Page 1 of 3

Preamble: In the Application, Union has estimated the total cost of the project to be $203 million. On page 1 of Schedule B, Union has indicated that Enbridge Gas Distribution and Gaz Metro will bear most of the cost of the proposed facilities.

a) Please provide the costs that each party (Enbridge and Gaz Metro) will bear for this facility.

Response:

Please see Attachment 1.

UNION GAS LIMITED

Comparison of Board-approved M12 Rates and Costs to M12 Rates and Costs Including 2018 Parkway West Project Costs

M12 Dawn to Parkway

Line No.	Customer	Board - approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
1	Enbridge	2,157,173	0.078	61,415	0.088	69,288	7,874
2	Gaz Metro	285,500	0.078	8,128	0.088	9,170	1,042
3	Total	2,442,673		69,543		78,459	8,916

M12 Dawn to Kirkwall

Line No.	Customer	Board-approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
1	Enbridge	67,929	0.066	1,636	0.074	1,835	198
2	Gaz Metro	-	0.066	-	0.074	-	-
3	Total	67,929		1,636		1,835	198

Notes:

(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.

(2) A.3.UGL.EP.13, Attachment 2, column (b).

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 7 – New Dawn-Parkway System Demands, Page 14 of 14, Lines 9-19

Preamble: Union notes that although it expects future growth opportunities on the Dawn-Parkway System, it is also faced with trying to manage significant turn back risk with the greatest risk of turn back beginning in 2016. Union will attempt to re-sell or re-purpose turn back capacity. In the event that Union is unable to fully mitigate this risk, it may apply to the Board for a deferral account to capture the lost revenue as a result of turn back for the cost of the unused capacity.

a) Please provide forecasts for the possible rate impacts on all rate classes that would result from the lost revenues Union would incur if it is not able to re-sell or re-purpose turn back capacity.

Response:

a) For the purposes of this response, Union has assumed M12 turnback on the Dawn-Parkway system from November 1, 2015 to November 1, 2019 of 1,200,000 GJ/d (as per Exhibit I.A1.UGL.Staff.10 part c) Table 1), comprised of:

- 500,000 GJ/d of M12 Dawn to Kirkwall capacity;
- 700,000 GJ/d of M12 Dawn to Parkway capacity.

Approximately 509,000 GJ/d of the700,000 GJ/d M12 Dawn to Parkway capacity represent the U.S. Northeast utilities' contract expirations between November 1, 2016 and November 1, 2019. Union is not forecasting that the U.S. Northeast utilities will turn back Dawn-Parkway capacity.

To determine the possible rate impacts on all rate classes, Union compared:

- the 2013 Board-approved cost allocation study including the 2018 Parkway West and Brantford to Kirkwall and Parkway D Compressor Project costs and demands to;

- the 2013 Board-approved cost allocation study including the 2018 Parkway West and Brantford to Kirkwall and Parkway D Compressor Project costs and demands and the M12 turnback of 1,200,000 GJ/d described above.

Please see Attachment 1 for the cost allocation impacts and Attachments 2 and 3 for the rate impacts to in-franchise rate classes and the M12 rate class, respectively.

During a 2014 to 2018 Incentive Regulation term, assuming no delay in regulatory approvals or downstream pipeline facilities, Union is at risk for any M12 turnback that it is unable to resell. Accordingly, there would be no impact on in-franchise and ex-franchise rates as a result of turnback until Union's next rebasing proceeding in 2019.

Cost Allocation Impact Assuming Reduction in M12 Demands (Approximately 1,200,000 GJ/d)

Line No.	Rate Class ($000's)	Total Cost Allocation (1)	Cost Allocation Update M12 Demand Reduction (2)	Difference
		(a)	(b)	(c) = (b - a)
1	Rate M1	818,914	821,685	2,771
2	Rate M2	120,811	121,743	931
3	Rate M4	18,627	18,898	271
4	Rate M5	18,370	18,372	3
5	Rate M7	5,151	5,276	125
6	Rate M9	757	802	45
7	Rate M10	83	84	1
8	Rate T1	11,675	11,809	134
9	Rate T2	40,999	41,867	868
10	Rate T3	4,771	5,085	314
11	Subtotal - Union South	1,040,158	1,045,621	5,462
12	Excess Utility Space	5,577	5,577	0
13	Rate C1	8,114	8,114	0
14	Rate M12	193,549	185,187	(8,361)
15	Rate M13	210	210	0
16	Rate M16	449	449	0
17	Subtotal - Ex-franchise	207,898	199,537	(8,361)
18	Rate 01	327,945	330,114	2,169
19	Rate 10	67,239	67,807	568
20	Rate 20	28,702	28,853	152
21	Rate 100	15,551	15,561	11
22	Rate 25	11,657	11,657	0
23	Subtotal - Union North	451,093	453,991	2,899
24	In-franchise (line 11 + line 23)	1,491,251	1,499,612	8,361
25	Ex-franchise (line 17)	207,898	199,537	(8,361)
26	Total (line 24 + line 25)	1,699,149	1,699,149	(0)

Notes:

(1) 2013 Board-approved cost allocation study updated to include the 2018 Project costs of $15.902 million related to the Brantford to Kirkwall and Parkway D Compressor Project and $16.616 million related to the Parkway West Project.

(2) Includes approximately 1,200,000 GJ/d reduction in M12 demands associated with forecasted turn back and the U.S. Northeast utilities contract expirations.

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union North

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects Without Turnback (2)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate 01															
1	Delivery Charges	459	20.8705	456	20.7402	457	20.7717	(0.1303)	(3)	-0.6%	0.0315	1	0.2%	(0.0988)	(2)	-0.5%
2	Gas Supply Charges	547	24.8571	553	25.1213	557	25.3350	0.2642	6	1.1%	0.2137	5	0.9%	0.4779	11	1.9%
3	Total Bill	1,006	45.7276	1,009	45.8615	1,014	46.1067	0.1339	3	0.3%	0.2452	5	0.5%	0.3791	8	0.8%
4	Sales Service Impact								3	0.3%		5	0.5%		8	0.8%
5	Bundled-T (Direct Purchase) Impact								3	0.4%		5	0.7%		8	1.2%
	Small Rate 10															
6	Delivery Charges	4,786	7.9761	4,772	7.9525	4,785	7.9750	(0.0236)	(14)	-0.3%	0.0225	14	0.3%	(0.0010)	(1)	0.0%
7	Gas Supply Charges	13,972	23.2862	14,085	23.4744	14,177	23.6277	0.1882	113	0.8%	0.1533	92	0.7%	0.3415	205	1.5%
8	Total Bill	18,757	31.2623	18,856	31.4269	18,962	31.6027	0.1646	99	0.5%	0.1758	105	0.6%	0.3404	204	1.1%
9	Sales Service Impact								99	0.5%		105	0.6%		204	1.1%
10	Bundled-T (Direct Purchase) Impact								99	0.9%		105	0.9%		205	1.8%
	Large Rate 10															
11	Delivery Charges	15,570	6.2278	15,511	6.2042	15,567	6.2268	(0.0236)	(59)	-0.4%	0.0225	56	0.4%	(0.0010)	(3)	0.0%
12	Gas Supply Charges	58,215	23.2862	58,686	23.4744	59,069	23.6277	0.1882	470	0.8%	0.1533	383	0.7%	0.3415	854	1.5%
13	Total Bill	73,785	29.5140	74,197	29.6786	74,636	29.8544	0.1646	412	0.6%	0.1758	440	0.6%	0.3404	851	1.2%
14	Sales Service Impact								412	0.6%		440	0.6%		851	1.2%
15	Bundled-T (Direct Purchase) Impact								414	1.0%		440	1.0%		853	2.0%
	Small Rate 20															
16	Delivery Charges	74,860	2.4953	74,255	2.4752	74,352	2.4784	(0.0202)	(605)	-0.8%	0.0032	97	0.1%	(0.0169)	(508)	-0.7%
17	Gas Supply Charges	677,450	22.5817	681,606	22.7202	685,027	22.8342	0.1385	4,156	0.6%	0.1140	3,421	0.5%	0.2526	7,577	1.1%
18	Total Bill	752,309	25.0770	755,861	25.1954	759,379	25.3126	0.1184	3,551	0.5%	0.1173	3,518	0.5%	0.2357	7,070	0.9%
19	Sales Service Impact								3,551	0.5%		3,518	0.5%		7,070	0.9%
20	Bundled-T (Direct Purchase) Impact								3,576	1.0%		3,518	0.9%		7,094	1.9%
	Large Rate 20															
21	Delivery Charges	286,022	1.9068	283,346	1.8890	283,774	1.8918	(0.0178)	(2,676)	-0.9%	0.0028	427	0.2%	(0.0150)	(2,249)	-0.8%
22	Gas Supply Charges	3,188,882	21.2592	3,206,677	21.3778	3,221,339	21.4756	0.1186	17,795	0.6%	0.0977	14,662	0.5%	0.2164	32,457	1.0%
23	Total Bill	3,474,904	23.1660	3,490,024	23.2668	3,505,113	23.3674	0.1008	15,119	0.4%	0.1006	15,089	0.4%	0.2014	30,209	0.9%
24	Sales Service Impact								15,119	0.4%		15,089	0.4%		30,209	0.9%
25	Bundled-T (Direct Purchase) Impact								15,242	1.0%		15,089	1.0%		30,331	1.9%
	Average Rate 25															
26	Delivery Charges	63,659	2.7982	62,997	2.7691	62,997	2.7691	(0.0291)	(663)	-1.0%	-	-	0.0%	(0.0291)	(663)	-1.0%
27	Gas Supply Charges	397,435	17.4697	397,375	17.4670	397,375	17.4670	(0.0026)	(60)	0.0%	-	-	0.0%	(0.0026)	(60)	0.0%
28	Total Bill	461,094	20.2679	460,371	20.2361	460,371	20.2361	(0.0318)	(723)	-0.2%	-	-	0.0%	(0.0318)	(723)	-0.2%
29	Sales Service Impact								(723)	-0.2%		-	0.0%		(723)	-0.2%
30	T-Service (Direct Purchase) Impact								(663)	-1.0%		-	0.0%		(663)	-1.0%
	Small Rate 100															
31	Delivery Charges	259,798	0.9622	257,868	0.9551	257,891	0.9552	(0.0071)	(1,929)	-0.7%	0.0001	22	0.0%	(0.0071)	(1,907)	-0.7%
32	Gas Supply Charges	6,387,133	23.6560	6,387,400	23.6570	6,387,809	23.6586	0.0010	267	0.0%	0.0015	409	0.0%	0.0025	676	0.0%
33	Total Bill	6,646,931	24.6183	6,645,269	24.6121	6,645,700	24.6137	(0.0062)	(1,662)	0.0%	0.0016	431	0.0%	(0.0046)	(1,231)	0.0%
34	Sales Service Impact								(1,662)	0.0%		431	0.0%		(1,231)	0.0%
35	T-Service (Direct Purchase) Impact								(1,929)	-0.7%		22	0.0%		(1,907)	-0.7%
	Large Rate 100															
36	Delivery Charges	2,095,718	0.8732	2,079,120	0.8663	2,079,310	0.8664	(0.0069)	(16,599)	-0.8%	0.0001	191	0.0%	(0.0068)	(16,408)	-0.8%
37	Gas Supply Charges	55,689,711	23.2040	55,691,893	23.2050	55,695,371	23.2064	0.0009	2,182	0.0%	0.0014	3,478	0.0%	0.0024	5,660	0.0%
38	Total Bill	57,785,429	24.0773	57,771,013	24.0713	57,774,681	24.0728	(0.0060)	(14,416)	0.0%	0.0015	3,668	0.0%	(0.0045)	(10,748)	0.0%
39	Sales Service Impact								(14,416)	0.0%		3,668	0.0%		(10,748)	0.0%
40	T-Service (Direct Purchase) Impact								(16,599)	-0.8%		191	0.0%		(16,408)	-0.8%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 1,200,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects Without Turnback (2)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m³)	Bill ($)	Unit Rate (cents/m³)	Bill ($)	Unit Rate (cents/m³)	Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate M1															
1	Delivery Charges	347	15.7669	345	15.6829	347	15.7772	(0.0840)	(2)	-0.5%	0.0943	2	0.6%	0.0103	0	0.1%
2	Gas Supply Charges	378	17.1617	378	17.1608	378	17.1608	(0.0008)	(0)	0.0%	-	-	0.0%	(0.0008)	(0)	0.0%
3	Total Bill	724	32.9285	723	32.8437	725	32.9380	(0.0848)	(2)	-0.3%	0.0943	2	0.3%	0.0095	0	0.0%
4	Sales Service Impact								(2)	-0.3%		2	0.3%		0	0.0%
5	Direct Purchase Impact								(2)	-0.5%		2	0.6%		0	0.1%
	Small Rate M2															
6	Delivery Charges	3,719	6.1987	3,718	6.1962	3,775	6.2917	(0.0025)	(1)	0.0%	0.0954	57	1.5%	0.0929	56	1.5%
7	Gas Supply Charges	10,297	17.1617	10,297	17.1608	10,297	17.1608	(0.0008)	(0)	0.0%	-	-	0.0%	(0.0008)	(0)	0.0%
8	Total Bill	14,016	23.3604	14,014	23.3571	14,072	23.4525	(0.0033)	(2)	0.0%	0.0954	57	0.4%	0.0921	55	0.4%
9	Sales Service Impact								(2)	0.0%		57	0.4%		55	0.4%
10	Direct Purchase Impact								(1)	0.0%		57	1.5%		56	1.5%
	Large Rate M2															
11	Delivery Charges	12,289	4.9157	12,283	4.9132	12,522	5.0087	(0.0025)	(6)	-0.1%	0.0954	239	1.9%	0.0929	232	1.9%
12	Gas Supply Charges	42,904	17.1617	42,902	17.1608	42,902	17.1608	(0.0008)	(2)	0.0%	-	-	0.0%	(0.0008)	(2)	0.0%
13	Total Bill	55,193	22.0774	55,185	22.0741	55,424	22.1695	(0.0033)	(8)	0.0%	0.0954	239	0.4%	0.0921	230	0.4%
14	Sales Service Impact								(8)	0.0%		239	0.4%		230	0.4%
15	Direct Purchase Impact								(6)	-0.1%		239	1.9%		232	1.9%
	Small Rate M4															
16	Delivery Charges	35,274	4.0313	35,273	4.0312	35,881	4.1006	(0.0000)	(0)	0.0%	0.0694	607	1.7%	0.0694	607	1.7%
17	Gas Supply Charges	150,165	17.1617	150,157	17.1608	150,157	17.1608	(0.0008)	(7)	0.0%	-	-	0.0%	(0.0008)	(7)	0.0%
18	Total Bill	185,438	21.1929	185,431	21.1921	186,038	21.2615	(0.0009)	(7)	0.0%	0.0694	607	0.3%	0.0685	600	0.3%
19	Sales Service Impact								(7)	0.0%		607	0.3%		600	0.3%
20	Direct Purchase Impact								(0)	0.0%		607	1.7%		607	1.7%
	Large Rate M4															
21	Delivery Charges	271,476	2.2623	271,456	2.2621	279,049	2.3254	(0.0002)	(20)	0.0%	0.0633	7,593	2.8%	0.0631	7,573	2.8%
22	Gas Supply Charges	2,059,399	17.1617	2,059,301	17.1608	2,059,301	17.1608	(0.0008)	(98)	0.0%	-	-	0.0%	(0.0008)	(98)	0.0%
23	Total Bill	2,330,875	19.4240	2,330,757	19.4230	2,338,350	19.4863	(0.0010)	(118)	0.0%	0.0633	7,593	0.3%	0.0623	7,475	0.3%
24	Sales Service Impact								(118)	0.0%		7,593	0.3%		7,475	0.3%
25	Direct Purchase Impact								(20)	0.0%		7,593	2.8%		7,573	2.8%
	Small Rate M5															
26	Delivery Charges	32,792	3.9748	32,609	3.9526	32,607	3.9524	(0.0222)	(183)	-0.6%	(0.0003)	(2)	0.0%	(0.0225)	(185)	-0.6%
27	Gas Supply Charges	141,584	17.1617	141,577	17.1608	141,577	17.1608	(0.0008)	(7)	0.0%	-	-	0.0%	(0.0008)	(7)	0.0%
28	Total Bill	174,376	21.1365	174,186	21.1135	174,184	21.1132	(0.0230)	(190)	-0.1%	(0.0003)	(2)	0.0%	(0.0233)	(192)	-0.1%
29	Sales Service Impact								(190)	-0.1%		(2)	0.0%		(192)	-0.1%
30	Direct Purchase Impact								(183)	-0.6%		(2)	0.0%		(185)	-0.6%
	Large Rate M5															
31	Delivery Charges	183,182	2.8182	181,739	2.7960	181,722	2.7957	(0.0222)	(1,443)	-0.8%	(0.0003)	(17)	0.0%	(0.0225)	(1,461)	-0.8%
32	Gas Supply Charges	1,115,508	17.1617	1,115,455	17.1608	1,115,455	17.1608	(0.0008)	(53)	0.0%	-	-	0.0%	(0.0008)	(53)	0.0%
33	Total Bill	1,298,690	19.9799	1,297,194	19.9568	1,297,176	19.9566	(0.0230)	(1,497)	-0.1%	(0.0003)	(17)	0.0%	(0.0233)	(1,514)	-0.1%
34	Sales Service Impact								(1,497)	-0.1%		(17)	0.0%		(1,514)	-0.1%
35	Direct Purchase Impact								(1,443)	-0.8%		(17)	0.0%		(1,461)	-0.8%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 1,200,000 GJ/d).

UNION GAS LIMITED

Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($)	Unit Rate (cents/m³)	2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects Without Turnback (2) Bill ($)	Unit Rate (cents/m³)	2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects With Turnback (3) Bill ($)	Unit Rate (cents/m³)	Impact of 2018 Projects Only Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)	Impact of Turnback Only Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)	Grand Total Impact Unit Rate (cents/m³)	Bill Impact ($)	Bill Impact (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate M7															
1	Delivery Charges	618,172	1.7171	621,429	1.7262	642,206	1.7839	0.0090	3,256	0.5%	0.0577	20,777	3.3%	0.0668	24,033	3.9%
2	Gas Supply Charges	6,178,198	17.1617	6,177,904	17.1608	6,177,904	17.1608	(0.0008)	(294)	0.0%	-	-	0.0%	(0.0008)	(294)	0.0%
3	Total Bill	6,796,370	18.8788	6,799,332	18.8870	6,820,109	18.9447	0.0082	2,962	0.0%	0.0577	20,777	0.3%	0.0659	23,739	0.3%
4	Sales Service Impact								2,962	0.0%		20,777	0.3%		23,739	0.3%
5	Direct Purchase Impact								3,256	0.5%		20,777	3.3%		24,033	3.9%
	Large Rate M7															
6	Delivery Charges	2,360,598	4.5396	2,371,511	4.5606	2,440,080	4.6925	0.0210	10,913	0.5%	0.1319	68,569	2.9%	0.1529	79,482	3.4%
7	Gas Supply Charges	8,924,063	17.1617	8,923,638	17.1608	8,923,638	17.1608	(0.0008)	(425)	0.0%	-	-	0.0%	(0.0008)	(425)	0.0%
8	Total Bill	11,284,661	21.7013	11,295,149	21.7214	11,363,718	21.8533	0.0202	10,488	0.1%	0.1319	68,569	0.6%	0.1520	79,057	0.7%
9	Sales Service Impact								10,488	0.1%		68,569	0.6%		79,057	0.7%
10	Direct Purchase Impact								10,913	0.5%		68,569	2.9%		79,482	3.4%
	Small Rate M9															
11	Delivery Charges	116,565	1.6772	119,029	1.7126	126,601	1.8216	0.0355	2,464	2.1%	0.1089	7,572	6.4%	0.1444	10,036	8.6%
12	Gas Supply Charges	1,192,735	17.1617	1,192,679	17.1608	1,192,679	17.1608	(0.0008)	(57)	0.0%	-	-	0.0%	(0.0008)	(57)	0.0%
13	Total Bill	1,309,300	18.8389	1,311,708	18.8735	1,319,280	18.9824	0.0346	2,407	0.2%	0.1089	7,572	0.6%	0.1436	9,979	0.8%
14	Sales Service Impact								2,407	0.2%		7,572	0.6%		9,979	0.8%
15	Direct Purchase Impact								2,464	2.1%		7,572	6.4%		10,036	8.6%
	Large Rate M9															
16	Delivery Charges	346,142	1.7154	353,483	1.7518	376,036	1.8636	0.0364	7,341	2.1%	0.1118	22,553	6.4%	0.1482	29,894	8.6%
17	Gas Supply Charges	3,462,880	17.1617	3,462,715	17.1608	3,462,715	17.1608	(0.0008)	(165)	0.0%	-	-	0.0%	(0.0008)	(165)	0.0%
18	Total Bill	3,809,022	18.8771	3,816,198	18.9127	3,838,751	19.0244	0.0356	7,176	0.2%	0.1118	22,553	0.6%	0.1473	29,729	0.8%
19	Sales Service Impact								7,176	0.2%		22,553	0.6%		29,729	0.8%
20	Direct Purchase Impact								7,341	2.1%		22,553	6.4%		29,894	8.6%
	Average Rate M10															
21	Delivery Charges	4,889	5.1734	4,905	5.1900	5,593	5.9187	0.0166	16	0.3%	0.7288	689	14.0%	0.7453	704	14.4%
22	Gas Supply Charges	16,218	17.1617	16,217	17.1608	16,217	17.1608	(0.0008)	(1)	0.0%	-	-	0.0%	(0.0008)	(1)	0.0%
23	Total Bill	21,107	22.3351	21,122	22.3508	21,810	23.0796	0.0157	15	0.1%	0.7288	689	3.3%	0.7445	704	3.3%
24	Sales Service Impact								15	0.1%		689	3.3%		704	3.3%
25	Direct Purchase Impact								16	0.3%		689	14.0%		704	14.4%
	Small Rate T1															
26	Delivery Charges	127,339	1.6895	125,341	1.6630	127,499	1.6916	(0.0265)	(1,999)	-1.6%	0.0286	2,159	1.7%	0.0021	160	0.1%
27	Gas Supply Charges	1,293,474	17.1617	1,293,413	17.1608	1,293,413	17.1608	(0.0008)	(62)	0.0%	-	-	0.0%	(0.0008)	(62)	0.0%
28	Total Bill	1,420,814	18.8512	1,418,753	18.8238	1,420,912	18.8525	(0.0273)	(2,060)	-0.1%	0.0286	2,159	0.2%	0.0013	98	0.0%
29	Sales Service Impact								(2,060)	-0.1%		2,159	0.2%		98	0.0%
30	Direct Purchase Impact								(1,999)	-1.6%		2,159	1.7%		160	0.1%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 1,200,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects Without Turnback (2)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor & 2018 Parkway West Projects With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill Impact (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Average Rate T1															
1	Delivery Charges	193,986	1.6772	191,790	1.6582	195,040	1.6863	(0.0190)	(2,195)	-1.1%	0.0281	3,250	1.7%	0.0091	1,055	0.5%
2	Gas Supply Charges	1,984,907	17.1617	1,984,812	17.1608	1,984,812	17.1608	(0.0008)	(94)	0.0%	-	-	0.0%	(0.0008)	(94)	0.0%
3	Total Bill	2,178,892	18.8389	2,176,603	18.8191	2,179,853	18.8472	(0.0198)	(2,290)	-0.1%	0.0281	3,250	0.1%	0.0083	960	0.0%
4	Sales Service Impact								(2,290)	-0.1%		3,250	0.1%		960	0.0%
5	Direct Purchase Impact								(2,195)	-1.1%		3,250	1.7%		1,055	0.5%
	Large Rate T1															
6	Delivery Charges	427,194	1.6672	424,872	1.6581	431,763	1.6850	(0.0091)	(2,322)	-0.5%	0.0269	6,891	1.6%	0.0178	4,569	1.1%
7	Gas Supply Charges	4,397,517	17.1617	4,397,308	17.1608	4,397,308	17.1608	(0.0008)	(209)	0.0%	-	-	0.0%	(0.0008)	(209)	0.0%
8	Total Bill	4,824,712	18.8288	4,822,181	18.8189	4,829,071	18.8458	(0.0099)	(2,531)	-0.1%	0.0269	6,891	0.1%	0.0170	4,360	0.1%
9	Sales Service Impact								(2,531)	-0.1%		6,891	0.1%		4,360	0.1%
10	Direct Purchase Impact								(2,322)	-0.5%		6,891	1.6%		4,569	1.1%
	Small Rate T2															
11	Delivery Charges	480,912	0.8116	481,015	0.8118	491,965	0.8302	0.0002	103	0.0%	0.0185	10,950	2.3%	0.0187	11,053	2.3%
12	Gas Supply Charges	10,169,313	17.1617	10,168,829	17.1608	10,168,829	17.1608	(0.0008)	(484)	0.0%	-	-	0.0%	(0.0008)	(484)	0.0%
13	Total Bill	10,650,225	17.9732	10,649,844	17.9726	10,660,794	17.9911	(0.0006)	(381)	0.0%	0.0185	10,950	0.1%	0.0178	10,570	0.1%
14	Sales Service Impact								(381)	0.0%		10,950	0.1%		10,570	0.1%
15	Direct Purchase Impact								103	0.0%		10,950	2.3%		11,053	2.3%
	Average Rate T2															
16	Delivery Charges	1,105,628	0.5590	1,109,330	0.5609	1,141,178	0.5770	0.0019	3,702	0.3%	0.0161	31,848	2.9%	0.0180	35,550	3.2%
17	Gas Supply Charges	33,944,021	17.1617	33,942,406	17.1608	33,942,406	17.1608	(0.0008)	(1,615)	0.0%	-	-	0.0%	(0.0008)	(1,615)	0.0%
18	Total Bill	35,049,649	17.7207	35,051,736	17.7217	35,083,584	17.7378	0.0011	2,087	0.0%	0.0161	31,848	0.1%	0.0172	33,935	0.1%
19	Sales Service Impact								2,087	0.0%		31,848	0.1%		33,935	0.1%
20	Direct Purchase Impact								3,702	0.3%		31,848	2.9%		35,550	3.2%
	Large Rate T2															
21	Delivery Charges	1,799,626	0.4863	1,807,308	0.4883	1,862,323	0.5032	0.0021	7,682	0.4%	0.0149	55,015	3.0%	0.0169	62,697	3.5%
22	Gas Supply Charges	63,513,415	17.1617	63,510,393	17.1608	63,510,393	17.1608	(0.0008)	(3,022)	0.0%	-	-	0.0%	(0.0008)	(3,022)	0.0%
23	Total Bill	65,313,041	17.6479	65,317,702	17.6492	65,372,716	17.6641	0.0013	4,660	0.0%	0.0149	55,015	0.1%	0.0161	59,675	0.1%
24	Sales Service Impact								4,660	0.0%		55,015	0.1%		59,675	0.1%
25	Direct Purchase Impact								7,682	0.4%		55,015	3.0%		62,697	3.5%
	Large Rate T3															
26	Delivery Charges	2,912,694	1.0680	3,020,278	1.1075	3,334,673	1.2228	0.0394	107,584	3.7%	0.1153	314,395	10.4%	0.1547	421,979	14.5%
27	Gas Supply Charges	46,801,906	17.1617	46,799,679	17.1608	46,799,679	17.1608	(0.0008)	(2,227)	0.0%	-	-	0.0%	(0.0008)	(2,227)	0.0%
28	Total Bill	49,714,600	18.2297	49,819,957	18.2683	50,134,352	18.3836	0.0386	105,357	0.2%	0.1153	314,395	0.6%	0.1539	419,752	0.8%
29	Sales Service Impact								105,357	0.2%		314,395	0.6%		419,752	0.8%
30	Direct Purchase Impact								107,584	3.7%		314,395	10.4%		421,979	14.5%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 1,200,000 GJ/d).

UNION GAS LIMITED
M12/M12-X/C1 Transportation Demand Charge Impacts

Line No.	Particulars ($/GJ/day)	2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (1)	2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (2)	Difference	% Change
		(a)	(b)	(c) = (b-a)	(d) = (c/a)
1	M12/C1 Dawn to Kirkwall	0.076	0.092	0.016	21.4%
2	M12/C1 Dawn to Parkway	0.091	0.110	0.019	21.4%
3	M12/C1 Kirkwall to Parkway	0.014	0.018	0.003	21.4%
4	C1 Parkway to Kirkwall	0.023	0.027	0.005	21.4%
5	C1 Kirkwall to Dawn	0.040	0.048	0.009	21.4%
6	C1 Parkway to Dawn	0.023	0.027	0.005	21.4%
7	M12-X	0.113	0.137	0.024	21.4%

Notes:
(1) EB-2013-0074, Schedule 10-6, column c).
(2) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming an approximately 1,200,000 GJ/d reduction in M12 demands associated with forecasted turn back and the U.S. Northeast utilities contract expirations.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 9 - Project Costs, Economics and Benefits, Page 5 of 11, Lines 17-19

Preamble: Union notes that a Stage 2 sensitivity analysis of the project that does not include gas cost savings was not completed because under that scenario the proposed facilities would be used to serve Union's ex-franchise customers only.

a) Please discuss if there is any incremental in-franchise requirements that will be met by the proposed Brantford-Kirkwall facilities.

b) If there are no gas cost savings and the proposed facilities are only used to serve ex-franchise customers, please discuss how Union's in-franchise customers will be served.

c) Please discuss the rate impacts of the proposed facilities for both Union's in-franchise customers and ex-franchise customers if there are no gas cost savings and the proposed facilities are only used to serve Union's ex-franchise customers.

Response:

a) Please see Exhibits I.A1.UGL.Staff.9 a) and I.A1.UGL.Staff.10 a).

b) If there are no gas cost savings and the proposed facilities are used to serve ex-franchise customers only, Union would continue to serve Union North customers in a similar manner as it does currently, that is, through gas supplied primarily from the WCSB and transported on long-haul TCPL FT transportation contracts.

   However, Union continues to pursue alternatives to provide Union North customers access to Dawn-based supply in response to the changing North American natural gas supply dynamics. Accessing supplies at Dawn will provide many benefits to Union North in-franchise customers even if there are no gas cost savings. These benefits include security of supply and diversification, both key principles for gas supply planning purposes. Accessing supply at Dawn would be prudent even if the gas costs were similar to the WCSB sourced supplies.

c) Please see Attachment 1 and Attachment 2 for the rate impacts to in-franchise and M12 customers, respectively.

The rate impact analysis is based on the 2013 Board-approved cost allocation study including 2018 Brantford to Kirkwall and Parkway D Compressor Project costs only, excluding Union North Dawn-Parkway demands of 70,000 GJ/d.

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union North
excluding Union North Dawn-Parkway Demands

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($) (a)	Unit Rate (cents/m^3) (b)	2013 Rates including 2018 Brantford to Kirkwall/Parkway D Compressor Bill ($) (c)	Unit Rate (cents/m^3) (d)	Impact Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate 01							
1	Delivery Charges	459	20.8705	458	20.7984	(0.0721)	(2)	-0.3%
2	Gas Supply Charges	547	24.8571	547	24.8791	0.0220	0	0.1%
3	Total Bill	1,006	45.7276	1,005	45.6776	(0.0501)	(1)	-0.1%
4	Sales Service Impact						(1)	-0.1%
5	Bundled-T (Direct Purchase) Impact						(1)	-0.2%
	Small Rate 10							
6	Delivery Charges	4,786	7.9761	4,773	7.9550	(0.0210)	(13)	-0.3%
7	Gas Supply Charges	13,972	23.2862	13,981	23.3010	0.0148	9	0.1%
8	Total Bill	18,757	31.2623	18,754	31.2560	(0.0063)	(4)	0.0%
9	Sales Service Impact						(4)	0.0%
10	Bundled-T (Direct Purchase) Impact						(3)	0.0%
	Large Rate 10							
11	Delivery Charges	15,570	6.2278	15,517	6.2068	(0.0210)	(53)	-0.3%
12	Gas Supply Charges	58,215	23.2862	58,252	23.3010	0.0148	37	0.1%
13	Total Bill	73,785	29.5140	73,769	29.5077	(0.0063)	(16)	0.0%
14	Sales Service Impact						(16)	0.0%
15	Bundled-T (Direct Purchase) Impact						(14)	0.0%
	Small Rate 20							
16	Delivery Charges	74,860	2.4953	74,539	2.4846	(0.0107)	(321)	-0.4%
17	Gas Supply Charges	677,450	22.5817	677,800	22.5933	0.0117	350	0.1%
18	Total Bill	752,309	25.0770	752,339	25.0780	0.0010	30	0.0%
19	Sales Service Impact						30	0.0%
20	Bundled-T (Direct Purchase) Impact						47	0.0%
	Large Rate 20							
21	Delivery Charges	286,022	1.9068	284,605	1.8974	(0.0095)	(1,418)	-0.5%
22	Gas Supply Charges	3,188,882	21.2592	3,190,371	21.2691	0.0099	1,489	0.0%
23	Total Bill	3,474,904	23.1660	3,474,976	23.1665	0.0005	71	0.0%
24	Sales Service Impact						71	0.0%
25	Bundled-T (Direct Purchase) Impact						157	0.0%
	Average Rate 25							
26	Delivery Charges	63,659	2.7982	63,358	2.7850	(0.0132)	(301)	-0.5%
27	Gas Supply Charges	397,435	17.4697	397,450	17.4703	0.0007	15	0.0%
28	Total Bill	461,094	20.2679	460,808	20.2553	(0.0126)	(286)	-0.1%
29	Sales Service Impact						(286)	-0.1%
30	T-Service (Direct Purchase) Impact						(301)	-0.5%
	Small Rate 100							
31	Delivery Charges	259,798	0.9622	258,938	0.9590	(0.0032)	(860)	-0.3%
32	Gas Supply Charges	6,387,133	23.6560	6,387,018	23.6556	(0.0004)	(116)	0.0%
33	Total Bill	6,646,931	24.6183	6,645,956	24.6147	(0.0036)	(975)	0.0%
34	Sales Service Impact						(975)	0.0%
35	T-Service (Direct Purchase) Impact						(860)	-0.3%
	Large Rate 100							
36	Delivery Charges	2,095,718	0.8732	2,088,323	0.8701	(0.0031)	(7,396)	-0.4%
37	Gas Supply Charges	55,689,711	23.2040	55,688,668	23.2036	(0.0004)	(1,043)	0.0%
38	Total Bill	57,785,429	24.0773	57,776,991	24.0737	(0.0035)	(8,439)	0.0%
39	Sales Service Impact						(8,439)	0.0%
40	T-Service (Direct Purchase) Impact						(7,396)	-0.4%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South
excluding Union North Dawn-Parkway Demands

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall/Parkway D Compressor		Impact		
Line No.	Particulars	Bill ($) (a)	Unit Rate (cents/m^3) (b)	Bill ($) (c)	Unit Rate (cents/m^3) (d)	Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate M1							
1	Delivery Charges	347	15.7669	346	15.7236	(0.0432)	(1)	-0.3%
2	Gas Supply Charges	378	17.1617	378	17.1611	(0.0006)	(0)	0.0%
3	Total Bill	724	32.9285	723	32.8847	(0.0438)	(1)	-0.1%
4	Sales Service Impact						(1)	-0.1%
5	Direct Purchase Impact						(1)	-0.3%
	Small Rate M2							
6	Delivery Charges	3,719	6.1987	3,714	6.1907	(0.0080)	(5)	-0.1%
7	Gas Supply Charges	10,297	17.1617	10,297	17.1611	(0.0006)	(0)	0.0%
8	Total Bill	14,016	23.3604	14,011	23.3518	(0.0086)	(5)	0.0%
9	Sales Service Impact						(5)	0.0%
10	Direct Purchase Impact						(5)	-0.1%
	Large Rate M2							
11	Delivery Charges	12,289	4.9157	12,269	4.9077	(0.0080)	(20)	-0.2%
12	Gas Supply Charges	42,904	17.1617	42,903	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	55,193	22.0774	55,172	22.0688	(0.0086)	(21)	0.0%
14	Sales Service Impact						(21)	0.0%
15	Direct Purchase Impact						(20)	-0.2%
	Small Rate M4							
16	Delivery Charges	35,274	4.0313	35,236	4.0270	(0.0043)	(37)	-0.1%
17	Gas Supply Charges	150,165	17.1617	150,160	17.1611	(0.0006)	(5)	0.0%
18	Total Bill	185,438	21.1929	185,396	21.1881	(0.0048)	(42)	0.0%
19	Sales Service Impact						(42)	0.0%
20	Direct Purchase Impact						(37)	-0.1%
	Large Rate M4							
21	Delivery Charges	271,476	2.2623	271,004	2.2584	(0.0039)	(472)	-0.2%
22	Gas Supply Charges	2,059,399	17.1617	2,059,331	17.1611	(0.0006)	(69)	0.0%
23	Total Bill	2,330,875	19.4240	2,330,335	19.4195	(0.0045)	(540)	0.0%
24	Sales Service Impact						(540)	0.0%
25	Direct Purchase Impact						(472)	-0.2%
	Small Rate M5							
26	Delivery Charges	32,792	3.9748	32,717	3.9657	(0.0092)	(76)	-0.2%
27	Gas Supply Charges	141,584	17.1617	141,579	17.1611	(0.0006)	(5)	0.0%
28	Total Bill	174,376	21.1365	174,296	21.1268	(0.0097)	(80)	0.0%
29	Sales Service Impact						(80)	0.0%
30	Direct Purchase Impact						(76)	-0.2%
	Large Rate M5							
31	Delivery Charges	183,182	2.8182	182,587	2.8090	(0.0092)	(595)	-0.3%
32	Gas Supply Charges	1,115,508	17.1617	1,115,471	17.1611	(0.0006)	(37)	0.0%
33	Total Bill	1,298,690	19.9799	1,298,058	19.9701	(0.0097)	(633)	0.0%
34	Sales Service Impact						(633)	0.0%
35	Direct Purchase Impact						(595)	-0.3%
	Small Rate M7							
36	Delivery Charges	618,172	1.7171	618,147	1.7171	(0.0001)	(25)	0.0%
37	Gas Supply Charges	6,178,198	17.1617	6,177,992	17.1611	(0.0006)	(206)	0.0%
38	Total Bill	6,796,370	18.8788	6,796,139	18.8782	(0.0006)	(231)	0.0%
39	Sales Service Impact						(231)	0.0%
40	Direct Purchase Impact						(25)	0.0%
	Large Rate M7							
41	Delivery Charges	2,360,598	4.5396	2,360,573	4.5396	(0.0000)	(25)	0.0%
42	Gas Supply Charges	8,924,063	17.1617	8,923,766	17.1611	(0.0006)	(297)	0.0%
43	Total Bill	11,284,661	21.7013	11,284,338	21.7007	(0.0006)	(322)	0.0%
44	Sales Service Impact						(322)	0.0%
45	Direct Purchase Impact						(25)	0.0%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South
excluding Union North Dawn-Parkway Demands

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall/Parkway D Compressor		Impact		
Line No.	Particulars	Bill ($) (a)	Unit Rate (cents/m^3) (b)	Bill ($) (c)	Unit Rate (cents/m^3) (d)	Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate M9							
1	Delivery Charges	116,565	1.6772	117,068	1.6844	0.0072	503	0.4%
2	Gas Supply Charges	1,192,735	17.1617	1,192,696	17.1611	(0.0006)	(40)	0.0%
3	Total Bill	1,309,300	18.8389	1,309,763	18.8455	0.0067	463	0.0%
4	Sales Service Impact						463	0.0%
5	Direct Purchase Impact						503	0.4%
	Large Rate M9							
6	Delivery Charges	346,142	1.7154	347,640	1.7229	0.0074	1,498	0.4%
7	Gas Supply Charges	3,462,880	17.1617	3,462,764	17.1611	(0.0006)	(115)	0.0%
8	Total Bill	3,809,022	18.8771	3,810,404	18.8840	0.0069	1,382	0.0%
9	Sales Service Impact						1,382	0.0%
10	Direct Purchase Impact						1,498	0.4%
	Average Rate M10							
11	Delivery Charges	4,889	5.1734	4,858	5.1412	(0.0322)	(30)	-0.6%
12	Gas Supply Charges	16,218	17.1617	16,217	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	21,107	22.3351	21,076	22.3023	(0.0328)	(31)	-0.1%
14	Sales Service Impact						(31)	-0.1%
15	Direct Purchase Impact						(30)	-0.6%
	Small Rate T1							
16	Delivery Charges	127,339	1.6895	126,287	1.6756	(0.0140)	(1,052)	-0.8%
17	Gas Supply Charges	1,293,474	17.1617	1,293,431	17.1611	(0.0006)	(43)	0.0%
18	Total Bill	1,420,814	18.8512	1,419,718	18.8367	(0.0145)	(1,095)	-0.1%
19	Sales Service Impact						(1,095)	-0.1%
20	Direct Purchase Impact						(1,052)	-0.8%
	Average Rate T1							
21	Delivery Charges	193,986	1.6772	192,794	1.6669	(0.0103)	(1,192)	-0.6%
22	Gas Supply Charges	1,984,907	17.1617	1,984,841	17.1611	(0.0006)	(66)	0.0%
23	Total Bill	2,178,892	18.8389	2,177,634	18.8280	(0.0109)	(1,258)	-0.1%
24	Sales Service Impact						(1,258)	-0.1%
25	Direct Purchase Impact						(1,192)	-0.6%
	Large Rate T1							
26	Delivery Charges	427,194	1.6672	425,796	1.6617	(0.0055)	(1,398)	-0.3%
27	Gas Supply Charges	4,397,517	17.1617	4,397,371	17.1611	(0.0006)	(147)	0.0%
28	Total Bill	4,824,712	18.8288	4,823,167	18.8228	(0.0060)	(1,544)	0.0%
29	Sales Service Impact						(1,544)	0.0%
30	Direct Purchase Impact						(1,398)	-0.3%
	Small Rate T2							
31	Delivery Charges	480,912	0.8116	480,352	0.8106	(0.0009)	(559)	-0.1%
32	Gas Supply Charges	10,169,313	17.1617	10,168,974	17.1611	(0.0006)	(339)	0.0%
33	Total Bill	10,650,225	17.9732	10,649,327	17.9717	(0.0015)	(898)	0.0%
34	Sales Service Impact						(898)	0.0%
35	Direct Purchase Impact						(559)	-0.1%
	Average Rate T2							
36	Delivery Charges	1,105,628	0.5590	1,105,593	0.5590	(0.0000)	(35)	0.0%
37	Gas Supply Charges	33,944,021	17.1617	33,942,890	17.1611	(0.0006)	(1,131)	0.0%
38	Total Bill	35,049,649	17.7207	35,048,483	17.7201	(0.0006)	(1,166)	0.0%
39	Sales Service Impact						(1,166)	0.0%
40	Direct Purchase Impact						(35)	0.0%
	Large Rate T2							
41	Delivery Charges	1,799,626	0.4863	1,800,169	0.4864	0.0001	543	0.0%
42	Gas Supply Charges	63,513,415	17.1617	63,511,299	17.1611	(0.0006)	(2,116)	0.0%
43	Total Bill	65,313,041	17.6479	65,311,468	17.6475	(0.0004)	(1,573)	0.0%
44	Sales Service Impact						(1,573)	0.0%
45	Direct Purchase Impact						543	0.0%
	Large Rate T3							
46	Delivery Charges	2,912,694	1.0680	2,936,470	1.0768	0.0087	23,776	0.8%
47	Gas Supply Charges	46,801,906	17.1617	46,800,347	17.1611	(0.0006)	(1,559)	0.0%
48	Total Bill	49,714,600	18.2297	49,736,816	18.2379	0.0081	22,216	0.0%
49	Sales Service Impact						22,216	0.0%
50	Direct Purchase Impact						23,776	0.8%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
M12/M12-X/C1 Transportation Demand Charge Impacts
excluding Union North Dawn-Parkway Demands

Line No.	Particulars ($/GJ/day)	EB-2011-0210 2013 Approved (1)	2013 Rates including 2018 Brantford to Kirkwall and Parkway D Compressor	Difference	% Change
		(a)	(b)	(c) = (b-a)	(d) = (c/a)
1	M12/C1 Dawn to Kirkwall	0.066	0.069	0.003	4.9%
2	M12/C1 Dawn to Parkway	0.078	0.082	0.004	5.1%
3	M12/C1 Kirkwall to Parkway	0.012	0.013	0.001	6.6%
4	C1 Parkway to Kirkwall	0.019	0.020	0.001	6.6%
5	C1 Kirkwall to Dawn	0.034	0.036	0.002	6.6%
6	C1 Parkway to Dawn	0.019	0.020	0.001	6.6%
7	M12-X	0.097	0.103	0.005	5.4%

Notes:
(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 9 - Project Costs, Economics and Benefits, Page 4 of 11, Lines 5-10

Preamble: Union notes that incremental cash inflows have been estimated based on both revenues from incremental M12 transportation service demands and anticipated gas supply cost savings realized from Contracts with TCPL proposed to serve existing Union EDA and Union NDA in-franchise markets from Dawn.

a) Please discuss the status of these contracts.

Response:

a) On April 29th, 2013 TCPL notified Union, and the other shippers who underpinned their 2015 Eastern Mainline Expansion project, that due to the recent NEB decision (RH-003-2011) TCPL was suspending the 2015 Eastern mainline Expansion. However, TCPL indicated that they would like to continue to work with Union to explore other solutions and alternatives to move the initiatives ahead.

   Attachments 1 and 2 are the letters Union received within this communication that relate specifically to the Parkway to Union EDA and Parkway to Union NDA contractual arrangements. Although TCPL has notified Union that they suspended constructing the new facilities that would support these specific contracts, Union is continuing to pursue options and solutions to allow Union North customers access to Dawn and the diversity benefits that would be provided to them. Please refer to Exhibits I.A1.UGL.Staff.1 and Exhibit I.A1.UGL.Staff.7.

   Although these options and solutions may result in agreements that differ from what was originally filed, the principles supporting the movement from WCSB supplies via long haul transportation to Union EDA and Union NDA, to Dawn based supplies and short haul transportation, have not changed. Increased diversity, security of supply and economic benefits, including substantial gas cost savings for Union North customers by moving a portion of their supplies to Dawn as outlined within the evidence under EB-2013-0074, Section 11, still exist.

TransCanada
In business to deliver

TransCanada PipeLines Limited
200 Bay Street, South Tower
Toronto, Ontario
M5J 2J1

tel 416.869.2191
fax 416.869.2119
email don_bell@transcanada.com
web www.transcanada.com

April 29, 2013

Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Attention: Chris Shorts
Director, Gas Supply

Dear Chris,

Reference: Precedent Agreement between TransCanada PipeLines Limited ("TransCanada") and Union Gas Limited dated October 2, 2012 (the "Precedent Agreement") for 10,000 GJ/d from Union Parkway Belt to Union NDA

Please be advised that the Board of Directors of TransCanada has not approved the Eastern Mainline expansion projects for 2015 in light of the recent NEB Decision for RH-003-2011. Although Union Gas Limited did not execute the above mentioned Precedent Agreement, the Eastern Mainline 2015 expansion project included the transaction contemplated in the above noted Precedent Agreement. As such we would like to notify you that TransCanada is not prepared to execute the Precedent Agreement on the basis that the Condition Precedent, as such term is defined in the Precedent Agreement under Paragraph 29 (a), would not be satisfied.

Notwithstanding the suspension of the 2015 Eastern Mainline Expansion, TransCanada would like to work with you to explore what solutions or alternatives may be available to move these initiatives ahead given the NEB RH-003-2011 Decision.

Sincerely,

Don Bell
Director, Mainline East
Commercial East

TransCanada
In business to deliver

TransCanada PipeLines Limited
200 Bay Street, South Tower
Toronto, Ontario
M5J 2J1

tel 416.869.2191
fax 416.869.2119
email don_bell@transcanada.com
web www.transcanada.com

April 29, 2013

Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Attention: Chris Shorts
Director, Gas Supply

Dear Chris,

Reference: Precedent Agreement between TransCanada PipeLines Limited ("TransCanada") and Union Gas Limited dated October 2, 2012 (the "Precedent Agreement") for 100,000 GJ/d from Union Parkway Belt to Union EDA

Please be advised that the Board of Directors of TransCanada has not approved the Eastern Mainline expansion projects for 2015 in light of the recent NEB Decision for RH-003-2011. Although Union Gas Limited did not execute the above mentioned Precedent Agreement, the Eastern Mainline 2015 expansion project included the transaction contemplated in the above noted Precedent Agreement. As such we would like to notify you that TransCanada is not prepared to execute the Precedent Agreement on the basis that the Condition Precedent, as such term is defined in the Precedent Agreement under Paragraph 29 (a), would not be satisfied.

Notwithstanding the suspension of the 2015 Eastern Mainline Expansion, TransCanada would like to work with you to explore what solutions or alternatives may be available to move these initiatives ahead given the NEB RH-003-2011 Decision.

Sincerely,

Don Bell
Director, Mainline East
Commercial East

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 9 - Project Costs, Economics and Benefits, Page 9 of 11, Lines 11-19

Preamble: Union projects that annual savings are estimated to be up to $51 million and $120 million for Enbridge and Gaz Metro customers and when combined with the gas cost savings of up to $28 million for Union North customers, savings for Ontario and Quebec energy consumers totals approximately $200 million per year, or $2.0 billion between 2015 and 2025.

a) Please provide the data and underlying assumptions that the estimated annual savings noted above are based on.

Response:

(a) The estimated savings of up to $2.0 billion between 2015 and 2025 are based on projected gas cost savings for customers of Enbridge, Gaz Métro, and Union. These savings were included in regulatory filings and the source references are summarized in the table below:

Company	Annual Savings ($millions)	Total Savings ($billions)	Reference
Enbridge	51.1	0.5	EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 20 of 24 EB-2012-0451, Exhibit A, Tab 3, Schedule 5, Page 24 of 24 Table 4
Gaz Métro	88-120	0.9-1.2	Régie Decision, D-2012-175, R-3809-2012, page 14.
Union	18-28	0.2-0.3	EB-2013-0074, Section 11, Page 29, Figure 11-7
TOTAL	**149-199**	**2.0**	

Recently Enbridge has revised their forecasted savings to be $1.7 billion over the ten year period (Updated: 2013-05-15, EB-2012-0451, Exhibit E, Tab 1, Schedule 1, Attachment Page 2 of 5). In addition, Union has provided preliminary analysis of natural gas cost savings of $15-$18 million in response to Board Staff IR#1(e) based on the TransCanada Compliance tolls and the Review and Variance tolls. An updated table with the revisions is provided below:

Company	Annual Savings ($millions)	Total Savings ($billions)	Reference
Enbridge	170	1.7	EB-2012-0451, Exhibit E, Tab 1, Schedule 1, Attachment Page 2 of 5 Updated 2013-05-15
Gaz Métro	88-120	0.9-1.2	Régie Decision, D-2012-175, R-3809-2012, page 14.
Union	15-18	0.2	Response to Board Staff IR#1(e)
TOTAL	**273-308**	**2.8-3.1**	

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2012-0433, page 106 of 121, paragraphs 17 and 18

Union sets out in these paragraphs its proposal to allocate costs directly attributable to the Parkway West Project between in-franchise and ex-franchise rate classes using the current approved allocation method for Dawn Parkway transmission costs. To this end, Union states that in-franchise customers will bear 16%, or $3.4 million, of the costs directly attributable to the project. Those costs will be offset by a $5.5 million reduction in the allocation of overhead costs (indirect costs and taxes).

a) Please provide a table that shows the rate impact for both system sales and direct purchase customers for each rate class in both the North and South for the Parkway West Project;

b) Please provide a table that shows how the costs directly attributable to the Parkway West Project will be allocated to both system sales and direct purchase customers for each rate class;

c) Please provide a table that shows how the $5.5 million reduction in the allocation of overhead costs (indirect costs and taxes) will be allocated to both system sales and direct purchase customers for each rate class;

Response:

a) Please see Attachment 1.

b) & c) Please see Attachment 2 of Exhibit.I.A3.UGL.LPMA.11.

In Union North, the cost allocation and rate impacts relate primarily to the provision of storage service, which is applicable to both sales service and bundled direct purchase customers.

In Union South, the cost allocation and rate impacts relate primarily to the provision of distribution service, which is applicable to both sales service and direct purchase customers.

In addition, there is a small rate reduction to the Gas Supply Administration Charge, which is applicable to Union North and Union South sales service customers only.

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union North

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($) (a)	Unit Rate (cents/m^3) (b)	2013 Rates including 2018 Parkway West Bill ($) (c)	Unit Rate (cents/m^3) (d)	Impact Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate 01							
1	Delivery Charges	459	20.8705	457	20.7835	(0.0870)	(2)	-0.4%
2	Gas Supply Charges	547	24.8571	548	24.9290	0.0719	2	0.3%
3	Total Bill	1,006	45.7276	1,006	45.7125	(0.0152)	(0)	0.0%
4	Sales Service Impact						(0)	0.0%
5	Bundled-T (Direct Purchase) Impact						(0)	0.0%
	Small Rate 10							
6	Delivery Charges	4,786	7.9761	4,773	7.9547	(0.0213)	(13)	-0.3%
7	Gas Supply Charges	13,972	23.2862	14,002	23.3370	0.0508	30	0.2%
8	Total Bill	18,757	31.2623	18,775	31.2917	0.0295	18	0.1%
9	Sales Service Impact						18	0.1%
10	Bundled-T (Direct Purchase) Impact						18	0.2%
	Large Rate 10							
11	Delivery Charges	15,570	6.2278	15,516	6.2065	(0.0213)	(53)	-0.3%
12	Gas Supply Charges	58,215	23.2862	58,343	23.3370	0.0508	127	0.2%
13	Total Bill	73,785	29.5140	73,859	29.5435	0.0295	74	0.1%
14	Sales Service Impact						74	0.1%
15	Bundled-T (Direct Purchase) Impact						75	0.2%
	Small Rate 20							
16	Delivery Charges	74,860	2.4953	74,489	2.4830	(0.0123)	(370)	-0.5%
17	Gas Supply Charges	677,450	22.5817	678,566	22.6189	0.0372	1,116	0.2%
18	Total Bill	752,309	25.0770	753,055	25.1018	0.0249	746	0.1%
19	Sales Service Impact						746	0.1%
20	Bundled-T (Direct Purchase) Impact						763	0.2%
	Large Rate 20							
21	Delivery Charges	286,022	1.9068	284,385	1.8959	(0.0109)	(1,637)	-0.6%
22	Gas Supply Charges	3,188,882	21.2592	3,193,654	21.2910	0.0318	4,772	0.1%
23	Total Bill	3,474,904	23.1660	3,478,039	23.1869	0.0209	3,134	0.1%
24	Sales Service Impact						3,134	0.1%
25	Bundled-T (Direct Purchase) Impact						3,220	0.2%
	Average Rate 25							
26	Delivery Charges	63,659	2.7982	63,284	2.7817	(0.0165)	(376)	-0.6%
27	Gas Supply Charges	397,435	17.4697	397,409	17.4685	(0.0011)	(25)	0.0%
28	Total Bill	461,094	20.2679	460,693	20.2502	(0.0176)	(401)	-0.1%
29	Sales Service Impact						(401)	-0.1%
30	T-Service (Direct Purchase) Impact						(376)	-0.6%
	Small Rate 100							
31	Delivery Charges	259,798	0.9622	258,711	0.9582	(0.0040)	(1,086)	-0.4%
32	Gas Supply Charges	6,387,133	23.6560	6,387,107	23.6560	(0.0001)	(26)	0.0%
33	Total Bill	6,646,931	24.6183	6,645,818	24.6141	(0.0041)	(1,113)	0.0%
34	Sales Service Impact						(1,113)	0.0%
35	T-Service (Direct Purchase) Impact						(1,086)	-0.4%
	Large Rate 100							
36	Delivery Charges	2,095,718	0.8732	2,086,370	0.8693	(0.0039)	(9,348)	-0.4%
37	Gas Supply Charges	55,689,711	23.2040	55,689,426	23.2039	(0.0001)	(285)	0.0%
38	Total Bill	57,785,429	24.0773	57,775,796	24.0732	(0.0040)	(9,633)	0.0%
39	Sales Service Impact						(9,633)	0.0%
40	T-Service (Direct Purchase) Impact						(9,348)	-0.4%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($) (a)	Unit Rate (cents/m^3) (b)	2013 Rates including 2018 Parkway West Bill ($) (c)	Unit Rate (cents/m^3) (d)	Impact Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate M1							
1	Delivery Charges	347	15.7669	346	15.7309	(0.0360)	(1)	-0.2%
2	Gas Supply Charges	378	17.1617	378	17.1611	(0.0006)	(0)	0.0%
3	Total Bill	724	32.9285	724	32.8920	(0.0366)	(1)	-0.1%
4	Sales Service Impact						(1)	-0.1%
5	Direct Purchase Impact						(1)	-0.2%
	Small Rate M2							
6	Delivery Charges	3,719	6.1987	3,726	6.2105	0.0118	7	0.2%
7	Gas Supply Charges	10,297	17.1617	10,297	17.1611	(0.0006)	(0)	0.0%
8	Total Bill	14,016	23.3604	14,023	23.3716	0.0112	7	0.0%
9	Sales Service Impact						7	0.0%
10	Direct Purchase Impact						7	0.2%
	Large Rate M2							
11	Delivery Charges	12,289	4.9157	12,319	4.9275	0.0118	29	0.2%
12	Gas Supply Charges	42,904	17.1617	42,903	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	55,193	22.0774	55,221	22.0886	0.0112	28	0.1%
14	Sales Service Impact						28	0.1%
15	Direct Purchase Impact						29	0.2%
	Small Rate M4							
16	Delivery Charges	35,274	4.0313	35,351	4.0402	0.0089	78	0.2%
17	Gas Supply Charges	150,165	17.1617	150,160	17.1611	(0.0006)	(5)	0.0%
18	Total Bill	185,438	21.1929	185,511	21.2012	0.0083	73	0.0%
19	Sales Service Impact						73	0.0%
20	Direct Purchase Impact						78	0.2%
	Large Rate M4							
21	Delivery Charges	271,476	2.2623	272,436	2.2703	0.0080	960	0.4%
22	Gas Supply Charges	2,059,399	17.1617	2,059,331	17.1611	(0.0006)	(69)	0.0%
23	Total Bill	2,330,875	19.4240	2,331,767	19.4314	0.0074	892	0.0%
24	Sales Service Impact						892	0.0%
25	Direct Purchase Impact						960	0.4%
	Small Rate M5							
26	Delivery Charges	32,792	3.9748	32,684	3.9617	(0.0132)	(109)	-0.3%
27	Gas Supply Charges	141,584	17.1617	141,579	17.1611	(0.0006)	(5)	0.0%
28	Total Bill	174,376	21.1365	174,263	21.1228	(0.0137)	(113)	-0.1%
29	Sales Service Impact						(113)	-0.1%
30	Direct Purchase Impact						(109)	-0.3%
	Large Rate M5							
31	Delivery Charges	183,182	2.8182	182,327	2.8050	(0.0132)	(855)	-0.5%
32	Gas Supply Charges	1,115,508	17.1617	1,115,471	17.1611	(0.0006)	(37)	0.0%
33	Total Bill	1,298,690	19.9799	1,297,798	19.9661	(0.0137)	(892)	-0.1%
34	Sales Service Impact						(892)	-0.1%
35	Direct Purchase Impact						(855)	-0.5%
	Small Rate M7							
36	Delivery Charges	618,172	1.7171	622,879	1.7302	0.0131	4,707	0.8%
37	Gas Supply Charges	6,178,198	17.1617	6,177,992	17.1611	(0.0006)	(206)	0.0%
38	Total Bill	6,796,370	18.8788	6,800,871	18.8913	0.0125	4,501	0.1%
39	Sales Service Impact						4,501	0.1%
40	Direct Purchase Impact						4,707	0.8%
	Large Rate M7							
41	Delivery Charges	2,360,598	4.5396	2,376,243	4.5697	0.0301	15,646	0.7%
42	Gas Supply Charges	8,924,063	17.1617	8,923,766	17.1611	(0.0006)	(297)	0.0%
43	Total Bill	11,284,661	21.7013	11,300,009	21.7308	0.0295	15,348	0.1%
44	Sales Service Impact						15,348	0.1%
45	Direct Purchase Impact						15,646	0.7%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($) (a)	Unit Rate (cents/m^3) (b)	2013 Rates including 2018 Parkway West Bill ($) (c)	Unit Rate (cents/m^3) (d)	Impact Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate M9							
1	Delivery Charges	116,565	1.6772	119,049	1.7129	0.0357	2,484	2.1%
2	Gas Supply Charges	1,192,735	17.1617	1,192,696	17.1611	(0.0006)	(40)	0.0%
3	Total Bill	1,309,300	18.8389	1,311,744	18.8740	0.0352	2,444	0.2%
4	Sales Service Impact						2,444	0.2%
5	Direct Purchase Impact						2,484	2.1%
	Large Rate M9							
6	Delivery Charges	346,142	1.7154	353,541	1.7521	0.0367	7,399	2.1%
7	Gas Supply Charges	3,462,880	17.1617	3,462,764	17.1611	(0.0006)	(115)	0.0%
8	Total Bill	3,809,022	18.8771	3,816,306	18.9132	0.0361	7,284	0.2%
9	Sales Service Impact						7,284	0.2%
10	Direct Purchase Impact						7,399	2.1%
	Average Rate M10							
11	Delivery Charges	4,889	5.1734	4,978	5.2682	0.0948	90	1.8%
12	Gas Supply Charges	16,218	17.1617	16,217	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	21,107	22.3351	21,196	22.4293	0.0942	89	0.4%
14	Sales Service Impact						89	0.4%
15	Direct Purchase Impact						90	1.8%
	Small Rate T1							
16	Delivery Charges	127,339	1.6895	126,480	1.6781	(0.0114)	(859)	-0.7%
17	Gas Supply Charges	1,293,474	17.1617	1,293,431	17.1611	(0.0006)	(43)	0.0%
18	Total Bill	1,420,814	18.8512	1,419,912	18.8392	(0.0120)	(902)	-0.1%
19	Sales Service Impact						(902)	-0.1%
20	Direct Purchase Impact						(859)	-0.7%
	Average Rate T1							
21	Delivery Charges	193,986	1.6772	193,137	1.6699	(0.0073)	(848)	-0.4%
22	Gas Supply Charges	1,984,907	17.1617	1,984,841	17.1611	(0.0006)	(66)	0.0%
23	Total Bill	2,178,892	18.8389	2,177,978	18.8310	(0.0079)	(914)	0.0%
24	Sales Service Impact						(914)	0.0%
25	Direct Purchase Impact						(848)	-0.4%
	Large Rate T1							
26	Delivery Charges	427,194	1.6672	426,667	1.6651	(0.0021)	(527)	-0.1%
27	Gas Supply Charges	4,397,517	17.1617	4,397,371	17.1611	(0.0006)	(147)	0.0%
28	Total Bill	4,824,712	18.8288	4,824,038	18.8262	(0.0026)	(674)	0.0%
29	Sales Service Impact						(674)	0.0%
30	Direct Purchase Impact						(527)	-0.1%
	Small Rate T2							
31	Delivery Charges	480,912	0.8116	482,228	0.8138	0.0022	1,316	0.3%
32	Gas Supply Charges	10,169,313	17.1617	10,168,974	17.1611	(0.0006)	(339)	0.0%
33	Total Bill	10,650,225	17.9732	10,651,202	17.9749	0.0016	977	0.0%
34	Sales Service Impact						977	0.0%
35	Direct Purchase Impact						1,316	0.3%
	Average Rate T2							
36	Delivery Charges	1,105,628	0.5590	1,111,328	0.5619	0.0029	5,700	0.5%
37	Gas Supply Charges	33,944,021	17.1617	33,942,890	17.1611	(0.0006)	(1,131)	0.0%
38	Total Bill	35,049,649	17.7207	35,054,218	17.7230	0.0023	4,569	0.0%
39	Sales Service Impact						4,569	0.0%
40	Direct Purchase Impact						5,700	0.5%
	Large Rate T2							
41	Delivery Charges	1,799,626	0.4863	1,810,179	0.4891	0.0029	10,553	0.6%
42	Gas Supply Charges	63,513,415	17.1617	63,511,299	17.1611	(0.0006)	(2,116)	0.0%
43	Total Bill	65,313,041	17.6479	65,321,478	17.6502	0.0023	8,437	0.0%
44	Sales Service Impact						8,437	0.0%
45	Direct Purchase Impact						10,553	0.6%
	Large Rate T3							
46	Delivery Charges	2,912,694	1.0680	3,018,535	1.1069	0.0388	105,841	3.6%
47	Gas Supply Charges	46,801,906	17.1617	46,800,347	17.1611	(0.0006)	(1,559)	0.0%
48	Total Bill	49,714,600	18.2297	49,818,882	18.2679	0.0382	104,282	0.2%
49	Sales Service Impact						104,282	0.2%
50	Direct Purchase Impact						105,841	3.6%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2013-0074, Section 10, page 4 of 11

Union states that in the event there is any delay in the planned construction of the facilities (which CME understands refers to proposed construction projects by TCPL, EGD and Union), Union may request a deferral account to recover from ratepayers the costs associated with the unutilized Dawn Parkway transmission capacity. CME wishes to better understand the potential costs associated with the unutilized Dawn Parkway transmission capacity.

Please provide a table that shows the estimated impact associated with unutilized Dawn Parkway transmission capacity if there is a delay in any of the planned construction for three months, six months and one year. In setting out potential costs associated with unutilized Dawn Parkway transmission capacity for these three time periods, please provide a table that shows the rate impact for both system supply and direct purchase customers in both the North and South for all rate classes.

Response:

For the purposes of this response Union has assumed that, absent any delays, it is able to re-purpose Dawn to Kirkwall turnback of approximately 195,000 GJ/day as Dawn to Parkway service of approximately 119,000 GJ/day, effective November 1, 2015. To determine the impacts of a delay in the construction of Union facilities or EGD/TCPL facilities, Union has assumed a one year delay.

In the event of a delay that prevents Union from re-purposing Dawn to Kirkwall turnback as Dawn-Parkway service of 119,000 GJ/day until November 1, 2016, Union estimates lost M12 revenue of approximately $3.4 million.

If Union requests, and the Board approves a deferral account, Union would recover the lost revenue from rate classes in proportion to Dawn-Parkway distance-weighted design day demands. Please see Attachment 1 for the allocation of the estimated lost M12 revenue to rate classes.

Please see Attachment 2 for bill impacts of typical small and large customers.

Allocation of Estimated Lost M12 Revenue by Rate Class

Line No.	Rate Class ($000's)	2013 Board Approved DTTRANS Allocation (1) ($10^6 m^3$ x km)	(%)	Estimated Lost M12 Revenue (2) ($000's)
		(a)	(b)	(c) = (a x b)
1	Rate M1	1,820	6%	194
2	Rate M2	612	2%	65
3	Rate M4	178	1%	19
4	Rate M5	2	0%	0
5	Rate M7	82	0%	9
6	Rate M9	29	0%	3
7	Rate M10	1	0%	0
8	Rate T1	88	0%	9
9	Rate T2	570	2%	61
10	Rate T3	207	1%	22
11	Subtotal - Union South	3,588	11%	383
12	Rate M12	26,557	84%	2,835
13	Subtotal - Ex-franchise	26,557	84%	2,835
14	Rate 01	1,191	4%	127
15	Rate 10	312	1%	33
16	Rate 20	83	0%	9
17	Rate 100	6	0%	1
18	Subtotal - Union North	1,592	5%	170
19	In-franchise (line 11 + line 18)	5,180	16%	553
20	Ex-franchise (line 13)	26,557	84%	2,835
21	Total (line 19 + line 20)	31,737	100%	3,388

Notes:
(1) The 2013 Board approved demand allocation is provided at EB-2011-0210, Exhibit G3, Tab 5, Schedule 23, Updated, pages 7-8, line 5.
(2) Estimated lost M12 revenue of $3.388 million = 119,000 GJ/d x $0.078 x 365

UNION GAS LIMITED
Estimated Bill Impacts for Typical Small and Large Customers
related to Estimated Lost Rate M12 Revenue

Line No.	Particulars	Unit Rate for Disposition (1) (cents/m^3)	Average Customer Volume (m^3)	Bill Impact (2) ($)
		(a)	(b)	(c) = (a / b)
1	Small Rate 01	0.0144	2,200	0.32
2	Small Rate 10	0.0103	60,000	6.19
3	Large Rate 10	0.0103	250,000	25.78
4	Small Rate 20	0.0014	3,000,000	42.39
5	Large Rate 20	0.0014	15,000,000	211.95
6	Average Rate 25	0.0000	2,275,000	-
7	Small Rate 100	0.0000	27,000,000	8.92
8	Large Rate 100	0.0000	240,000,000	79.28
9	Small Rate M1	0.0066	2,200	0.15
10	Small Rate M2	0.0067	60,000	4.01
11	Large Rate M2	0.0067	250,000	16.73
12	Small Rate M4	0.0047	875,000	41.04
13	Large Rate M4	0.0047	12,000,000	562.89
14	Small Rate M5A	0.0000	825,000	0.28
15	Large Rate M5A	0.0000	6,500,000	2.19
16	Small Rate M7	0.0059	36,000,000	2,141.18
17	Large Rate M7	0.0059	52,000,000	3,092.81
18	Small Rate M9	0.0052	6,950,000	358.08
19	Large Rate M9	0.0052	20,178,000	1,039.61
20	Average Rate M10	0.0511	94,500	48.29
21	Small Rate T1	0.0017	7,537,000	128.78
22	Average Rate T1	0.0017	11,565,938	197.62
23	Large Rate T1	0.0017	25,624,080	437.83
24	Small Rate T2	0.0012	59,256,000	738.81
25	Average Rate T2	0.0012	197,789,850	2,466.08
26	Large Rate T2	0.0012	370,089,000	4,614.34
27	Large Rate T3	0.0081	272,712,000	22,044.26

Notes:
(1) Unit rates calcuated using Board Approved volumes per EB-2011-0210.
(2) Applies to both Sales Service and Direct Purchase customers.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Ref: EB-2013-0074, Section 10, page 5-10 of 11

Union states that the annual revenue requirement associated with the Brantford-Kirkwall/Parkway D Project ranges from approximately $0.1 million in 2015 to $15.9 in 2018.

a) Please provide a table that shows the rate impact for both system sales and direct purchase customers for each rate class in both the North and South for the Brantford-Kirkwall/Parkway D Project;

b) Please provide a table that shows how the costs directly attributable to the Brantford-Kirkwall/Parkway D Project will be allocated to both system sales and direct purchase customers in both the North and South for each rate class;

c) Please provide a table that shows how shifts in indirect costs (excluding those costs directly attributable to the Brantford-Kirkwall/Parkway D Project) will be allocated to both system sales and direct purchase customers, in both the North and the South, for each rate class;

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a) Please see Attachment 1.

b) & c) Please see EB-2013-0074, Schedule 10-2.

In Union North, the cost allocation and rate impacts relate primarily to the provision of storage service, which is applicable to both sales service and bundled direct purchase customers.

In Union South, the cost allocation and rate impacts relate primarily to the provision of distribution service, which is applicable to both sales service and direct purchase customers.

In addition, there is a small rate reduction to the Gas Supply Administration Charge, which is applicable to Union North and Union South sales service customers only.

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union North

Line No.	Particulars	EB-2011-0210 2013 Rates (1) Bill ($) (a)	Unit Rate (cents/m^3) (b)	2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor Bill ($) (c)	Unit Rate (cents/m^3) (d)	Impact Unit Rate (cents/m^3) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate 01							
1	Delivery Charges	459	20.8705	458	20.8174	(0.0531)	(1)	-0.3%
2	Gas Supply Charges	547	24.8571	551	25.0368	0.1797	4	0.7%
3	Total Bill	1,006	45.7276	1,009	45.8542	0.1266	3	0.3%
4	Sales Service Impact						3	0.3%
5	Bundled-T (Direct Purchase) Impact						3	0.4%
	Small Rate 10							
6	Delivery Charges	4,786	7.9761	4,782	7.9698	(0.0062)	(4)	-0.1%
7	Gas Supply Charges	13,972	23.2862	14,049	23.4143	0.1281	77	0.6%
8	Total Bill	18,757	31.2623	18,830	31.3842	0.1219	73	0.4%
9	Sales Service Impact						73	0.4%
10	Bundled-T (Direct Purchase) Impact						73	0.7%
	Large Rate 10							
11	Delivery Charges	15,570	6.2278	15,554	6.2216	(0.0062)	(16)	-0.1%
12	Gas Supply Charges	58,215	23.2862	58,536	23.4143	0.1281	320	0.6%
13	Total Bill	73,785	29.5140	74,090	29.6359	0.1219	305	0.4%
14	Sales Service Impact						305	0.4%
15	Bundled-T (Direct Purchase) Impact						306	0.7%
	Small Rate 20							
16	Delivery Charges	74,860	2.4953	74,596	2.4865	(0.0088)	(264)	-0.4%
17	Gas Supply Charges	677,450	22.5817	680,280	22.6760	0.0943	2,830	0.4%
18	Total Bill	752,309	25.0770	754,875	25.1625	0.0855	2,566	0.3%
19	Sales Service Impact						2,566	0.3%
20	Bundled-T (Direct Purchase) Impact						2,583	0.7%
	Large Rate 20							
21	Delivery Charges	286,022	1.9068	284,853	1.8990	(0.0078)	(1,169)	-0.4%
22	Gas Supply Charges	3,188,882	21.2592	3,200,998	21.3400	0.0808	12,116	0.4%
23	Total Bill	3,474,904	23.1660	3,485,852	23.2390	0.0730	10,947	0.3%
24	Sales Service Impact						10,947	0.3%
25	Bundled-T (Direct Purchase) Impact						11,033	0.7%
	Average Rate 25							
26	Delivery Charges	63,659	2.7982	63,351	2.7847	(0.0135)	(308)	-0.5%
27	Gas Supply Charges	397,435	17.4697	397,392	17.4678	(0.0019)	(43)	0.0%
28	Total Bill	461,094	20.2679	460,743	20.2524	(0.0154)	(351)	-0.1%
29	Sales Service Impact						(351)	-0.1%
30	T-Service (Direct Purchase) Impact						(308)	-0.5%
	Small Rate 100							
31	Delivery Charges	259,798	0.9622	258,892	0.9589	(0.0034)	(905)	-0.3%
32	Gas Supply Charges	6,387,133	23.6560	6,387,312	23.6567	0.0007	178	0.0%
33	Total Bill	6,646,931	24.6183	6,646,204	24.6156	(0.0027)	(727)	0.0%
34	Sales Service Impact						(727)	0.0%
35	T-Service (Direct Purchase) Impact						(905)	-0.3%
	Large Rate 100							
36	Delivery Charges	2,095,718	0.8732	2,087,932	0.8700	(0.0032)	(7,787)	-0.4%
37	Gas Supply Charges	55,689,711	23.2040	55,691,168	23.2047	0.0006	1,457	0.0%
38	Total Bill	57,785,429	24.0773	57,779,099	24.0746	(0.0026)	(6,330)	0.0%
39	Sales Service Impact						(6,330)	0.0%
40	T-Service (Direct Purchase) Impact						(7,787)	-0.4%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor		Impact		
Line No.	Particulars	Bill ($) (a)	Unit Rate ($cents/m^3$) (b)	Bill ($) (c)	Unit Rate ($cents/m^3$) (d)	Unit Rate ($cents/m^3$) (e) = (d-b)	Delivery Rate Change ($) (f) = (c-a)	Bill (%) (g) = (f/a)
	Small Rate M1							
1	Delivery Charges	347	15.7669	346	15.7172	(0.0497)	(1)	-0.3%
2	Gas Supply Charges	378	17.1617	378	17.1611	(0.0006)	(0)	0.0%
3	Total Bill	724	32.9285	723	32.8783	(0.0502)	(1)	-0.2%
4	Sales Service Impact						(1)	-0.2%
5	Direct Purchase Impact						(1)	-0.3%
	Small Rate M2							
6	Delivery Charges	3,719	6.1987	3,712	6.1862	(0.0126)	(8)	-0.2%
7	Gas Supply Charges	10,297	17.1617	10,297	17.1611	(0.0006)	(0)	0.0%
8	Total Bill	14,016	23.3604	14,008	23.3472	(0.0131)	(8)	-0.1%
9	Sales Service Impact						(8)	-0.1%
10	Direct Purchase Impact						(8)	-0.2%
	Large Rate M2							
11	Delivery Charges	12,289	4.9157	12,258	4.9031	(0.0126)	(31)	-0.3%
12	Gas Supply Charges	42,904	17.1617	42,903	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	55,193	22.0774	55,161	22.0642	(0.0131)	(33)	-0.1%
14	Sales Service Impact						(33)	-0.1%
15	Direct Purchase Impact						(31)	-0.3%
	Small Rate M4							
16	Delivery Charges	35,274	4.0313	35,209	4.0238	(0.0074)	(65)	-0.2%
17	Gas Supply Charges	150,165	17.1617	150,160	17.1611	(0.0006)	(5)	0.0%
18	Total Bill	185,438	21.1929	185,368	21.1849	(0.0080)	(70)	0.0%
19	Sales Service Impact						(70)	0.0%
20	Direct Purchase Impact						(65)	-0.2%
	Large Rate M4							
21	Delivery Charges	271,476	2.2623	270,657	2.2555	(0.0068)	(819)	-0.3%
22	Gas Supply Charges	2,059,399	17.1617	2,059,331	17.1611	(0.0006)	(69)	0.0%
23	Total Bill	2,330,875	19.4240	2,329,988	19.4166	(0.0074)	(887)	0.0%
24	Sales Service Impact						(887)	0.0%
25	Direct Purchase Impact						(819)	-0.3%
	Small Rate M5							
26	Delivery Charges	32,792	3.9748	32,710	3.9648	(0.0100)	(83)	-0.3%
27	Gas Supply Charges	141,584	17.1617	141,579	17.1611	(0.0006)	(5)	0.0%
28	Total Bill	174,376	21.1365	174,289	21.1259	(0.0106)	(88)	-0.1%
29	Sales Service Impact						(88)	-0.1%
30	Direct Purchase Impact						(83)	-0.3%
	Large Rate M5							
31	Delivery Charges	183,182	2.8182	182,529	2.8081	(0.0100)	(653)	-0.4%
32	Gas Supply Charges	1,115,508	17.1617	1,115,471	17.1611	(0.0006)	(37)	0.0%
33	Total Bill	1,298,690	19.9799	1,298,000	19.9692	(0.0106)	(690)	-0.1%
34	Sales Service Impact						(690)	-0.1%
35	Direct Purchase Impact						(653)	-0.4%
	Small Rate M7							
36	Delivery Charges	618,172	1.7171	617,268	1.7146	(0.0025)	(904)	-0.1%
37	Gas Supply Charges	6,178,198	17.1617	6,177,992	17.1611	(0.0006)	(206)	0.0%
38	Total Bill	6,796,370	18.8788	6,795,260	18.8757	(0.0031)	(1,110)	0.0%
39	Sales Service Impact						(1,110)	0.0%
40	Direct Purchase Impact						(904)	-0.1%
	Large Rate M7							
41	Delivery Charges	2,360,598	4.5396	2,357,671	4.5340	(0.0056)	(2,926)	-0.1%
42	Gas Supply Charges	8,924,063	17.1617	8,923,766	17.1611	(0.0006)	(297)	0.0%
43	Total Bill	11,284,661	21.7013	11,281,437	21.6951	(0.0062)	(3,224)	0.0%
44	Sales Service Impact						(3,224)	0.0%
45	Direct Purchase Impact						(2,926)	-0.1%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Brantford to Kirkwall / Parkway D Compressor		Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Delivery Rate Change ($)	Bill (%)
		(a)	(b)	(c)	(d)	(e) = (d-b)	(f) = (c-a)	(g) = (f/a)
	Small Rate M9							
1	Delivery Charges	116,565	1.6772	116,798	1.6805	0.0034	233	0.2%
2	Gas Supply Charges	1,192,735	17.1617	1,192,696	17.1611	(0.0006)	(40)	0.0%
3	Total Bill	1,309,300	18.8389	1,309,493	18.8416	0.0028	193	0.0%
4	Sales Service Impact						193	0.0%
5	Direct Purchase Impact						233	0.2%
	Large Rate M9							
6	Delivery Charges	346,142	1.7154	346,836	1.7189	0.0034	694	0.2%
7	Gas Supply Charges	3,462,880	17.1617	3,462,764	17.1611	(0.0006)	(115)	0.0%
8	Total Bill	3,809,022	18.8771	3,809,601	18.8800	0.0029	579	0.0%
9	Sales Service Impact						579	0.0%
10	Direct Purchase Impact						694	0.2%
	Average Rate M10							
11	Delivery Charges	4,889	5.1734	4,833	5.1146	(0.0588)	(56)	-1.1%
12	Gas Supply Charges	16,218	17.1617	16,217	17.1611	(0.0006)	(1)	0.0%
13	Total Bill	21,107	22.3351	21,051	22.2757	(0.0593)	(56)	-0.3%
14	Sales Service Impact						(56)	-0.3%
15	Direct Purchase Impact						(56)	-1.1%
	Small Rate T1							
16	Delivery Charges	127,339	1.6895	126,171	1.6740	(0.0155)	(1,169)	-0.9%
17	Gas Supply Charges	1,293,474	17.1617	1,293,431	17.1611	(0.0006)	(43)	0.0%
18	Total Bill	1,420,814	18.8512	1,419,602	18.8351	(0.0161)	(1,212)	-0.1%
19	Sales Service Impact						(1,212)	-0.1%
20	Direct Purchase Impact						(1,169)	-0.9%
	Average Rate T1							
21	Delivery Charges	193,986	1.6772	192,630	1.6655	(0.0117)	(1,355)	-0.7%
22	Gas Supply Charges	1,984,907	17.1617	1,984,841	17.1611	(0.0006)	(66)	0.0%
23	Total Bill	2,178,892	18.8389	2,177,471	18.8266	(0.0123)	(1,422)	-0.1%
24	Sales Service Impact						(1,422)	-0.1%
25	Direct Purchase Impact						(1,355)	-0.7%
	Large Rate T1							
26	Delivery Charges	427,194	1.6672	425,485	1.6605	(0.0067)	(1,710)	-0.4%
27	Gas Supply Charges	4,397,517	17.1617	4,397,371	17.1611	(0.0006)	(147)	0.0%
28	Total Bill	4,824,712	18.8288	4,822,855	18.8216	(0.0072)	(1,856)	0.0%
29	Sales Service Impact						(1,856)	0.0%
30	Direct Purchase Impact						(1,710)	-0.4%
	Small Rate T2							
31	Delivery Charges	480,912	0.8116	480,024	0.8101	(0.0015)	(888)	-0.2%
32	Gas Supply Charges	10,169,313	17.1617	10,168,974	17.1611	(0.0006)	(339)	0.0%
33	Total Bill	10,650,225	17.9732	10,648,998	17.9712	(0.0021)	(1,226)	0.0%
34	Sales Service Impact						(1,226)	0.0%
35	Direct Purchase Impact						(888)	-0.2%
	Average Rate T2							
36	Delivery Charges	1,105,628	0.5590	1,104,742	0.5585	(0.0004)	(886)	-0.1%
37	Gas Supply Charges	33,944,021	17.1617	33,942,890	17.1611	(0.0006)	(1,131)	0.0%
38	Total Bill	35,049,649	17.7207	35,047,633	17.7196	(0.0010)	(2,017)	0.0%
39	Sales Service Impact						(2,017)	0.0%
40	Direct Purchase Impact						(886)	-0.1%
	Large Rate T2							
41	Delivery Charges	1,799,626	0.4863	1,798,740	0.4860	(0.0002)	(886)	0.0%
42	Gas Supply Charges	63,513,415	17.1617	63,511,299	17.1611	(0.0006)	(2,116)	0.0%
43	Total Bill	65,313,041	17.6479	65,310,039	17.6471	(0.0008)	(3,002)	0.0%
44	Sales Service Impact						(3,002)	0.0%
45	Direct Purchase Impact						(886)	0.0%
	Large Rate T3							
46	Delivery Charges	2,912,694	1.0680	2,925,114	1.0726	0.0046	12,420	0.4%
47	Gas Supply Charges	46,801,906	17.1617	46,800,347	17.1611	(0.0006)	(1,559)	0.0%
48	Total Bill	49,714,600	18.2297	49,725,461	18.2337	0.0040	10,861	0.0%
49	Sales Service Impact						10,861	0.0%
50	Direct Purchase Impact						12,420	0.4%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Reference: p. 5/121

Given Union intends to be in an IRM regime in 2016, how will the impacts of the project be incorporated into rates?

Response:

Please see Exhibit I.A3.UGL.LPMA.7.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

What is the impact on the filing (costs, benefits, alternatives etc.) as a result of the most recent TCPL Tolls Decision released by the National Energy Board?

Response:

Please see Exhibit I.A.1.UGL.Staff.1 e).

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 11, p. 100/121 and Schedule 11.1

The evidence sets out the estimated capital cost for all of the facilities related to the Parkway West project. Please explain the process used to develop the budget. Will Union be providing an update to the budget as it was filed in January 2013? For each of the components set out in Schedule 11.1 please explain how were the contingency amounts developed?

Response:

Union Gas' Estimate/Budget development typically follow the stages below. Each revision expands, details, and refines the previous level of estimate to obtain a higher degree of accuracy and ultimately the final budget.

1. **Magnitude Estimate**
   High-level estimate - Completed solely by Cost Estimators, with limited Subject Matter Expert input. Scope at conceptual level, with limited project parameters defined. Contingency set at 20%.

2. **Feasibility Estimate**
   Refined magnitude estimate - Completed by Cost Estimators with Subject Matter Expert input. Scope more defined, with limited project parameters defined by in-house Design and Construction Team. Contingency set at 20%.

3. **Pre-Budget Estimate**
   Detailed project estimate/budget - Completed by Cost Estimators with full Subject Matter Expert input. Scope fully defined, with detailed Bill of Materials available, site visits conducted and contractor/vendor quotes received. Contingency set at 15%.

4. **Budget Estimate**
   Final project estimate/budget - Completed by Cost Estimators with full Subject Matter Expert input. Scope finalized, detailed construction Bill of Materials, final site and routes selected and final quotes/target pricing for construction and materials contractor/vendor quotes received. Contingency set at 10%.

Union is not planning to file an update to the cost estimate provided in January. However, if there are material changes to the budget or scope, Union will file an update.

The components set out in schedule 11.1 are based on a Pre-Budget level estimate, and as such were assigned a 15% contingency. The exception was the land costs with no contingency, as options had been exercised and prices are fixed.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Reference: Schedule 11.1

Please explain why there is a contingency amount of $10.7 million associated with the LCU compressor? Why is the amount so large?

Response:

Union has set the contingency at 15% of the total materials and labour uniformly across for all components of the Parkway West Project, with the exception of Lands. The contingency level is aligned with Union Gas' standards for a pre-budget estimate and is intended to cover unknown risks to the project, such as minor scope changes and delays due to weather and other factors.

The $10.7 Million associated with the compressor represents 15% of the $71.3 million estimated spend.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Schedule 11.1

For each of the project components please provide a more detailed budget breakdown.

Response:

The cost estimate for each component of the Parkway West Project as set out in EB-2012-0433 Schedule 11-1, is the same level of detail as has been provided in past leave to construct proceedings. In order to avoid compromising the procurement process, Union has not provided a detailed breakdown of the project costs.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Schedule 11.1

The LCU compressor the costs are forecast to be $84.6 million. Has compressor been ordered? If not, why not? Is compressor availability a potential problem? If so, how will Union address this?

Response:

The LCU compressor has not been ordered. Union has provided specifications and project requirements to prospective vendors, received and analysed bids, and selected the vendor for award of this equipment. Only orders for preliminary engineering have been placed for both the Parkway C and Parkway D compressor packages at this time. Union intends to place orders for equipment in August 2013 to satisfy the project schedule. Union does not anticipate compressor delivery issues based on the planned order date.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 12, p. 102/121

Union has indicated that the revenue requirement impact of the Project for the first full year of service is $15.3 million. Are there any rate impacts arising from any components of the project prior to 2016?

Response:

Please see Exhibit I.A3.UGL.LPMA.7 c).

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 9, p. 1

The proposed Brantford-Kirkwall pipeline costs are forecast to be $96 million. The proposed Parkway D Compressor Station costs are forecast to be $108 million. Please explain the process used to develop the budget. Will Union be providing an update to the budget as it was filed in April 2013? Please explain how were the contingency amounts developed?

Response:

Please refer to Exhibit I.A3.UGL.CCC.14 for detail on the process used to develop cost estimates at Union Gas. Union is not planning to file an update to the cost estimate provided in January. However, if there are material changes to the budget or scope, Union will file an update.

The cost estimates in EB-2013-0074, Schedules 9.1 and 9.2 are both based on a Feasibility level estimate, and as such were assigned a 20% contingency.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Schedule 9.1 and 9.2

Please provide a more detailed budget breakdown for each of the projects.

Response:

The cost estimates for Brantford to Kirkwall and the Parkway D compressor as set out in EB-2013-0074, Schedules 9-1 and 9-2, is the same level of detail as has been provided in past leave to construct proceedings. In order to avoid compromising the procurement process, Union has not provided a detailed breakdown of the project costs.

UNION GAS LIMITED
Parkway West Project Revenue Requirement by Rate Class

Line No.	Particulars ($000's)	2014	Variance	2015	Variance	2016	Variance	2017	Variance	2018
		(a)	(b) = (c - a)	(c)	(d) = (e - c)	(e)	(f) = (g - e)	(g)	(h) = (i - g)	(i)
1	Rate M1	(492)	(1,156)	(1,648)	(4)	(1,652)	299	(1,354)	283	(1,071)
2	Rate M2	(58)	(59)	(117)	143	26	47	73	40	113
3	Rate M4	(13)	(13)	(25)	39	13	12	25	9	34
4	Rate M5	(17)	(53)	(70)	(18)	(87)	8	(79)	10	(70)
5	Rate M7	(4)	2	(2)	22	20	4	24	3	27
6	Rate M9	(0)	4	4	9	13	1	14	0	15
7	Rate M10	(0)	0	(0)	0	0	0	0	0	0
8	Rate T1	(9)	(21)	(31)	11	(19)	8	(11)	7	(5)
9	Rate T2	(31)	(41)	(72)	110	38	42	80	26	106
10	Rate T3	(0)	34	34	63	98	6	103	3	106
11	Subtotal - Union South	(624)	(1,302)	(1,926)	374	(1,552)	427	(1,125)	381	(744)
12	Excess Utility Space	(9)	(21)	(30)	(6)	(36)	5	(31)	5	(27)
13	Rate C1	(1)	(12)	(13)	(8)	(21)	1	(20)	1	(19)
14	Rate M12	660	7,135	7,795	9,671	17,466	115	17,580	(15)	17,565
15	Rate M13	(0)	(0)	(1)	0	(1)	0	(0)	0	(0)
16	Rate M16	0	(1)	(1)	(0)	(1)	0	(1)	0	(1)
17	Subtotal - Ex-franchise	650	7,100	7,750	9,657	17,407	120	17,527	(10)	17,517
18	Rate 01	(224)	(370)	(594)	200	(395)	131	(264)	131	(133)
19	Rate 10	(29)	(7)	(36)	93	56	20	76	20	96
20	Rate 20	(23)	(48)	(70)	13	(58)		(43)	15	(28)
21	Rate 100	(19)	(56)	(75)	(13)	(88)	11	(77)	12	(65)
22	Rate 25	(7)	(21)	(28)	(7)	(35)	4	(31)	4	(27)
23	Subtotal - Union North	(302)	(502)	(804)	285	(519)	180	(339)	181	(157)
24	In-franchise (line 11 + line 23)	(927)	(1,803)	(2,730)	660	(2,071)	607	(1,463)	562	(901)
25	Ex-franchise (line 17)	650	7,100	7,750	9,657	17,407	120	17,527	(10)	17,517
26	Total (line 24 + line 25)	(277)	5,297	5,020	10,316	15,336	727	16,064	553	16,616

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433 Exhibit B, page 2, paras. 3 and 5.

Preamble: The PW site and LCU facilities Capital cost will be $203 million. The first year (2015) net cost (revenue requirement) is $15.3 million. Confirm Union proposes that of this $15.3 m net cost, $17.4 million is recovered from ex-franchise customers and a $2.1 million reduction in in-franchise customers.

a) Confirm that not all in-franchise rate classes will see a reduction.

b) Confirm Ex franchise rate increase M12 is $17.4 million or $0.078GJ/d to $0.088 GJ/d i.e. an increase of $0.01.GJ/d.

c) How much of this increase will be experienced by each of EGD, TCPL and Gaz Metro? Please provide estimates of rates and costs before and after GTA Project implementation.

d) Confirm that rates will increase at January 1, 2016 (Section1 para 9).

e) Please explain the functioning of the proposed differal/variance account to track cost differences between approved costs and final costs after implementation. For example, is it based on capital costs or rate base?

Response:

a) Confirmed. Please see EB-2012-0433, Schedule 12-2, column (a).

   As filed in EB-2012-0433, Union proposed to build the first full-year revenue requirement associated with developing Parkway West into in-franchise and ex-franchise rates based on the cost estimates included in the application, effective January 1, 2016.

   Union will be filing an update to its Parkway West evidence by the end of June to modify its rate implementation proposal. In the evidence update, Union will propose to build the annual costs associated with the Parkway West Project into in-franchise and ex-franchise rates, based on the cost estimates included in the application, effective January 1, 2014.

Union will also propose to adjust in-franchise and ex-franchise rates on an annual basis from 2015 to 2018 in order to recover the estimated annual costs associated with the Project.

b) Confirmed. As filed in EB-2012-0433, Schedule 12-2, column (a), line 14, the M12 cost allocation impact associated with the Parkway West Project is an increase of $17.466 million. For ex-franchise customers taking M12 Dawn-Parkway transportation service, the rate is expected to increase by approximately $0.010/GJ/d from $0.078/GJ/d to $0.088/GJ/d.

In the Parkway West evidence update, the M12 cost allocation impact associated with the Parkway West Project in 2018 is an increase of $17.565 million. Please see Attachment 1 for the cost allocation impacts associated with the Parkway West Project from 2014 to 2018 by rate class. The rate impacts for customers taking M12 transportation services are provided at Attachment 2.

c) Please see Attachment 3 for the comparison of M12 rates and costs between 2013 Board-approved rates and 2013 Board-approved rates including 2018 Parkway West Project costs for Enbridge, TCPL and Gaz Metro.

d) Based on Union's Parkway West evidence update, M12 rates will increase effective January 1, 2014. Please see Attachment 1.

e) The proposed deferral account will track any variance between the Parkway West Project costs approved in rates and the actual annual revenue requirement for the Project.

The costs approved in rates and the actual annual revenue requirement for the Project will be based on the costs (return, taxes and depreciation) associated with the Project facilities deemed to be in service each year (i.e. included in rate base) as well as any operating and maintenance expenses.

UNION GAS LIMITED
M12/M12-X/C1 Transportation Demand Charges Impact of the Parkway West Project

Line No.	Services	EB-2011-0210 Rate Order ($/GJ/day) (1)	Year 2018 Parkway West Project ($/GJ/day)	Parkway West Project Comparison to 2013 Rate Order	
				Difference	% Change
		(a)	(b)	(c) = (b) - (a)	(d) = (c) / (a)
1	M12/C1 Dawn to Kirkwall	0.066	0.074	0.008	12.5%
2	M12/C1 Dawn to Parkway	0.078	0.088	0.010	12.8%
3	M12/C1 Kirkwall to Parkway	0.012	0.014	0.002	14.5%
4	C1 Parkway to Kirkwall	0.019	0.022	0.003	14.5%
5	C1 Kirkwall to Dawn	0.034	0.038	0.005	14.5%
6	C1 Parkway to Dawn	0.019	0.022	0.003	14.5%
7	M12-X	0.097	0.110	0.013	13.1%

Notes:
(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.

UNION GAS LIMITED
Comparison of Board-approved M12 Rates and Costs to M12 Rates and Costs Including 2018 Parkway West Project Costs

M12 Dawn to Parkway

Line No.	Customer	Board-approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
1	Enbridge	2,157,173	0.078	61,415	0.088	69,288	7,874
2	GMI	285,500	0.078	8,128	0.088	9,170	1,042
3	TCPL	374,945	0.078	10,675	0.088	12,043	1,369
4	Total	2,817,618		80,218		90,502	10,284

M12 Dawn to Kirkwall

Line No.	Customer	Board-approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
1	Enbridge	67,929	0.066	1,636	0.074	1,835	198
2	GMI	-	0.066	-	0.074	-	-
3	TCPL	372,905	0.066	8,983	0.074	10,072	1,089
4	Total	440,834		10,620		11,907	1,287

Notes:
(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.
(2) A.3.UGL.EP.13, Attachment 2, column (b).

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Section 12, page 103, para. 8 and EB-2013-0074 Section 10 page 5-6

Preamble: In the above references, Union states that it is not proposing any changes to the allocation methodology of Dawn-Parkway transmission costs. Page 6 contains the following two quotes:
"Based on the current Board-approved allocation of Dawn-Parkway costs, adjusted to include the increase in Union North demands of approximately 70,000 GJ/d and M12 demands of 363,000 GJ/d associated with the Project (for a total of 433,000 GJ/d), in-franchise rate classes are allocated approximately 16% of the costs directly attributable to the Project. The remaining 84% of costs directly attributable to the Project are allocated to ex-franchise rate classes."

AND

"Specifically, Union North in-franchise rate classes are allocated approximately $1.4 million in existing Dawn-Parkway costs and the M12 rate class is allocated approximately $0.1 million.

Please reconcile and explain what appears to be a disproportionate increase in allocation of cost relative to the increase in daily demand on the Dawn-Parkway system.

a) Is Union's evidence stating that if the Distance Weighting cost allocation methodology is re-run using the expected volumes in 2018, the in-franchise and ex-franchise allocations would still be 16% and 84% respectively?

b) If not, what would the percentage allocations be?

Response:

Yes. The proportion of distance-weighted design day demands (i.e. commodity kilometres) on the Dawn-Parkway system for in-franchise and ex-franchise customers remains at 16% and 84%, respectively. However, the Union South proportion of distance-weighted design day demands has decreased, while the Union North proportion of distance-weighted design day demands has increased.

Please see Attachment 1 for the impact to the 2013 Board-approved Dawn-Parkway distance-weighted demands resulting from the addition of the Union North and M12 demands.

The M12 proportion of the total distance-weighted design day demands remained at 83.7% (column b and f, line 12), despite the increase in M12 demands of 363,000 GJ/d. The total in-franchise proportion of total distance-weighted demands also remained at 16.3% (column b and f, line 19).

The Union South proportion of the total distance-weighted design day demands decreased from 11.3% to 10.4% (column b and f, line 11). The Union North proportion of the total distance-weighted design day demands increased from 5.0% to 5.9% (column b and f, line 18).

As a result of the M12 proportion of total distance-weighted design day demands remaining at 83.7% and the Union North proportion of the total distance weighted design day demands increasing from 5.0% to 5.9%, the M12 rate class is allocated approximately $0.1 million in existing Dawn-Parkway costs, while Union North in-franchise rate classes are allocated approximately $1.4 million.

UNION GAS LIMITED
Dawn-Parkway Easterly Transmission - Distance Weighted Design Day Demands
2013 Board-Approved Including Incremental Union North and M12 Project-Related Demands

Line No.	Particulars	2013 Board-Approved (1) (10^6m^3/d x km)	(%)	Addition of Project-Related Demands (2) (10^6m^3/d x km)	(%)	2013 Board-Approved Including Project-Related Demands (10^6m^3/d x km)	(%)	Variance (%)
		(a)	(b)	(c)	(d)	(e) = (a + c)	(f)	(g) = ((e - a)/a)
1	Rate M1	1,820	5.7%	0	0.0%	1,820	5.3%	0.0%
2	Rate M2	612	1.9%	0	0.0%	612	1.8%	0.0%
3	Rate M4	178	0.6%	0	0.0%	178	0.5%	0.0%
4	Rate M5	2	0.0%	0	0.0%	2	0.0%	0.0%
5	Rate M7	82	0.3%	0	0.0%	82	0.2%	0.0%
6	Rate M9	29	0.1%	0	0.0%	29	0.1%	0.0%
7	Rate M10	1	0.0%	0	0.0%	1	0.0%	0.0%
8	Rate T1	88	0.3%	0	0.0%	88	0.3%	0.0%
9	Rate T2	570	1.8%	0	0.0%	570	1.7%	0.0%
10	Rate T3	207	0.7%	0	0.0%	207	0.6%	0.0%
11	Subtotal - Union South	3,588	11.3%	0	0.0%	3,588	10.4%	0.0%
12	Rate M12	26,557	83.7%	2,201	83.8%	28,758	83.7%	8.3%
13	Subtotal - Ex-franchise	26,557	83.7%	2,201	83.8%	28,758	83.7%	8.3%
14	Rate 01	1,191	3.8%	318	12.1%	1,509	4.4%	26.7%
15	Rate 10	312	1.0%	83	3.2%	395	1.1%	26.7%
16	Rate 20	83	0.3%	22	0.8%	106	0.3%	26.7%
17	Rate 100	6	0.0%	2	0.1%	7	0.0%	26.7%
18	Subtotal - Union North	1,592	5.0%	425	16.2%	2,017	5.9%	26.7%
19	In-franchise (line 11 + line 18)	5,180	16.3%	425	16.2%	5,605	16.3%	8.2%
20	Ex-franchise (line 13)	26,557	83.7%	2,201	83.8%	28,758	83.7%	8.3%
21	Total (line 19 + line 20)	31,737	100.0%	2,626	100.0%	34,363	100.0%	8.3%

Notes:
(1) The Dawn-Parkway Demand allocation is provided at EB-2011-2010, Exhibit G3, Tab 5, Schedule 23, Updated, pages 7-8, line 5.
(2) The Union North distance-weighted design day demands include 70,000 GJ/d (1.854 10^6m^3/d x 228.9 km = 425 10^6m^3/d x km) and Rate M12 includes 363,000 GJ/d (9.616 10^6m^3/d x 228.9 km = 2,201 10^6m^3/d x km).

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Schedule 10-2 and 10-3 and EB-2013-0074

Please provide Schedules that provide cost allocation and bill impacts for the Union rate classes when both the Brantford-Kirkwall, Parkway D and Parkway West projects are combined.

Response:

Please see Attachment 1 for the combined 2018 cost allocation impacts of the Brantford to Kirkwall, Parkway D Compressor and Parkway West Projects.

Please see EB-2013-0074, Schedule 10-4, for the Rate M1 and Rate 01 bill impacts of the Brantford to Kirkwall, Parkway D Compressor and Parkway West Projects on a combined basis.

UNION GAS LIMITED

2018 Cost Allocation Impacts of the Brantford to Kirkwall and Parkway D Compressor and Parkway West Projects

Line No.	Particulars ($000's)	Total Cost Allocation Impacts (a)	
1	Rate M1	(2,487)	
2	Rate M2	(27)	
3	Rate M4	(0)	
4	Rate M5A	(118)	
5	Rate M7	18	
6	Rate M9	14	
7	Rate M10	0	
8	Rate T1	(33)	
9	Rate T2	11	
10	Rate T3	108	
11	Subtotal - Union South	(2,514)	
12	Excess Utility Space	(50)	
13	Rate C1	(30)	
14	Rate M12	33,509	
15	Rate M13	(1)	
16	Rate M16	(2)	
17	Subtotal - Ex-franchise	33,427	
18	Rate 01	1,186	
19	Rate 10	533	
20	Rate 20	44	
21	Rate 100	(110)	
22	Rate 25	(48)	
23	Subtotal - Union North	1,605	
24	In-franchise (line 11 + line 23)	(909)	
25	Ex-franchise (line 17)	33,427	
26	Total (line 24 + line 25)	32,518	(1)

Notes:

(1) Includes 2018 Brantford to Kirkwall and Parkway D Compressor Project Revenue Requirement of $15.902 million and Parkway West Project Revenue Requirement of $16.616 million.

UNION GAS LIMITED

Answer to Interrogatory from
Gaz Metropolitaine and Company ("GMI")

Ref: EB-2012-0433 (Parkway West Project) Section 1, p.5

Preamble: The first full-year cost of service directly attributable to the Project (rate base, return, interest, tax, depreciation and O&M) to the Project is approximately $15.3 million. Using the allocation Dawn-Parkway costs per the 2013 Board approved cost allocation study results in: (i) a reduction of approximately $2.1 million, allocated to in-franchise rate classes, and (ii) an increase of approximately $17.4 million, allocated to ex-franchise rate classes.

a) Please explain why most of the costs of the Project are allocated to ex-franchise rate classes.

b) Please provide a breakdown of the impacts of the Project for in-franchise classes and ex-franchises classes.

c) Please provide the amount of the capital expenditures that are forecast to be added to rate base in a) 2013; b) 2014; c) 2015 and d) 2016.

d) Please provide the revenue requirement associated with the amounts allocated to in-franchise customers and ex-franchise customers from 2013 to 2016.

Response:

a) As described in EB-2012-0433, Section 12, in Union's 2013 Board-approved cost allocation study, the costs associated with Parkway are allocated between in-franchise and ex-franchise rate classes in the same manner as other Dawn-Parkway transmission costs, using distance weighted Dawn-Parkway design day demands.

   This cost allocation methodology recognizes that the Dawn-Parkway transmission system is designed to meet easterly design day requirements and that a rate class' use of the Dawn-Parkway system depends on that rate class' design day demands and the distance those design day demands are required to be transported. Based on the current approved allocation of Dawn-Parkway costs, in-franchise rate classes are allocated approximately 16% of the costs directly attributable to the Project (Parkway West rate base and operating costs). The remaining 84% of costs directly attributable to Parkway West are allocated to ex-franchise rate classes.

However, adding the Parkway West rate base and operating costs as Dawn-Parkway transmission costs to the 2013 Board-approved cost allocation study results in the reallocation of cost components that are functionalized based on rate base and O&M. As a result of the additional transmission rate base and operating costs associated with the Project, indirect costs and taxes are shifted from distribution, storage and other transmission-related functional classifications to the Dawn-Parkway functional classification.

The shift in indirect costs and taxes, and Union's proposal to allocate costs directly attributable to the Parkway West Project between in-franchise and ex-franchise rate classes using the current approved allocation method for Dawn-Parkway transmission costs results in small rate decreases for in-franchise customers and rate increases for ex-franchise customers only.

b) The cost allocation impacts of the 2014 to 2018 Parkway West Project are provided at Exhibit I.A3.UGL.LPMA.7 Attachment 2. There are no Parkway West Project costs in 2013.

c) The capital expenditure for Parkway West is forecast to close to gas plant in service on November 1st as follows:

2013	zero
2014	$64,721
2015	$136,453
2016	$ 850

d) Please see the response to b) above.

UNION GAS LIMITED

Answer to Interrogatory from
Corporation of the City of Kitchener ("CCK")

Ref: EB-2012-0433, Section 12, paragraph 8 and Schedule 12-2

a) Please specify and quantify the "benefit" received by Kitchener from the development of the Project as the sole in-franchise customer of Union in the Southern Area served under Rate T3.

b) Please confirm that in Union's economic analysis of the Project, there is no change to Kitchener's contracted service levels under Rate T3, in particular, its firm daily contract demand (CD).

c) To the extent that Kitchener is not changing its contracted service levels and not imposing additional costs for Union to serve its load under Rate T3, please explain how the principle of cost causality is not violated by the current allocation methodology which yields an increase in total allocated costs to Kitchener under Rate T3 as a result of the Project.

Response:

a) As described in EB-2012-0433, Section 12, there are several benefits to in-franchise and ex-franchise customers as a result of the Parkway West Project.

As it relates to the City of Kitchener, the specific benefits of the Parkway West Project include:

- A Dawn-Parkway transmission system that remains as fully contracted as possible, which means that transportation rates remain economic for in-franchise and ex-franchise customers. Any de-contracting on the Dawn-Parkway system that results in unutilized transmission capacity will increase rates for the remaining in-franchise and ex-franchise customers.

- Maintaining and increasing the health and liquidity of the Dawn Hub benefiting all parties (in-franchise and ex-franchise) that buy or sell gas at Dawn. Avoiding restrictions in the market place due to reliability concerns of Union's Dawn-Parkway system, which will impact the market's view of the Dawn Hub as a liquid trading point and could result in higher gas prices for all.

b) Confirmed.

c) The principle of cost causality is not violated by the current cost allocation methodology of Dawn-Parkway transmission costs.

In Union’s 2013 Board-approved cost allocation study, the costs associated with Parkway are allocated between in-franchise and ex-franchise rate classes using distance weighted Dawn-Parkway design day demands.

This cost allocation recognizes that the Dawn-Parkway transmission system is designed to meet easterly design day requirements and that a rate class’ use of the Dawn-Parkway system depends on that rate class’ design day demands and the distance those design day demands are required to be transported on the Dawn-Parkway system.

While the City of Kitchener’s design day demands on Dawn-Parkway are not changing, the costs associated with the Dawn-Parkway system are increasing as a result of the Parkway West project. Accordingly, all rate classes (including Kitchener in Rate T3) are contributing to the recovery of Parkway West Project costs based on how they use the Dawn-Parkway system on a peak day (i.e. distance weighted design day demands).

UNION GAS LIMITED

Answer to Interrogatory from
Corporation of the City of Kitchener ("CCK")

Ref: EB-2012-0433, Section 12, paragraph 17 and Schedule 12-2

For Rate T3, please explain why the reduction in the allocation of overhead costs (indirect costs and taxes) does not offset (let alone "more than offset") the Dawn-Parkway Easterly Transmission costs "directly attributable to the Project".

Response:

As described in EB-2012-0433, Section 12, adding the Parkway West rate base and operating costs as Dawn-Parkway transmission costs to the 2013 Board-approved cost allocation study results in the reallocation of costs that are functionalized based on rate base and O&M. Specifically, indirect costs and taxes are reallocated from distribution, storage, and other transmission-related functional classifications to the Dawn-Parkway function classification.

As a wholesale customer taking service under Rate T3, the City of Kitchener is allocated a lower proportion of distribution costs than an end-use distribution customer in, for example, Rate M1. In particular, under the current approved cost allocation methodology, the City of Kitchener is not allocated any distribution demand-related costs. Accordingly, the reallocation of indirect costs and taxes from the distribution functional classifications to the Dawn-Parkway functional classification benefits the rate classes that are allocated a higher proportion of distribution costs in the 2013 Board approved cost allocation study.

Please see Attachment 1.

UNION GAS LIMITED

Rate M1 and Rate T3 Cost Allocation Impacts of the 2016 Parkway West Project Revenue Requirement by Functional Classification

Line No.	Particulars (1)	2013 Board Approved Cost Study (EB-2011-0210) Rate M1 ($000's)	Rate M1 (%)	Rate T3 ($000's)	Rate T3 (%)	2013 Board Approved Cost Study including the 2016 Parkway West Project (EB-2012-0433) Rate M1 ($000's)	Rate M1 (%)	Rate T3 ($000's)	Rate T3 (%)	Difference Rate M1 ($000's)	Difference Rate T3 ($000's)
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i) = (e - a)	(j) = (g - c)
1	Storage	22,778	6%	1,377	30%	22,543	6%	1,366	29%	(235)	(11)
2	Other Transmission	23,572	6%	1,987	44%	23,269	6%	1,961	42%	(303)	(26)
3	Dawn to Parkway Transmission Demand	8,268	2%	938	21%	9,474	2%	1,075	23%	1,206	137
4	Distribution	347,783	86%	244	5%	345,447	86%	243	5%	(2,336)	(2)
5	Total	402,401	100%	4,547	100%	400,734	100%	4,644	100%	(1,667)	98

Note:
(1) Storage, Transmission and Distribution functions only. Excludes the Purchase Production functional classification.

UNION GAS LIMITED

Answer to Interrogatory from
Corporation of the City of Kitchener ("CCK")

Ref: EB-2012-0433, Section 12, paragraph 20

Based on Union's current outlook of its next regulatory framework, when would base rates be adjusted to reflect the actual revenue requirement associated with the Project?

Response:

Rates will be adjusted annually by the Projects' revenue requirement through the Incentive Regulation ("IR") term. If there are any differences between the revenue requirements built into rates and the actual revenue requirements, these variances will be captured in the deferral account and disposed of annually. At the end of the IR term, rates will be adjusted to reflect the actual revenue requirements. Union's next rebasing proceeding is anticipated for setting rates effective January 1, 2019.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 1, First Paragraph 14 (between paragraphs 8 and 9)

a) Please provide a schedule that shows that amount of the capital expenditures that are forecast to be closed to rate base in each of 2013 through 2016. For each year, please show the revenue requirement associated with the amounts closed to rate base (similar to Schedule 10-1 in EB-2013-0074), along with the amount in each year allocated to in-franchise customers and to ex-franchise customers.

b) Please provide a breakdown of the amounts for each year in 2013 through 2016 that is allocated to in-franchise customers to amounts allocated to Union North and East in-franchise customers and to Union South in-franchise customers.

c) How does Union propose to recover/rebate any revenue requirement for 2013 through 2015, prior to the January 1, 2016 proposal to build the impact into in-franchise and ex-franchise rates?

Response:

a) The Parkway West Project capital expenditures that are forecast to be closed to rate base in 2014 to 2016 and the associated revenue requirement are provided at Attachment 1. There are no forecasted capital expenditures in 2013.

   The allocation of the 2014 to 2018 Parkway West Project revenue requirements to in-franchise and ex-franchise rate classes is provided at Attachment 2.

b) Please see the response to part a) above.

c) As filed in EB-2012-0433, Union proposed to build the first full-year revenue requirement associated with developing Parkway West into in-franchise and ex-franchise rates based on the cost estimates included in the application, effective January 1, 2016. Union also proposed to track any variance between what is approved in rates for Parkway West and the actual costs for the project in a new deferral account until such time that the deferral account balance can be reviewed and disposed of.

   Union will be filing an update to its Parkway West evidence by the end of June to modify its rate implementation proposal. In the evidence update, Union will propose to build the annual costs associated with the Parkway West Project into in-franchise and ex-franchise rates, based on the cost estimates included in the application, effective January 1, 2014. There is no revenue requirement associated with the Project in 2013.

Union will also propose to adjust in-franchise and ex-franchise rates on an annual basis from 2015 to 2018 in order to recover the estimated annual costs associated with the Project. Lastly, Union will propose to track any variance between what is approved in rates for the Project and the actual annual revenue requirement for the Project in a new deferral account. Union will dispose of any balance in the deferral account as part of its annual non-commodity deferral account proceeding.

UNION GAS LIMITED
Parkway West Project Rate Base and Revenue Requirement

Line No.	Particulars ($000's)	2014	2015	2016	2017	2018
		(a)	(b)	(c)	(d)	(e)
	Rate Base Investment					
1	Capital Expenditures	64,721	137,545	850	0	0
2	Average Investment	10,623	85,929	197,189	192,824	188,028
	Revenue Requirement Calculation:					
	Operating Expenses:					
3	Operating and Maintenance Expenses (1)	0	739	1,615	1,649	1,683
4	Depreciation Expense (2)	402	2,789	4,786	4,798	4,798
5	Property Taxes (3)	236	290	510	521	532
6	Total Operating Expenses	638	3,818	6,911	6,967	7,013
7	Required Return (4)	611	4,960	11,387	11,135	10,858
	Income Taxes:					
8	Income Taxes - Equity Return (5)	123	994	2,282	2,232	2,176
9	Income Taxes - Utility Timing Differences (6)	(1,648)	(4,752)	(5,244)	(4,270)	(3,431)
10	Total Income Taxes	(1,526)	(3,758)	(2,962)	(2,039)	(1,255)
11	Total Revenue Requirement	(277)	5,020	15,336	16,064	16,616

Notes:

(1) 2018 O&M expenses include $0.488 million in salary, wages and employee expenses, $0.711 million in contract services and $0.485 million in materials, utility costs, and company used fuel.

(2) Depreciation expense at 2013 Board-approved depreciation rates.

(3) Property taxes include $0.247 million for land purchases, $0.195 million for LCU compression and $0.090 million for pipeline and building taxes.

(4) The required return assumes a capital structure of 64% long-term debt at 4% and 36% common equity at the 2013 Board-approved return of 8.93%. The 2018 required return calculation is as follows:

$188.028 million * 64% * 4% = $4.814 million plus
$188.028 million * 36% * 8.93% = $6.045 million for a total of $10.858 million.

(5) Taxes related to the equity component of the return at a tax rate of 26.5%.

(6) Taxes related to utility timing differences are negative as the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.

UNION GAS LIMITED
Parkway West Project Revenue Requirement by Rate Class

Line No.	Particulars ($000's)	2014	Variance	2015	Variance	2016	Variance	2017	Variance	2018
		(a)	(b) = (c - a)	(c)	(d) = (e - c)	(e)	(f) = (g - e)	(g)	(h) = (i - g)	(i)
1	Rate M1	(492)	(1,156)	(1,648)	(4)	(1,652)	299	(1,354)	283	(1,071)
2	Rate M2	(58)	(59)	(117)	143	26	47	73	40	113
3	Rate M4	(13)	(13)	(25)	39	13	12	25	9	34
4	Rate M5	(17)	(53)	(70)	(18)	(87)	8	(79)	10	(70)
5	Rate M7	(4)	2	(2)	22	20	4	24	3	27
6	Rate M9	(0)	4	4	9	13	1	14	0	15
7	Rate M10	(0)	0	(0)	0	0	0	0	0	0
8	Rate T1	(9)	(21)	(31)	11	(19)	8	(11)	7	(5)
9	Rate T2	(31)	(41)	(72)	110	38	42	80	26	106
10	Rate T3	(0)	34	34	63	98	6	103	3	106
11	Subtotal - Union South	(624)	(1,302)	(1,926)	374	(1,552)	427	(1,125)	381	(744)
12	Excess Utility Space	(9)	(21)	(30)	(6)	(36)	5	(31)	5	(27)
13	Rate C1	(1)	(12)	(13)	(8)	(21)	1	(20)	1	(19)
14	Rate M12	660	7,135	7,795	9,671	17,466	115	17,580	(15)	17,565
15	Rate M13	(0)	(0)	(1)	0	(1)	0	(0)	0	(0)
16	Rate M16	0	(1)	(1)	(0)	(1)	0	(1)	0	(1)
17	Subtotal - Ex-franchise	650	7,100	7,750	9,657	17,407	120	17,527	(10)	17,517
18	Rate 01	(224)	(370)	(594)	200	(395)	131	(264)	131	(133)
19	Rate 10	(29)	(7)	(36)	93	56	20	76	20	96
20	Rate 20	(23)	(48)	(70)	13	(58)	14	(43)	15	(28)
21	Rate 100	(19)	(56)	(75)	(13)	(88)	11	(77)	12	(65)
22	Rate 25	(7)	(21)	(28)	(7)	(35)	4	(31)	4	(27)
23	Subtotal - Union North	(302)	(502)	(804)	285	(519)	180	(339)	181	(157)
24	In-franchise (line 11 + line 23)	(927)	(1,803)	(2,730)	660	(2,071)	607	(1,463)	562	(901)
25	Ex-franchise (line 17)	650	7,100	7,750	9,657	17,407	120	17,527	(10)	17,517
26	Total (line 24 + line 25)	(277)	5,297	5,020	10,316	15,336	727	16,064	553	16,616

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 2, Paragraph 27

a) What is the current status of the discussions between Union and TCPL related to the potential of purchasing and installing a used compressor unit from the TCPL compressor fleet?

b) Has Union received the cost information or key technical information required to complete its evaluation of the feasibility of purchasing a used compressor unit from TCPL? If yes, please provide the feasibility evaluation. If no, please indicate when the required information is expected to be received and evaluated by Union.

Response:

a) Please see Exhibit I.A4.UGL.Staff.22 b) and c).

b) Yes, cost and technical information for the TCPL used compressor packages has been received and used in the feasibility evaluation. Please see Exhibit I.A4.UGL.Staff.22 b) and c) for further details.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Section 8, page 9

The evidence states that Union would need to complete the evaluation of the feasibility of a used compressor by the end of April 2013. Please confirm that this evaluation has been completed and please provide the results of the evaluation.

Response:

Yes, the evaluation has been completed. Please see Exhibit I.A4.UGL.Staff.22 c) and e) for further details.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 12, Paragraphs 8-10

a) The evidence indicates that 16% of the costs directly attributable to the project are allocated to in-franchise customers. Please disaggregate this 16% into the percentages allocated to Union South in-franchise customers and to Union North/East in-franchise customers.

b) Please provide an explanation for any significant difference in the response to part (a) above and the ratio of the deliveries noted in paragraph 9 for the deliveries to Union customers in the South (140,000 GJ/day) and those in the North/East (400,000 GJ/day).

c) What would be the impact on the associated revenue requirement and/or allocation of costs to in-franchise customers and ex-franchise customers if the Parkway delivery obligation of direct purchase customers was to be eliminated. Please provide all assumptions and calculations.

Response:

a) Please see Exhibit I. A3.UGL.LPMA.11 a), Attachment 2, column e.

b) The allocation of 16% of the costs directly attributable to the Parkway West Project is based on the 2013 Board-approved Dawn-Parkway distance weighted design day demands. Please see Table 1 below.

Table 1

Line No.	Particulars	Commodity Kilometres (10^6m^3/day x km)	(%)	Design Day Demands (10^6m^3/day)	Design Day Demands (GJ/day)
1	Union South	3,588	11%	43.674	1,648,695
2	Union North	1,592	5%	6.956	262,587
3	Ex-franchise	26,557	84%	124.015	4,681,558
4	Total	31,737	100%	174.645	6,592,840

The 140,000 GJ/d Union delivers at Parkway into the TCPL system for re-delivery in the

Union CDA for Union South in-franchise customers represents a portion of total Union South Dawn-Parkway design day demands only. As shown in Table 1, the 2013 Board-approved Union South Dawn-Parkway design day demands are approximately 1,648,000 GJ/d.

The 400,000 GJ/d Union delivers at Parkway into the TCPL system for re-delivery to Union North in-franchise customers served off of the TCPL system is overstated. As shown in Table 1, the 2013 Board-approved Union North Dawn-Parkway design day demands are approximately 262,000 GJ/d.

c) Please see Exhibit I.A4.UGL.IGUA.2 a) and b).

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 12, Paragraph 17

a) Does the re-allocation of indirect costs from distribution, storage and other transmission-related functional classifications to the Dawn-Parkway function classification result in the 16% (or $0.9 million) allocated to in-franchise customers being significantly different? In particular, please show the allocation to each rate class of the $5.8 million of indirect costs based on the 2013 approved methodology and the $0.9 million that results from the re-allocation.

b) Please provide a schedule that shows for each rate class the percentage and dollar impact on a typical customer in those rate classes.

Response:

a) Yes, the reallocation of indirect costs from distribution, storage and other transmission-related functional classifications results in a decrease in indirect costs allocated to in-franchise rate classes.

In EB-2012-0433, Section 12, paragraph 16, Union's evidence states that the shift in costs to the Dawn-Parkway function is approximately $5.7 million and the allocation to in-franchise rate classes is 16% (or $0.9 million). The evidence should state that of the $5.7 million in indirect costs and taxes, $3.966 million is related to indirect cost allocation shifts to the Dawn-Parkway functional classification. The remaining $1.732 million is related to the allocation of Parkway West property and income taxes to distribution, storage and other transmission-related functional classifications.

Please see Attachment 1 for the allocation of Parkway West Project costs to the Dawn-Parkway functional classification (column (b)) and other functional classifications (column (d)).

Of the $3.966 million in indirect costs that have been reallocated to the Dawn-Parkway functional classification, in-franchise rate classes are allocated 16% (or $0.6 million). Of the reduction of $3.966 million in indirect costs to other functional classifications, in-franchise rate classes were allocated 97% (or $3.8 million). Accordingly, the shift of $3.966 million in indirect costs from other functional classifications to the Dawn-Parkway functional classification results in a $3.2 million cost decrease to in-franchise rate classes. Please see Attachment 2 for the allocation of indirect costs to in-franchise rate classes (columns (c) and (g)).

b) Please see Attachment 1 of Exhibit I.A3.UGL.CME.13 a).

UNION GAS LIMITED
Allocation of 2016 Parkway West Project Costs

Line No.	Particulars ($000's)	Total Parkway West Project Costs	Dawn-Parkway Easterly Demand Total	Dawn-Parkway Easterly Demand In-franchise	Other Functional Classifications Total	Other Functional Classifications In-franchise	Total In-franchise Allocation
		(a) = (b + d)	(b)	(c)	(d)	(e)	(f) = (c + e)
	Direct Assigned Project Costs:						
1	Operating and Maintenance Expenses	1,615	1,615	264	0	0	264
2	Depreciation Expense	4,786	4,786	781	0	0	781
3	Required Return	11,387	11,387	1,859	0	0	1,859
4	Total Direct Assigned Costs	17,788	17,788	2,904	0	0	2,904
	Allocated Project Costs:						
5	Property Taxes	510	64	10	446	440	450
6	Income Taxes	(2,962)	(784)	(128)	(2,178)	(2,104)	(2,232)
7	Total Allocated Project Costs	(2,452)	(720)	(118)	(1,732)	(1,664)	(1,781)
8	Total Revenue Requirement (line 4 + line 7)	15,336	17,068	2,786	(1,732)	(1,664)	1,122
9	Indirect Cost Allocation	0	3,966	647	(3,966)	(3,840)	(3,193)
10	Total Allocated Costs (line 8 + line 9)	15,336	21,034	3,433	(5,698)	(5,504)	(2,071)

UNION GAS LIMITED
Indirect Cost Allocation Impacts of 2016 Parkway West Project

Line No.	Particulars ($000's)	Total Cost Allocation Impacts	Dawn-Parkway EasterlyTransmission: Project Costs	Indirect Costs	Total Costs	Allocation (%) (1)	Other Functional Classifications: Property and Income Tax Costs (2)	Indirect Costs	Total Costs
		(a) = (d + h)	(b)	(c)	(d) = (b + c)	(e)	(f)	(g)	(h) = (f + g)
1	Rate M1	(1,652)	979	227	1,206	6%	(835)	(2,024)	(2,859)
2	Rate M2	26	329	76	405	2%	(120)	(260)	(380)
3	Rate M4	13	96	22	118	1%	(29)	(76)	(105)
4	Rate M5	(87)	1	0	1	0%	(24)	(64)	(89)
5	Rate M7	20	44	10	54	0%	(10)	(24)	(34)
6	Rate M9	13	16	4	19	0%	(2)	(4)	(6)
7	Rate M10	0	0	0	1	0%	(0)	(0)	(0)
8	Rate T1	(19)	47	11	58	0%	(20)	(57)	(78)
9	Rate T2	38	307	71	378	2%	(97)	(243)	(340)
10	Rate T3	98	111	26	137	1%	(11)	(28)	(39)
11	Subtotal - Union South	(1,552)	1,930	448	2,378	11%	(1,149)	(2,781)	(3,930)
12	Excess Utility Space	(36)	0	0	0	0%	(15)	(21)	(36)
13	Rate C1	(21)	0	0	0	0%	(5)	(16)	(21)
14	Rate M12	17,466	14,282	3,319	17,601	84%	(47)	(88)	(135)
15	Rate M13	(1)	0	0	0	0%	(1)	0	(1)
16	Rate M16	(1)	0	0	0	0%	(1)	(1)	(1)
17	Subtotal - Ex-franchise	17,407	14,282	3,319	17,601	84%	(68)	(126)	(194)
18	Rate 01	(395)	641	149	790	4%	(381)	(804)	(1,184)
19	Rate 10	56	168	39	207	1%	(56)	(95)	(150)
20	Rate 20	(58)	45	10	55	0%	(39)	(74)	(113)
21	Rate 100	(88)	3	1	4	0%	(30)	(62)	(92)
22	Rate 25	(35)	0	0	0	0%	(11)	(24)	(35)
23	Subtotal - Union North	(519)	856	199	1,055	5%	(515)	(1,059)	(1,574)
24	In-franchise (line 11 + line 23)	(2,071)	2,786	647	3,433	16%	(1,664)	(3,840)	(5,504)
25	Ex-franchise (line 17)	17,407	14,282	3,319	17,601	84%	(68)	(126)	(194)
26	Total (line 24 + line 25)	15,336	17,068	3,966	21,034	100%	(1,732)	(3,966)	(5,698)

Notes:
(1) The Dawn-Parkway demand allocation is provided at EB-2011-2010, Exhibit G3, Tab 5, Schedule 23, Updated, pages 7-8, line 5.
(2) Allocation of the property and income taxes associated with the Parkway West Project.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 12, Paragraphs 4 and 17

Paragraph 17 indicates that in-franchise customers will bear 16%, or $3.4 million, of the cost directly attributable to the project. This implies a total cost directly attributable to the project of about $21 million. Please reconcile this figure with the $15.3 million revenue requirement noted in paragraph 4.

Response:

As described in Section 12, paragraph 4, the estimated revenue requirement associated with the Parkway West Project in the first full year of service is approximately $15.3 million in 2016. The reference in Section 12, paragraph 17 to in-franchise customers bearing 16%, or $3.4 million, refers to the overall increase in costs allocated to the Dawn-Parkway functional classification as a result of the inclusion of the Project in the 2013 Board-approved cost allocation study.

As per Schedule 12-2, the inclusion of the Parkway West Project in the 2013 Board-approved cost allocation study increases the costs allocated to the Dawn-Parkway functional classification by $21.034 million (column b, line 26). Of this amount, in-franchise customers are allocated 16%, or $3.4 million (column b, line 24). The costs allocated to other functional classifications decrease by $5.698 million, resulting in an overall cost change associated with the Parkway West Project of $15.3 million.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 13, Paragraph 21

What is Union's forecast of cost consequences for each of the items listed (and the option on the land) if Board approval is not received by July 25, 2013?

Response:

Based on the current schedule, approval will not be received by July 25th.

For the purposes of answering the question, Union has assumed a decision date of November 30, 2013, and that Union will proceed with ordering materials, purchase the land, and begin early civil work on the Parkway West site. If the Board were to approve the project, there would be no cost consequences beyond those contemplated in the application. If the Board were to deny the application, Union will have incurred costs of $40.2M, including the land purchase, by the end of November 2013 which, absent an order of the Board, would not be recoverable.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 13, Paragraphs 51 - 60

a) Please provide the forecasted cost of the 84 acres north of Derry Road that Union had originally intended to purchase.

b) Please provide the estimated cost of the two NPS54 pipelines from the originally proposed site to the Dawn-Parkway lines.

c) Please provide the estimated cost of the 110 acres that Union intends to use as the Parkway West site.

Response:

a) The estimated cost of the 84 acres north of Derry road was $20 Million.

b) The estimated cost of the two NPS54 pipelines to the originally proposed property was $29.5 Million.

c) The cost of the 110 acres for the proposed Parkway West site is $26.1 Million

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Schedule 12-1

Please confirm that all of the operation and maintenance expenses that total $1.615 million are incremental costs and does not include any re-allocated costs. If this cannot be confirmed, please indicate which costs are re-allocated.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Section 1, page 6

What are the expected cost consequences if Union does not receive the required orders and approvals from the Board by September 15, 2013?

Response:

Based on the current schedule, it is unlikely that approval will be received by September 15th.

For the purposes of answering the question, Union has assumed a decision date of November 30, 2013 and that Union will proceed with ordering materials and purchase the land options. If the Board were to approve the project, there would be no cost consequences beyond those contemplated in the application. If the Board were to deny the application, Union will have incurred costs of $7.1 million by the end of November 2013 which, absent an order of the Board, would not be recoverable.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2013-0074, Section 8, Figure 8-3

How are the costs associated with the system capacity shortfall shown in Figure 8-3 allocated? Please show the allocation of the costs associated with this shortfall by rate class.

Response:

There are no costs associated with the system capacity shortfall included in the estimated Brantford to Kirkwall and Parkway D Compressor Project costs. A system capacity shortfall is typically managed through a purchased service such as Winter Peaking Service or similar services purchased from energy marketers.

There are no Winter Peaking Service costs in 2013 Board-approved rates.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[p.102-106] Please reconcile the estimated $15.3m annual revenue requirement for the projects (paragraph 4) with the statement that in-franchise customers will bear 16% or $3.4m of the costs directly attributable to the program (paragraph 17), which would indicate total annual revenue requiring of $21.25m.

Response:

Please see Exhibit I.A3.UGL.LPMA.12.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Section 8, p.9] Please provide an update on discussions with TransCanada about a potential purchase of a used compressor.

Response:

Please see Exhibit I.A4.UGL.Staff.22 b) and c).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Schedule 9-2, p.1] Please explain why there are no land costs associated with the Parkway D Station.

Response:

Please see Exhibit I.A2.UGL.APPRO.8 b).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[Schedule 9-3, p.2-3] Please explain why Gas Supply Cost Savings decrease from $28,200/year in years 1-10 to $1,755 in years 11-20.

Response:

Please see Exhibit I.A2.UGL.TCE.1.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Reference:
a) EB-2013-0074, Application Schedule 10 – 6, page 1

Preamble: Column (e) and (g) show the percentage of rate variation for different services. We note that the rate impact is different between those services.

a) Please explain in detail why the rate increases differ between those services for those two columns.

Response:

As shown at EB-2013-0074, Schedule 10-6, column (e), M12 Dawn to Kirkwall and Dawn to Parkway rates are increasing by 3.7% and 3.9% respectively, while the M12 Kirkwall to Parkway rate is increasing by 5.3%.

The M12 Dawn to Kirkwall and Dawn to Parkway rates are comprised primarily of Dawn transmission compression and Dawn-Parkway transmission costs, while the M12 Kirkwall to Parkway rate includes Dawn-Parkway transmission costs only.

As a result of the costs associated with the Brantford to Kirkwall and Parkway D Compressor Project costs and the additional M12 demands of 363,000 GJ/day, the Dawn-Parkway transmission portion of the three M12 rates noted above increases by 5.3%.

However, the additional M12 demands result in the Dawn transmission compression portion of the M12 Dawn to Kirkwall and Dawn to Parkway rate decreasing by 7.2%. Accordingly, the overall rate increase for M12 Dawn to Kirkwall and Dawn to Parkway is reduced from 5.3% to 3.7% and 3.9%, respectively.

As the M12 Kirkwall to Parkway rate does not include Dawn transmission compression costs, the overall rate increase for this path remains at 5.3%.

The C1 rates associated with westerly transportation service from Parkway to Kirkwall and Parkway/Kirkwall to Dawn, which do not include Dawn transmission compression costs, also reflect the Dawn-Parkway transmission increase of 5.3% only.

The M12-X rate is designed as the sum of the M12 Dawn to Parkway and C1 Parkway to Dawn rates. Accordingly, the M12-X rate increase shown at Schedule 10-6, column (e), line 7 of 4.2% reflects the increases to the M12 Dawn to Parkway and C1 Parkway to Dawn rates described above.

The explanation above also applies to the different rate increases amongst the services shown at Schedule 10-6, column (g).

Please see Attachment 1.

UNION GAS LIMITED
Comparison of Board-approved M12 Rates to Board-approved M12 Rates Including 2018 Brantford to Kirkwall and Parkway D Compressor Project Costs

Line No.	Particulars	EB-2011-0210 Rate Order ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	2013 Rate Order & 2018 Brantford to Kirkwall and Parkway D Compressor Project ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	Variance ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	% Change Transmission Portion	Dawn Compression Portion	Total (1)
		(a)	(b)	(c) = (a) + (b)	(d)	(e)	(f) = (d) + (e)	(g) = (d) - (a)	(h) = (e) - (b)	(i) = (f) - (c)	(j) = (g) / (a)	(k) = (h) / (b)	(l) = (i) / (c)
	M12/C1 Dawn-Parkway Transmission Demand Rates												
1	Dawn to Kirkwall	0.057	0.009	0.066	0.060	0.008	0.069	0.003	-0.001	0.002	5.3%	-7.2%	3.7%
2	Dawn to Parkway	0.069	0.009	0.078	0.073	0.008	0.081	0.004	-0.001	0.003	5.3%	-7.2%	3.9%
3	Kirkwall to Parkway	0.012	0.000	0.012	0.013	0.000	0.013	0.001	0.000	0.001	5.3%	0.0%	5.3%
4	C1 Parkway to Kirkwall	0.019	0.000	0.019	0.020	0.000	0.020	0.001	0.000	0.001	5.3%	0.0%	5.3%
5	C1 Kirkwall to Dawn	0.034	0.000	0.034	0.035	0.000	0.035	0.002	0.000	0.002	5.3%	0.0%	5.3%
6	C1 Parkway to Dawn	0.019	0.000	0.019	0.020	0.000	0.020	0.001	0.000	0.001	5.3%	0.0%	5.3%
7	M12-X	0.089	0.009	0.097	0.093	0.008	0.101	0.005	-0.001	0.004	5.3%	-7.2%	4.2%

UNION GAS LIMITED
Comparison of Board-approved M12 Rates to Board-approved M12 Rates Including 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project Costs

Line No.	Particulars	EB-2011-0210 Rate Order ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	2013 Rate Order & 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	Variance ($/GJ/day) Transmission Portion	Dawn Compression Portion	Total	% Change Transmission Portion	Dawn Compression Portion	Total (2)
		(a)	(b)	(c) = (a) + (b)	(d)	(e)	(f) = (d) + (e)	(g) = (d) - (a)	(h) = (e) - (b)	(i) = (f) - (c)	(j) = (g) / (a)	(k) = (h) / (b)	(l) = (i) / (c)
	M12/C1 Dawn-Parkway Transmission Demand Rates												
8	Dawn to Kirkwall	0.057	0.009	0.066	0.068	0.008	0.076	0.011	-0.001	0.010	18.6%	-7.7%	15.1%
9	Dawn to Parkway	0.069	0.009	0.078	0.082	0.008	0.091	0.013	-0.001	0.013	18.6%	-7.7%	16.9%
10	Kirkwall to Parkway	0.012	0.000	0.012	0.014	0.000	0.014	0.002	0.000	0.002	18.6%	0.0%	18.6%
11	C1 Parkway to Kirkwall	0.019	0.000	0.019	0.023	0.000	0.023	0.004	0.000	0.004	18.6%	0.0%	18.6%
12	C1 Kirkwall to Dawn	0.034	0.000	0.034	0.040	0.000	0.040	0.006	0.000	0.006	18.6%	0.0%	18.6%
13	C1 Parkway to Dawn	0.019	0.000	0.019	0.023	0.000	0.023	0.004	0.000	0.004	18.6%	0.0%	18.6%
14	M12-X	0.089	0.009	0.097	0.105	0.008	0.113	0.016	-0.001	0.016	18.6%	-7.7%	16.2%

Notes
(1) EB-2013-0074, Schedule 10-6, Page 1, column e).
(2) EB-2013-0074, Schedule 10-6, Page 1, column g).

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref:
a) EB-2013-0074, Section 9, Page 4, Union discusses its *Stage 1 – Project SpecificDiscounted Cash Flow (DCF) Analysis;*
b) EB-2013-0074, Application Schedule 6-1; and c) EB- 2012-0433, Schedule 6-1.

Preamble:

i) At lines 2 to 4 Union states: "The results of the Stage 1 DCF analysis on Schedule 9-3A indicate a cumulative NPV of $94.0 million and a PI of 1.46." and at lines 5 to 8 "Incremental cash inflows have been estimated based on that portion of revenues from incremental M12 transportation service demands that can be served by the additional facilities and anticipated gas supply cost savings realized from Contracts with TCPL proposed to serve existing Union EDA and Union NDA in-franchise markets from Dawn."

ii) At lines 11 to 17 Union states that: "Schedule 9-3B is a DCF sensitivity analysis to assess the impact of removing the gas supply cost savings. The result is a cumulative NPV of $(59.0) million and the PI is 0.71. Schedule 9-3A is the appropriate data for the purpose of the economic test. The sensitivity analysis demonstrates that customers receive a significant economic benefit by utilizing proposed facilities as an alternative route to serve existing demands in the Union EDA and Union NDA market area. Schedule 9-3B has been provided for illustrative purposes because the gas supply savings are attributable to the Union North in-franchise markets only."

iii) Union shows contracted M12 volumes by shipper in the Schedules noted in Reference b).

a) Please confirm that the cumulative NPV that results from comparing the revenues from incremental M12 transportation service demands with the incremental costs of the requested facilities results in a PI of 0.71. If not confirmed please explain.

b) Please confirm that the revenue shortfall from the above calculation is $(59.0) million. If not confirmed please explain.

c) Union has calculated that the net benefit of the requested facilities to Union North customers is $18 million to $28 million per year (ref. Section 5, pg 7) and the net benefit to EGD customers is $511 million over the 2015 to 2025 timeframe (Ref. EB-2012-0451, Exhibit A, Tab 3, Schedule 5, page 19) and the net benefit to GMi customers is between $88 million and $120 per year (Reference: Section 5, Pg. 4). Union states that if the requested facilities are built the rate for Dawn-Parkway M12 service is estimated to increase by 0.3 cents/GJ as a result of EB-2013-0074 and by 1.0 cents/GJ as a result of EB-2012-0433) (Reference: Section 10, pg.09). Please provide the annual incremental costs to each M12 shipper other than those mentioned above. Contracted M12 volumes by shipper are shown by Union in the Schedules 6-1 as noted in Reference b).

Response:

a) and b) Confirmed.

c) Please see the response to Exhibit I.A3.UGL.TCPL.6, Attachment 2 for the comparison of 2013 Board-approved M12 rates and costs to 2013 Board-approved M12 rates including 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project costs for all M12 shippers individually.

The contracted demands used to calculate the M12 impacts in Attachment 2 are 2013 Board approved contracted demands.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada PipeLines Limited ("TCPL")

Ref: EB-2013-0074, Application Section 5 and Section 10.

Preamble: Union discusses the net benefits to various groups of customers (Union North, Union South, EGD, GMi) in Section 5 and discusses the rate impacts on Rate M12 customers in Section 10.

a) Please provide a table showing the net annual benefits or net annual costs to the following groups of customers resulting from the construction of the requested facilities in EB-2012-0433 and EB-2013-0074 and associated contractual changes:

i. Union North
ii. Union South
iii. EGD
iv. GMI
v. All other M12 shippers individually

Response:

a) Please see Attachment 1 for the 2018 cost allocation impacts of the Parkway West, Brantford to Kirkwall and Parkway D Compressor Projects, including the Long-Term Contracting Proposal for Union North, Union South and ex-franchise rate classes.

Please see Attachment 2 for the comparison of 2013 Board-approved M12 rates and costs and 2013 Board-approved M12 rates including 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project costs for all M12 shippers individually.

UNION GAS LIMITED
2018 Cost Allocation of the Parkway West, Brantford to Kirkwall and
Parkway D Compressor Projects Including the Long-Term Contracting Proposal

Line No.	Particulars ($000's)	Total Cost Allocation Impacts	Project Facitilites	Long-Term Contracting Proposal
		(a) = (b + c)	(b)	(c)
1	Rate M1	(2,488)	(2,487)	(1)
2	Rate M2	(28)	(27)	(1)
3	Rate M4	(1)	(0)	(0)
4	Rate M5	(118)	(118)	(0)
5	Rate M7	18	18	(0)
6	Rate M9	14	14	(0)
7	Rate M10	0	0	(0)
8	Rate T1	(33)	(33)	(0)
9	Rate T2	10	11	(1)
10	Rate T3	107	108	(0)
11	Subtotal - Union South	(2,519)	(2,514)	(5)
12	Excess Utility Space	(51)	(51)	0
13	Rate C1	(30)	(30)	0
14	Rate M12	33,509	33,509	0
15	Rate M13	(1)	(1)	0
16	Rate M16	(2)	(2)	0
17	Subtotal - Ex-franchise	33,426	33,426	0
18	Rate 01	(21,187)	1,186	(22,374)
19	Rate 10	(8,032)	533	(8,565)
20	Rate 20	(3,508)	44	(3,552)
21	Rate 100	(117)	(110)	(7)
22	Rate 25	672	(48)	720
23	Subtotal - Union North	(32,173)	1,605	(33,778)
24	In-franchise (line 11 + line 23)	(34,691)	(909)	(33,783)
25	Ex-franchise (line 17)	33,426	33,426	0
26	Total (line 24 + line 25)	(1,266)	32,517	(33,783)

UNION GAS LIMITED

Comparison of Board-approved M12 Rates and Costs to M12 Rates and Costs Including 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project Costs

Line No.	Customer	M12 Dawn to Parkway: Board-approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
	M12						
1	Enbridge	2,157,173	0.078	61,672	0.091	71,319	9,648
2	GMI	285,500	0.078	8,162	0.091	9,439	1,277
3	Ag Energy Co.	1,600	0.078	46	0.091	53	7
4	Ag Energy Co-operative Ltd.	1,900	0.078	54	0.091	63	8
5	Bay State Gas Company	27,803	0.078	795	0.091	919	124
6	Boston Gas Company d/b/a National Grid	11,440	0.078	327	0.091	378	51
7	BP Canada Energy Company	20,000	0.078	572	0.091	661	89
8	Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	16,259	0.078	465	0.091	538	73
9	City of Kitchener	4,000	0.078	114	0.091	132	18
10	Colonial Gas Company d/b/a National Grid	6,475	0.078	185	0.091	214	29
11	Connecticut Natural Gas Corporation	40,146	0.078	1,148	0.091	1,327	180
12	Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	21,825	0.078	624	0.091	722	98
13	EnergyNorth Natural Gas, Inc. d/b/a National Grid NH	4,317	0.078	123	0.091	143	19
14	Goreway Station Partnership	140,000	0.078	4,002	0.091	4,629	626
15	Greater Toronto Airports Authority	7,500	0.078	214	0.091	248	34
16	Greenfield Ethanol Inc.	3,000	0.078	86	0.091	99	13
17	Greenfield South	46,950	0.078	1,342	0.091	1,552	210
18	J. Aron & Company	41,667	0.078	1,191	0.091	1,378	186
19	KeySpan Gas East Corporation d/b/a National Grid	83,771	0.078	2,395	0.091	2,770	375
20	KPUC	13,435	0.078	384	0.091	444	60
21	Niagara Mohawk Power Corporation d/b/a National Grid	55,123	0.078	1,576	0.091	1,822	247
22	Northern Utilities, Inc.	6,333	0.078	181	0.091	209	28
23	Portlands Energy Centre LP	100,000	0.078	2,859	0.091	3,306	447
24	St. Lawrence	10,425	0.078	298	0.091	345	47
25	Suncor Energy Products Partnership Produits Suncor Energie, S.E.N.C.	12,500	0.078	357	0.091	413	56
26	The Brooklyn Union Gas Company d/b/a National Grid NY	87,189	0.078	2,493	0.091	2,883	390
27	The Narragansett Electric Company d/b/a National Grid	1,081	0.078	31	0.091	36	5
28	The Southern Connecticut Gas Company	58,655	0.078	1,677	0.091	1,939	262
29	TCPL	374,945	0.078	10,719	0.091	12,396	1,677
30	TransAlta Cogeneration, LP	11,809	0.078	338	0.091	390	53
31	TransCanada Energy Ltd.	132,000	0.078	3,774	0.091	4,364	590
32	U.S. Steel Canada Inc.	17,351	0.078	496	0.091	574	78
33	Vermont Gas Systems, Inc.	20,500	0.078	586	0.091	678	92
34	Yankee Gas Services Company	69,056	0.078	1,974	0.091	2,283	309
35	York Energy Centre LP	87,000	0.078	2,487	0.091	2,876	389
36	Total M12 Board-approved Dawn to Parkway	3,978,728		113,748		131,543	17,794
37	New M12 Dawn to Parkway Demands	363,000		-	0.091	12,001	12,001
38	Total M12 Dawn to Parkway	4,341,728		113,748		143,544	29,796

Notes:
(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.
(2) EB-2013-0074, Schedule 10-6, column (c).

UNION GAS LIMITED
Comparison of Board-approved M12 Rates and Costs to M12 Rates and Costs Including 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project Costs

Line No.	Customer	Board-approved Contracted Demands (GJ/day)	EB-2011-0210 Rates ($/GJ/day) (1)	M12 Costs ($000's)	M12 Rates Including Year 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project ($/GJ/day) (2)	M12 Costs Including Year 2018 Parkway West, Brantford to Kirkwall and Parkway D Compressor Project ($000's)	Variance ($000's)
		(a)	(b)	(c) = (a) * (b) * 365	(d)	(e) = (a) * (d) * 365	(f) = (e) - (c)
		M12 Dawn to Kirkwall					
1	Enbridge	67,929	0.066	1,639	0.076	1,886	247
2	GMI	-	0.066	-	0.076	-	-
3	Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	31,746	0.066	766	0.076	882	116
4	Dynegy Gas Imports	38,306	0.066	924	0.076	1,064	140
5	KeySpan Gas East Corporation	138,600	0.066	3,344	0.076	3,849	505
6	National Fuel Gas Distribution Corporation	26,695	0.066	644	0.076	741	97
7	TCPL	372,905	0.066	8,998	0.076	10,356	1,358
8	Thorold CoGen LP	49,500	0.066	1,194	0.076	1,375	180
9	Total M12 Dawn to Kirkwall	725,681		17,509		20,152	2,643
		M12 Kirkwall to Parkway					
10	TransCanada Energy Ltd.	117,622	0.012	525	0.014	622	98
11	M12 Grand Total	5,185,031		131,783		164,319	32,536
	C1 Westerly						
12	Parkway-Dawn	360,960	0.019	2,508	0.023	2,975	467
13	M12-X Westerly	391,011	0.019	2,717	0.023	3,223	506
14	C1 Westerly Grand Total	751,971		5,225		6,198	973
15	M12/C1 Dawn -Parkway Total	5,937,003		137,007		170,516	33,509

Notes:
(1) EB-2011-0210, Appendix A, Pages 14-16, column (c), effective January 1, 2013.
(2) EB-2013-0074, Schedule 10-6, column (c).

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Ref: EB-2012-0433, Schedule B, paragraphs 3-5

a) Please discuss the potential exposure of in-franchise customers to stranded asset cost recovery in the event that some of the customers among the ex-franchise rate classes supporting the application decide to either discontinue or significantly reduce their use of Union's system in the medium term or in the long term.

Response:

a) Please see Exhibit I.A5.UGL.TCE.6 d).

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Section 9, Application Summary, Page 80 of 121 and Schedule 11-1, Page 1
EB-2013-0074, Section 8, Page 9 of 10

Preamble: Union has provided a breakdown of the cost with respect to the Loss of Critical Unit ("LCU") compressor. The materials, building and equipment are estimated at $34 million. Union has indicated that it has had discussions with TCPL to discuss the possibility of purchasing a used compressor. Similarly, in case of the Brantford-Kirkwall/Parkway D project, Union is discussing the potential of purchasing and installing a used compressor unit from TCPL.

a) Is Union open to purchasing and installing two used compressors for the above two projects?

b) Has Union identified a specific used compressor or compressors from TCPL that it would be interested in purchasing?

c) If the answer to (a) is yes, what is the cost of the used compressor and what is the cost difference as compared to the compressor cost in the Application?

d) Has Union approached other companies to purchase used compressors? If it has, please provide details.

e) If Union purchases a used compressor, what other costs would need to be taken into account (moving costs, refurbishment, etc.)?

Response:

a) Yes, provided the used TCPL compressor package will meet Union's technical and operational requirements, and is a cost effective solution.

b) In EB-2011-0210 (Union's 2013 Rate Case), TCPL identified that it may have compressor units available within the TCPL fleet to provide loss of critical unit protection at Parkway West. In September 2012, Union and TCPL initiated discussions with respect to the availability of used compressors for the Parkway C Compressor and Parkway D Compressor. A number of meetings and telephone discussions were held under confidentiality agreement in the fall of 2012 regarding Union's compressor specifications as well as the specifications of potentially available TCPL compressor units. Through these discussions and meetings, Union and TCPL identified the best candidates available within the TCPL fleet. Union was able to review design specifications and operation and maintenance information during this process.

As a result of these discussions the candidate compressor packages available for sale was narrowed down to two plants from TCPL's transmission system. These compressor packages logged a total of 67000 and 45000 operating hours, originally installed in 1995 and 1998 respectively.

c) The cost of the used compressor packages cannot be disclosed under confidentiality agreement with TCPL. The final installed cost comparison between utilizing a used TCPL compressor package versus purchasing new was a difference of approximately $3 million in favour of purchase of a new compressor package. Based on this cost difference, and other considered factors detailed in part e) below, the decision was made not to proceed further with purchase of the used TCPL compressor packages. As a result, Union informed TCPL in April 2013 that the used compressor units were not feasible or cost effective for the Parkway C compressor and Parkway D compressor applications. Union has proceeded with engineering on both Parkway C compressor and Parkway D compressor on the basis of new equipment, and plans to purchase new Rolls Royce compressor packages for both plants in August 2013.

d) Union has not approached any other companies regarding the purchase of used compressor packages for this project.

e) To analyze the complete and integrated costs of utilizing a used compressor package for Parkway C and/or Parkway D versus purchasing a new package, several factors and associated costs need to be considered as part of the evaluation. These factors include the following:

1. **Suitability of the available TCPL used compressor package(s) major components for our specific application at Parkway West (Parkway C and/or D) –** The existing TCPL packages were designed for use in a remote location. The proposed Parkway West site is located in an urban area. In fact, the Parkway West site could be surrounded by residential and/or commercial development in the near future. This necessitates a much tighter noise design specification than that of the used TCPL packages. Also, the operating parameters required for Parkway C and Parkway D compressors are much different than the operation for which the used packages were designed, resulting in a need for Union to completely replace the compressor portion of the used packages with new equipment. These, and a few other related issues resulted in a requirement to either replace, modify or add equipment to the TCPL packages to make them fit for purpose at Parkway West.

2. **Some major components on the used TCPL packages are not currently supported by the OEM or do not meet current Union Gas fleet operational requirements -** There are components that have been identified on the TCPL used packages that have been either replaced or identified for replacement as part of an upgrade program for Union's existing compression fleet. These components are either no longer supported by Original Equipment Manufacturers ("OEM") and are obsolete with respect to repair or replacement parts or do not meet Union's current fleet standards due to operability, maintenance or

reliability concerns. This equipment would either need to be replaced before installation at Parkway West, or would be placed on Union's maintenance capital upgrade program. Either option entails incremental costs for Union that needed to be factored into the purchase decision.

3. **Age and operating hours of the used TCPL package components. -** The TCPL packages offered include original equipment purchased and installed in 1995 and 1998, with total operating hours of approximately 67,000 and 45,000 hours respectively. Although this equipment has been maintained by TCPL, there can still be issues with certain components on the package that could result in additional retrofit costs or advanced life cycle costs to address reliability concerns when compared to completely new packages.

4. **Demolition, shipping, site assembly and installation, commissioning and testing.** If a used compressor package were to be utilized for Parkway West, Union would expect a much higher level of site labour required to install and make it ready for commissioning and operation than what would be required for a new package. Demolition at the TCPL site; preparing the package components for shipment to the Parkway site; reassembly, modifications and additions of equipment to the base package once received on site; and additional commissioning and testing on site, would all add cost and require significantly more lead time to the installation and commissioning schedule.

5. **Engineering complexity; cost and schedule impacts.** Based on the number of modifications and additions that the used packages would need to undergo to make the TCPL compressors fit for purpose at Parkway West, the engineering effort for a retrofit of this nature is much more significant than that which would be required for a new compressor package. Although Union has completed an extensive assessment of the TCPL used packages to ensure their suitability for use at Parkway West, a much more detailed engineering analysis would be required to finalize what would need to be replaced, modified or added to fit either of the Parkway C or Parkway D compressor applications. Costs that were used in this analysis were based on Union's past project experience and supplied from the OEM, Rolls Royce. Given the budgetary nature of these costs, and the potential for unknowns on a retrofit project such as this, the cost estimates used in this analysis will attract a higher level of contingency allowances due to the risk of scope and schedule creep than for a completely new package installation. Even without scope changes, given the additional complexity of a retrofit project such as this, there is significant concern that the longer lead time required for both OEM engineering on the compressor package and balance of plant engineering, utilizing a used compressor package in place of new would put Union at risk of not completing to our current committed schedule.

6. **Capital discounts for multi-unit purchase for Parkway C and Parkway D**. Bid proposals received for new compressor packages at both Parkway C and Parkway D included a significant multi-unit discount for each of Parkway C and Parkway D if both units were ordered from our proposed OEM versus a single unit only. If the TCPL used

package was used for either of Parkway C or Parkway D, this discount would not be applied to the remaining new unit purchase.

7. **Equipment performance and warranty.** Overall performance characteristics of the existing TCPL packages are unknown at this time and could change in some respects following the various modifications that need to take place. The baseline performance would need to be tested and verified on site following completion of all required work. Performance guarantees and warrantees on the used package would obviously be much different than what would be expected with a completely new package.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Section 10, Pages 82-95
EB-2013-0074, Section 8, Pages 7-10

Preamble: Union has discussed alternatives in its applications for both projects, Parkway West and Kirkwall-Brantford.

a) Did Union consider any alternatives to both projects on a combined basis? If "No", why not?

b) Union proposes to install two compressors at Parkway West as part of the two projects. Has Union considered the possibility of installing just one additional compressor and obtaining additional gas supplies from other sources if required?

c) Please explain some of the additional costs of adding an LCU, apart from the capital cost (higher operating expenses, running the LCU even if not required etc.). Please provide the additional costs.

Response:

a) No, because the projects are not amenable to a combined solution as they address different needs. The Parkway West Project is driven by the need to increase system reliability through the use of LCU compression and measurement, and as a result the capacity created by that equipment must remain in reserve. The Brantford to Kirkwall project is a growth project. If one solution was developed for both reliability and growth, the compressor would need to operate to meet growth volumes and would not provide LCU protection.

b) If Union installed a single compressor, it would need to function either as LCU or as growth, it cannot perform both functions. If the compressor was installed for growth volumes, Union would need to contract for the entire LCU protection volumes (as detailed in EB-2012-0433). If the compressor was installed for LCU protection, Union would need to contract for the entire shortfall.

c) Please refer to Schedule 12-1 in EB-2012-0433.

UNION GAS LIMITED

Answer to Interrogatory from
Association of Power Producers of Ontario ("APPRO")

Ref: EB-2012-0433 Section 10

Preamble: On page 3 of 11, Union indicates that it has risk of Dawn to Parkway and Dawn to Kirkwall turnback capacity risk after 2015, and further that remarketing the capacity is contingent on the Parkway D compressor, APPrO would like to understand the implications and alternatives considered should this risk materialize.

a) Please provide a schedule of expiring M12 and C1 contracts up to 2020. Please organize the contract volumes by market region served by Union (e.g. market regions could include: Ontario market, Quebec market, New England market, Mid-Atlantic market, others).

b) Has Union performed any risk analysis on potential turnback capacity (such as a competitive analysis for supplies being transported on the Dawn-Parkway system for each market region compared to other supply options such customers in the respective market may have access to in order to help assess the risk of turnback)? If so please provide. If not would Union agree that providing this analysis may provide insight into the potential for turnback?

c) Has Union considered other short term alternative solutions to building facilities that could be used until such time as it has a better understanding of the post-2015 turnback risk?

d) Union indicates if there is turnback then re-marketing capacity is contingent on having the Parkway D compressor in place. Schedule 8-2 indicates that the available horsepower at Parkway is 87.9 MW, whereas only 75 MW is required. This same schedule also shows that even with the proposed facilities, there is a shortfall in total system capacity compared to the required system capacity equal to 123,563 GJ/d, suggesting that the proposed expansion project is pipeline capacity constrained.

   i. If the turnback capacity is existing Dawn-Parkway capacity, would this not already have the necessary compression associated with it to allow Union to remarket the capacity?

   ii. The surplus horsepower at Parkway D is about 13 MW, how much additional throughput could be accommodated with this compression?

   iii. Since there is a current shortfall of system capacity if 123,563 GJ/d, would the spare horsepower at Parkway D not be required to compress this shortfall volume in the event that there is future pipeline system expansion?

iv. Assuming that the turnback capacity was related to the Dawn-Kirkwall path, what additional pipeline facilities would be necessary to utilize the additional surplus horsepower at Parkway D to remarket such turnback capacity. Please include an estimate of the capital related for this further expansion necessary to remarket Dawn-Parkway capacity.

Response:

a) Please see Attachment 1 for a schedule of expiring M12 and C1 contracts up to 2020 organized by market region served by Union and by contract quantity.

b) In addition to the turn back analysis filed in EB-2013-0074, Union filed information with respect to turn back risk on the Dawn-Parkway System in its 2013 Rebasing proceeding (EB-2011-0210) including at i) Exhibit A2, Tab 1, Schedule 1 pages 10-12; and ii) Exhibit J.D-14-16-8; and iii) Exhibit A2, Tab 1, Schedule 4, pages 4-5 and 19-24 (ICF International Report – Natural Gas Market Conditions and Impact on Union Gas Limited).

Union also assesses the risk of turn back through discussions with its shippers and monitoring the gas supply and transportation market, including the impact of new projects and supply basins and transportation capacity available from supply points to the market. Union's current assessment is that the risk of turn back for Dawn-Kirkwall capacity is significant. Union models its system capacity assuming that Dawn-Kirkwall capacity will be turned back as referenced in response to Exhibit I.A1.UGL.Staff.10.

Union also believes that the risk of turn back of Dawn-Parkway capacity is relatively low. Enbridge has recently confirmed its commitment to the Dawn-Parkway System through 400 TJ/d of new transportation capacity and has extended the primary term of its largest Dawn-Parkway transportation agreement (1.7 PJ/d) to October 31, 2022. With its new Dawn-Parkway transportation capacity, Gaz Métro has also increased its commitment to the Dawn Hub and the Dawn-Parkway System (258 TJ/d). In addition, the Dawn-Parkway System offers U.S. Northeast customers access to the Dawn Hub providing: a liquid trading market; access to storage; access to diverse natural gas supply from multiple production basins; and an opportunity to maintain diversity in transportation paths to the U.S. Northeast market. Please refer to Exhibit I.A1.UGL.BOMA.46 for an analysis of Dawn-Parkway capacity with respect to Northeast Utilities. In its recent reverse open season, Union received turn back notice of Dawn-Parkway capacity for only 22,000 GJ/d.

c) Union's expectation is that long-term growth opportunities will exceed turn back risk. Potential Dawn-Parkway System growth opportunities totalling up to an additional 1 PJ/d for service commencing on or before November 1, 2017 include: customers seeking access to the

Dawn Hub as a result of the TransCanada crude oil line conversion, the possible movement of the Parkway Obligation to Dawn and the development of large fertilizer, power generation and LNG plants in Ontario, Québec and Atlantic Canada. Given this expectation, Union does not view purchasing short-term solutions as viable options.

There are also practical reasons why short-term alternatives, such as purchasing a short-term firm Dawn-Parkway transportation service, are not a good alternative. To replace the expansion capacity, Union would be required to contract for approximately 500 TJ/d of Dawn-Parkway capacity on a short-term basis. Contracting for such a large amount of Dawn-Parkway transportation capacity on a year-to-year basis would be difficult and would involve availability and price risk. In the event that the short-term Dawn-Parkway capacity becomes unavailable or cost prohibitive, new facilities would be required. Assuming that all regulatory and agency approvals are available and that materials are reasonably available, new facilities will require approximately two years to construct. Therefore, the decision to construct the facilities would need to occur at least two years in advance of these market developments.

d)

i) Dawn-Parkway turnback would free up both pipeline and compressor capacity, allowing Union to remarket the full capacity.

ii) The Parkway D unit is similar to the existing Parkway B unit which can move in total approx 1.6 PJ/d on Design Day. In Winter 15/16 the Parkway D unit is compressing approx 0.8 PJ/d with an additional 0.8 PJ/d of future expansion with the appropriate upstream and downstream facilities in place.

iii) Some of the spare compression would be required.

iv) Beyond Winter15/16 there is approx 360 TJ/d of remaining Dawn to Kirkwall capacity which could be turned back. Of that capacity, 307 TJ/d could be remarketed at Parkway without any additional Dawn to Parkway facilities. Additional facilities downstream of Parkway may be required to move the volumes on TCPL’s system.

Dawn, Parkway, Kirkwall Easterly Transportation Contract Expirations
2014-2020

Dawn - Parkway			31-Oct-14	31-Oct-15	31-Oct-16	31-Oct-17	31-Oct-18	31-Oct-19	31-Oct-20	> 2020
York Energy Centre LP	C10102**	11,654	11,654							
Greater Toronto Airports Authority	M12120	7,500	7,500	7,500	7,500	7,500	7,500			
York Energy Centre LP	M12184	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000	76,000
Goreway Station Partnership by its managing partner Goreway Power Station Holdings ULC	M12110	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
Portlands Energy Centre L.P. ,by its General Partner, Portlands Energy Centre Inc.	M12130	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Suncor Energy Products Partnership Produits Suncor Energie, S.E.N.C.	M12217	15,000	15,000	15,000						
The Corporation of the City of Kitchener	M12090	4,000	4,000	4,000	4,000					
TransAlta Cogeneration, L.P.	M12081	11,809	11,809	11,809	11,809					
TransCanada Power, a Division of TransCanada Energy Ltd.	M12131	132,000	132,000	132,000	132,000	132,000	132,000			
U.S. Steel Canada Inc.	M12085	17,351	17,351	17,351	17,351	17,351	17,351			
GreenField Ethanol Inc.	M12156	3,000	3,000	3,000	3,000	3,000	3,000	3,000		
Ag Energy Co-operative Ltd.	M12151	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	
Ag Energy Co-operative Ltd.	M12167	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900
1425445 Ontario Limited o/a Utilities Kingston	M12077**	11,322	11,322							
1425445 Ontario Limited o/a Utilities Kingston	M12127	2,113	2,113	2,113						
Enbridge Gas Distribution Inc.	M12125	10,692	10,692	10,692						
Enbridge Gas Distribution Inc.	M12188	18,703	18,703	18,703						
Enbridge Gas Distribution Inc.	M12080	106,000	106,000	106,000	106,000	106,000	106,000			
Enbridge Gas Distribution Inc.	M12108	57,100	57,100	57,100	57,100	57,100	57,100	57,100		
Enbridge Gas Distribution Inc.	M12079B*	1,764,678	1,764,678	1,764,678	1,764,678	1,764,678	1,764,678	1,764,678	1,764,678	1,764,678
Enbridge Gas Distribution Inc.	M12X006	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Total Ontario Market Region			2,692,422	2,669,446	2,622,938	2,607,129	2,607,129	2,344,278	2,284,178	2,282,578
Gaz Métro Limited Partnership	M12132**	52,343	52,343							
Gaz Métro Limited Partnership	M12172**	22,908	22,908							
Gaz Métro Limited Partnership	M12176**	88,728	88,728							
Gaz Métro Limited Partnership	M12007D	21,021	21,021	21,021	21,021					
Gaz Métro Limited Partnership	M12092	35,000	35,000	35,000	35,000					
Gaz Métro Limited Partnership	M12109	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
Total Québec Market Region			285,000	121,021	121,021	65,000	65,000	65,000	65,000	65,000
BP Canada Energy Group ULC	M12087	20,000	20,000	20,000	20,000	20,000	20,000	20,000	15,000	10,000
TransCanada PipeLines Limited	M12086	119,787	119,787	119,787	119,787					
TransCanada PipeLines Limited	M12X004	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
TransCanada PipeLines Limited	M12X005	78,316	78,316	78,316	78,316	78,316	78,316	78,316	78,316	78,316
TransCanada PipeLines Limited	M12X013	62,695	62,695	62,695	62,695	62,695	62,695	62,695	62,695	62,695
Total Unknown Market Region (1)			330,798	330,798	330,798	211,011	211,011	211,011	206,011	201,011
St. Lawrence Gas Company, Inc.	M12126	10,785	10,785	10,785						
Vermont Gas Systems, Inc.	M12119	20,000	20,000	20,000	20,000	20,000	20,000			
Vermont Gas Systems, Inc.	M12190	500	500	500	500	500	500	500	500	
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12182	5,467	5,467	5,467	5,467					
Connecticut Natural Gas Corporation	M12166	6,410	6,410	6,410	6,410					
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12171	21,825	21,825	21,825	21,825					
KeySpan Gas East Corporation d/b/a National Grid	M12163	43,837	43,837	43,837	43,837					
Niagara Mohawk Power Corporation d/b/a National Grid	M12186	55,123	55,123	55,123	55,123					
The Brooklyn Union Gas Company d/b/a National Grid NY	M12165	44,019	44,019	44,019	44,019					
The Narragansett Electric Company d/b/a National Grid	M12164	1,081	1,081	1,081	1,081					

Bay State Gas Company dba Columbia Gas of Massachusetts	M12204	27,803	27,803	27,803	27,803	27,803				
Boston Gas Company d/b/a National Grid	M12197	9,282	9,282	9,282	9,282	9,282				
Boston Gas Company d/b/a National Grid	M12199	2,158	2,158	2,158	2,158	2,158				
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12195	10,792	10,792	10,792	10,792	10,792				
Colonial Gas Company d/b/a National Grid	M12198	6,475	6,475	6,475	6,475	6,475				
Connecticut Natural Gas Corporation	M12201	18,077	18,077	18,077	18,077	18,077				
EnergyNorth Natural Gas, Inc.	M12200	4,317	4,317	4,317	4,317	4,317				
KeySpan Gas East Corporation d/b/a National Grid	M12194	17,162	17,162	17,162	17,162	17,162				
Northern Utilities, Inc.	M12205	6,333	6,333	6,333	6,333	6,333				
The Brooklyn Union Gas Company d/b/a National Grid NY	M12193	12,953	12,953	12,953	12,953	12,953				
The Southern Connecticut Gas Company	M12202	34,950	34,950	34,950	34,950	34,950				
Yankee Gas Services Company	M12203	43,116	43,116	43,116	43,116	43,116				
Connecticut Natural Gas Corporation	M12206	9,170	9,170	9,170	9,170	9,170	9,170			
KeySpan Gas East Corporation d/b/a National Grid	M12209	22,772	22,772	22,772	22,772	22,772	22,772			
The Brooklyn Union Gas Company d/b/a National Grid NY	M12208	30,217	30,217	30,217	30,217	30,217	30,217			
The Southern Connecticut Gas Company	M12207	13,970	13,970	13,970	13,970	13,970	13,970			
Yankee Gas Services Company	M12210	20,560	20,560	20,560	20,560	20,560	20,560			
Connecticut Natural Gas Corporation	M12214	6,489	6,489	6,489	6,489	6,489	6,489	6,489		
The Southern Connecticut Gas Company	M12213	9,735	9,735	9,735	9,735	9,735	9,735	9,735		
Yankee Gas Services Company	M12212	5,380	5,380	5,380	5,380	5,380	5,380	5,380		
Total US Northeast Market Region			520,758	520,758	509,973	332,211	138,793	22,104	500	-
Total Dawn to Parkway			3,828,978	3,642,023	3,584,730	3,215,351	3,021,933	2,642,393	2,555,689	2,548,589

Dawn to Kirkwall			**31-Oct-14**	**31-Oct-15**	**31-Oct-16**	**31-Oct-17**	**31-Oct-18**	**31-Oct-19**	**31-Oct-20**	**> 2020**
Thorold CoGen L.P. by its General Partner Northland Power Thorold Cogen GP Inc.	M12129	49,500	49,500	49,500	49,500	49,500	49,500	49,500	49,500	49,500
Enbridge Gas Distribution Inc.	M12079A*	32,123	32,123	32,123						
Enbridge Gas Distribution Inc.	M12175	35,806	35,806	35,806						
Total Ontario Market Region			117,429	117,429	49,500	49,500	49,500	49,500	49,500	49,500
Dynegy Gas Imports, LLC	M12170	38,306	38,306	38,306						
TransCanada PipeLines Limited	M12122^	13,336	13,336							
TransCanada PipeLines Limited	M12012	62,602	62,602	62,602						
TransCanada PipeLines Limited	M12123	158,003	158,003	134,077						
Total Unknown Market Region			272,247	234,985	-	-	-	-	-	-
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	31,746	31,746	31,746	31,746					
National Fuel Gas Distribution Corporation	M12196	10,791	10,791	10,791	10,791	10,791				
KeySpan Gas East Corporation d/b/a National Grid	M12116	138,600	138,600	138,600	138,600	138,600	138,600			
National Fuel Gas Distribution Corporation	M12211	15,904	15,904	15,904	15,904	15,904	15,904	15,904	15,904	
Total US Northeast Market Region			197,041	197,041	197,041	165,295	154,504	15,904	15,904	-
Total Dawn to Kirkwall			586,717	549,455	246,541	214,795	204,004	65,404	65,404	49,500

Kirkwall to Parkway			**31-Oct-14**	**31-Oct-15**	**31-Oct-16**	**31-Oct-17**	**31-Oct-18**	**31-Oct-19**	**31-Oct-20**	**> 2020**
Emera Energy Incorporated	M12221	36,751	36,751	36,751	36,751	36,751	36,751	36,751	36,751	36,751
TransCanada PipeLines Limited	M12220	174,752	174,752	174,752	174,752	174,752	174,752	174,752	174,752	174,752
TransCanada PipeLines Limited	M12219	88,497	88,497	88,497	88,497	88,497	88,497	88,497	88,497	88,497
Total Unknown Market Region			300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000

*Note - these contracts were formerly recognized as M12079 that started April 1, 2004 and both were shown on the most recent Index of Customers - Transport

**Note - contracts indentified have expiry dates of Mar 31, 2015, but have been shown as Oct 31, 2015 for ease of presentation

(1) Unknown market region - Union is unable to ascertain where this gas is destined once it leaves Union's system

^ M12122 on May, 2013 Index of Customers - Transportation shows as 146,560, but reduces to 13,336 at Nov 1, 2013 and has been reflected here at the lower number

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 6/121

Please explain, specifically, why the 110 acres of land chosen represents the "best location to expand the Parkway facilities."

Response:

As detailed in EB-2012-0433, Section 5, the current Parkway compressor station has no room for expansion. Due to significant municipal growth, the station is now bordered on two sides by existing or planned residential developments and on two sides by the Highway 407 and Derry Road. As a result, Union began investigating new property in the vicinity of Parkway.

The proposed Parkway West site is the best location to expand the Parkway facilities as it straddles the existing Dawn-Parkway mainlines, has sufficient room for expansion and noise and emissions mitigation, and is adjacent to a utility corridor which houses the Enbridge and TCPL pipelines. The proximity to Union, Enbridge, and TCPL pipelines allows for the connections required with minimal new pipeline infrastructure. Additionally, the new site is bordered on one side by Highway 407 and a rail yard.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 10

With respect to each of the alternatives set out in Section 10 did Union undertake a detailed cost-benefit analysis for the alternatives? If not, why not? To the extent further analysis was undertaken please provide copies of that analysis. Did Union undertake any independent studies regarding the merits and/or potential problems associated with the various alternatives? If not, why not?

Response:

Yes. Union's cost-benefit analysis is detailed in EB2012-0433 Section 10 and Exhibit I.A.4.SEC.13.

The analysis was based on Union's internal expertise as a leader in technical design and market knowledge. Union representatives sit on various industry committees including CSA code committees, TSSA technical committees, Pipeline Simulation Interest Group (PSIG), Industrial Application of Gas Turbines (IAGT), CGA committees and many others to write codes, set standards and specifications and ensure public safety. Union also has substantial market knowledge based on its role as a purchaser and supplier of transportation and storage services. Union purchases its services from counterparts across North America and sells its storage and transportation services to a wide range of customers, such as LDCs, industrial customers, power generators and market based pipeline companies. Union develops market knowledge by participating at the provincial and federal level and in numerous industry forums. Union's knowledge for this evidence was supplemented by external consultants including filed reports from Dr Stephen Flynn on Critical Infrastructure, ICF's report on Changing Flow Dynamics, the National Strategy and Action Plan for Critical Infrastructure and consultations with Enbridge and TCPL as outlined in IR A1.SEC 12.

Further, to evaluate Alternative 6 (STFT Service from Empress Plus Exchange – EB 2012-0433, Section 10, paragraphs 36-42) Union conducted an open season to request proposals from market participants for an exchange service to facilitate the STFT service. The results are provided in EB 2012-0433, Section 10.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 10 pp. 88-95/121

Does TCPL have a preferred alternative? If so, why has TCPL indicated its preference for that alternative?

Response:

In February 2013, TransCanada indicated to Union that it does not oppose the addition of a compressor for loss of critical unit protection as part of the proposed scope of the Parkway West site (see Attachment 1). TransCanada's letter was the culmination of discussions held from September 2012 to February 2013, to discuss alternatives to the Parkway West Project with TCPL and Enbridge.

At this time, TransCanada is not proposing any alternatives to provide loss of critical unit protection of Parkway.

By nature compressor outages are unpredictable as to both timing and duration. While some flexibility may exist to change operating conditions in the Union and TransCanada systems to provide short term solutions (two days or less), the discussions focused on alternatives that provided loss of critical unit protection for longer durations. Compressor outages due to vibrations issues and catastrophic failure could be measured in years. Refer to EB-2012-0433, Section 8, paragraphs 6-26.

Options involving the installation of compressors in the vicinity of Parkway were briefly discussed. Land and facility requirements would be similar and costs were also seen to be similar to the Parkway West Project. Union and TransCanada also held numerous discussions regarding the purchase of used TransCanada compressor units as an alternative to new compressor units for the Parkway West Project. As discussed in response to Exhibit I.A4.UGL.Staff.22 a), the application of used TransCanada compressor units for the Parkway West Project was not feasible.

TransCanada and Union also discussed alternatives for loss of critical unit protection that would be provided by using excess capacity on the TransCanada Mainline. The discussions focused on the use of STFT services from either Empress or Emerson, which would also require an exchange to move natural gas from Dawn to Empress or Emerson (see response to Exhibit I.A4.UGL.FRPO.34). STFT services from either Empress or Emerson would require up to 1.1 PJ/d of capacity on the Northern Ontario Line. With the suspension of integrity work on the Northern Ontario Line and the pending conversion of natural gas pipeline to crude oil service, this alternative was seen as a potential bridge until 2015 when natural gas transportation capacity started to be removed on the Northern Ontario Line to complete work for the crude oil pipeline conversion. With the lack of capacity on the Northern Ontario Line post 2015 and no apparent supplier for the Dawn to Empress or Emerson exchange service, this alternative was not viewed to be feasible by Union.

TransCanada
In business to deliver

February 8, 2013

TransCanada PipeLines Limited
450 – 1st Street S.W.
Calgary, Alberta, Canada T2P 5H1

tel 403.920.5574
fax 403.920.2384
email dave_schultz@transcanada.com
web www.transcanada.com

Dave Schultz, P. Eng.
Vice President, Commercial East

Mr. Mark Isherwood, P.Eng, M.B.A.
Vice President, Business Development, Storage and Transmission
Union Gas Limited
P.O Box 2001
50 Keil Drive North
Chatham, ON
N7M 5M1

Dear Mark:

Re: Union Gas Limited – Parkway LCU Protection and Related Issues

I am writing in response to your letter sent to me on January 31, 2013 regarding "Parkway LCU Protection and Related Issues". In your letter, you describe a number of items, some of which I will not respond to at this time as they pertain to discussions occurring with other third parties. With respect to the proposed Union Gas facilities at Parkway West, as noted in your letter, TransCanada is not opposed to Union's facility plans related to incremental growth requirements supported by firm contractual commitments. Specifically this is related to the new compressor at the proposed Parkway West site and associated metering. Additionally, TransCanada has determined it is not opposed to the addition of a Loss of Critical Unit protection compressor unit to the proposed scope of the Parkway West site. Finally, TransCanada continues to progress its plans that will facilitate having the required capacity in place to accommodate the incremental Union Gas contract volumes from Parkway to the NDA and EDA for November 2015.

If you need to contact me, I can be reached at 403-920-5574.

Sincerely,

Dave Schultz
Vice President, Commercial East
Canadian Natural Gas Pipelines

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 8/p. 7

With respect to each of the alternatives set out in Section 8 did Union undertake a cost-benefit analysis for the alternatives? If not, why not? To the extent further analysis was undertaken, please provide copies of that analysis. Did Union undertake any independent studies regarding the merits and/or potential problems with the various alternatives? If not, why not?

Response:

Yes. Union's cost-benefit analysis is detailed in EB2013-0074 Section 8, pages 7 to 10. The analysis was based on Union's internal expertise as a leader in technical design and market knowledge. Subject Matter Experts at Union sit on various industry committees including CSA code committees, TSSA technical committees, Pipeline Simulation Interest Group (PSIG), Industrial Application of Gas Turbines (IAGT), CGA committees and many others to write codes, set standards and specifications and ensure public safety. Union also has substantial market knowledge based on its role as a purchaser and supplier of transportation and storage services. Union purchases its services from counterparts across North America and sells its storage and transportation services to a wide range of customers, such as LDCs, industrial customers, power generators and market based pipeline companies. Union develops market knowledge by participating at the provincial and federal level and in numerous industry forums.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 9-2, Page 1

Preamble: Wish to clarify how the Parkway West Site and development costs are allocated for Economic Feasibility and Rate recovery.

a) Please confirm which alternatives were examined for acquisition and development of the new Parkway West site.

b) Does Union agree that the major PW project costs are the cost of site acquisition and development on west side of 407 other than the cost of adding the LCU at the current Parkway site?

c) Please explain why allocating the ($90.6 million) site acquisition and development costs of the new Parkway West site development to either the GTA and/or Brantford-Kirkwall Projects (including Parkway D) would NOT more appropriately meet the Board's E.B.O. 134 and E.B.O. 188 Guidelines?

Response:

a) Three site alternatives were evaluated for the new Parkway West site:

1. Existing Parkway station
2. Property north of Derry Road, between Eighth Line and Hwy 407
3. Current proposed Parkway West Station, south of Derry Road, between Eighth Line and Hwy 407

With respect to the existing Parkway station, a review of this alternative revealed that there was insufficient space to accommodate the proposed and existing compression facilities and still comply with Union Gas design standards and Ministry of Environment noise and emissions limits at existing and proposed residential developments bordering the Parkway property.

With respect to the second alternative, this site was not selected due to its distance from Union's Dawn-Parkway pipeline system. This site would have required the installation of two NPS 54 pipelines in order to connect to gas supplies from the Dawn-Parkway pipelines.

The third site was deemed the most appropriate and desirable alternative from both a facility design and operations perspective. This site straddles Union's Dawn – Parkway pipelines and is immediately adjacent to the Enbridge and TCPL pipeline corridors, thereby facilitating connection of the Parkway West station into all three pipeline systems. The site property is bordered on the east by both a utility corridor and Hwy 407, providing noise, emissions, and aesthetic buffer from existing and proposed residential developments east of Hwy 407, and also allows for sufficient setback of installed equipment from the south, north, and west property limits, so as not to hinder or impact future development along, and west of Eighth Line.

b) Please see the response to Exhibit I.A2.UGL.APPRO.8 b).

c) The principles in EBO 134 have been applied by Union as reflected in its Application. EBO 188 applies to distribution projects and is therefore not relevant to Union's applications in this proceeding. As described in response to Exhibit I.A2.UGL.APPRO.8 b), the Parkway West Project is separate and distinct from the Parkway D Compressor project. Cross allocating costs is not appropriate.

The GTA Project is an investment by Enbridge. Union will be recovering all allocated costs of providing service to M12 customers through the M12 toll. Enbridge will be responsible for allocating their share of this cost to its ratepayers. The Brantford-Kirkwall pipeline is located in the Cambridge/Hamilton area along the Dawn-Parkway System. That pipeline does not require the use of any of the lands purchased for the Parkway West station property and it would therefore be inappropriate to allocate costs to the Brantford-Kirkwall pipeline.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 9-3A, Pages 1-3 &
Schedule 9-3B, Pages 1- 3

a) Please provide a live Excel spreadsheet corresponding to the first referenced schedule that includes an updated list of all input assumptions (Schedule 9-5).

b) Provide a copy of the live spreadsheet corresponding to the second reference including an updated list of all assumptions.

c) Please provide more discussion on why Schedule 9-3A is more appropriate.

d) Please provide a revised version of Schedule 9-3A with the changed assumption that the Parkway West site acquisition and development costs are added to the Station Costs for Parkway D

e) Please discuss the result.

Response:

a) Please see Attachments 1 and 2.

b) Please see Attachments 3 and 4.

c) Schedule 9-3A includes the gas cost savings and Schedule 9-3B does not. Schedule 9-3B was provided in evidence only for the purpose of responding to an anticipated IR requesting the DCF without gas cost savings.

Schedule 9-3A is the proper methodology because all cash flows attributed to the project are recognized. The cost of gas is cash collected from Union customers just as the M12 toll is cash collected from Union's customers. A reduction in gas costs is an economic benefit that is attributed to the project. As a comparative illustration, if another project was proposed that had no incremental tolls attributed to Union but had a significant cost benefit to customers (eg gas cost reductions) then one would need to evaluate the benefit in comparison to the capital cost to obtain those benefits.

d) Please see Exhibit I.A2.UGL.Energy Probe.12 f).

e) Please see Exhibit I.A2.UGL.APPRO.8 b).

Project Year ($000's)	1	2	3	4	5	6	7	8	9	10
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200	28,200
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(5,265)	(3,906)	(4,570)	(5,187)	(5,720)	(6,183)	(6,585)	(6,934)	(7,238)	(7,503)
Net Cash Inflow	30,644	32,003	31,339	30,723	30,189	29,726	29,324	28,975	28,671	28,406
Cash Outflow										
Incremental Capital	200,069	4,007	-	-	-	-	-	-	-	-
Change in Working Capital	(15)	-	-	-	-	-	-	-	-	-
Cash Outflow	200,054	4,007	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	29,891	59,593	87,268	113,081	137,216	159,827	181,050	201,002	219,787	237,496
Cash Outflow	200,054	203,867	203,867	203,867	203,867	203,867	203,867	203,867	203,867	203,867
NPV By Year	(170,163)	(144,273)	(116,599)	(90,785)	(66,651)	(44,040)	(22,817)	(2,864)	15,921	33,629
Project NPV	94,035									
Profitability Index										
By Year PI	0.1494	0.2923	0.4281	0.5547	0.6731	0.7840	0.8881	0.9859	1.0781	1.1650
Project PI	1.4612									

Project Year ($000's)	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(732)	(934)	(1,111)	(1,266)	(1,402)	(1,522)	(1,627)	(1,720)	(1,802)	(1,875)
Net Cash Inflow	8,752	8,550	8,373	8,218	8,082	7,963	7,857	7,764	7,682	7,609
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	44	-	-	-	-	-	-	-	-	-
Cash Outflow	44	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	242,688	247,513	252,010	256,209	260,138	263,821	267,279	270,530	273,591	276,475
Cash Outflow	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894
NPV By Year	38,794	43,620	48,116	52,315	56,244	59,927	63,385	66,636	69,697	72,582
Project NPV										
Profitability Index										
By Year PI	1.1903	1.2139	1.2360	1.2566	1.2759	1.2939	1.3109	1.3268	1.3418	1.3560
Project PI										

Project Year ($000's)	21	22	23	24	25	26	27	28	29	30
Cash Inflow										
Revenue	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204	9,204
Expenses:										
Gas Supply Cost Savings	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775	1,775
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(1,939)	(1,997)	(2,048)	(2,093)	(2,133)	(2,170)	(2,202)	(2,231)	(2,257)	(2,280)
Net Cash Inflow	7,545	7,487	7,437	7,391	7,351	7,315	7,282	7,253	7,227	7,204
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	-	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	279,197	281,766	284,195	286,491	288,664	290,721	292,670	294,517	296,268	297,929
Cash Outflow	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894	203,894
NPV By Year	75,303	77,873	80,301	82,597	84,770	86,828	88,777	90,624	92,375	94,035
Project NPV										
Profitability Index										
By Year PI	1.3693	1.3819	1.3938	1.4051	1.4158	1.4258	1.4354	1.4445	1.4531	1.4612
Project PI										

ECONOMIC EVALUATION MODEL (EEM)
MODEL PARAMETERS

PROJECT TITLE/SCENARIO:
Brantford-Kirkwall and Parkway D Expansion Projects
Energy Probe Interrogatory - A4-17 (a)

Particulars		2015 1		
Project Start Year (Facility In-Service Date Nov. 1/2015)		2015		
Project Life - No of Years		30		
Calculation of Incremental Discount Rate (WACC):				
Blended				
Long-term debt		64.00%	4.00%	2.56%
Common equity		36.00%	8.93%	3.21%
		100.00%		5.77%
After-tax				
Long-term debt		64.00%	2.94%	1.88%
Common equity		36.00%	8.93%	3.21%
		100.00%		5.10%
	Rounded result for input to EEM			0.0510
	Tax Rate =	26.50%		
Discounting Factor:				
(Beg.Yr.=1.0; Mid-Yr.=0.5; End Yr.=0)				
- Inflows		0.5		
-Outflows		1.0		
Calculation of Incremental Design Day Demand Revenue				
Incremental M12 Design Day Demands (GJd)		363,000		
Dawn-Parkway Demand Charges ($/GJd/mo)				
(Excluding Dawn Compressor Margins)	$	2.113		
Incremental Revenue	$	9,204		
Calculation of Working Capital				
O&M Working Capital Rate		0.050513		
Cost of Gas Working Capital:				

ECONOMIC EVALUATION MODEL (EEM)
MODEL PARAMETERS

PROJECT TITLE/SCENARIO:
Brantford-Kirkwall and Parkway D Expansion Projects
Energy Probe Interrogatory - A4-17 (a)

Particulars	2015 1
Cost of Gas Working Capital Rate	0.001680
Calculation of Income Taxes	
Federal Tax Rate	15.000%
Provincial Tax Rate	11.500%
Combined Corporate Income Tax Rate	26.500%
Incremental Operating Expense Inputs:	
O&M Expense - Transmission	12
O&M Expense - Compression	630
Avoided Gas Cost Savings Years 1 - 10	(28,200)
Municipal taxes	853
Calculation of Avoided Gas Cost Savings Years 11 - 30	
In-Franchise Volume for EDA/NDA (GJd)	70,000
Marginal Savings	$ 1,775

Incremental Capital Expenditure Inputs	CCA Class	CCA Rate	2015	2016	Total
Land (non-deductible)			-	-	-
Land Rights (non-deductible)			$ 2,100	75	2,175
Land Rights (deductible)	ECE	7.00%	6,300	226	6,526
Transmission - Structures and Improvements	1	6.00%	3,362	-	3,362
Transmission - Mains	49	8.00%	82,440	3,200	85,640
Transmission - Compressor	7	15.00%	101,261	506	101,767
Transmission - Measuring & Reg	8	20.00%	-	-	-
Interest During Construction (Tax-Deductible)	Exp.	100.00%	4,606	-	4,606
Total Incremental Capital			$ 200,069	4,007	204,076

Project Year ($000's)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Cash Inflow										
Revenue	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979
Expenses:										
Gas Supply Cost Savings	-	-	-	-	-	-	-	-	-	-
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	1,737	3,096	2,432	1,816	1,282	819	417	68	(236)	(501)
Net Cash Inflow	11,221	12,581	11,917	11,300	10,766	10,303	9,902	9,552	9,248	8,984
Cash Outflow										
Incremental Capital	200,069	4,007	-	-	-	-	-	-	-	-
Change in Working Capital	(15)	-	-	-	-	-	-	-	-	-
Cash Outflow	200,054	4,007	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	10,946	22,622	33,145	42,640	51,247	59,084	66,250	72,828	78,888	84,488
Cash Outflow	200,101	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914
NPV By Year	(189,156)	(181,292)	(170,769)	(161,274)	(152,667)	(144,830)	(137,664)	(131,086)	(125,026)	(119,426)
Project NPV	-58,993									
Profitability Index										
By Year PI	0.0547	0.1109	0.1625	0.2091	0.2513	0.2897	0.3249	0.3572	0.3869	0.4143
Project PI	0.7107									

Project Year ($000's)	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Cash Inflow										
Revenue	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979
Expenses:										
Gas Supply Cost Savings	-	-	-	-	-	-	-	-	-	-
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(732)	(934)	(1,111)	(1,266)	(1,402)	(1,522)	(1,627)	(1,720)	(1,802)	(1,875)
Net Cash Inflow	8,752	8,550	8,373	8,218	8,082	7,963	7,857	7,764	7,682	7,609
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	44	-	-	-	-	-	-	-	-	-
Cash Outflow	44	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	89,680	94,505	99,002	103,201	107,130	110,813	114,271	117,522	120,583	123,468
Cash Outflow	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914
NPV By Year	(114,234)	(109,409)	(104,912)	(100,713)	(96,784)	(93,101)	(89,643)	(86,392)	(83,331)	(80,446)
Project NPV										
Profitability Index										
By Year PI	0.4398	0.4635	0.4855	0.5061	0.5254	0.5434	0.5604	0.5763	0.5913	0.6055
Project PI										

Project Year ($000's)	21	22	23	24	25	26	27	28	29	30
Cash Inflow										
Revenue	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979	10,979
Expenses:										
Gas Supply Cost Savings	-	-	-	-	-	-	-	-	-	-
O & M Expense	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)	(642)
Municipal Tax	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)	(853)
Income Tax	(1,939)	(1,997)	(2,048)	(2,093)	(2,133)	(2,170)	(2,202)	(2,231)	(2,257)	(2,280)
Net Cash Inflow	7,545	7,487	7,437	7,391	7,351	7,315	7,282	7,253	7,227	7,204
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	-	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	126,189	128,759	131,187	133,483	135,656	137,714	139,663	141,509	143,260	144,921
Cash Outflow	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914	203,914
NPV By Year	(77,725)	(75,155)	(72,727)	(70,431)	(68,258)	(66,200)	(64,251)	(62,404)	(60,653)	(58,993)
Project NPV										
Profitability Index										
By Year PI	0.6188	0.6314	0.6433	0.6546	0.6653	0.6754	0.6849	0.6940	0.7026	0.7107
Project PI										

ECONOMIC EVALUATION MODEL (EEM)
MODEL PARAMETERS

PROJECT TITLE/SCENARIO:
Brantford-Kirkwall and Parkway D Expansion Projects
Energy Probe Interrogatory - A4-17 (b)

Particulars	2015 1		
Project Start Year (Facility In-Service Date Nov. 1/2015)	2015		
Project Life - No of Years	30		
Calculation of Incremental Discount Rate (WACC):			
Blended			
Long-term debt	64.00%	4.00%	2.56%
Common equity	36.00%	8.93%	3.21%
	100.00%		5.77%
After-tax			
Long-term debt	64.00%	2.94%	1.88%
Common equity	36.00%	8.93%	3.21%
	100.00%		5.10%
Rounded result for input to EEM			0.0510
Tax Rate =	26.50%		
Discounting Factor:			
(Beg.Yr.=1.0; Mid-Yr.=0.5; End Yr.=0)			
- Inflows	0.5		
-Outflows	1.0		
Calculation of Incremental Design Day Demand Revenue			
Incremental M12 Design Day Demands (GJd)	433,000		
Dawn-Parkway Demand Charges ($/GJd/mo)			
(Excluding Dawn Compressor Margins)	$ 2.113		
Incremental Revenue	$ 10,979		
Calculation of Working Capital			
O&M Working Capital Rate	0.050513		
Cost of Gas Working Capital:			
Cost of Gas Working Capital Rate	0.001680		
Calculation of Income Taxes			
Federal Tax Rate	15.000%		

ECONOMIC EVALUATION MODEL (EEM)
MODEL PARAMETERS

PROJECT TITLE/SCENARIO:
Brantford-Kirkwall and Parkway D Expansion Projects
Energy Probe Interrogatory - A4-17 (b)

Particulars	**2015** **1**
Provincial Tax Rate	11.500%
Combined Corporate Income Tax Rate	26.500%
Incremental Operating Expense Inputs:	
O&M Expense - Transmission	12
O&M Expense - Compression	630
Avoided Gas Cost Savings Years 1 - 10	-
Municipal taxes	853
Calculation of Avoided Gas Cost Savings Years 11 - 30	
In-Franchise Volume for EDA/NDA (GJd)	-
Marginal Savings	$ -

Incremental Capital Expenditure Inputs	CCA Class	CCA Rate	2015	2016	Total
Land (non-deductible)			-	-	-
Land Rights (non-deductible)			$ 2,100	75	2,175
Land Rights (deductible)	ECE	7.00%	6,300	226	6,526
Transmission - Structures and Improvements	1	6.00%	3,362	-	3,362
Transmission - Mains	49	8.00%	82,440	3,200	85,640
Transmission - Compressor	7	15.00%	101,261	506	101,767
Transmission - Measuring & Reg	8	20.00%	-	-	-
Interest During Construction (Tax-Deductible)	Exp.	100.00%	4,606	-	4,606
Total Incremental Capital			$ 200,069	4,007	204,076

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 10-1Page 1 &
Schedule 10-2 and Schedule 10-3

a) Please provide revenue requirement calculations for the Parkway-Kirkwall project assuming that PW site acquisition and development costs of about $90 million are included in the cost on top of the current $108 million of Station project costs*

b) Comment on the result and the Rate implications

c) Please update Schedule 10-2 assuming revenue requirement includes costs of PW site acquisition and development are included

d) Please update Schedule 10-3 assuming revenue requirement and rates includes costs of PW site acquisition and development (if not part of indirect costs)

Response:

a) Please see Attachment 1 (Schedule 10-1 updated) for the revenue requirement calculation for the Brantford to Kirkwall and Parkway D Compressor Project updated to include the addition of $90.6 million in capital for the Parkway West site acquisition and development costs.

b) Including $90.6 million of Parkway West site acquisition and development capital costs in the Brantford to Kirkwall and Parkway D Compressor Project revenue requirement increases the 2018 Brantford to Kirkwall and Parkway D Compressor Project revenue requirement from $15.9 million (as filed at EB-2013-0074, Schedule 10-1) to $22.4 million. The cost allocation and rate impacts are provided at c) and d) below.

c) Please see Attachment 2 (Schedule 10-2 updated) for the cost allocation impacts to in-franchise and ex-franchise rate classes.

d) Please see Attachment 3 (Schedule 10-3 updated) for the rate impacts to the average Rate M1 and Rate 01 residential customer.

UNION GAS LIMITED
2018 Brantford to Kirkwall and Parkway D Compressor Project Revenue Requirement Including
Parkway West Site Acquisition and Development Capital ($90.6 million)

Line No.	Particulars ($000's)	Revenue Requirement 2015	2016	2017	2018
		(a)	(b)	(c)	(d)
	Operating Expenses:				
1	Operating and Maintenance Expenses (1)	107	642	642	642
2	Depreciation Expense (2)	3,344	6,731	6,774	6,774
3	Property Taxes (3)	142	853	853	853
4	Total Operating Expenses	3,594	8,226	8,269	8,269
5	Required Return (4)	1,987	16,532	16,241	15,850
	Income Taxes:				
6	Income Taxes - Equity Return (5)	398	3,313	3,255	3,177
7	Income Taxes - Utility Timing Differences (6)	(5,703)	(7,046)	(5,932)	(4,921)
8	Total Income Taxes	(5,305)	(3,732)	(2,677)	(1,745)
9	Total Revenue Requirement	276	21,026	21,834	22,374

Notes:
(1) O&M expenses include $0.012 million for pipeline related O&M and $0.630 million of annual Parkway Compressor maintenance.
(2) Depreciation expense at 2013 Board-approved depreciation rates.
(3) Property taxes include $0.187 million for compression and $0.665 million for pipeline and building taxes.
(4) The required return for 2018 assumes total rate base of $274.472 million and a capital structure of 64% long-term debt at 4% and 36% common equity at the 2013 Board-approved return of 8.93%. The 2018 required return calculation is as follows:

$274.472 million * 64% * 4% = $7.026 million plus
$274.472 million * 36% * 8.93% = $8.824 million for a total of $15.850 million.

(5) Taxes related to the equity component of the return at a tax rate of 26.5%.
(6) Taxes related to utility timing differences are negative as the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.

UNION GAS LIMITED
2018 Cost Allocation Impacts of Brantford to Kirkwall and Parkway D Compressor Project Including
Parkway West Site Acquisition and Development Capital ($90.6 million)

Line No.	Particulars	Total Cost Allocation Impacts ($000's)	Cost Allocation Change in Demands (1) ($000's)	(%)	Dawn-Parkway Easterly Transmission (2) ($000's)	(%)	Other Indirect Cost Impacts ($000's)
		(a)	(b)	(c)	(d)	(e)	(f)
1	Rate M1	(1,494)	(756)	(3%)	1,411	5%	(2,148)
2	Rate M2	(43)	(254)	(1%)	474	2%	(263)
3	Rate M4	(4)	(74)	0%	138	1%	(68)
4	Rate M5	(67)	(1)	0%	1	0%	(67)
5	Rate M7	7	(34)	0%	64	0%	(22)
6	Rate M9	7	(12)	0%	23	0%	(3)
7	Rate M10	0	(0)	0%	1	0%	(0)
8	Rate T1	(16)	(36)	0%	68	0%	(48)
9	Rate T2	26	(237)	(1%)	442	2%	(179)
10	Rate T3	53	(86)	0%	160	1%	(21)
11	Subtotal - Union South	(1,531)	(1,490)	(6%)	2,781	10%	(2,821)
12	Excess Utility Space	(31)	0	0%	0	0%	(31)
13	Rate C1	(10)	0	0%	0	0%	(10)
14	Rate M12	22,272	99	0%	22,287	84%	(114)
15	Rate M13	(0)	0	0%	0	0%	(0)
16	Rate M16	(0)	0	0%	0	0%	(0)
17	Subtotal - Ex-franchise	22,230	99	0%	22,287	84%	(156)
18	Rate 01	1,252	1,041	4%	1,169	4%	(958)
19	Rate 10	453	272	1%	306	1%	(126)
20	Rate 20	61	73	0%	82	0%	(93)
21	Rate 100	(64)	5	0%	6	0%	(74)
22	Rate 25	(28)	0	0%	0	0%	(28)
23	Subtotal - Union North	1,675	1,391	5%	1,563	6%	(1,279)
24	In-franchise (line 11 + line 23)	144	(99)	(0%)	4,344	16%	(4,100)
25	Ex-franchise (line 17)	22,230	99	0%	22,287	84%	(156)
26	Total (line 24 + line 25)	22,374	(0)	0%	26,631	100%	(4,257)

Notes:
(1) The 2013 Board approved cost allocation study updated to include incremental demands for Union North of 70,000 GJ/d and Rate M12 of 363,000 GJ/d.
(2) The Dawn-Parkway costs of $26.631 million are allocated in proportion to the Dawn-Parkway demand allocation provided at EB-2011-2010, Exhibit G3, Tab 5, Schedule 23, Updated, pages 7-8, line 5, updated to include the incremental demands for Union North of 70,000 GJ/d and Rate M12 of 363,000 GJ/d.

UNION GAS LIMITED
General Service Bill Impacts related to 2018 Brantford to Kirkwall and Parkway D Compressor Project
Including Parkway West Site Acquisition and Development Capital ($90.6 million)
Annual Consumption of 2,200 m^3

Line No.	**Rate M1** - Particulars ($)	EB-2011-0210 Approved 01-Jan-13 Total Bill (1)	EB-2013-0074 Estimated Total Bill	Impact	
		(a)	(b)	(c) = (b - a)	
	Delivery Charges				
1	Monthly Charge	252.00	252.00	-	
2	Delivery Commodity Charge	78.66	77.69	(0.97)	
3	Storage Services	16.23	16.07	(0.16)	
4	Total Delivery Charge (line 1 + line 2 + line 3)	346.89	345.76	(1.13)	-0.3%
	Supply Charges				
5	Transportation to Union	96.80	96.80	-	
6	Commodity & Fuel (2)	280.77	280.76	(0.01)	
7	Total Gas Supply Charge (line 5 + line 6)	377.57	377.56	(0.01)	
8	Total Bill (line 4 + line 7)	724.46	723.32	(1.14)	-0.2%
9	Impacts for Customer Notices - Sales (line 8)			(1.14)	

Line No.	**Rate 01 Eastern Zone** - Particulars ($)	EB-2011-0210 Approved 01-Jan-13 Total Bill (1)	EB-2013-0074 Estimated Total Bill	Impact	
		(a)	(b)	(c) = (b - a)	
	Delivery Charges				
1	Monthly Charge	252.00	252.00	-	
2	Delivery Commodity Charge	207.15	205.81	(1.34)	
3	Total Delivery Charge (line 1 + line 2)	459.15	457.81	(1.34)	-0.3%
	Supply Charges				
4	Transportation to Union	187.35	187.36	0.01	
5	Storage Services	78.75	83.18	4.43	
6	Subtotal (line 4 + line 5)	266.10	270.54	4.44	1.7%
7	Commodity & Fuel	280.77	280.77	-	
8	Total Gas Supply Charge (line 6 + line 7)	546.87	551.31	4.44	
9	Total Bill (line 3 + line 8)	1,006.02	1,009.12	3.10	0.3%
10	Impacts for Customer Notices - Sales (line 9)			3.10	

Notes:
(1) EB-2011-0210, Rate Order, Working Papers, Schedule 16, excluding Prospective Recovery and Temporary Charges/(Credits).
(2) Reflects changes in the Gas Supply Administration charge only.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 10-6, Page 1, M12 rate Impacts

Please provide the estimated annual $ impact of the projects on existing and new M12 shippers, including Gaz Metro and Enbridge. Assume PW site costs are allocated to all shippers.

Response:

Please see Exhibit I.A3.UGL.TCPL.6, Attachment 2.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433 Section 10, page 88, para 27 &
EB-2013-0074 Section 8, Page 9 *Compression Alternatives*

Preamble: While Union continues project development activities, it is discussing the potential of purchasing and installing a used compressor unit from the TCPL compressor fleet. Union will need to complete the evaluation of the feasibility of a used compressor by the end of April 2013.

a) Please advise whether new and refurbished unit(s) were/are for Parkway West (new LCU unit costs $33.9 million (Schedule 11.1)) and for Parkway Comp. D.

b) Describe/provide the analysis of whether a new or refurbished Parkway LCU is feasible/required for each compressor.

c) Please provide a summary enquiries to TCPL regarding repurposing one of their mainline compressors as an option to a new/refurbished 44,500 cfm compressor for either/or Parkway D or LCU.

d) Please provide copies of correspondence and comparable costs for each unit.

e) What was/is Union's decision regarding new or refurbished compressors?

f) In particular, describe in detail why a refurbished unit would not be suitable for the PW LCU given its low duty cycle.

Response:

a) Used packages were not used as the basis for costs presented in this application. Please see Exhibit I.A4.UGL.Staff.22 c) for further explanation.

b) Please see Exhibit I.A4.UGL.Staff.22 c) and e).

c) Please see Exhibit I.A4.UGL.Staff.22 b).

d) Please see Exhibit I.A4.UGL.Staff.22 c). The correspondence between Union and TCPL regarding the used compressor is commercially sensitive and covered under a confidentiality agreement with TCPL.

e) Please see Exhibit I.A4.UGL.Staff.22 c).

f) Please see Exhibit I.A4.UGL.Staff.22 e). The operational philosophy of the LCU plant does not imply a low duty cycle. The LCU horsepower for the Parkway West and Parkway stations is held in reserve and not sold for peak day capacity, however, the Parkway C (LCU) plant will be utilized for normal operation in rotation with the remaining plants.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433 Section 4, pages 35-36 para. 36, Schedule 4-4 &
EB-2013-0074 Schedule 6-1, Page 1

Preamble: Wish to clarify existing awn-Parkway contracts (no Notice Received) Kirkwall – Parkway Application and continued de-contracting of Dawn-Kirkwall capacity.

a) Please update Schedule 6-1 to provide sections on forecast 2014- forward projected de-contracting Dawn-Kirkwall.

b) Please provide a summary schedule of total capacity contracted relative to total capacity available for the period 2014-2024.

c) With regard to TCPL new contracts Parkway to Maple that will add 400Bcf/day of capacity requirement -are these contracts signed yet? If not are they subject to NEB approval.

Response:

a) Schedule 6-1 of EB-2013-0074 provides the expiry profile of the current Dawn-Kirkwall contracts. Figure 6-1 of EB-2013-0074 (Section 6, page 2 of 11) provides the actual turn back of Dawn-Kirkwall capacity received and the forecast turn back for current Dawn-Kirkwall contracts. Attachment 1 revises Schedule 6-1 to also include a table showing the forecast turn back date for the current Dawn-Kirkwall contracts (as reflected in Figure 6-1).

b) Union does not forecast past a 5 year horizon. The summary table requested is below for the period 2013/2014 through 2017/2018 and assumes that the Parkway projects are in service by 2015.

Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Capacity Contracted	6,592,840	6,643,094	7,153,503	7,061,624	6,820,800
Capacity Available	6,802,653	6,800,934	7,029,940	7,026,014	7,009,545
Surplus (Shortfall)	209,813	157,840	(123,563)	(35,610)	188,745

Union notes that this is contracted capacity and does not include forecast growth at Exhibit I.A1.UGL.Staff.9 and I.A4.UGL.APPRO.11.

c) The status of the contracts for TransCanada's Parkway to Maple expansion is provided in response to Exhibits I.A3.UGL.Staff.20a), I.A1.UGL.Staff.7, and I.A1.UGL.Staff.1e).

Updated Schedule 6-1

M12 Dawn to Kirkwall Contracts - Turnback (Notice Received)

SHIPPER	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ)	Start Date	End Date
TransCanada PipeLines Limited	M12010	Dawn	Kirkwall	108,540	01-Nov-93	31-Oct-08
TransCanada PipeLines Limited	M12023	Dawn	Kirkwall	58,874	01-Nov-93	31-Oct-08
TransCanada PipeLines Limited	M12042	Dawn	Kirkwall	28,871	01-Nov-96	31-Oct-08
TransCanada PipeLines Limited	M12051	Dawn	Kirkwall	267,275	01-Nov-98	31-Oct-08
TransCanada PipeLines Limited	M12122	Dawn	Kirkwall	317,000	01-Nov-08	31-Oct-11
TransCanada PipeLines Limited	M12012	Dawn	Kirkwall	62,695	01-Nov-94	31-Oct-12
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	375,188	01-Nov-08	31-Oct-12
TransCanada PipeLines Limited	M12122	Dawn	Kirkwall	133,224	01-Nov-11	31-Oct-13
TransCanada PipeLines Limited	M12157	Dawn	Kirkwall	53,440	01-Nov-10	31-Oct-13
TransCanada PipeLines Limited	M12122	Dawn	Kirkwall	13,336	01-Nov-13	31-Oct-14
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	23,926	01-Nov-12	31-Oct-14

M12 Dawn to Kirkwall Contracts - Active Contracts

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ)	Start Date	End Date
Enbridge Gas Distribution Inc.	M12079	Dawn	Kirkwall	32,123	01-Apr-04	31-Mar-15
TransCanada PipeLines Limited	M12012	Dawn	Kirkwall	62,602	01-Nov-94	31-Oct-15
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	134,077	01-Nov-08	31-Oct-15
Dynegy Gas Imports, LLC	M12170	Dawn	Kirkwall	38,306	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12175	Dawn	Kirkwall	35,806	01-Nov-10	31-Oct-15
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	Dawn	Kirkwall	31,746	01-Nov-11	31-Oct-16
National Fuel Gas Distribution Corporation	M12196	Dawn	Kirkwall	10,791	01-Nov-10	31-Oct-17
KeySpan Gas East Corporation d/b/a National Grid	M12116	Dawn	Kirkwall	138,600	01-Nov-07	31-Oct-18
National Fuel Gas Distribution Corporation	M12211	Dawn	Kirkwall	15,904	01-Nov-10	31-Oct-20
Thorold CoGen L.P. by its General Partner Northland Power Thorold Cogen GP Inc.	M12129	Dawn	Kirkwall	49,500	01-Sep-09	31-Aug-29

M12 Dawn to Kirkwall Contracts - Forecasted Turnback

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ)	Start Date	Forecasted Turnback Date
Enbridge Gas Distribution Inc.	M12079	Dawn	Kirkwall	32,123	01-Apr-04	31-Mar-15
TransCanada PipeLines Limited	M12012	Dawn	Kirkwall	62,602	01-Nov-94	31-Oct-15
Dynegy Gas Imports, LLC	M12170	Dawn	Kirkwall	38,306	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12175	Dawn	Kirkwall	35,806	01-Nov-10	31-Oct-15
National Fuel Gas Distribution Corporation	M12196	Dawn	Kirkwall	10,791	01-Nov-10	31-Oct-15
National Fuel Gas Distribution Corporation	M12211	Dawn	Kirkwall	15,904	01-Nov-10	31-Oct-15
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	Dawn	Kirkwall	31,746	01-Nov-11	31-Oct-16
TransCanada PipeLines Limited	M12123	Dawn	Kirkwall	134,077	01-Nov-08	31-Oct-17
KeySpan Gas East Corporation d/b/a National Grid	M12116	Dawn	Kirkwall	138,600	01-Nov-07	31-Oct-18
Thorold CoGen L.P. by its General Partner Northland Power Thorold Cogen GP Inc.	M12129	Dawn	Kirkwall	49,500	01-Sep-09	31-Aug-29

Long Term M12-X Transportation Contracts

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ)	Start Date	End Date
TransCanada PipeLines Limited	M12X004	Dawn	Parkway	50,000	01-Sep-11	31-Aug-21
TransCanada PipeLines Limited	M12X005	Dawn	Parkway	78,316	01-Sep-11	31-Aug-21
Enbridge Gas Distribution Inc.	M12X006	Dawn	Parkway	200,000	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12X013	Dawn	Parkway	62,695	01-Nov-12	31-Oct-23

Long Term C1 Kirkwall to Parkway Transportation Contracts

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Quantity (GJ)	Start Date	End Date
TransCanada PipeLines Limited	M12219	Kirkwall	Parkway	88,497	01-Nov-12	31-Oct-22
Emera Energy Incorporated	M12221	Kirkwall	Parkway	36,751	01-Nov-12	31-Oct-22

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Section 10, page 84, para. 3.f)

Please clarify the stated condition that Union cannot purchase incremental gas supply?

Response:

At Section 10, page 84, para 3 f), Union discusses alternatives for loss of critical unit protection. As discussed there, any alternative for loss of critical unit protection must provide the same level of reliability and resilience to meet firm commitments for deliveries into pipeline systems downstream of Parkway and the ability to balance receipts and deliveries of natural gas at the Dawn Hub. To replace physical LCU protection Union would need to purchase approximately 1.1 PJ. This volume is likely unavailable, far exceeds daily purchases and is very expensive. Union would not be able to purchase incremental supply at Parkway as an alternative to loss of critical unit protection. To the extent that Union purchased incremental supply, system customers would pay for unabsorbed demand costs for capacity already contracted and costs to unwind supply deals to manage supply positions and meet inventory targets. In addition, if Parkway was out of service, the cost of gas at Parkway would be expensive. It is not reasonable to expect system customers to bear this higher cost of supply as an alternative to loss of critical unit protection.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Section 10, page 84, para. 5 and page 91-92, para. 40

Preamble: Union's evidence provides that the flow on almost all days and certainly any peak day is from Parkway to Maple. Union's evaluation criteria in para. 5 states : "Any alternative considered must have the equivalent affect of transporting natural gas from the suction side of the compressors to the discharge side of the compressors".

From discussions held with TCPL on alternatives, what % of gas leaving Parkway discharge side is expected to arrive at Maple (i.e., netting out existing TCPL flows into the EGD system between Parkway and Maple)?

a) If Union does not currently have the answer, please seek the answer from TCPL and provide it for the record.

b) With that answer, why has Union stipulated that 1.1PJ must be available to the discharge side of Parkway when the destination for most of the gas is Maple?

c) What is the current level of excess capacity?

d) What was the cost of emergency service provided by TCPL?

e) If Union does not have a current estimate from TCPL, please request an estimate from TCPL for provision as a considered alternative.

Response:

a) Union's contractual obligation to its customers with a Parkway (TCPL) delivery point is to provide deliveries on the discharge side of Parkway (at the interconnection with TransCanada), not into TransCanada's Maple compressor station. Union has no contractual obligation to transport natural gas further downstream of the Parkway discharge to other delivery points on the TransCanada system, such as Maple. Customers delivering gas downstream of Maple on the TransCanada system would do so under contractual obligations with TransCanada. Therefore, the amount of natural gas leaving the Parkway discharge and arriving at Maple has no bearing on the amount of loss of critical unit coverage required. Union expects that most of the transportation contracted from Parkway on the TransCanada system flows downstream of Maple.

b) Union's contractual obligation to its customers with a Parkway (TCPL) delivery point is to provide deliveries on the discharge side of Parkway (at the interconnection with TransCanada). Union has sized the loss of critical unit compressor (Parkway C Compressor) and associated piping to allow Union to meet its contractual obligations during an outage of the largest compressor unit at Parkway. With market support, Union would sell all excess Dawn-Parkway System capacity as firm service. During peak periods when Union has fully contracted the capacity of the existing Parkway compressors, a loss of the critical unit will reduce discharge flows by as much as 1.1 PJ/d.

c) The current level of excess capacity for Winter 2013/2014 is approximately 0.2 PJ/d.

d) Please see Exhibit I.A4.UGL.CCC.23.

e) Please see Exhibit I.A4.UGL.CCC.23.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref : EB-2012-0433 Section 10, page 91, para. 39

What was the basis for the range of price estimate of $25-$40 million for STFT service?

Response:

As stated in EB-2012-0433, Section 5, page 51 of 121 and in response to Exhibit I.A4.UGL.FRPO.34, by nature compressor outages are unpredictable as to both timing and duration. Any loss of critical unit alternative must be able to protect deliveries into the TransCanada system at Parkway during both short term and long term loss of critical unit events.

The STFT service referenced is one component of a loss of critical unit alternative that would require purchasing STFT capacity from Empress or Emerson to Parkway along with purchasing an exchange service from Dawn to Empress or Emerson. The mechanics of this option are discussed in the response to Exhibit I.A4.UGL.FRPO.34. The costs provided for the STFT capacity component in EB-2012-0433, Section 10, page 91, paragraph 39 were based on the minimum compressor outage of a 10 day period during a major event. Vibration issues and significant damage to the turbine engine, power turbine and impeller can result in a compressor outage measured in months. Catastrophic failures can result in outages measured in years. Refer to EB-2012-0433, Section 8, paragraphs 6-26.

Union made the following assumptions to calculate a cost range for STFT service:

- 1.1 PJ/d of Empress to Union CDA STFT transportation capacity
- 14 days of STFT service to cover the 10 day minimum outage (STFT must be purchased in minimum 7 day increments)
- TransCanada STFT toll of 100% of the 2013 FT Empress to Union CDA toll proposed by TransCanada in their rate proceeding (RH-003-2011) = $1.636/GJ/d
- TransCanada STFT toll of 160% of the then current FT Empress to Union CDA toll = $2.618/GJ/d

This cost estimate assumed that Union would not contract for service until a loss of critical unit event occurred and that the required capacity was available. Union does not consider contracting in this manner to be prudent as STFT capacity may not be available in winter months on short notice.

The STFT service plus an exchange is not a feasible alternative to provide loss of critical unit protection for a number of reasons:

- There is too much uncertainty whether STFT capacity would be available
  - Service is offered through a bid process
  - Service is non-renewable and short term
  - TransCanada Mainline capacity in northern Ontario has been reduced through suspension of the integrity programs with further capacity reduction proposed as part of the Energy East Pipeline
- STFT service cannot be purchased three years in advance, which is the time required to develop a physical loss of critical unit solution if STFT is not available
- Cost is uneconomic
  - Due to the uncertainty of availability, STFT service would need to be purchased in advance (i.e. not at the time of a loss of critical unit event) and must be secured to support deliveries when flow exceeds the capability of the Parkway A compressor (months vs. a two week period)
  - Volatility in STFT pricing can be expected if capacity is constrained – TransCanada toll structure allows STFT to be sold with a floor of 100% of the FT toll and with no ceiling
  - Annual cost to ratepayers would be significantly higher than other alternatives, including physical loss of critical unit facilities
- There appears to be no market available for an exchange service between Dawn and Empress or Emerson (see response to Exhibit I.A4.UGL.FRPO.34 for a discussion regarding the Dawn-Empress and Dawn-Emerson exchange open season conducted by Union that received no responses)

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Ref: EB-2012-0433 Section 10, page 92-93, para. 41 and Schedule 10-2

Please explain in greater detail why a Dawn to Empress/Emerson service would be required to balance at Dawn during a short term critical delivery scenario.

a) Using TCPL Index of Customers, please identify the market participants that would currently hold 1.1 PJ/day of capacity between Emerson and Dawn to facilitate this stated need for service.

Response:

a) Under the TransCanada Index of Customers there are no market participants that hold 1.1 PJ/d of either Empress-Dawn or Emerson-Dawn firm capacity. To clarify however, for the alternatives being discussed in EB-2012-0433, Section 10, pages 92 and 93 of 121 and Schedule 10-2, for this alternative to be successful, Empress-Dawn or Emerson-Dawn capacity is not required. This alternative requires either an exchange service or physical transportation from Dawn-Empress or Dawn-Emerson.

   To evaluate this alternative, it is assumed that a loss of critical unit incident has occurred at Parkway that restricts flow through the compressors. Any loss of critical unit alternative has to be able to deliver the flow shortfall to the high pressure or discharge side of the Parkway compressors. If that alternative does include physical facilities at Parkway then the delivery of the flow shortfall cannot flow to Parkway on the Dawn-Parkway System.

   For this alternative, natural gas has to flow in a two step process. In the first step, the gas supply at Dawn that would have flowed directly to Parkway needs to first flow back to Emerson or Empress. Although the first step could be completed through an exchange service or physical transportation, it would likely be an exchange service. For the second step, now that the Dawn gas is available at Empress or Emerson a transportation service on the TransCanada Mainline would be required to flow that natural gas from Empress or Emerson to Parkway where it is delivered at the high pressure or discharge side of Parkway.

   For any alternative to provide loss of critical unit protection, the natural gas at Dawn must be moved to the high pressure or discharge side of the Parkway compressors.

To determine if this type of alternative was practical, Union issued a request for proposals (open season style) to market participants in December 2012 in an effort to see if an exchange service would be available on terms that would provide the flexibility required for loss of critical unit protection. Union received no interest from any market participants.

Since 2009, Union has experienced compressor outages within its system lasting from 2 months to 18 months at Lobo, Bright and Dawn. By nature compressor outages are unpredictable as to both timing and duration. This service therefore must be available to provide loss of critical unit protection under not just short term but also long term loss of critical unit events.

As discussed in the response to Exhibit I.A4.UGL.FRPO.33, the loss of critical unit protection alternative using Empress-Parkway or Emerson-Parkway transportation capacity plus an exchange from Dawn-Empress or Dawn-Emerson was not considered feasible by Union due to the uncertainty of capacity availability, the unfavourable costs and the lack of market interest in providing an exchange service.

UNION GAS LIMITED

Answer to Interrogatory from
Gaz Metro ("GMI")

Ref: EB-2012-0433 (Parkway West Project) Section 1, p.7

Preamble: The total estimated costs for the Project are $203.1M, consisting of: construction of a NPS42 pipeline to connect Parkway and Parkway West at a cost of $8.7 M; initial site development at a cost of $90.6 M; additional connection to Enbridge at a cost of $19.2 M; construction of the loss of critical unit compressor at a cost of $84.6 M. In TransCanada's Written Evidence in Union Distribution Rates 2013 (EB-2011-0210}, TransCanada has proposed four alternatives to provide LCU protection at Parkway. One is to move existing TransCanada compression facilities from the TransCanada system to Parkway in order to provide Union with LCU protection.

a) Please provide the cost of using existing TransCanada compression facilities instead of the proposed construction of LCU compressor. Please compare the two scenarios.

b) What would be the potential impacts of using a used compressor.

c) What would be the operational risks associated with installing and using a used compressor.

d) Are you discussing that alternative with TransCanada. If yes, what is the status of your negotiations.

Response:

a) and b) Please see Exhibit I.A4.UGL.Staff.22 c) and e).

c) Operational risks associated with utilizing a used compressor package (of the age and operating hours considered) versus utilizing a new compressor package would include the following: potential reliability concerns, performance to spec and efficiency, accelerated life cycle costs, lack of warrantee, OEM or sub vendor support for specific equipment or components on the package, availability of certain spare parts, quality of documentation and equipment manuals and premature failure of components.

d) Please see Exhibit I.A4.UGL.Staff.22 b) and c).

UNION GAS LIMITED

Answer to Interrogatory from
Gaz Metro ("GMI")

Ref: EB-2013-0074 (Brantford-Kirkwall- Parkway D) Section 1, p.S

Preamble: The total estimated costs for the Project are $203.1M, consisting of: construction of the Proposed Pipeline at a cost of $96 million; construction of the Proposed Parkway D Compressor and associated facilities at a cost of $108 million.

a) Have you considered purchasing a compressor unit from TransCanada.

b) What would be the cost of purchasing a used compressor unit from TransCanada.

c) What would be the potential impacts of using a used compressor unit.

d) What would be the operational risks associated with installing and using a used compressor unit.

e) Are you discussing that alternative with TransCanada. If yes, what is the status of your negotiations.

Response:

a) Please see Exhibit I.A4.UGL.Staff.22 b).

b) Please see Exhibit I.A4.UGL.Staff.22 c).

c) Please see Exhibit I.A4.UGL.Staff.22 c) and e).

d) Operational risks associated with utilizing a used compressor package (of the age and operating hours considered) versus utilizing a new compressor package would include the following; potential reliability concerns; performance to spec and efficiency; accelerated life cycle costs; lack of warrantee; OEM or sub vendor support for specific equipment or components on the package; availability of certain spare parts; quality of documentation and equipment manuals; and premature failure of components.

e) Please see Exhibit I.A4.UGL.Staff.22 b) and c).

UNION GAS LIMITED

Answer to Interrogatory from
Industrial Gas Users Association ("IGUA")

Union's Parkway Obligation Working Group, arising out of Union's 2013 rate case [EB-2011-0210], is examining the continued appropriateness of, and alternatives to, the "parkway delivery obligation", under which some of Union's direct purchase customers deliver approximately 548.6 Tj/day of gas to Parkway, at an incremental cost relative to delivery to Dawn. Union delivers approximately 90.5 Tj/day of gas to Parkway on behalf of its system supply customers, also at an incremental cost relative to delivery to Dawn. The Parkway delivery obligation results from capacity constraints between Dawn and Parkway.

a) Has Union considered sizing its proposed facilities expansions to enable release of its in-franchise direct purchase customers from their current Parkway delivery obligations, and moving all system supply customer deliveries to Dawn?

b) Can Union indicate the approximate incremental cost of so sizing its proposed facilities, and provide approximate incremental rate impacts by customer class?

Response:

a) No. Neither the Parkway West Project nor the Brantford to Kirkwall/Parkway D project considered the elimination of the Parkway Obligation.

b) The impacts of eliminating the Parkway Obligation will be dealt with as part of the Parkway Obligation Working Group. Union estimates the revenue requirement associated with eliminating the Parkway Obligation through a facilities build at $25 to $30 million.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 13, Paragraphs 5 & 6

a) Is there any benefit of replacing the NPS26 and NDS34 pipelines with larger diameter pipes to accommodate future growth at this time? Please explain.

b) Does the railway referenced in paragraph 6 run through or immediately adjacent to the Parkway West site? If yes, what are the proposed distances between the railway and the various components to be built on the site (eg. LCU, measurement stations, etc.).

c) Does Union have any concerns related to the security of the Parkway West site or of the potential impact on the site of a train derailment if the railway runs through or immediately adjacent to the Parkway West property. Please explain fully.

d) How much of the 110 acres to be purchased by Union will not be used after the Parkway West site is fully operational and the Parkway D compressor is also in operation. Will Union be able to generate any revenue from this unused acreage?

Response:

a) The sections of pipeline being replaced are almost entirely downstream of the new Parkway West valve nest, and volumes travelling those sections would only be used at the existing Parkway Station. Since there is no additional room at the Parkway Station for growth, additional capacity upstream provides minimal benefit.

b) There is a single rail line running adjacent to the easternmost perimeter of the proposed Parkway West site. This rail line is a spur line currently owned by Ontario Hydro. The closest facilities at the proposed Parkway West site in proximity to this rail are within approximately 30 metres of the rail centreline; the closest high pressure gas piping facilities are within approximately 55 metres.

c) Union does not have any concern with respect to the impact of a possible train derailment on the rail line adjacent to the Parkway West site. This rail line is a spur only, currently owned by Ontario Hydro, and used mainly for transport of heavy equipment to and from a main hydro substation at the end of the rail line. It is our understanding that there is no other train traffic on this rail line other than temporary low speed shuttling and storage of rail cars from the east/west CP rail siding north of Derry Road. This is a dead end line with no through traffic.

d) The proposed Parkway West facility installation area comprises approximately 60% of the total 110 acres currently under option for the site. The remaining 40% is largely set aside as buffer land between the operating facilities and potential development to the north, south and west of Union's property perimeter. There will be landscaped earth berms constructed and tree plantations added on these buffer lands to provide additional noise attenuation and an aesthetic cover to hide the proposed gas compression facilities. The buffer property will not generate any revenue.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

[p.86-96, Attachment 10-1] Please provide a cost estimate for each LCU alternative.

Response:

Union investigated several physical alternatives but did not complete detailed cost estimates due to the fact that initial review proved them infeasible. A summary is provided for each below:

Alternative 1: Installing Reserve Horsepower at the Existing Parkway Compressor Station

Due to the lack of available space, Union cannot construct a third compressor at the existing Parkway Compressor Station while meeting noise emission requirements and ensuring appropriate spacing between compressors. If more space had been available, the cost to install the loss of critical unit compressor at the existing Parkway site would be in the range of $100 million.

Alternative 2: Increase Compression at the Bright Compressor Station

This alternative was quickly eliminated due to the magnitude of the work required to provide loss of critical unit protection from the Bright station. In addition to the requirement for more compression, all Dawn-Parkway pipelines between Bright and Parkway would have to be removed and replaced with pipe rated for higher operating pressures. The order of magnitude of this work would be in the $1 billion range.

Alternative 3: Purchase Spare Components

This alternative was also eliminated as it does not provide true loss of critical unit protection. Spare components on site can help expedite repairs, but will not provide immediate back-up in the event of a failure. Spare components also do not protect against a catastrophic failure. The approximate costs for a spare turbine, power turbine, and compressor impeller would be in the range of $10 million.

Alternative 4: Install Reserve Horsepower at New Parkway West Site

This alternative is the preferred alternative, and cost estimates have been provided in EB-2013-0433.

Union also evaluated four additional alternatives that TransCanada identified during EB-2011-0210 to provide loss of critical unit protection. The annual costs associated with these alternatives are estimated in EB-2012-0433, Section 10, page 88 to 95.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

Transportation contracts for TransCanada and Enbridge do not include any specific contractual requirement to have loss of critical unit protection at Parkway West by November 2015. However, Enbridge and TransCanada are aware of the proposed Parkway West Project facilities. The new interconnection with Enbridge will be constructed for November 1, 2014 as described in Exhibit I.A5.UGL.CCC.26. It will increase security of supply to Enbridge by addressing the significant consequences of a failure that could occur if the proposed facilities, which provide reliability and resilience at Parkway, are not built.

Please see Exhibit I.A1.UGL.CCC.2 regarding the timing of the Parkway West Project.

Please see Exhibit I.A1.UGL.CCC.2b) which discusses the November 2014 in-service date.

Enbridge pipeline facilities are not connected to the discharge of Union's existing Parkway or proposed Parkway West compression facilities. Enbridge will continue to take deliveries into its distribution system at Parkway and Parkway West without that gas flowing through the compression. The new connection to Enbridge at Parkway West will be able to supply the full contracted quantity at the Parkway (Consumers) and Lisgar connections. Enbridge also takes natural gas delivered through the TransCanada system that by necessity flows through the Parkway compressors. Please see Exhibit I.A1.UGL.BOMA.3 parts i) & iv).

Regarding the "compressor connection to Enbridge", not confirmed. Enbridge's Parkway connection is not dependent on compression, and is delivered at Union "suction" pressure, which can be as low as 500 psig. The new Parkway West connection to Enbridge will also be delivered at Union "suction" pressure, and will be able to deliver Enbridge's full contracted demands.

UNION GAS LIMITED

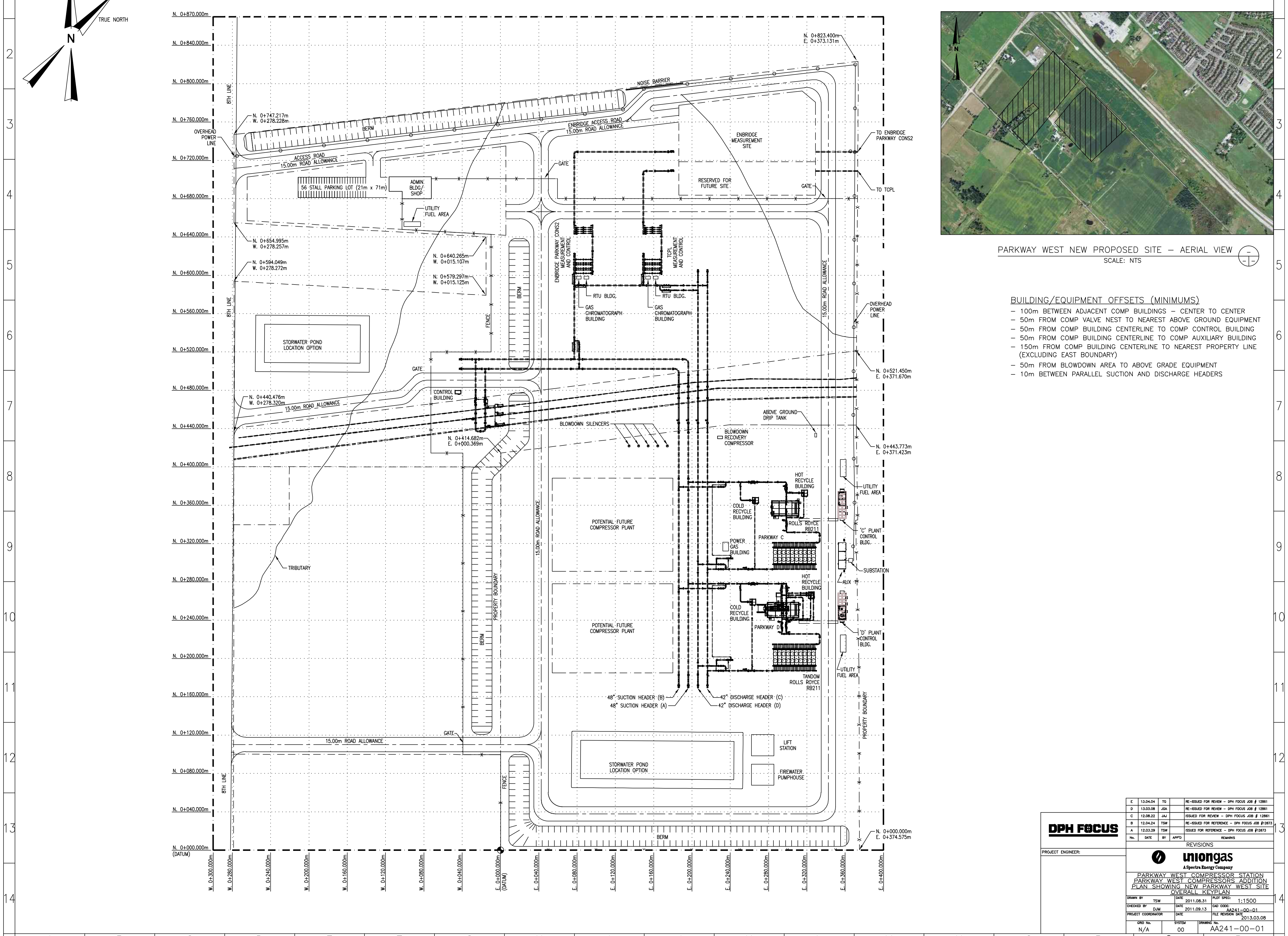
Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

The proposed Parkway West Station will be situated on approximately 120 acres of land situated south of Derry Road between the Hwy 407 utility corridor and Eighth Line. Union currently owns approximately 10 acres and the remaining 110 acres is currently under option with the various land owners. The current design layout incorporates spacing between the Parkway C (LCU) compressor plant and Parkway D (Growth) compressor plant of 100 m. This spacing is in line with Union's design standards for multiple plant compressor stations. Please see Attachment 1 for further detail.

Filed: 2013-06-07
EB-2012-0451/EB-2012-0433/EB-2013-0074
Exhibit I.A5.UGL.BOMA.63
Attachment 1



UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

Union will always maintain reserve horsepower during periods of peak demand. If Union decides to operate Parkway C for operational or other reasons (ie. Operator training), the Parkway B or Parkway D units will be held in reserve.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 6/121

Union has set out what elements of the project are to be constructed in 2013, 2014 and 2015. Please provide a detailed construction schedule for all of the project elements. Also, please explain what all of the potential implications would be on the project costs, and rates, if the schedule cannot be maintained as planned. In effect, what are the risks to the extent the schedule, as proposed, cannot be maintained?

Response:

The detailed construction schedule broken down by year can be found in EB-2012-0433 Schedule 13-1. Potential impacts to the schedule include OEB approval delays, material delays, weather delays, availability of qualified labour, labour productivity and other unforeseen impacts. Delays can have various levels of cost and rate impact subject to magnitude and mitigation required. In order to mitigate field delays, Union has included its construction contractor in the design process. Union is confident based on history of building similar facilities, and current material and contractor availability that the existing schedule is not at risk subject to a timely decision from the OEB as requested.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: p. 76/121

Please explain how the construction schedules of the Parkway West Project and the EGD GTA Project are linked. How are EGD and Union coordinating the development of these two projects? If the EGD GTA Project is not approved by the Board, what are the potential implications for Union's Parkway West Project? If the EGD GTA project is delayed what are the implications for Union's Parkway West Project?

Response:

The Parkway West Project and the Parkway D Compressor project are linked in various ways to Enbridge's proposed GTA Project.

Parkway West Linkage to GTA Project

As part of the Parkway West Project, Union will develop a new site starting in the fall of 2013 (including a new valve site on the Dawn-Parkway System, station headers and replacement of the existing NPS 26 and NPS 34 Dawn-Parkway pipelines across the property). At that new Parkway West site, Union will install measurement and flow control for a new interconnection with the Enbridge system for November 2014 in-service and install a new loss of critical unit compressor (Parkway C Compressor) for fall 2015 in-service. All of these facilities will be located on the Parkway West property.

To connect to the Parkway West facilities, Enbridge will also be constructing its Parkway West Gate Station and associated pipeline facilities targeting November 2014 in-service. The Parkway West Gate Station will be located on the Parkway West property. Union considers this work to be independent of the proposed Enbridge GTA Project such that the Parkway West Gate Station will be constructed if the proposed Enbridge GTA project is not approved.

Parkway D Compressor Linkage to GTA Project

The proposed Enbridge GTA Project (Segment A and Segment B) will receive the gas transported through the Dawn-Parkway System from TransCanada at a location approximately five kilometres downstream of Parkway. Union's proposed Parkway D Compressor will be installed at the Parkway West site and is required to deliver Enbridge's natural gas into the TransCanada system. Segments A and B of the proposed Enbridge GTA Project as well as the Parkway D Compressor are scheduled for fall 2015 in-service.

Project Coordination

Union, TransCanada and Enbridge have formed joint engineering and stakeholder working teams that meet regularly to ensure alignment of the various facility in-service dates, discuss engineering design for the interconnections and to discuss project development efficiencies.
An efficiency being evaluated by TransCanada and Union is the connection of the facilities at the Parkway West site to the TransCanada system proposed to be in-service fall 2015. Currently, the Parkway D Compressor and Parkway C Compressor will be connected to the TransCanada system through an NPS 42 pipeline proposed to cross Highway 407 between the Parkway West site and the existing Parkway Compressor Station. Union and TransCanada are discussing an alternate interconnection on the west side of Highway 407 at an existing TransCanada valve site located very close to the Parkway West property which would replace the proposed NPS 42 pipeline. Union expects that a decision regarding the interconnection with TransCanada will be made this month.

The impacts of rejection and delay of the proposed Enbridge GTA Project are discussed in the response to Exhibit I.A1.UGL.Staff.8.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 11, p. 97/121

The evidence indicates that the proposed site will need to be re-zoned prior to any construction, and Union has initiated the process with the Municipality. What is the current status of that process? Is it possible that the land cannot be re-zoned? If so, how would this impact the project?

Response:

Land for the proposed Parkway West site is currently zoned as agricultural; in order to construct the proposed facilities at this location, Union must receive a zoning amendment for this property specifically allowing the intended use as a natural gas compressor station. A zoning application has been submitted to the Town of Milton, has been through the public review process and is currently sitting at the public comment stage. Union expects the zoning amendment application will be approved by Milton town council in time for site grading work scheduled for the Fall of 2013. All work to date with the Town of Milton in this regard has been very positive, and Union is not anticipating issues with approval. However, should approval not be granted by Milton council, Union has the available recourse of a formal appeal through the Ontario Municipal Board.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 9, p. 3

The evidence states that the project is required to support Enbridge's proposed GTA project and vice versa. If the EGD GTA project is not approved by the Board, what are the potential implications for Union's Brantford-Kirkwall/Parkway D Project? If the EGD GTA project is delayed what are the implications for the Brantford- Kirkwall/Parkway D Project?

Response:

Please see Exhibit I.A1.UGL.Staff.8.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 11

Preamble: Union foresees no issues obtaining material for the proposed Parkway D Compressor within the proposed timelines and no problem obtaining a contractor to complete the proposed construction.

Please discuss the information Union is relying on to support the above statement.

Response:

Union has had detailed discussions with major equipment suppliers and a prospective construction contractor specifically in regards to the Parkway West project scope and timelines required. Those discussions have resulted in both budgetary cost information and construction schedules or estimated delivery timelines, all in sufficient detail to give Union confidence that the project can be completed in the timelines required. With respect to the compressor packages for both Parkway C and D, Union has received firm proposals from suppliers of this equipment, and has proceeded with an award for engineering of this equipment; the equipment purchase orders will be placed in August 2013 with firm deliveries suited to meet our project construction schedule. Additionally, Union has conducted market surveys with other critical material suppliers (ie. pipe, valves, fittings, etc), again in order to obtain both budgetary component costs and projected lead times for material required in this project.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 11

Preamble: Due to long lead times for some of the significant components of the proposed compressor, Union is required to place orders for these significant components in the fall of 2013.

a) Please provide a list of the significant components.

b) What is the potential impact on the project if the orders are not placed in the fall of 2013?

Response:

a) The four major components requiring commitment in the fall of 2013 include the following: a) large diameter pipe intended for installation in 2014; b) large diameter pipeline valves required for installation in 2014; c) large diameter specialty fittings for installation in 2014; and d) the compressor packages for both Parkway C and Parkway D intended for installation in 2015.

b) If commitments are not made to these components in the fall of 2013, schedule impacts will occur and cost effective mitigations for these impacts will need to be sought, in order to still achieve the required facility in-service dates.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref: EB-2013-0074 Application Section 7 Page 14, lines 9 to 19

Preamble:
At lines 13 to 14, Union mentions that "The greatest risk of turn back begins in 2016 and represents the capacity held by certain U.S. Northeast utilities."

a) Please provide the total turnback capacity profile by year of those U.S. Northeast utilities clients.

b) Assuming that the timeline of the capacity need and of the turnback were not a constraint, please provide the capacity that would be needed for the Brantford to Kirkwall and Parkway D project if all the U.S. Northeast utilities were to turnback their capacity and no longer use the Dawn to Parkway path.

c) Please comment on the ability of Union to increase compression at Parkway compared to the ability to expand the pipeline capacity between Brantford and Kirkwall.

d) Assuming that Union constructs the facilities requested in EB-2012-0433 and EB-2013-0074, and all U.S. Northeast utilities were to turn-back their contracted capacity at the earliest date that they are eligible to do so, and Union is unable to re-sell this vacated capacity, please provide the rate impact to M12 rates. Please provide the rate impact for each year that the U.S. Northeast utilities are eligible to turn-back capacity.

Response:

a) Below is the primary term expiry profile for Dawn-Parkway transportation capacity contracted by U.S. Northeast utilities. This capacity is included in the Dawn-Parkway System capacity at risk as referenced in response to Exhibit I.A1.UGL.Staff.10 c). Union notes that these contracts do not automatically terminate after expiry of the primary term. Following the primary term, if notice of termination is not provided to Union two years in advance then the contract term continues rolling year-over-year until terminated in accordance with the terms of the contract or terminated through a reverse open season process. Each shipper assesses its Dawn-Parkway capacity in the context of its gas supply portfolio and makes the decision on the timing and quantity of turn back. Primary term expiry does not necessarily mean that Union will receive turn back capacity.

Dawn-Parkway Capacity Held by U.S. Northeast Utilities

Capacity and Primary Contract Term Expiry (GJ/d)

Customer	Service	Nov-14	Nov-15	Nov-16	Nov-17	Nov-18	Nov-19
ANE	Dawn-Parkway	0	0	177,762	193,418	116,689	21,604

b) Assuming that all U.S. Northeast Dawn-Parkway capacity was turned back in 2015 then the capacity provided by the Brantford-Kirkwall pipeline would not be required to meet the incremental Dawn-Parkway demand (EB-2013-0074, Section 7). However, Union would still require the installation of additional compression at Parkway (Parkway D Compressor) as a result of the incremental Dawn-Parkway System demand and Enbridge's request to shift 400 TJ/d from Parkway(Consumers) deliveries to Parkway(TCPL) deliveries.

As provided in response to Exhibit I.A4.UGL.APPRO.11, Union believes that the expected demand for new Dawn-Parkway System capacity in the future will exceed the capacity held by U.S. Northeast utilities. In addition, in response to Exhibit I.A1.UGL.BOMA.46, ICF International provides an analysis with respect to the value of Dawn-Parkway capacity in the gas supply portfolio of U.S. Northeast utilities.

c) Union requires both Parkway D and Brantford-Kirkwall to meet the 2015/2016 winter demands. Union has an equal ability to construct either facility.

d) If all U.S. Northeast utilities turn back their contracted capacity at the earliest date they are eligible to do so, approximately 509,000 GJ/d of M12 Dawn-Parkway capacity would be turned back to Union between November 1, 2016 and November 1, 2019. Please see the response at Exhibit I.A5.UGL.TCE.6 a) for the contract expiration of the U.S. Northeast utilities by year.

Union is not forecasting that the U.S. Northeast utilities will turn back Dawn-Parkway capacity.

During a 2014 to 2018 Incentive Regulation term, assuming no delay in regulatory approvals or downstream pipeline facilities, Union is at risk for any M12 turnback that it is unable to resell. Accordingly, there would be no impact on in-franchise and ex-franchise rates as a result of turnback until Union's next rebasing proceeding for 2019.

Please see Attachment 1 for the cost allocation impacts and Attachments 2 and 3 for the rate impacts to M12 rate class and in-franchise rate classes, respectively.

Cost Allocation Impact of U.S. Northeast Utilities' M12 Turnback

Line No.	Rate Class ($000's)	Total Cost Allocation (1)	Cost Allocation Update M12 Demand Reduction (2)	Difference
		(a)	(b)	(c) = (b - a)
1	Rate M1	818,914	820,025	1,112
2	Rate M2	120,811	121,185	374
3	Rate M4	18,627	18,736	109
4	Rate M5	18,370	18,371	1
5	Rate M7	5,151	5,201	50
6	Rate M9	757	775	18
7	Rate M10	83	83	1
8	Rate T1	11,675	11,729	54
9	Rate T2	40,999	41,347	348
10	Rate T3	4,771	4,897	126
11	Subtotal - Union South	1,040,158	1,042,350	2,192
12	Excess Utility Space	5,577	5,577	0
13	Rate C1	8,114	8,114	0
14	Rate M12	193,549	190,189	(3,359)
15	Rate M13	210	210	0
16	Rate M16	449	449	0
17	Subtotal - Ex-franchise	207,898	204,539	(3,359)
18	Rate 01	327,945	328,819	874
19	Rate 10	67,239	67,468	229
20	Rate 20	28,702	28,763	61
21	Rate 100	15,551	15,555	4
22	Rate 25	11,657	11,657	0
23	Subtotal - Union North	451,093	452,261	1,168
24	In-franchise (line 11 + line 23)	1,491,251	1,494,610	3,359
25	Ex-franchise (line 17)	207,898	204,539	(3,359)
26	Total (line 24 + line 25)	1,699,149	1,699,149	0

Notes:

(1) 2013 Board-approved cost allocation study updated to include the 2018 Project costs of $15.902 million related to the Brantford to Kirkwall and Parkway D Compressor Project and $16.616 million related to the Parkway West Project.

(2) Includes 509,473 GJ/d reduction to M12 demands associated with the U.S. Northeast utilities contract expirations.

UNION GAS LIMITED
M12/M12-X/C1 Transportation Demand Charge Impacts

Line No.	Particulars ($/GJ/day)	2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (1)	2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (2)	Difference	% Change
		(a)	(b)	(c) = (b-a)	(d) = (c/a)
1	M12/C1 Dawn to Kirkwall	0.076	0.083	0.007	8.8%
2	M12/C1 Dawn to Parkway	0.091	0.099	0.008	8.8%
3	M12/C1 Kirkwall to Parkway	0.014	0.016	0.001	8.8%
4	C1 Parkway to Kirkwall	0.023	0.025	0.002	8.8%
5	C1 Kirkwall to Dawn	0.040	0.043	0.004	8.8%
6	C1 Parkway to Dawn	0.023	0.025	0.002	8.8%
7	M12-X	0.113	0.123	0.010	8.8%

Notes:
(1) EB-2013-0074, Schedule 10-6, column c).
(2) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 509,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union North

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (2)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate 01															
1	Delivery Charges	459	20.8705	456	20.7402	457	20.7530	(0.1303)	(3)	-0.6%	0.0128	0	0.1%	(0.1175)	(3)	-0.6%
2	Gas Supply Charges	547	24.8571	553	25.1213	555	25.2073	0.2642	6	1.1%	0.0860	2	0.3%	0.3502	8	1.4%
3	Total Bill	1,006	45.7276	1,009	45.8615	1,011	45.9603	0.1339	3	0.3%	0.0988	2	0.2%	0.2326	5	0.5%
4	Sales Service Impact								3	0.3%		2	0.2%		5	0.5%
5	Bundled-T (Direct Purchase) Impact								3	0.4%		2	0.3%		5	0.7%
	Small Rate 10															
6	Delivery Charges	4,786	7.9761	4,772	7.9525	4,777	7.9616	(0.0236)	(14)	-0.3%	0.0091	5	0.1%	(0.0144)	(9)	-0.2%
7	Gas Supply Charges	13,972	23.2862	14,085	23.4744	14,122	23.5361	0.1882	113	0.8%	0.0617	37	0.3%	0.2499	150	1.1%
8	Total Bill	18,757	31.2623	18,856	31.4269	18,899	31.4977	0.1646	99	0.5%	0.0708	42	0.2%	0.2354	141	0.8%
9	Sales Service Impact								99	0.5%		42	0.2%		141	0.8%
10	Bundled-T (Direct Purchase) Impact								99	0.9%		42	0.4%		142	1.3%
	Large Rate 10															
11	Delivery Charges	15,570	6.2278	15,511	6.2042	15,533	6.2134	(0.0236)	(59)	-0.4%	0.0091	23	0.1%	(0.0144)	(36)	-0.2%
12	Gas Supply Charges	58,215	23.2862	58,686	23.4744	58,840	23.5361	0.1882	470	0.8%	0.0617	154	0.3%	0.2499	625	1.1%
13	Total Bill	73,785	29.5140	74,197	29.6786	74,374	29.7494	0.1646	412	0.6%	0.0708	177	0.2%	0.2354	589	0.8%
14	Sales Service Impact								412	0.6%		177	0.2%		589	0.8%
15	Bundled-T (Direct Purchase) Impact								414	1.0%		177	0.4%		591	1.4%
	Small Rate 20															
16	Delivery Charges	74,860	2.4953	74,255	2.4752	74,294	2.4765	(0.0202)	(605)	-0.8%	0.0013	39	0.1%	(0.0189)	(566)	-0.8%
17	Gas Supply Charges	677,450	22.5817	681,606	22.7202	682,985	22.7662	0.1385	4,156	0.6%	0.0460	1,379	0.2%	0.1845	5,535	0.8%
18	Total Bill	752,309	25.0770	755,861	25.1954	757,279	25.2426	0.1184	3,551	0.5%	0.0473	1,418	0.2%	0.1656	4,969	0.7%
19	Sales Service Impact								3,551	0.5%		1,418	0.2%		4,969	0.7%
20	Bundled-T (Direct Purchase) Impact								3,576	1.0%		1,418	0.4%		4,994	1.4%
	Large Rate 20															
21	Delivery Charges	286,022	1.9068	283,346	1.8890	283,519	1.8901	(0.0178)	(2,676)	-0.9%	0.0012	173	0.1%	(0.0167)	(2,503)	-0.9%
22	Gas Supply Charges	3,188,882	21.2592	3,206,677	21.3778	3,212,586	21.4172	0.1186	17,795	0.6%	0.0394	5,909	0.2%	0.1580	23,704	0.7%
23	Total Bill	3,474,904	23.1660	3,490,024	23.2668	3,496,106	23.3074	0.1008	15,119	0.4%	0.0405	6,082	0.2%	0.1413	21,201	0.6%
24	Sales Service Impact								15,119	0.4%		6,082	0.2%		21,201	0.6%
25	Bundled-T (Direct Purchase) Impact								15,242	1.0%		6,082	0.4%		21,324	1.4%
	Average Rate 25															
26	Delivery Charges	63,659	2.7982	62,997	2.7691	62,997	2.7691	(0.0291)	(663)	-1.0%	-	-	0.0%	(0.0291)	(663)	-1.0%
27	Gas Supply Charges	397,435	17.4697	397,375	17.4670	397,375	17.4670	(0.0026)	(60)	0.0%	-	-	0.0%	(0.0026)	(60)	0.0%
28	Total Bill	461,094	20.2679	460,371	20.2361	460,371	20.2361	(0.0318)	(723)	-0.2%	-	-	0.0%	(0.0318)	(723)	-0.2%
29	Sales Service Impact								(723)	-0.2%		-	0.0%		(723)	-0.2%
30	T-Service (Direct Purchase) Impact								(663)	-1.0%		-	0.0%		(663)	-1.0%
	Small Rate 100															
31	Delivery Charges	259,798	0.9622	257,868	0.9551	257,877	0.9551	(0.0071)	(1,929)	-0.7%	0.0000	9	0.0%	(0.0071)	(1,920)	-0.7%
32	Gas Supply Charges	6,387,133	23.6560	6,387,400	23.6570	6,387,561	23.6576	0.0010	267	0.0%	0.0006	160	0.0%	0.0016	427	0.0%
33	Total Bill	6,646,931	24.6183	6,645,269	24.6121	6,645,438	24.6127	(0.0062)	(1,662)	0.0%	0.0006	169	0.0%	(0.0055)	(1,493)	0.0%
34	Sales Service Impact								(1,662)	0.0%		169	0.0%		(1,493)	0.0%
35	T-Service (Direct Purchase) Impact								(1,929)	-0.7%		9	0.0%		(1,920)	-0.7%
	Large Rate 100															
36	Delivery Charges	2,095,718	0.8732	2,079,120	0.8663	2,079,197	0.8663	(0.0069)	(16,599)	-0.8%	0.0000	77	0.0%	(0.0069)	(16,521)	-0.8%
37	Gas Supply Charges	55,689,711	23.2040	55,691,893	23.2050	55,693,256	23.2055	0.0009	2,182	0.0%	0.0006	1,363	0.0%	0.0015	3,545	0.0%
38	Total Bill	57,785,429	24.0773	57,771,013	24.0713	57,772,453	24.0719	(0.0060)	(14,416)	0.0%	0.0006	1,440	0.0%	(0.0054)	(12,976)	0.0%
39	Sales Service Impact								(14,416)	0.0%		1,440	0.0%		(12,976)	0.0%
40	T-Service (Direct Purchase) Impact								(16,599)	-0.8%		77	0.0%		(16,521)	-0.8%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 509,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (2)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate M1															
1	Delivery Charges	347	15.7669	345	15.6829	346	15.7207	(0.0840)	(2)	-0.5%	0.0378	1	0.2%	(0.0461)	(1)	-0.3%
2	Gas Supply Charges	378	17.1617	378	17.1608	378	17.1608	(0.0008)	(0)	0.0%	-	-	0.0%	(0.0008)	(0)	0.0%
3	Total Bill	724	32.9285	723	32.8437	723	32.8816	(0.0848)	(2)	-0.3%	0.0378	1	0.1%	(0.0470)	(1)	-0.1%
4	Sales Service Impact								(2)	-0.3%		1	0.1%		(1)	-0.1%
5	Direct Purchase Impact								(2)	-0.5%		1	0.2%		(1)	-0.3%
	Small Rate M2															
6	Delivery Charges	3,719	6.1987	3,718	6.1962	3,741	6.2345	(0.0025)	(1)	0.0%	0.0383	23	0.6%	0.0358	21	0.6%
7	Gas Supply Charges	10,297	17.1617	10,297	17.1608	10,297	17.1608	(0.0008)	(0)	0.0%	-	-	0.0%	(0.0008)	(0)	0.0%
8	Total Bill	14,016	23.3604	14,014	23.3571	14,037	23.3954	(0.0033)	(2)	0.0%	0.0383	23	0.2%	0.0350	21	0.1%
9	Sales Service Impact								(2)	0.0%		23	0.2%		21	0.1%
10	Direct Purchase Impact								(1)	0.0%		23	0.6%		21	0.6%
	Large Rate M2															
11	Delivery Charges	12,289	4.9157	12,283	4.9132	12,379	4.9515	(0.0025)	(6)	-0.1%	0.0383	96	0.8%	0.0358	89	0.7%
12	Gas Supply Charges	42,904	17.1617	42,902	17.1608	42,902	17.1608	(0.0008)	(2)	0.0%	-	-	0.0%	(0.0008)	(2)	0.0%
13	Total Bill	55,193	22.0774	55,185	22.0741	55,281	22.1124	(0.0033)	(8)	0.0%	0.0383	96	0.2%	0.0350	87	0.2%
14	Sales Service Impact								(8)	0.0%		96	0.2%		87	0.2%
15	Direct Purchase Impact								(6)	-0.1%		96	0.8%		89	0.7%
	Small Rate M4															
16	Delivery Charges	35,274	4.0313	35,273	4.0312	35,517	4.0591	(0.0000)	(0)	0.0%	0.0278	244	0.7%	0.0278	243	0.7%
17	Gas Supply Charges	150,165	17.1617	150,157	17.1608	150,157	17.1608	(0.0008)	(7)	0.0%	-	-	0.0%	(0.0008)	(7)	0.0%
18	Total Bill	185,438	21.1929	185,431	21.1921	185,674	21.2199	(0.0009)	(7)	0.0%	0.0278	244	0.1%	0.0270	236	0.1%
19	Sales Service Impact								(7)	0.0%		244	0.1%		236	0.1%
20	Direct Purchase Impact								(0)	0.0%		244	0.7%		243	0.7%
	Large Rate M4															
21	Delivery Charges	271,476	2.2623	271,456	2.2621	274,502	2.2875	(0.0002)	(20)	0.0%	0.0254	3,046	1.1%	0.0252	3,026	1.1%
22	Gas Supply Charges	2,059,399	17.1617	2,059,301	17.1608	2,059,301	17.1608	(0.0008)	(98)	0.0%	-	-	0.0%	(0.0008)	(98)	0.0%
23	Total Bill	2,330,875	19.4240	2,330,757	19.4230	2,333,804	19.4484	(0.0010)	(118)	0.0%	0.0254	3,046	0.1%	0.0244	2,928	0.1%
24	Sales Service Impact								(118)	0.0%		3,046	0.1%		2,928	0.1%
25	Direct Purchase Impact								(20)	0.0%		3,046	1.1%		3,026	1.1%
	Small Rate M5															
26	Delivery Charges	32,792	3.9748	32,609	3.9526	32,608	3.9525	(0.0222)	(183)	-0.6%	(0.0001)	(1)	0.0%	(0.0223)	(184)	-0.6%
27	Gas Supply Charges	141,584	17.1617	141,577	17.1608	141,577	17.1608	(0.0008)	(7)	0.0%	-	-	0.0%	(0.0008)	(7)	0.0%
28	Total Bill	174,376	21.1365	174,186	21.1135	174,185	21.1134	(0.0230)	(190)	-0.1%	(0.0001)	(1)	0.0%	(0.0231)	(191)	-0.1%
29	Sales Service Impact								(190)	-0.1%		(1)	0.0%		(191)	-0.1%
30	Direct Purchase Impact								(183)	-0.6%		(1)	0.0%		(184)	-0.6%
	Large Rate M5															
31	Delivery Charges	183,182	2.8182	181,739	2.7960	181,732	2.7959	(0.0222)	(1,443)	-0.8%	(0.0001)	(7)	0.0%	(0.0223)	(1,450)	-0.8%
32	Gas Supply Charges	1,115,508	17.1617	1,115,455	17.1608	1,115,455	17.1608	(0.0008)	(53)	0.0%	-	-	0.0%	(0.0008)	(53)	0.0%
33	Total Bill	1,298,690	19.9799	1,297,194	19.9568	1,297,187	19.9567	(0.0230)	(1,497)	-0.1%	(0.0001)	(7)	0.0%	(0.0231)	(1,504)	-0.1%
34	Sales Service Impact								(1,497)	-0.1%		(7)	0.0%		(1,504)	-0.1%
35	Direct Purchase Impact								(1,443)	-0.8%		(7)	0.0%		(1,450)	-0.8%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 509,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (2)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Bill ($)	Unit Rate (cents/m^3)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m^3)	Bill Impact ($)	Bill (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate M7															
1	Delivery Charges	618,172	1.7171	621,429	1.7262	629,764	1.7493	0.0090	3,256	0.5%	0.0232	8,336	1.3%	0.0322	11,592	1.9%
2	Gas Supply Charges	6,178,198	17.1617	6,177,904	17.1608	6,177,904	17.1608	(0.0008)	(294)	0.0%	-	-	0.0%	(0.0008)	(294)	0.0%
3	Total Bill	6,796,370	18.8788	6,799,332	18.8870	6,807,668	18.9102	0.0082	2,962	0.0%	0.0232	8,336	0.1%	0.0314	11,298	0.2%
4	Sales Service Impact								2,962	0.0%		8,336	0.1%		11,298	0.2%
5	Direct Purchase Impact								3,256	0.5%		8,336	1.3%		11,592	1.9%
	Large Rate M7															
6	Delivery Charges	2,360,598	4.5396	2,371,511	4.5606	2,399,021	4.6135	0.0210	10,913	0.5%	0.0529	27,510	1.2%	0.0739	38,423	1.6%
7	Gas Supply Charges	8,924,063	17.1617	8,923,638	17.1608	8,923,638	17.1608	(0.0008)	(425)	0.0%	-	-	0.0%	(0.0008)	(425)	0.0%
8	Total Bill	11,284,661	21.7013	11,295,149	21.7214	11,322,659	21.7743	0.0202	10,488	0.1%	0.0529	27,510	0.2%	0.0731	37,998	0.3%
9	Sales Service Impact								10,488	0.1%		27,510	0.2%		37,998	0.3%
10	Direct Purchase Impact								10,913	0.5%		27,510	1.2%		38,423	1.6%
	Small Rate M9															
11	Delivery Charges	116,565	1.6772	119,029	1.7126	122,067	1.7564	0.0355	2,464	2.1%	0.0437	3,038	2.6%	0.0792	5,502	4.7%
12	Gas Supply Charges	1,192,735	17.1617	1,192,679	17.1608	1,192,679	17.1608	(0.0008)	(57)	0.0%	-	-	0.0%	(0.0008)	(57)	0.0%
13	Total Bill	1,309,300	18.8389	1,311,708	18.8735	1,314,745	18.9172	0.0346	2,407	0.2%	0.0437	3,038	0.2%	0.0783	5,445	0.4%
14	Sales Service Impact								2,407	0.2%		3,038	0.2%		5,445	0.4%
15	Direct Purchase Impact								2,464	2.1%		3,038	2.6%		5,502	4.7%
	Large Rate M9															
16	Delivery Charges	346,142	1.7154	353,483	1.7518	362,531	1.7967	0.0364	7,341	2.1%	0.0448	9,048	2.6%	0.0812	16,389	4.7%
17	Gas Supply Charges	3,462,880	17.1617	3,462,715	17.1608	3,462,715	17.1608	(0.0008)	(165)	0.0%	-	-	0.0%	(0.0008)	(165)	0.0%
18	Total Bill	3,809,022	18.8771	3,816,198	18.9127	3,825,246	18.9575	0.0356	7,176	0.2%	0.0448	9,048	0.2%	0.0804	16,225	0.4%
19	Sales Service Impact								7,176	0.2%		9,048	0.2%		16,225	0.4%
20	Direct Purchase Impact								7,341	2.1%		9,048	2.6%		16,389	4.7%
	Average Rate M10															
21	Delivery Charges	4,889	5.1734	4,905	5.1900	5,181	5.4823	0.0166	16	0.3%	0.2924	276	5.6%	0.3089	292	6.0%
22	Gas Supply Charges	16,218	17.1617	16,217	17.1608	16,217	17.1608	(0.0008)	(1)	0.0%	-	-	0.0%	(0.0008)	(1)	0.0%
23	Total Bill	21,107	22.3351	21,122	22.3508	21,398	22.6432	0.0157	15	0.1%	0.2924	276	1.3%	0.3081	291	1.4%
24	Sales Service Impact								15	0.1%		276	1.3%		291	1.4%
25	Direct Purchase Impact								16	0.3%		276	5.6%		292	6.0%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 509,000 GJ/d).

UNION GAS LIMITED
Calculation of Sales Service and Direct Purchase Impacts for Typical Small and Large Customers - Union South

		EB-2011-0210 2013 Rates (1)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor Without Turnback (2)		2013 Rates including 2018 Parkway West, 2018 Brantford to Kirkwall / Parkway D Compressor With Turnback (3)		Impact of 2018 Projects Only			Impact of Turnback Only			Grand Total Impact		
Line No.	Particulars	Bill ($)	Unit Rate (cents/m³)	Bill ($)	Unit Rate (cents/m³)	Bill ($)	Unit Rate (cents/m³)	Unit Rate (cents/m³)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m³)	Bill Impact ($)	Bill (%)	Unit Rate (cents/m³)	Bill Impact ($)	Bill (%)
		(a)	(b)	(c)	(d)	(e)	(f)	(g) = (d-b)	(h) = (c-a)	(i) = (h/a)	(j) = (f-d)	(k) = (e-c)	(l) = (k/c)	(m) = (g+j)	(n) = (h+k)	(o) = (n/a)
	Small Rate T1															
1	Delivery Charges	127,339	1.6895	125,341	1.6630	126,207	1.6745	(0.0265)	(1,999)	-1.6%	0.0115	866	0.7%	(0.0150)	(1,133)	-0.9%
2	Gas Supply Charges	1,293,474	17.1617	1,293,413	17.1608	1,293,413	17.1608	(0.0008)	(62)	0.0%	-	-	0.0%	(0.0008)	(62)	0.0%
3	Total Bill	1,420,814	18.8512	1,418,753	18.8238	1,419,619	18.8353	(0.0273)	(2,060)	-0.1%	0.0115	866	0.1%	(0.0158)	(1,194)	-0.1%
4	Sales Service Impact								(2,060)	-0.1%		866	0.1%		(1,194)	-0.1%
5	Direct Purchase Impact								(1,999)	-1.6%		866	0.7%		(1,133)	-0.9%
	Average Rate T1															
6	Delivery Charges	193,986	1.6772	191,790	1.6582	193,094	1.6695	(0.0190)	(2,195)	-1.1%	0.0113	1,304	0.7%	(0.0077)	(891)	-0.5%
7	Gas Supply Charges	1,984,907	17.1617	1,984,812	17.1608	1,984,812	17.1608	(0.0008)	(94)	0.0%	-	-	0.0%	(0.0008)	(94)	0.0%
8	Total Bill	2,178,892	18.8389	2,176,603	18.8191	2,177,907	18.8304	(0.0198)	(2,290)	-0.1%	0.0113	1,304	0.1%	(0.0085)	(986)	0.0%
9	Sales Service Impact								(2,290)	-0.1%		1,304	0.1%		(986)	0.0%
10	Direct Purchase Impact								(2,195)	-1.1%		1,304	0.7%		(891)	-0.5%
	Large Rate T1															
11	Delivery Charges	427,194	1.6672	424,872	1.6581	427,637	1.6689	(0.0091)	(2,322)	-0.5%	0.0108	2,765	0.7%	0.0017	443	0.1%
12	Gas Supply Charges	4,397,517	17.1617	4,397,308	17.1608	4,397,308	17.1608	(0.0008)	(209)	0.0%	-	-	0.0%	(0.0008)	(209)	0.0%
13	Total Bill	4,824,712	18.8288	4,822,181	18.8189	4,824,945	18.8297	(0.0099)	(2,531)	-0.1%	0.0108	2,765	0.1%	0.0009	234	0.0%
14	Sales Service Impact								(2,531)	-0.1%		2,765	0.1%		234	0.0%
15	Direct Purchase Impact								(2,322)	-0.5%		2,765	0.7%		443	0.1%
	Small Rate T2															
16	Delivery Charges	480,912	0.8116	481,015	0.8118	485,408	0.8192	0.0002	103	0.0%	0.0074	4,393	0.9%	0.0076	4,496	0.9%
17	Gas Supply Charges	10,169,313	17.1617	10,168,829	17.1608	10,168,829	17.1608	(0.0008)	(484)	0.0%	-	-	0.0%	(0.0008)	(484)	0.0%
18	Total Bill	10,650,225	17.9732	10,649,844	17.9726	10,654,237	17.9800	(0.0006)	(381)	0.0%	0.0074	4,393	0.0%	0.0068	4,012	0.0%
19	Sales Service Impact								(381)	0.0%		4,393	0.0%		4,012	0.0%
20	Direct Purchase Impact								103	0.0%		4,393	0.9%		4,496	0.9%
	Average Rate T2															
21	Delivery Charges	1,105,628	0.5590	1,109,330	0.5609	1,122,107	0.5673	0.0019	3,702	0.3%	0.0065	12,778	1.2%	0.0083	16,479	1.5%
22	Gas Supply Charges	33,944,021	17.1617	33,942,406	17.1608	33,942,406	17.1608	(0.0008)	(1,615)	0.0%	-	-	0.0%	(0.0008)	(1,615)	0.0%
23	Total Bill	35,049,649	17.7207	35,051,736	17.7217	35,064,514	17.7282	0.0011	2,087	0.0%	0.0065	12,778	0.0%	0.0075	14,864	0.0%
24	Sales Service Impact								2,087	0.0%		12,778	0.0%		14,864	0.0%
25	Direct Purchase Impact								3,702	0.3%		12,778	1.2%		16,479	1.5%
	Large Rate T2															
26	Delivery Charges	1,799,626	0.4863	1,807,308	0.4883	1,829,380	0.4943	0.0021	7,682	0.4%	0.0060	22,072	1.2%	0.0080	29,754	1.7%
27	Gas Supply Charges	63,513,415	17.1617	63,510,393	17.1608	63,510,393	17.1608	(0.0008)	(3,022)	0.0%	-	-	0.0%	(0.0008)	(3,022)	0.0%
28	Total Bill	65,313,041	17.6479	65,317,702	17.6492	65,339,774	17.6552	0.0013	4,660	0.0%	0.0060	22,072	0.0%	0.0072	26,732	0.0%
29	Sales Service Impact								4,660	0.0%		22,072	0.0%		26,732	0.0%
30	Direct Purchase Impact								7,682	0.4%		22,072	1.2%		29,754	1.7%
	Large Rate T3															
31	Delivery Charges	2,912,694	1.0680	3,020,278	1.1075	3,146,414	1.1537	0.0394	107,584	3.7%	0.0463	126,136	4.2%	0.0857	233,720	8.0%
32	Gas Supply Charges	46,801,906	17.1617	46,799,679	17.1608	46,799,679	17.1608	(0.0008)	(2,227)	0.0%	-	-	0.0%	(0.0008)	(2,227)	0.0%
33	Total Bill	49,714,600	18.2297	49,819,957	18.2683	49,946,093	18.3146	0.0386	105,357	0.2%	0.0463	126,136	0.3%	0.0849	231,493	0.5%
34	Sales Service Impact								105,357	0.2%		126,136	0.3%		231,493	0.5%
35	Direct Purchase Impact								107,584	3.7%		126,136	4.2%		233,720	8.0%

Notes:
(1) Reflects Board-approved rates per Appendix A in Union's 2013 Rate Order filing (EB-2011-0210).
(2) Reflects rates per EB-2013-0074.
(3) Includes Parkway West and Brantford to Kirkwall and Parkway D Compressor Projects per EB-2013-0074 assuming a reduction in M12 demands (approximately 509,000 GJ/d).

B

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

Ref: EB-2012-0433, Schedule B, Section 12, Page 113 of 121, Environmental Matters

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

For the historical and forecast periods, please provide the volume of methane leaks for each year for Union's total system and for this project. Please include the total volume throughput for the same variables. Please include the estimate of total greenhouse gas emissions represented by all data points.

Response:

The environmental report completed for the Parkway West Compressor Station followed the OEB's environmental guidelines, which does not required an analysis of greenhouse gas emissions or an analysis of low carbon alternatives. The environmental report does include information on air quality and noise emissions expected from the Station.

Attachment 1 is a summary of Union's total greenhouse gas emissions for the period 2010 to 2014. These emissions are reported to Environment Canada on an annual basis.

	2010			2011			2012			Forecast (including Parkway West)		
	CH4	CO2	N2O	CH4	CO2	N2O	CH4	CO2	N2O	CH4	CO2	N2O
Fugitive Emissions (tonnes)	17,205	757	-	16,978	1,237	-	16,685	1,029	-	17,101	1,011	-
Total GHG Emissions (tonnes)	23,823	309,106	8	22,986	292,198	8	23,020	240,950	6	23,591	337,351	9
Total GHG Emissions (tonnes CO2e)	500,283	309,106	2,480	482,703	292,198	2,399	483,420	240,950	1,860	495,406	337,351	2,713
Annual Throughput (10^9 scm)	38.891			37.752			36.659					

Note:
The forecast GHG emissions were based on the 2010-2012 average emissions with the addition of the estimated Parkway West emissions
Parkway West emissions have been estimated based on the 2010-2012 average Parkway emissions

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

Response:

Please see Exhibit I.B1.UGL.BOMA.66

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Section 13, Page 114, paragraph 32

Preamble: The evidence indicates Union and Stantec believe the consultation program held for the original proposal is acceptable as the proposed NPS42 pipeline still falls within the original Study Area and pipeline routing area.

a) Please discuss when and how all stakeholders have been advised of the change in the original proposal and the elimination of the need for the two NPS54 pipelines and reducing the length of the NPS pipeline by 600 metres.

b) Please discuss if there is a change in interested and affected parties as a result of the design change.

c) Please discuss the need for a second public meeting to discuss the updated preferred route.

Response:

a) As stated in the Executive Summary of the Parkway West Pipeline Environmental Report, the changed location of the Parkway West Station and the elimination of the two NPS 54 pipelines occurred following completion of the Environmental Report consultation program. The location of the original NPS 42 pipeline was presented at the August 1, 2012 Information Session within a "Pipeline Routing Area". Stakeholders including the Ontario Pipeline Coordination Committee, municipalities and local Conservation Authority were advised of the Project changes through circulation of the Parkway West Pipeline Environmental Report. In addition, changes were presented at Union's Information Session on March 7, 2013 and through direct discussion with landowners.

b) There is no change in interested and affected parties as a result of the design change.

c) Union conducted a second information session on March 7, 2013. Although the primary focus of the session was Union's proposed Parkway West compressor station, the location of the NPS 42 pipeline was presented and Union representatives were available to address any questions concerning the pipeline.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Section 13, Page 115

Please discuss why an Environmental Report was not completed for the pipeline replacement.

Response:

Prior to construction, Union will complete an Environmental Screening Report to assess the potential environmental effects of the pipeline replacement project. Information from both the Parkway West Pipeline Environmental Report and the Parkway West Compressor Station Report are within the Study area of the pipeline replacement project and will be considered for the Environmental Screening Report. A more formal Environmental Report is not required by the Ontario Energy Board for a pipeline replacement project that is size for size and does not require any new easements.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Page 1.2

a) Please confirm the date Union's Environmental Report (ER) for the Parkway West Natural Gas Pipeline Project was circulated to the OPCC.

b) Please provide the comments received from the OPCC on the ER.

c) Please confirm the date of the change in the design and the elimination of the need for the two 54 inch pipelines.

d) Please discuss if the OPCC has been advised of the change and provide any correspondence and a description of issues raised by the OPCC.

Response:

a) Union's Parkway West Pipeline Environmental Report was circulated to the OPCC on November 21, 2012.

b) The OPCC and other stakeholder comments on the Parkway West Pipeline Project received by Union up to May 27th, 2013 can be found in Attachment 1.

c) The change in design and the elimination of the need for the two 54 inch pipelines occurred in the fall of 2012.

d) Yes the OPCC has been advised of the change through the circulation of the Parkway West Pipeline Environmental Report. Correspondence received through the OPCC review is provided in Attachment 1.

OPCC Review Summary

Parkway West Natural Gas Pipeline Project

AGENCY	COMMENT	RESPONSE
GTA Realty Email November 27, 2012	Requested a copy of the ER as well as any information regarding the "Current Site" of the Proposed Parkway Station.	ER was forwarded Nov 27, 2012. Union also met with GTA Realty on April 16, 2013 to discuss their concerns with the proposed Parkway Station Site.
Tony Gaspar 16824 Steels Ave. Call November 27, 2012	Requested a copy of the ER.	ER was forwarded Nov 27, 2012.
Mr. Ivano Manias Frontenac Forest Estates (Trinison) Call and Email November 28, 2012	Concern with any effects the station could have on residential subdivision development.	Discussed project in general and approval processes. Union also met with Frontenac Forest Estates on April 17, 2013 to discuss concerns.
Technical Standards & Safety Authority (TSSA) Letter dated November 28, 2012	The report prepared by Stantec Consulting is acceptable to the TSSA.	Not Required
Infrastructure Ontario Letter dated December 27, 2012	IO is responsible for managing real estate property that is owned by Her Majesty the Queen. Negative environmental impacts should be avoided or properly mitigated in accordance with MNR and MOE standards. Negative impacts to land holdings should be avoided. Impacts to cultural heritage features on IO land should be examined for cultural heritage issues. The purchase of IO owned/managed land or disposal of rights and responsibilities of IO managed lands triggers the application of the IO Class EA.	Not Required
Mr. Anthony DiGiandomenico City of Mississauga Letter dated January 21, 2013	Comments and questions pertaining to emergency management, the Dawn Trafalgar Pipeline system, why compressor stations are needed on either side	Response by Letter dated February 22, 2013. Union's Emergency Response Plan (ERP) is a controlled

	of the 407, pipeline technology, spills, frequency of pipeline inspections, air quality such as dust and noise, details regarding future development plans within the City of Mississauga, status of future operation of the existing compressor station and blasting.	document and not distributed for security reasons. Union Gas does meet with municipal emergency response personnel to provide information about emergency response protocols. Union owns and operates the Dawn Trafalgar System now referred to as the Dawn Parkway System which includes an integrated network of natural gas transmission pipelines. Due to rapid development there is no room to expand the existing Parkway footprint. The new site will allow for future growth, reserve horsepower and adequate separation between facilities. Union will use the best available technology and materials in accordance with CSA Z662-11. Spills are outlined in Section 3.2.1 of the ER. During construction Union will have a team of full time inspectors. Once constructed the pipeline will be included in Union's integrity program. Air quality has been considered in Section 3.4.1 of the ER. Approximately 150 metres of 42 inch pipeline will be within the City of Mississauga. Union gas can confirm that any rock encountered would be removed by mechanical means.
Ministry of Municipal Affairs and Housing Letter dated February 12, 2013	Please be advised that the natural gas pipeline is within the Parkway Belt. Proposed development or use of land within the Parkway Belt West Plan must ensure rights-of-ways and linear infrastructure is maintained. Please continue to work with the	Not required.

	MTO, IO and any utility companies with interest in the lands.	
Conservation Halton Letter dated February 15, 2013	Conservation Halton provided comments with respect to: Project correspondence, The need for additional project information, Potential construction impacts including: Wetlands, Watercourse Crossings and Application of Mitigation and Protection Measures, Potential Post-Construction Impacts including: Daylighting and Armoring and Loss of Water Flow.	Response by letter dated March 20, 2013. Conservation Halton's letter of September 20, 2012 was received after the Environmental Report was finalized. Union is aware of areas of interest and concern of CH. Union recognizes and agrees that additional information will be forthcoming regarding construction details. Union and its contractor have considerable experience working in wetlands and will work with CH and the MNR to ensure natural heritage features are protected. Union is currently confirming the technique to be used to cross two watercourses and recognizes a greater level of detail is required for open trench crossings. Union recognizes mitigation and protection measures for soil in non agricultural lands should be applied and protective measures to vegetation should be applied to wetland areas. Union understands CH concerns with pipeline exposure and armoring pipelines and it is Union's preference is not to armor pipelines in naturalized portions of creeks. Loss of water flow along the pipeline trench is not anticipated due to surrounding gradients and will be considered in the design stage.
Region of Halton Email dated March 5, 2013	We rely on technical advice from Conservation Halton (CH) in relation to the features potentially	Not Required

	impacted as a result of the proposal. The Region is generally supportive of CH comments. The Region would have no further concerns with respect to this proposal at this time.	
Halton Region Letter dated March 27, 2013	The proposal appears to satisfy PPS Policy 2005, the Parkway West Plan and there are no other conflicts with other Provincial Plans. The lands are not under the jurisdiction of the Greenbelt Plan. Region of Halton Official Plan would permit the 750 m long gas pipeline as would the Natural Heritage System policy. Regional staff reviewed Stantec's Environmental Report "Parkway West Compressor Station – Environmental Report, February 2013 and are satisfied with its contents. Reports submitted by the proponent in support of re-zoning have been circulated and a response to the Town will be formulated by mid-April, 2013. Please be aware that a small portion of NHS exists west of 407, identified as being within Conservation Halton's Regulation Limit. There are no Environmentally Sensitive Areas or Wetlands of Regional or Provincial significance in the immediate vicinity of the proposed pipeline in Milton. There is also no known Regional infrastructure existing or proposed in the areas of the pipeline. There are also no known First Nations Claims. Regional Staff is satisfied that the related compressor Station re-zoning application proposal will address any possible adverse effects and should also address	Not Required

	MOE anticipated Environmental Compliance Approvals. We suggest required local land use planning approvals be considered in the context of this OEB pipeline application. Monitoring and contingency measures will ensure mitigation and protective measures are effective in both the short and long term and any adverse residual environmental effects of this project should not be significant.	

Schmidt, Doug

From: Frank Varga [gtarealty@rogers.com]
Sent: November 27, 2012 9:45 AM
To: Schmidt, Doug
Cc: G. T. A. REALTY LTD.
Subject: EA for 42 inch Pipeline MILTON

Doug
Thank you for you letter dated Nov 21 2012 re:Union Gas Limited – Parkway West Pipeline Project.
Can you return email or mail me a copy of the ER as well as any information you have regarding the "Current Site of Proposed Station (Parkway West) on lands I believe belong to Orlando.
Regards
Frank Varga
416 733-8155

Schmidt, Doug

From: Ivano Manias [imanias@trinison.com]
Sent: November 28, 2012 11:25 AM
To: Schmidt, Doug
Subject: Union Gas Limited--Parkway West Pipeline Project---Frontenac Forest Estates Inc. 197 +/- acres--Town of Milton
Attachments: 201211281043.pdf

Importance: High

Good morning Doug;

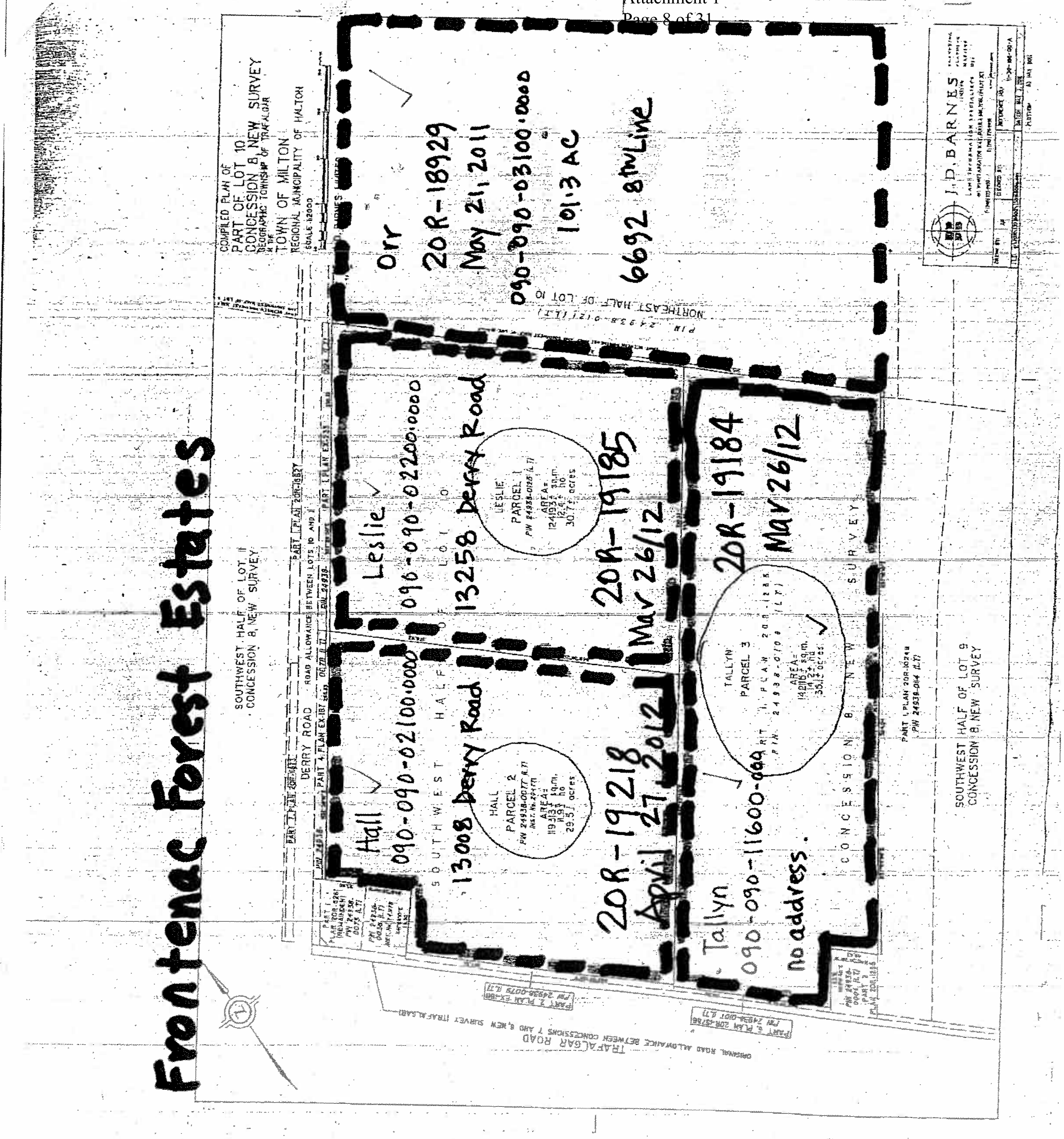
I wish to acknowledge receiving your letter dated November 21, 2012 where in it describes the proposed construction of one 42 inch diameter steel natural gas pipeline and the proposed Parkway West Station(future 'new compressor station') located just east from of our land holdings under the name of Frontenac Forest Estates Inc. (see attached locational plan with details of Frontenca's properties). I had advised that I did receive a previous notice in July of this year, but that was for the "preliminary preferred routes of natural gas pipelines" and did not mention a "new site" for a compressor station (Parkway West Station). In fact, the present notice is the first time that this 'new' site has been mentioned.

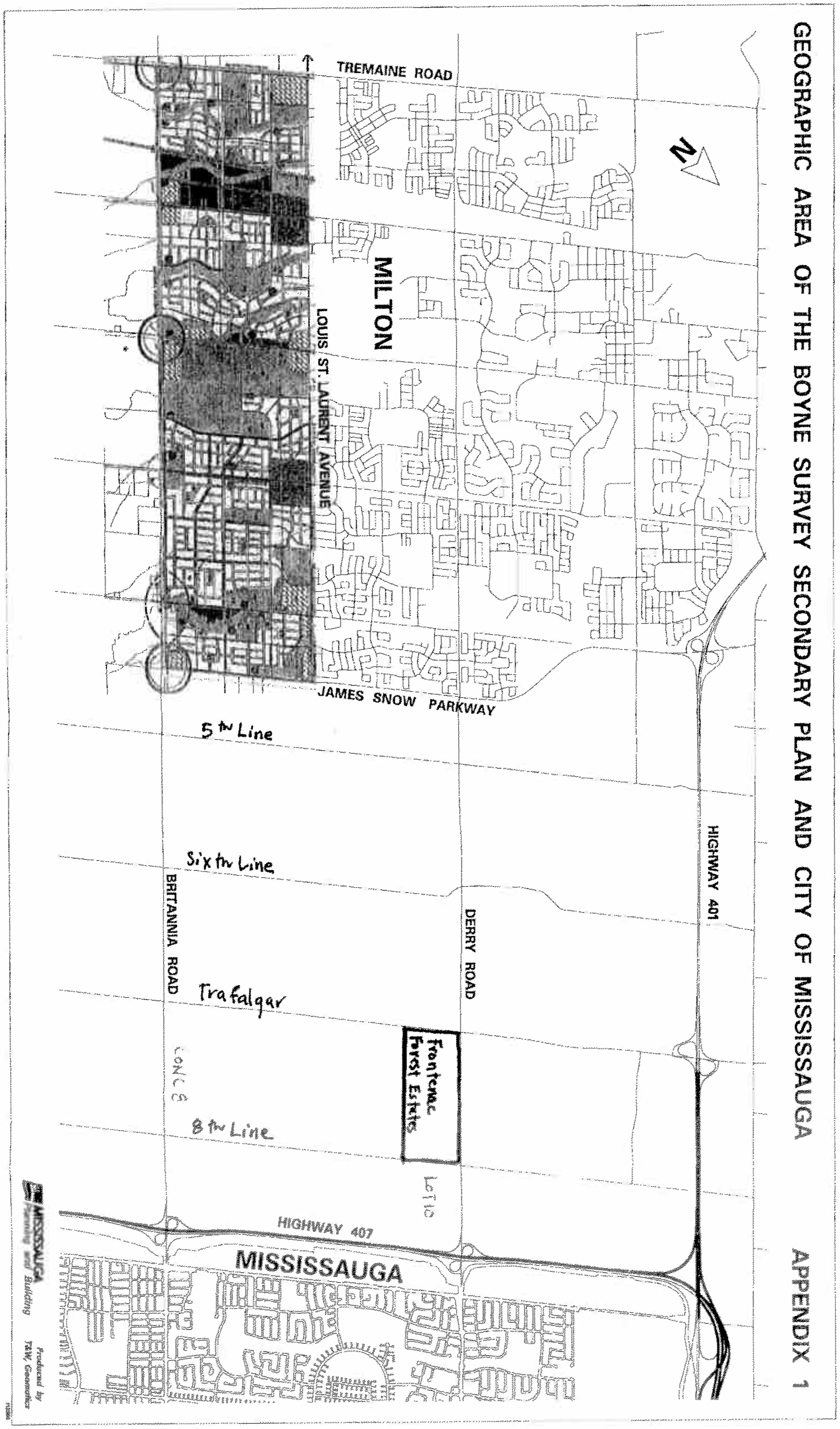
I wish to further acknowledge that we had a telephone conversation this morning regarding the proposed Parkway West Station and the concerns I raised with you. You said that you shall pass along my name to Stantec Consulting Ltd whom have been retained by Union Gas to undertake the environmental effects assessment for the Parkway West Station which shall be subject to a separate approvals process. I had advised that we are considering retaining our consultants to investigate this matter as it pertains to our land holdings and potentially provide comments when the assessment process for the Parkway West Station has commenced.

As explained, our lands are within the Urban Boundary of the Region of Halton's Official Plan(net yet approved) and the land use for these land and the lands to the south of Frontenac are all contemplated to be 'residential'. We wish further details on the 'new compressor station'(when available) being proposed and how this may impact the future residential land use west of 8th line, specifically for the Frontenac properties. Our consultants may be in contact with Stantec on the Parkway West Station and in advanced, I thank you for your co operation.

Please confirm whom at Stantec shall be handling this matter so that we may correspond with them at the appropriate time.

ivano


Frontenac Forest Estates
8th Line
COMPILED PLAN OF PART OF LOT 10 CONCESSION 8, NEW SURVEY
TOWN OF MILTON
REGIONAL MUNICIPALITY OF HALTON
Orr
20R-18929
May 21, 2011
090-090-03100.0000
101.3 AC
6692 8th Line
NORTHEAST HALF OF LOT 10
Leslie
090-090-02200.0000
13258 Derry Road
LESLIE PARCEL 1
20R-19185
Mar 26/12
20R-19184
Mar 26/12
Hall
090-090-02100.0000
13008 Derry Road
HALL PARCEL 2
20R-19218
April 27 2012
Tallyn
090-090-11600-000
No address.
TALLYN PARCEL 3
SOUTHWEST HALF OF LOT 10
CONCESSION 8 NEW SURVEY
DERRY ROAD
SOUTHWEST HALF OF LOT 11 CONCESSION 8, NEW SURVEY
SOUTHWEST HALF OF LOT 9 CONCESSION 8, NEW SURVEY
TRAFALGAR ROAD
J.D. BARNES


GEOGRAPHIC AREA OF THE BOYNE SURVEY SECONDARY PLAN AND CITY OF MISSISSAUGA
APPENDIX 1
N
TREMAINE ROAD
MILTON
LOUIS ST. LAURENT AVENUE
JAMES SNOW PARKWAY
5th Line
Sixth Line
Trafalgar
8th Line
BRITANNIA ROAD
DERRY ROAD
HIGHWAY 401
HIGHWAY 407
Frontenac Forest Estates
MISSISSAUGA
MISSISSAUGA Planning and Building
Produced by T&M Geomatics

TECHNICAL STANDARDS & SAFETY AUTHORITY
TSSA

14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4
Tel.: 416.734.3300
Fax: 416.231.1626
Toll Free: 1.877.682.8772

www.tssa.org

November 28, 2012

Mr. D.F. (Doug) Schmidt,
Principal Environmental Planner,
Union Gas Limited,
50 Keil Drive North
Chatham, ON N7M 5M1

Re: Union Gas Limited – Parkway West Pipeline Project.

Dear Mr. Schmidt,

I reviewed the referenced project attached to your letter dated November 21, 2012 and additional information received November 27, 2012. The construction of the proposed NPS 42 natural gas pipeline would connect the existing Union Gas Parkway Compressor Station and the proposed Parkway West Station. This project form part and is complementary to a system required to expand the capacity of the EGD distribution system in the GTA.

This segment of approx. 500 metres will be operated at approx. 35% SMYS and be part of the Down to Trafalgar System that shall meet the requirements of the Oil and Gas Pipeline System Code Adoption Document (CAD), FS-196-12.

The report prepared by Stantec Consulting Ltd. (File No. 160960730) dated November 2012 for Union Gas Limited on the Parkway West Natural Gas Pipeline Project is acceptable to us.

Yours truly,

Oscar Alonso, P.Eng.,
Fuels Safety Engineer
Tel. 416 734 3353
oalonso@tssa.org

c: Ms. Zora Crnojacki
Chairperson, OPCC
Ontario Energy Board
P.O. Box 2319
2300 Younger Street, 27th. Floor
Toronto, ON M4P 1E4

l/fsesb/oa/Union Gas Parkway West Project.com

Ontario
Infrastructure Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

December 27, 2012

Thank you for circulating Infrastructure Ontario (formerly the Ontario Realty Corporation) on your Notice. Infrastructure Ontario (IO) is the strategic manager of the provincial government's real estate property with a mandate of maintaining and optimizing value of the portfolio, while ensuring real estate decisions reflect public policy objectives of the government.

As you may be aware, *IO is responsible for managing real estate property that is owned by Her Majesty the Queen in Right of Ontario as represented by the Minister of Infrastructure (MOI).* There is a potential that IO manages lands that fall within your study area. As a result, your proposal may impact IO managed properties and/or the activities of tenants present on IO-managed lands. In order to determine if IO property is within your study area, IO requires that the proponent of the project conduct a title search by reviewing parcel register(s) for adjoining lands, to determine the extent of ownership by MOI or it's predecessors (listed below) ownership. Please contact IO if any ownership of provincial government lands are known to occur within your study area and are proposed to be impacted. IO is obligated to complete due diligence for any realty activity on IO managed lands and this should be incorporated into all project timelines. IO managed lands can ***include within the title but is not limited to*** variations of the following: Her Majesty the Queen/King, OLC, ORC, Public Works, Hydro One, PIR, MGS, MBS, MOI, MTO, MNR and MEI*. Please ensure that a copy of your notice is also sent to the ministry/agency on title. As an example, if the study area includes a Provincial Park, then MNR is to also to be circulated notices related to your project.

Potential Negative Impacts to IO Tenants and Lands

General Impacts

Negative environmental impacts associated with the project design and construction, such as the potential for dewatering, dust, noise and vibration impacts, and impacts to natural heritage features/habitat and functions, should be avoided and/or appropriately mitigated in accordance with applicable regulations best practices and Ministry of Natural Resources (MNR) and Ministry of the Environment (MOE) standards. Avoidance and mitigation options that characterize baseline conditions and quantify the potential impacts should be present as part of the EA project file. Details of appropriate mitigation, contingency plans and triggers for implementing contingency plans should also be present.

Impacts to Land holdings

Negative impacts to land holdings, such as the taking of developable parcels of IO managed land or fragmentation of utility or transportation corridors, should be avoided. If the potential for such impacts is present as part of this undertaking, you should contact the undersigned to discuss these issues at the earliest possible stage of your study.

If takings are suggested as part of any alternative these should be appropriately mapped and quantified within EA report documentation. In addition, details of appropriate mitigation and or next steps related to compensation for any required takings should be present. IO requests circulation of the draft EA report prior to finalization if potential impacts to IO-managed lands are present as part of this study.

Heritage Management Process & Class Environmental Assessment (EA) Process

Should the proposed activities impact cultural heritage features on IO managed lands, a request to examine cultural heritage issues which can include the cultural landscape, archaeology and places of sacred and secular value could be required. The IO (formerly Ontario Realty Corporation) Heritage Management Process should be used for identifying and conserving heritage properties in the provincial portfolio (this document can be downloaded from the Heritage section of our website: http://www.ontariorealty.ca/What-We-Do/Heritage.htm). Through this process, IO identifies, communicates and conserves the values of its heritage places. In addition, the Class EA ensures that IO considers the potential effects of proposed undertakings on the environment, including cultural heritage.

Potential Triggers Related to MOI's Class EA

IO is required to follow the MOI Class Environmental Assessment Process for Realty Activities Not Related to Electricity Projects (MOI Class EA). The MOI Class EA applies to a wide range of realty and planning activities including leasing or letting, planning approvals, dispostion, granting of easements, demolition and property maintenance/repair. For details on the MOI Class EA please visit the Environment and Heritage page of our website found at http://www.infrastructureontario.ca/What-We-Do/Buildings/Realty-Services/Environmental-Management/Class-EAs/
Please note that completion of any EA process does not necessarily provide an approval for IO's EA process unless the alternative EA incorporates IO's applicable Class EA requirements.

If the MOI Class EA is triggered, and deferral to another ministry's or agency's Class EA or individual EA is requested, the alternative EA will be subject to a critical review prior to approval for any signoff of a deferral by the proponent. The alternative EA needs to fulfill the minimum criteria of the MOI Class EA. When evaluating an alternative EA there must be explicit reference to the corresponding undertaking in the MOI Class EA (*e.g.,* if the proponent identifies the need to acquire land owned by MOI, then "acquisition of MOI-owned land", or similar statement, must be referenced in the EA document). Furthermore, sufficient levels of consultation with MOI's/IO's specific stakeholders, such as the MNR, must be documented with the relevant information corresponding to MOI's/IO's undertaking and the associated maps. In addition to *archaeological and heritage reports, a Phase I Environmental Site Assessment (ESA),* on IO lands should also be incorporated into the alternative EA study. Deficiencies in any of these requirements could result in an inability to defer to the alternative EA study and require completing MOI's Class EA prior to commencement of the proposed undertaking.

In summary, the purchase of MOI-owned/IO-managed lands or disposal of rights and responsibilities (e.g. easement) for IO-managed lands triggers the application of the MOI Class EA. If any of these realty activities affecting IO-managed lands are being proposed as part of any alternative, please contact the Sales and Marketing Group through IO's main line (Phone: 416-327-3937, Toll Free: 1-877-863-9672), <u>and</u> contact the undersigned at your earliest convenience to discuss next steps.

Specific Comments

If an EA for this project is currently being undertaken and **only if** the undertaking directly affects all or in part any IO-managed property, please send the undersigned a copy of the DRAFT EA report and allow sufficient time (minimum of 30 calendar days) for comments and discussion prior to finalizing the report to ensure that all MOI Class EA requirements can be met through the EA study.

Please remove IO from your circulation list, with respect to this project, if there are no IO managed lands in the study area. In addition, in the future, please send only **electronic copies of notices** for any projects impacting IO managed lands to:
Keith.Noronha@infrastructureontario.ca

Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions on the above I can be reached at the contacts below.

Sincerely,

L. Myslicki

Lisa Myslicki
Environmental Advisor, Environmental Management
Infrastructure Ontario
1 Dundas Street West,
Suite 2000, Toronto, Ontario
M5G 2L5
(416) 212-3768
lisa.myslicki@infrastructureontario.ca

* Below are the acronyms for agencies/ministries listed in the above letter
OLC: Ontario Lands Corporation
ORC: Ontario Realty Corporation
PIR: Public Infrastructure and Renewal
MGS: Ministry of Government Services
MBS: Management Board and Secretariat
MOI: Ministry of Infrastructure
MTO: Ministry of Transportation
MNR: Ministry of Natural Resources
MEI: Ministry of Energy and Infrastructure

Transportation and Works Department

City of Mississauga
201 City Centre Drive, Suite 800
MISSISSAUGA ON L5B 2T4

www.mississauga.ca

MISSISSAUGA

Leading today for tomorrow

January 21, 2013

Mr. D.F. (Doug) Schmidt, Principal Environmental Planner
Union Gas Limited
50 Keil Drive North
Chatham, ON
N7M 5M1

Dear Mr. Schmidt,

Re: City of Mississauga Comments
Union Gas Limited – Parkway West Pipeline Project – Environmental Report

Following receipt of the Parkway West Natural Gas Pipeline Project Environmental Report, prepared by Stantec Consulting Ltd., dated November 2012 (File No. 160960730), the City of Mississauga provides the following comments from the respective departmental sections for your consideration:

Emergency Management Office (Community Services Department)

1. Section 4.1, Cumulative Effects Assessment Methodology, of the Environmental Report states that "Although rare in occurrence, it is plausible that accidents or emergency events may arise due to an unforeseen chain of events during the pipelines construction or operational life. As a result of the rarity and magnitude of such events, they have not been assessed here, as they are extreme in nature when compared to the effects of normal construction and operation activities, and require separate response plans. Pipeline decommissioning and abandonment is another event that is beyond the temporal boundaries of the cumulative effects assessment and therefore has not been assessed."

   - Provide the City with a copy of the emergency plan specific to the Parkway West Natural Gas Pipeline Project;
   - Confirm whether other affected municipalities will be receiving the emergency plan;
   - Confirm the location(s) of the emergency teams.

Environmental Services Section, Transportation and Infrastructure Planning Division (Transportation and Works Department)

Environmental Engineering

2. What is the Dawn Trafalgar Transmission Pipeline System?

Form 2463

3. Why are compressor stations required on either side of Hwy 407?

4. Please confirm that the best available technology will be utilized for this project in terms of the following:
   - Pipeline material and thickness;
   - Corrosion protection coatings;
   - Cathodic protection;
   - Sensors and emergency shut-off valves.

5. What will be Union Gas's Emergency plan during construction if any spill occurs during the installation of the pipeline?

6. Please confirm the type and frequency of inspections, which will be undertaken for the proposed pipeline, both prior to commissioning and as the pipe ages.

7. How will the proposed new pipeline be incorporated in to Union Gas's Emergency Response Plan?

8. Have the issues of air quality, dust control and noise been considered? If so, what are the proposed mitigation measures?

Capital Programming

9. Section 3.1 states that "As the Project lands are all designated for future development, potential effects will occur in a landscape that will be highly modified in the near future".

   Please provide details regarding future development plans within the extents of the study area that are located within the City of Mississauga.

   Additionally, please confirm the future operational status of the Existing Compression Station (Parkway) and any future land use changes for the current site location.

10. Section 3.1.1 states that "Any bedrock encountered during pipeline construction would need to be excavated by hoe-ram, rock bucket or blasting" and "Where blasting is implemented, potential impacts would include flyrock, noise and/or vibration".

    Please provide details to confirm that should blasting of bedrock occur, existing municipal infrastructure and nearby residential properties would not be negatively impacted.

Thank you for the opportunity to provide comments on this project. Should you have any questions or comments, please do not hesitate to contact me at (905) 615-3200 Ext. 3491.

Yours truly,

Anthony Di Giandomenico, P.Eng.
Watercourse Management Coordinator
Environmental Services Section

C.C.: Core Team Members, City of Mississauga (via e-mail)

uniongas
A Spectra Energy Company
CELEBRATING 100 YEARS Est. 1911

February 22, 2013

Mr. Anthony Di Giandomenico, P. Eng.
Watercourse management Coordinator
Environmental Services Section
City of Mississauga
201 City Centre Drive, Suite 800
Mississauga, ON L5B 2T4

Re: City of Mississauga Comments (January 21, 2013)
Union Gas Limited – Parkway West Pipeline Project

Thank you for your comments regarding the Union Gas Parkway West Project and the Environmental Report prepared by Stantec Consulting. Below please find responses to your questions raised in your letter dated January 21, 2013.

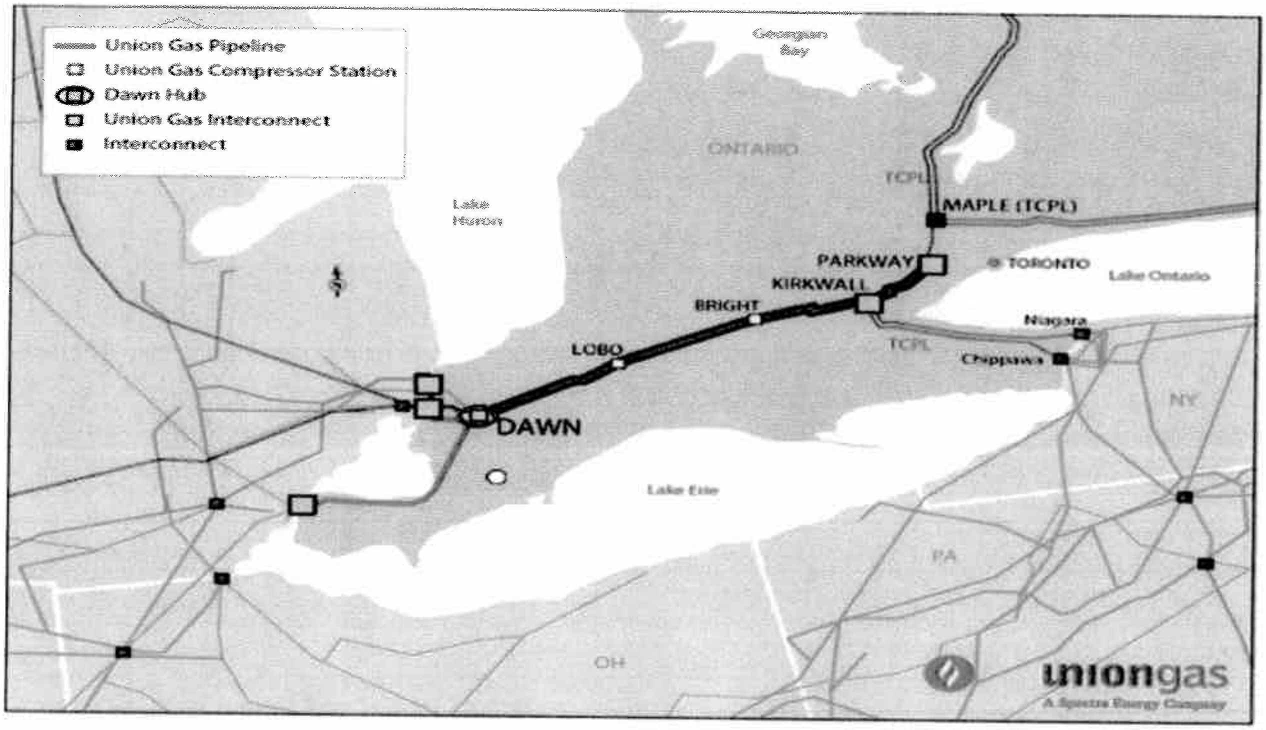
1. ***Section 4.1, Cumulative Effects Assessment Methodology, of the Environmental Report states that "Although rare in occurrence, it is plausible that accidents or emergency events may arise due to an unforeseen chain of events during the pipelines construction or operational life. As a result of the rarity and magnitude of such events, they have not been assessed here, as they are extreme in nature when compared to the effects of normal construction and operation activities, and require separate response plans. Pipeline decommissioning and abandonment is another event that is beyond the temporal boundaries of the cumulative effects assessment and therefore has not been assessed."***
    - ***Provide the City with a copy of the emergency plan specific to the Parkway West Natural Gas Pipeline Project;***
    - ***Confirm whether other affected municipalities will be receiving the emergency plan;***
    - ***Confirm the location(s) of the emergency teams.***

    Union's Emergency Response Plan (ERP) is a controlled document and is not distributed for security reasons. Union Gas local management does meet with municipal emergency response personnel periodically to provide information about the emergency response protocols that are in place as well as other municipal specific information. Union has personnel located at its Parkway compressor site that would provide emergency response for any incident.

2. ***What is the Dawn Trafalgar Transmission Pipeline System?***

    Union owns and operates the "Dawn Trafalgar System", now referred to as the "Dawn-Parkway System", which includes an integrated network of natural gas transmission pipelines and compressors.The Dawn-Parkway System transports natural gas between the Dawn Compressor Station ("Dawn") near Sarnia at the west end of Union's southern franchise area and the Parkway Compressor Station ("Parkway") located in Mississauga at the east end of

Union's southern franchise area. The Dawn-Parkway System consists of four major pipelines, ranging in size from 26 inches to 48 inches in diameter. Between the Dawn and Parkway compressor stations, Union operates two additional compressor stations on the Dawn-Parkway System: i) the Lobo Compressor Station ("Lobo") located near London; and ii) the Bright Compressor Station ("Bright") located between Woodstock and Kitchener.



3. *Why are compressor stations required on either side of Highway 407?*

Continued growth on the Dawn-Parkway system and changing gas supply dynamics in North America have increased the usage and reliance on compression at the existing Parkway station.As a result, Union Gas has identified the need for reserve horsepower to cover an unplanned outage of one of the Parkway compressors and maintain gas supply during peak winter months. Additionally, Enbridge has identified the need for an alternate feed into the GTA to maintain supply to residential, commercial, and industrial customers in the event of an unplanned outage at the existing Parkway station.

Municipal development has been extremely rapid in the western portion of the GTA, and Parkway is now bordered on two sides by existing or planned residential development and on one side by Highway 407, as shown in the Figure below. Due to this rapid development, there is no room to expand on the existing Parkway footprint. The proposed "Parkway West" site, located directly across the 407, will allow for a new compressor station, an additional feed to Enbridge, and an interconnecting pipeline between Parkway and Parkway West. The new site will also allow for future growth compressors and an appropriate buffer zone between the Parkway West facility and future development in the area. Locating the site across the 407 also provides adequate separation between the facilities to ensure an outage at one site will not impact the other.

4. ***Please confirm that the best available technology will be utilized for this project in terms of the following:***
   - ***Pipeline material and thickness;***
   - ***Corrosion protection coatings;***
   - ***Cathodic protection***
   - ***Sensors and emergency shut-off valves.***

Union will use the best available technology and materials in accordance with CSA Z662-11.

5. ***What will be Union Gas's Emergency plan during construction if any spill occurs during the installation of the pipeline?***

Contingency measures for accidental spills are outlined in Section 3.2.1 of the Environmental Report. Union Gas also requires that the construction contractor has a spill response plan in place prior to construction.

6. ***Please confirm the type and frequency of inspections, which will be under taken for the proposed pipeline, both prior to commissioning and as the pipe ages.***

Pre-operation (during construction), Union will have a team of inspectors on site full time during every phase of construction. Their role will be to ensure the contractor fulfills its contractual obligations and to conduct quality assurance inspections of all work and materials.

Once constructed, the proposed pipeline will be included in Union's overall pipeline integrity program. The type and frequency of inspection will be driven by the program. In addition, Union will complete leak surveys, aerial patrols, and corrosion control system monitoring as prescribed by standard operating practices.

7. ***How will the proposed new pipeline be incorporated in to Union Gas's Emergency Response Plan?***

Union's ERP covers approximately 63000 km of distribution pipeline and approximately 4800 km of transmission pipeline. Information within the plan that is specific to the Storage and Transmission Operations group, who will have operational accountability for the Parkway West Pipeline, will be updated as necessary.

8. ***Have the issues of air quality, dust control and noise been considered? If so, what are the proposed mitigation measures?***

Air quality, dust control and noise are considered in Section 3.4.1 of the Environmental Report, including mitigation and protective measures.

9. ***Section 3.1 states that "As the Project lands are all designated for future development potential effects will occur in a landscape that will be highly modified in the near future".***

Please provide details regarding future development plans within the extents of the study area that are located within the City of Mississauga.

Within the City of Mississauga the Project will entail the installation of approximately 150 m of 42 inch pipeline between Highway 407 and the existing Parkway Compressor Station. It is Union Gas's understanding that the portion of the pipeline in the City of Mississauga is within the 'Ninth Line Corridor' Study for which the City is establishing a planning framework to guide future development.

Additionally, please confirm the future operational status of the Existing Compression Station (Parkway) and any future land use changes for the current site location.

The existing Parkway Compressor Station will remain in operation; there are no immediate plans for any land use changes at this site.

10. ***Section 3.1.1 states that "Any bedrock encountered during pipeline construction would need to be excavated by hoe-ram, rock bucket or blasting" and "Where blasting is implemented, potential impacts would include flyrock, noise and/or vibration".***

Please provide details to confirm that should blasting of bedrock occur, existing municipal infrastructure and nearby residential properties would not be negatively impacted.

Union can now confirm that any rock encountered will be removed by mechanical means and that no negative impacts to existing infrastructure or nearby residential properties are expected.

Yours truly,

UNION GAS LIMITED

Doug Schmidt

D.F. (Doug) Schmidt
Principal Environmental Planner
1 866-949-1595, Ext. 76954
dschmidt@uniongas.com

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Municipal Services Office
Central Ontario
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Toronto ON M5G 2E5
Phone: 416 585-6226
Fax: 416 585-6882
Toll-Free: 1 800 668-0230

Ministère des Affaires municipales et du Logement
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Toronto ON M5G 2E5
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Sans frais : 1 800-668-0230

Ontario

February 12, 2013

Ms. Zora Crnojacki
Chairman, Ontario Pipeline Coordination Committee
Ontario Energy Board
2300 Yonge Street, 26th Floor
Suite 2601
Toronto, ON M4P 1E4

Dear Ms. Crnojacki:

RE: Union Gas Limited – Parkway West Pipeline Project

Thank you for the opportunity to provide further comments regarding the Union Gas Limited – Parkway West Pipeline Project. The Municipal Services Office- Central Ontario provided comments, dated August 7, 2012 with respect to the original proposed Parkway West Station site, which required the construction of three natural gas pipelines. These comments are captured in your Environmental Report, November 2012.

I understand that following completion of your consultation program, the location of the Parkway West Station has changed, and the current proposed Station requires the construction of one 42 inch diameter steel natural gas pipeline approximately 500 metres in length between Union Gas' existing Parkway Compressor Station and the current proposed Station site.

Please be advised that the proposed natural gas pipeline is within the Parkway Belt West Plan, located on Map 7: Oakville-Mississauga Mini-belt. A consolidated version of the Parkway Belt West Plan and mapping is available on the Ministry website at www.mah.gov.on.ca under Land Use Planning.

The proposed pipeline traverses land that is designated as "Electric Power Facility", "Utility", "Road" and "Inter-Urban Transit" within the broader Public Use Area of the Plan. The proposed pipeline also traverses land that is designated as "General Complementary Use Area" within the Complementary Use Area of the Plan.

Section 5.4.1 of the Plan outlines the permitted uses within the Public Use Area of the Plan. Please note that Section 5.4.1 b) of the Plan was modified by Amendment No. 147 (approved on November 10, 2000) to permit the following linear facilities: "linear transportation, communication and utility facilities, including necessary accessory facilities and installations such as interchanges, transit including stations, parking, maintenance/storage yards, transformer stations, and treatment plants that are part of the linear distribution or collection networks."

Further, Section 5.4.3 requires that public works in the Public Use Area are constructed and reconstructed to minimize any detrimental effect on natural features, and landscaping and buffers are provided where appropriate, both along and between facility rights-of-way, in order to achieve the provisions of the Plan.

The permitted uses within the General Complementary Use Area are outlined in Section 5.5.1 of the Plan. Section 5.5.1 e) permits public uses, such as roads, utilities and their accessory facilities and other public uses of low density, low-intensity character. Buildings and structures associated with those uses shall meet to the maximum possible degree the conditions set out in Paragraph 5.5.1 b).

Further, Section 5.5.4 requires that public works in the Complementary Use Area are constructed and reconstructed to minimize any detrimental effect on natural features, and landscaping and buffers are provided where appropriate, both along and between facility rights-of-way, in order to achieve the provisions of the Plan.

Section 6.7 states the specific objectives and implementing actions for lands located within Map 7: Oakville-Mississauga Mini-belt. More specifically, section 6.7.3 a) restricts the number of transportation routes crossing the Link to existing facilities and their essential expansion; Speers Road; and Highway 403, inter-urban transit facilities, and other essentials facilities consistent with the Plan. Section 6.7.3 c) provides a right-of-way approximately 300 feet wide between the Southern Link (Highway 403) and the Northern Link (Highway 401) for the extension of Highway 403-Queen Elizabeth Way Link Highway. Further, Section 6.7.3 d) i) provides a right-of-way approximately 545 feet wide for a Hydro One Inc. transmission line and railway spur between the Northern Link and Trafalgar Transformer Station.

Proposed development or use of lands within the Parkway Belt West Plan must ensure that the integrity of the above noted rights-of-way and linear infrastructure is maintained. In this respect, please continue to work with the Ministry of Transportation, Infrastructure Ontario and any utility companies with interest in the lands to ensure that they are satisfied with the proposal and secure any required permits and/or approvals.

Please do not hesitate to contact me at 416-585-6554 or lindsey.savage@ontario.ca if you have any questions.

Yours truly,

L Savage

Lindsey Savage
Assistant Planner

CONSERVATION HALTON
PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT
2596 Britannia Road West
Burlington ON L7P 0G3
905.336.1158 Fax 905.336.7014
conservationhalton.ca

February 15, 2013

Doug Schmidt
Principal Environmental Planner
Union Gas Limited
50 Keil Drive North
Chatham Ontario
N7M 5M1

Dear Mr. Schmidt:

RE: Union Gas Limited – Parkway West Project – Natural Gas Pipeline
Environmental Report
Town of Milton
MPR 604

Staff has reviewed the Environmental Report for the Parkway West Natural Gas Pipeline Project, prepared by Stantec, dated November 2012 and offers the following comments.

1. Section 1.1, Project Description:
   - Staff are pleased that the scope of work has been modified to remove 2 of the original 3 pipelines required to operate the proposed Parkway West Station.
   - Additional information about the depth of the proposed pipeline, limits of disturbance, duration of construction, etc. is required in order to more accurately evaluate the potential for negative environmental impacts.
2. Section 2.2.2, Agency Input - Conservation Halton should be noted in this section as well as Appendix B5, in reference to our September 20, 2012 correspondence.
3. Section 3.1.4, Soil and Soil Capability - Although it is implied that this section relates specifically to agricultural lands, the mitigation and protective measures described in this section should be applied in natural areas as well.
4. Section 3.1.5, Natural Hazards – Staff appreciate that our recommendation regarding ‘potential impacts to natural hazards’ has been included as one of the evaluation criteria, however this section focuses only on flooding impacts during construction of the pipeline. Discussion regarding the potential for any negative impacts on erosion hazards has not been discussed. In order for Conservation Halton to issue approval under Ontario Regulation 162/06, it must be demonstrated that the preferred route will have no impact on erosion hazards. In this instance, the preferred route will cross two tributaries of Sixteen Mile Creek. As indicated in our previous correspondence, an example of a possible impact would be placement of the pipeline within the 100 year meander belt of the creek, and armoring the pipeline to protect against erosion on naturalized portions of the creek. Although the preferred route will likely cross perpendicular to the tributaries, eliminating the requirement to look at the 100 year meander belt

of the creek, depth of the pipeline below the scour depth of the tributaries to prevent future daylighting and/or the need to armour the creek bed and banks to facilitate the pipeline should be discussed as a potential impact.

5. Section 3.2.1, Fish and Fish Habitat – As indicated above, the preferred route crosses two tributaries of Sixteen Mile Creek, as opposed to one tributary as indicated in this section. The second tributary is located west of Highway 407. The Environmental Report has also identified wetlands in this area, which are also regulated by Conservation Halton. As previously requested, please plot all areas regulated by Conservation Halton on a drawing (i.e. ARL mapping). To obtain a digital copy of our ARL mapping, a Date Request Form is required. This form can be found in the "GIS & Mapping" section of Conservation Halton's website: www.conservationhalton.ca. Additionally, staff request that all drainage features, watercourse ditchlines, culverts, etc. be surveyed.
6. Section 3.2.1, Fish and Fish Habitat – Thank-you for identifying that a permit will be required pursuant to Ontario Regulation 162/06. Mitigation and Protective Measures for sediment and erosion control will be reviewed in greater detail through the permit process.
7. Section 3.3.1, Designated and Sensitive Natural Areas- We note the following mitigation measure:

    > "Where extremely wet soil conditions exist such that the structural integrity of the easement soils is jeopardized due to heavy equipment use, construction activities at that location should be suspended until suitable soil conditions return."

    Given that the proposed route traverses approximately 100m of wetland communities, staff are concerned with the potential for 1) excessive construction delays waiting for soils to dry out which may in fact be wet all year round; and 2) potential for damage to wetland soils arising from construction and access routes. As such, we will require that the pipeline be bored under wetlands rather than open trenched. As noted above, the wetlands west of Highway 407 within the Pipeline Routing Area are regulated by Conservation Halton.
8. Section 3.3.3, Wildlife and Wildlife Habitat - Please confirm with the Ministry of Natural Resources whether any further action is necessary to address the presence of Barn Swallows. We note the general habitat protection provisions of the *Endangered Species Act* include "the area on which the species depends, directly or indirectly, to carry on its life processes, including life processes such as reproduction, rearing, hibernation, migration or feeding."
9. Section 3.3.3, Wildlife and Wildlife Habitat - Staff will review the results of the spring 2013 field surveys when they become available. How will this impact the timing of the project?
10. Table 3-1, Summary of Potential Effects and Recommended Mitigation and Protective Measures - Mitigation measures in the Vegetation section should also apply to wetland areas (as addressed in Section 3.3.1).
11. Section 4.0 Cumulative Effects Assessment - It is recommended that the possibility of the pipeline being daylighted through natural erosion with the potential to create barriers to fish passage be included in the cumulative effects assessment.
12. Appendix A, Figure A-2 "Preferred Route" – This figure indicates that the method of crossing under the two tributaries will be carried out by open trench. As noted above, to limit the disturbance to natural features (both wetlands and watercourses), and to prevent the need to reconstruct the watercourses following installation of the pipeline, trenchless bore technologies should be used. The East Branch Lisgar Channel generally flows year round, which highlights the importance of a trenchless bore technique. It should be noted that through the permit

approval process, open trench crossings will require a greater level of detail (for example, details on creek reconstruction and sediment and erosion control), then required for trenchless crossings.

13. Appendix C: Features Mapping:
    Figure C-1 Surficial Geology: It is noted that the surficial geology surrounding the tributary to be crossed, which is regulated by the Conservation Authority, is located in a deposit of alluvium. Due to the presence of alluvium, it is possible that there is groundwater discharge to this tributary. As such, it is suggested that an assessment of groundwater contributions to that tributary be undertaken. If there is groundwater seepage entering this tributary, it is recommended that the ecological flow requirements of this tributary may need to be determined with regard to aquatic invertebrates and fish in the tributary itself and the receiving watercourse (East Branch Lisgar Channel) that it flows into. We request that the study identify the flow permanency of this tributary.
    If the flow of the watercourse is found to be intermittent, it is requested that the pipeline crossing be undertaken when there is no flow in the watercourse. If the watercourse is found to have perennial flow, it is requested that the pipeline installation be undertaken using a trenchless installation technique.
14. Appendix E: Generic Sediment and Erosion Control Plans:
    It is requested that the pipeline be installed in a manner such that the obvert of the pipeline is at least 2.5 m below the invert of the thalweg of any watercourse it flows underneath of.
15. Please indicate how the loss of water flow in the creek into the bedding around the pipeline will be prevented once construction is complete.

We trust the above is of assistance. If you require additional information please contact the undersigned at extension 283.

Yours truly,

Leah Smith
Environmental Planner, MCIP, RPP
LS/

cc. Julia Kossowski, Stantec Consulting Ltd.

Stantec Consulting Ltd.
70 Southgate Dr, Suite 1
Guelph, Ontario, N1G 4P5
Tel: (519) 836 6050
Fax: (519) 836 2493

Stantec

March 20, 2013
File: 160960730

Conservation Halton
2569 Britannia Road West
Burlington, ON L7P 0G3

Attn: **Leah Smith, Environmental Planner**

Reference: **Parkway West Natural Gas Pipeline Project**

Dear Leah,

Thank you for your letter dated February 15, 2013 outlining the areas of interest or concern that Conservation Halton may have with the Parkway West Natural Gas Pipeline Project and Environmental Report. In regards to your specific comments:

Previous Project Correspondence (Comment 2)
Please note that your letter of September 20, 2012 was received after the Environmental Report for the project was finalized. Union Gas is aware of the areas of interest and concern for Conservation Halton, and look forward to working with Conservation Halton through the permit approval process.

Additional Project Information (Comments 1, 5, 8 and 9)
Union Gas recognizes and agrees that additional information will be forthcoming regarding construction details. Detailed design is currently underway. The timeline and tasks for the project will include field investigations in 2013, permits and approvals in 2014 and construction in 2015.

For terrestrial natural heritage, including species and habitat covered under the *Endangered Species Act*, consultation is on-going with the Ministry of Natural Resources. For aquatic natural heritage, please note that a formal Information Request was sent to Conservation Halton on July 9, 2012, for which he have not yet received a response. Stantec understands that substantial documentation should exist for the water features crossed by the proposed pipeline due to the realignment work that has occurred for Highway 407.

Once field investigations begin in 2013 Union Gas would be happy to meet with Conservation Halton on-site to discuss construction details and proposed mitigation and protective measures. A representative of Union Gas will be in contact with you to arrange such a meeting.

Potential Construction Impacts

Wetlands (Comment 7)
Union Gas and its contractors have considerable experience working in wetlands, and working with Conservation Authorities and the Ministry of Natural Resources to ensure that natural heritage features are protected. The current plans are for the pipeline to be trenched through the wetland, although Union Gas is open to investigating the preference of Conservation Halton for boring or directional drilling under the wetland.

Watercourse Crossings (Comments 12 and 13)
Union Gas is currently confirming the crossing technique for the two watercourses, and acknowledges that a greater level of detail will be required for trenchless crossings if selected. As requested above, any information

Stantec

you have on the thermal regimes and periodicity of the watercourses would be appreciated. Should trenched crossings of watercourses with perennial flow be undertaken, Union Gas will review the surficial geology of the area to determine if groundwater seepage into the watercourses is a possibility.

Application of Mitigation and Protective Measures (Comments 3 and 10)
Union Gas agrees that mitigation and protective measures for soil and soil capability should be applied to non-agricultural lands, and that mitigation and protective measures for vegetation should be applied to wetland areas.

Potential Post-Construction Impacts

Daylighting and Armouring (Comments 4, 11 and 14)
Union Gas understands that Conservation Halton has concerns about the potential for the exposure of the pipeline, and armouring of the pipeline. Please note that detailed design will take into consideration these concerns. Also, it is Union's preference not to amour watercourses on naturalized portions of a creek. Union Gas looks forward to meeting with Conservation Halton on-site to discuss construction details and proposed mitigation and protective measures.

Loss of Water Flow (Comment 15)
Please note that loss of water flow from the watercourses as a result of preferential flow along the pipeline trench is not anticipated due to the surrounding land gradient. However, should this be a concern at the design stage the use of trench plugs would be considered to mitigate this concern.

Please do not hesitate to contact the undersigned should you wish to further discuss any aspects of this Project.

Sincerely,

STANTEC CONSULTING LTD.

Mark Knight, MA, MCIP, RPP
Environmental Planner

cc. Doug Schmidt, Principal Environmental Planner, Union Gas Limited

Schmidt, Doug

From: Hudson, Brian [Brian.Hudson@halton.ca]
Sent: March 5, 2013 2:53 PM
To: Schmidt, Doug
Subject: FW: Union Gas Parkway West 42-inch Natural Gas Pipeline Project - Environmental Report
Attachments: Environmental Report.doc

Dear Mr. Schmidt:

Thank you for circulating your Environmental Report (ER) to the Region of Halton for comment. We are sorry for missing the commenting deadline for this and any inconvenience that may have resulted.

Regional Planning staff has reviewed the above-noted Environmental Report in conjunction with CH comments (attached) and provide the following comments for your consideration:

We rely on technical advice from CH in relation to the features potentially impacted as a result of the proposal. The Region is generally supportive of CH staff's comments in relation to the submitted material and have no additional comment. As such, providing CH comments are addressed to their satisfaction, the Region would have no further concerns with respect to this proposal at this time.

I trust that these comments are sufficient. Should you have any questions or concerns, please do not hesitate to contact me or Senior Environmental Planner Richard Clark at extension 7214 or at his e-mail richard.clark@halton.ca .

Sincerely,

Brian Hudson , MCIP, OPPI

RECEIVED

APR 0 5 2013

Halton
REGION

March 27, 2013

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

Attn: Board Secretary, Ontario Energy Board (OEB)

RE: Letter of Comment-Union Gas Limited, Parkway West Project-Leave to Construction Application, EB-2012-0433, Parts Lots 9 and 10, Concession 9, Town of Milton

Region of Halton Current Planning staff is providing this Letter of Comment regarding proposed construction of approximately 750 meters of NPS42 natural gas pipeline from the existing Parkway Compressor Site under the 407 to a valve nest at the proposed Parkway Compressor site, located west of 407 in Parts Lots 9 and 10, Concession 9, Trafalgar New Survey, Town of Milton. The pipeline site is in an agricultural rural area and the site contains agricultural type uses.

PPS-2005, Provincial Greenbelt and Places to Grow Plan

This proposal appears to satisfy PPS Policy 2005 in accordance with Policy 1.6.6, 1.7.1 a, e and h as well as Policies 4.8 and 4.9. The proposed pipeline appears to satisfy the policies of the Parkway Belt West Plan and there are no conflicts with other Provincial Plans. These lands are not under the jurisdiction of the Greenbelt Plan which is located north and west of the site.

Halton Region Official Plan, 2006 and Proposed Regional Amendment-ROPA 38 (2009)

The area proposed for pipe location is designated Agricultural Rural Area in the current Region of Halton Official Plan (ROP). Proposed Regional Official Plan Amendment No. 38 (ROPA 38) adopted by Regional Council but not yet approved by the Province, also designates the site as Agricultural Rural Area with a small piece of Natural Heritage System (NHS) located between the railway track and the 407 in the Town of Milton. Current Regional Policy 100(8) states Transportation and utility facilities are a permitted use within this designation. Section 176 of the current ROP also states the Region recognizes the importance of energy and utility provision and will assist in minimizing the possible impacts of utility corridors and generating facilities. ROPA 38 retains this same policy direction.

Upon Provincial approval ROPA's 38 Agricultural Rural Area policy 100 (8) would permit the 750m long gas pipeline as would Natural Heritage System policy 117.1(9) as the proposed pipeline is deemed an 'essential transportation and utility facility'. Regional staff reviewed Stantec's Environmental Report entitled 'Parkway West Compressor Station-Environmental Report, February 2013 (File 160960730) and are satisfied with its contents.

Reports submitted by the proponent in support of re-zoning application (Z-01/13/M) have been circulated and a response to the Town will be formulated by mid-April, 2013. Please be aware that a small portion of NHS exists west of 407, identified as being within Conservation Halton's

Regulation Limit. Streams in the area are within their watershed. They are identified as a component of the NHS environmental layers hence they are shown as NHS on Map 1G of ROPA 38. Consequently they are identified as Greenlands A in the Town of Milton's Zoning Bylaw 144-2003. The Region will rely on Conservation Halton for technical expertise to mitigate potential environmental problems as per CH's and Region's Memorandum of Understanding.

There are no Environmentally Sensitive Areas, or wetlands of Regional or Provincial significance in the immediate vicinity of the proposed pipeline in Milton. There is also no known Regional infrastructure existing or proposed in the area of the pipeline. There are also no known First Nations Claims in the vicinity of the pipeline as stated by Stantec's Planning Justification report.

The proposed pipeline site is located near Derry Road (RR7) identified in the current ROP as having a 42m width. ROPA 38 identifies the future road width of this section of road as 47m wide in accordance with the Region's Transportation Master Plan. This section of Derry Road is a major east-west corridor capable of carrying high volumes of traffic as identified by the ROP.

Regional staff is satisfied that the related Compressor Station re-zoning application proposal (Z-01/13/M) will address any possible adverse effects and should also address MOE anticipated Environmental Compliance Approvals that may occur during and after construction. Any related land use applications will be subject to Municipal Approvals including the rezoning and Site Plan Approval application. We suggest these required local land use planning approvals be considered in the context of this OEB pipeline application. Monitoring and contingency measures will ensure mitigation and protective measures are effective in both the short and long term and any adverse residual environmental effects of this project should not be significant.

Circulation Comments-Halton Region

The application was circulated to various Regional Departments with no concern or comments identified. (Health, Transportation, Regional Engineering and Sustainable Planning Departments)

Conclusions

The Region of Halton does not object with Ontario Energy Board application EB-2012-0433.

Sincerely,

Brian Hudson

Brian Hudson, MCIP, RPP
Senior Planner, Ext. 7209
brian.hudson@halton.ca

C Ms. Mary Jane Patrick, Administrative Assistant, Regulatory Projects, Union Gas
Angela Jansen, Town of Milton
Lisa De-Angelis, Region of Halton
Ron Glenn, Region of Halton
Greg Romanick and Mark Knight, Stantec Consulting Ltd.,

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Page 2.4

Preamble: The evidence indicates one instance of public input was received by the project team through email.

Please provide Union's response to the concerns raised.

Response:

A summary of the email received by the project team, including Stantec's response, is presented in Appendix B5 of the Parkway West Pipeline Environmental Report. The initial email sought clarification on the location and potential impact of the proposed alternatives on certain lands in the project study area. Stantec's response clarified the potential impacts to the property in question.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Page 2.4 Agency Input

a) Please explain why the Ministry of Transportation indicated their preference for the Preliminary Proposed Routes over the Potential Alternative Routes.

b) Please provide the email response to the Ontario Ministry of Agriculture, Food and Rural Affairs regarding mitigation of impacts to agricultural lands.

Response:

a) A summary of the comments provided by the Ministry of Transportation is provided in Appendix B5 of the Parkway West Pipeline Environmental Report. The Ministry of Transportation did not advise Union of their rationale for their decision.

b) Please see Attachment 1.

Kossowski, Julia

From:	Kossowski, Julia
Sent:	Monday, August 27, 2012 9:11 PM
To:	'jackie.vandervalk@ontario.ca'
Subject:	Follow-Up Re: Parkway West Natural Gas Pipeline Project
Attachments:	Enviro_Guidelines_HydrocarbonPipelines_2011.pdf

Hello Jackie,

When you and I spoke on the phone last week you requested that I send you the guidelines that we follow to mitigate agricultural impacts during construction of natural gas pipeline projects.

Attached are the Ontario Energy Board Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario. Chapter 5 discusses impact mitigation.

Also, copied below is an excerpt from our draft Environmental Report discussing the impacts and mitigation measures specifically for the pipelines of the Parkway West Natural Gas Pipeline Project. Perhaps you could me your comments on this excerpt?

Also, I would like to let you know that my colleague Greg Romanick who is leading the municipal approvals process for the Parkway West Compressor Station will be in touch with you next week. He has been on holiday, hence the delay in hearing back from him.

Please feel free to give me a call if you have any other questions.

Kind regards,
Julia

Julia Kossowski
Project Manager
Stantec
49 Frederick Street
Kitchener ON N2H 6M7
Ph: (519) 569-4338
Fx: (519) 579-6733
Cell: (226) 989-5259
julia.kossowski@stantec.com
stantec.com

Excerpt from draft Environmental Report

Soil and Soil Capability

Potential Effects

Approximately 1.1 km of the 1.2 km Preferred Route for the pipelines up to 52" in diameter and approximately 0.8km of the 1.3 km Preferred Route for the pipeline up to 48" in diameter are located on agricultural land. Construction during wet months or extended periods of heavy rainfall could have negative effects on agricultural soils. The movement of heavy machinery on wet soil may cause rutting, compaction, and mixing of topsoil and subsoil. When exposed, soils are more prone to erosion due to the loss of vegetative cover. Improperly salvaged topsoil can result in topsoil and subsoil mixing, compaction, rutting, and erosion, which can potentially decrease crop yields.

Mitigation and Protective Measures

To the extent feasible, construction activities should occur during drier times of the year. An Environmental Inspector should monitor where lands are impacted by heavy rainfall events and wet soil conditions, to avoid the potential for topsoil/subsoil mixing. Construction activities should be temporarily halted on lands where excessively wet soil conditions are encountered, as per Union Gas's standard wet soils shutdown practice. The Environmental Inspector will determine when soils are sufficiently dry to resume construction activities.

If a situation develops that necessitates construction during wet soil conditions, soil protection measures should be implemented such as: confining construction activity to the narrowest area possible, installation of surface protection measures and/or utilization of wide tracked or low ground pressure vehicles. Continuation of selected lower impact construction activities along the entire right-of-way may also occur at the discretion of the Environmental Inspector.

During construction activities weather should be monitored by the Environmental Inspector in order to identify the potential onset of excessive wind conditions. In the event that high winds do occur, the Contractor should implement protective measures as appropriate, such as:

- Suspend earth moving operations;
- Apply dust suppressants; and,
- Protect soil stockpiles with a barrier or windscreen.

In conjunction with the above measures, all required materials and equipment should be readily accessible and available for use as required.

Union Gas should discuss with the landowner the proposed method of handling topsoil on their property. Landowner requests, preferences for additional stripping, or no stripping should be accommodated where practicable. Where stripping is undertaken, topsoil and subsoil should be stripped and stockpiled separately to avoid mixing. The Environmental Inspector should monitor stripping to ensure that topsoil is removed and stockpiled in a manner that avoids mixing with subsoil material. Where subsoil has been compacted by heavy equipment, a soils agrologist will determine where compaction relief may be necessary.

On treed land the organic/duff layer should be stripped where feasible, given local substrate conditions. Where stripping is undertaken, organics and subsoil should be stripped and stockpiled separately to avoid mixing. The Environmental Inspector should monitor stripping to ensure that the correct depth is removed and stockpiled in a manner that avoids mixing with subsoil material.

If final clean-up is not possible during the construction year it should be completed in the year following construction, commencing during the month of May or June once the soils have dried. Interim soil protection measures should be installed in sensitive areas to stabilize the right-of-way for over-wintering.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Page 2.6 Compilation and Incorporation of Input

a) Please provide a description of any remaining outstanding issues.

b) Please discuss how public input has been taken into account in any decisions made regarding routing and siting decisions as well as mitigation and monitoring issues for the preferred route.

Response:

a) At the time of finalizing the Parkway West Pipeline Environmental Report, outstanding concerns were limited to potential impacts to existing utilities and concerns regarding constraints to future development. Subsequent to completion of the Parkway West Pipeline Environmental Report, Union Gas is actively working with stakeholders, including Infrastructure Ontario, Conservation Halton and the Town of Milton, to address any outstanding issues.

b) Input from a variety of stakeholders, including Infrastructure Ontario, Conservation Halton, the Town of Milton and public agencies have and will continue to influence routing, siting, mitigation and monitoring for the pipeline project.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Page 3.1 Effects Assessment

a) Please provide a description of the proposed construction methods for the pipeline.

b) Please develop a Project-Environment Interaction Matrix that shows the interaction (use x = interaction; N/A if not applicable) between the construction activities for the pipeline and each specific environmental features for each project discussed in 3.0 Effects Assessment.

Response:

a) Construction methods are provided in Section 13 of the pre-filed evidence.

b) Please refer to Page 3.15, Section 3.5 of the Parkway West Natural Gas Pipeline Environmental Report that summarizes the Environmental Feature, the Potential Effects and the Proposed Mitigation and Protective Measures that will be implemented to ensure minimal environmental effects of the project.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012

a) Page 3.2 - Please identify watercourse crossings that may require blasting.

b) Page 3.2 - Please identify the watercourse where potential effects to physiographic features may occur.

c) Page 3.3 - Please discuss the party/individual with the authority to make the decision to temporaily halt construction activities due to excessively wet soil conditions.

d) Page 3.9 – Please provide the status of the recommended vascular plant survey east of Highway 407 in the spring of 2013 to confirm the results of the August 2012 survey which identified no plant species of conservation concern.

e) Page 3.9 – Please provide the status of the recommended field survey in the spring of 2013 to confirm the presence/absence of grassland bird species in the cultural meadows, salamanders in the swamp vegetation community and calling amphibians in the marsh vegetation communities.

f) Please discuss Union's ability to avoid clearing activities requiring the removal of trees or shrubs during the migratory bird nesting period (May 1 to July 31).

g) Please discuss Union's policy regarding implementation of a waste management program consisting of reduction, reuse and recycling of materials.

h) Page 3.13 – Please discuss if Union plans to undertake a pre-construction soil sampling program for the agricultural field.

i) Page 3.14 – Please confirm the status of archaeological assessment activities to be conducted in the spring of 2013.

j) Page 3.14 – Please discuss how Union informed First Nation and Metis representatives of the change to one 42 inch natural gas pipeline. Please provide a copy of all correspondence.

k) Page 4.2 – Please provide the rationale for selecting 100 m as the boundary around the Pipeline Routing Area for the cumulative effects assessment.

Response:

a) Union does not anticipate that blasting will be required at any watercourse crossing. If rock is encountered, Union will use mechanical measures to remove the rock.

b) The watercourse, a tributary of Sixteen Mile Creek, is identified in Appendix D of the Parkway West Pipeline Environmental Report.

c) Union's Chief Inspector in consultation with the Environmental Inspector would make the decision to halt construction on wet agricultural soils.

d) The recommended vascular plant survey is planned for the spring and summer of 2013.

e) The recommended grassland breeding bird survey is planned for May and June of 2013. Further analysis determined that suitable habitat for salamanders are not present. The recommended calling amphibian survey is in progress until the end of June 2013.

f) To avoid the migratory bird nesting period, clearing for the pipeline project is currently planned for the winter of 2015. Should clearing be required outside of the winter months, appropriate clearance measures are outlined in Section 3.3.3 of the Parkway West Pipeline Environmental Report.

g) For Union construction projects, Union requires its contractors to follow their 3R's waste management policy and practices. The contractor's policy and practices are a pro-active and positive approach in dealing with waste management and other environmental issues. Typically, waste management plans include: a preconstruction waste audit, a waste reduction work plan, source separation plan, sampling records and communication of the reduction and separation plans.

h) Union does not plan to undertake pre construction soil sampling for agricultural purposes at the Parkway site. The Parkway site is anticipated to be rezoned from agricultural use to a use suitable for the Parkway site. As such, sampling is not necessary.

i) To date, Union has completed a Stage 1 Archaeological Assessment. Additional archaeological assessment activities are proposed to commence in the summer or fall of 2013.

j) Please see Exhibit I.B4.UGL.Energy Probe.39.

k) Given that the location of the Preferred Route is approximately in the middle of the Pipeline Routing Area, a 100 m boundary around the Pipeline Routing Area was considered conservative for analyzing potential cumulative effects. Other factors considered when selecting the 100m boundary included existing land use in and adjacent to the study area , including, but not limited to, existing pipeline transmission systems, railway line, hydro transmission systems, compressor station and 400 series highway.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Appendix A

Please confirm the length of pipe installed by open trench versus boring.

Response:

Approximately 300 metres, or 40% will be installed by boring and approximately 450 metres, or 60% will be installed by open trench.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012, Appendix B3

a) The July 17, 2012 letter to Community references a June 13, 2012 letter. Please provide a copy of this letter.

b) Please provide a copy of the figures included with the July 17, 2012 letter.

Response:

a) The date reference is in error, and should be May 17, 2012. A copy of the May 17, 2012 letter is provided in Appendix B3 of the Parkway West Pipeline Environmental Report.

b) The figure attached to the May 17, 2012 letter is in the referenced Notice of Information Session, which is provided in Section B2 of the Parkway West Pipeline Environmental Report.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Schedule 13-4, Parkway West Natural Gas Pipeline Project Environmental Report, November 2012

Please provide a breakdown of total estimated environmental costs related to pre-construction, construction and post construction activities.

Response:

Please see Attachment 1 for Total Estimated Environmental Costs.

TOTAL ESTIMATED ENVIRONMENTAL COSTS

PARKWAY WEST PIPELINE PROJECT

Pre-Construction				
Environmental Report	$	100,000		
Phase 1 Environmental Site Assessment		15,000		
Infrastructure Ontario Class EA		15,000		
Archaeology		50,000		
Surveys		15,000		
Soil Testing		5,000		
Hearing Costs (Environmental Consultant)		10,000		
Permits		20,000		
Total Pre-Construction			**$**	**230,000**
Construction				
Environmental Inspection	$	5,000		
Site Restoration		96,000		
Total Construction			**$**	**101,000**
Post Construction				
Site Restoration	$	24,000		
Environmental Inspection/Monitoring		3,000		
Total Post Construction			**$**	**27,000**
Total Estimated Environmental Costs			**$**	**358,000**

UNION GAS LIMITED

Answer to Interrogatory from
Metrolinx

Ref: Union Application Schedule A; Section 11; and Schedule 1-1

a) Please list all crossings of GO Transit/Metrolinx rail lines and facilities (including, without limitation, stations, access roads, and parking lots and structures) being proposed by Union.

b) If Union proposes to route its proposed facilities along any GO Transit/Metrolinx rail lines, please identify the locations in which it is proposed that this will take place.

c) With respect to both a) and (b) above, in the event that Union is proposing to cross GO Transit/Metrolinx rail lines and/or facilities, or is proposing to route its proposed facilities along any GO Transit/Metrolinx rail lines:

i. Please describe all anticipated temporary and permanent impacts of the construction and operation of the proposed pipeline on existing and planned GO Transit facilities. The description of impacts should include, without limitation, all anticipated disruption in train travel and reductions in access to and use of parking facilities. Facilities should include, without limitation, GO train lines, Park and Ride lots and current and future GO stations.

ii. Please advise as to how Union will address any impacts on GO Transit/Metrolinx facilities.

iii. Please provide all available detailed engineering plans, construction plans with laydown areas, and planned depths of pipe in the vicinity of GO Transit facilities, including stations, Park and Ride lots and track crossings.

Response:

a), b) and c) Union is not proposing any crossings or construction parallel to any GO Transit/Metrolinx rail lines or other facilities.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2012-0433, Section 13, Page 121

Preamble: The evidence indicates Union is currently working on coordinating information meetings with the two Metis Community Councils in January 2013.

a) Please provide the status of these meetings and a summary of issues raised and Union's response.

b) Please provide an update on overall consultations with First Nations and Metis in 2013 and include a summary of issues raised and Union's response.

Response:

a) The Lands Resource and Consultation (LRC) unit of the Metis Nation have been engaged in ongoing consultation about the projects. Follow-up discussions were conducted with the Director of LRC. The LRC unit was undertaking the coordination of the Community Council meetings with Union. At an update meeting with the Manager of LRC on May 8th, they were still working on coordinating the meetings.

b) Update on Consultations:

1. Union held initial project introductory meetings with the Six Nations of the Grand First Nation, Mississaugas of New Credit First Nation, the Métis Nation Lands, Resources and Consultation (LRC) branch and the Haudenosaunee Development Institute (HDI) who represents the Haudenosaunee Confederacy Chiefs Council.

2. Union has initiated a formal consultation process with the Six Nations Elected Consultation Committee and the Mississaugas of New Credit. Consultation meetings are continuing.

3. Union has committed to a formal Engagement Protocol with the HDI and monthly meetings are scheduled.

4. Union has phoned the Métis Nation to discuss any further updates that they require on the project.

5. Union has phoned and left messages at the Chippewas of Georgina Island to discuss what information may be required.

6. Both the Métis Nation and Chippewas of Georgina Island have been included in all correspondence regarding information meetings and project application to the OEB.

Issues/Concerns Raised:

1) Having Capacity funding available to fully participate in the Consultation process has been raised by Six Nations, New Credit and the HDI.

    a) Union has negotiated a formalized Capacity Funding agreement with the three committees

2) Six Nations, HDI and New Credit were interested in participating in the Archeology and Environmental review work.

    a) Union's consultants have been instructed to work with each community's designed contact person to arrange attendance of the applicable monitors while survey's are underway

3) Six Nations and the HDI were interested in employment and goods and services supplies for the project.

    a) Union has held meetings with their designed Economic Development agency to explore what goods and service providers are available and how they can participate.
    b) Union's contractor for the project will be part of a working group to look for employment opportunities and other goods and services opportunities.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Section 1, Application Summary, Pages 4 and 5 of 121

Preamble: In the Application, Union is seeking an order from the Board, pursuant to Section 36 of the Act, for pre-approval of recovery of the cost consequences of all facilities associated with the development of the project from ratepayers. Union has proposed to build the first full year revenue requirement associated with developing Parkway West into in-franchise delivery rates and ex-franchise delivery rates and ex-franchise transportation rates based on the cost estimates included in this Application, effective January 1, 2016.

a) Is Union seeking a rate order in this Application to recover the revenue requirement or will it make a separate application seeking a rate order prior to January 1, 2016? If Union is not seeking a rate order in this proceeding, exactly what approval is Union seeking?

Response:

a) No, Union is not seeking a rate order in this application to recover the revenue requirement associated with the Parkway West Project.

   Union is seeking a Decision and Order from the Board, pursuant to section 36 of the Ontario Energy Board Act, for pre-approval of recovery of the cost consequences of all facilities associated with the development of the Project from ratepayers.

   Union will be filing an update to its Parkway West evidence by the end of June to modify its rate implementation proposal. In the evidence update, Union will propose to build the annual costs associated with the Parkway West Project into in-franchise and ex-franchise rates, based on the cost estimates included in the application, effective January 1, 2014. Union will also propose to adjust in-franchise and ex-franchise rates on an annual basis from 2015 to 2018 in order to recover the estimated annual costs associated with the Project.

   Union will seek approval of a final rate order in each year of its IRM that will incorporate the annual revenue requirement associated with the Parkway West Project.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 12

If pre-approval of recovery of the cost consequences of the project is not granted will Union proceed with the project?

Response:

To proceed with the Parkway West project, Union requires approval to recover the annual revenue requirements commencing in 2014 until rebasing in 2019 in this proceeding or approval in Union's IRM proceeding to pass through the annual revenue requirement during the IR term. If the Board approves cost recovery in this proceeding but Union is unable to build the cost consequences of the project into rates until rebasing in 2019, Union cannot proceed with the project as the financial impacts are too substantial for the company to manage.

UNION GAS LIMITED

Answer to Interrogatory from
Corporation of the City of Kitchener ("CCK")

Ref: EB-2012-0433, Section 12, paragraph 10

a) In Union South, please quantify the proportion of overall supplies by Union system customers and direct purchase customers, respectively, met by obligated deliveries at Parkway.

b) How are the obligated deliveries at Parkway met by Union system customers and direct purchase customers?

c) Union states that "a portion of the Parkway delivery obligation of sales service and direct purchase customers is met through Dawn-Parkway transportation services." Please quantify the respective portions of the Parkway delivery obligation for sales service and direct purchase customers met through these transportation services. Are the transportation services firm?

d) If the Dawn-Parkway transportation services used to meet a portion of the Parkway delivery obligation are firm and curtailed by Union, why would Union South in- franchise customers be exposed to providing the curtailed portion of those volumes through the market? Would the impacted customers not be relieved of their obligation to deliver at Parkway due to Union's curtailment of a firm transportation service underpinning the delivery?

Response:

a) Union delivers approximately 31% of system supply and Union's direct purchase customers deliver approximately 67% of their overall supplies (ie DCQ) through obligated deliveries at Parkway.

b) and c) Union delivers approximately 52% of system supply at Parkway through firm Dawn-Parkway transportation services and about 48% through firm Empress to Parkway transportation. Union is not aware of all of the different ways that direct purchase customers meet their Parkway obligation, however, Union estimates that approximately half of the Parkway obligation is met through M12 contracts with Union.

d) Contracting for Dawn to Parkway transportation services to fulfill the Parkway obligation is no different than contracting for services on another pipeline, such as TCPL, to meet the Parkway obligation. With one exception, a curtailment of service on TCPL does not relieve the customer of their contractual obligation at Parkway and neither would a curtailment of transportation services on Union's system.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Ref: EB-2012-0433, Section 12, Paragraph 4 (d) & EB-2012-0074, Section 1, page 4

Please explain how a finding on the rate impacts from the project will help inform the parameters of Union's next regulatory framework.

Response:

A finding in this proceeding on the rate impacts from the Parkway Projects will help inform the parameters of Union's next IRM because if the Board approves Union's proposals related to cost recovery in this proceeding, then Union would not need Board approval to pass through these costs in the context of its IRM application.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Ref: EB-2012-0433, Schedule B paragraphs 4 and 5

The referenced paragraphs state:

4. Union is seeking an order from the Board, pursuant to section 36 of the Act, for pre-approval of recovery of the cost consequences of all facilities associated with the development of the Project from ratepayers. Union is seeking pre-approval of the recovery of the costs consequences of the Project because: i) it is the single largest project in the history of Union, requiring a significant capital outlay, without any new, incremental contractual commitments or revenues; ii) it would be more efficient for the Board to address all known impacts from the Project at once, and provide a predictable rate impact to Union's customers and other stakeholders; iii) the ex-franchise customers who will pay for the cost of the Project support the Project; and, iv) a finding on the rate impacts from the Project will help inform the parameters of Union's next regulatory framework. Given the magnitude of this project, Union is not able to proceed with the development of the Project without reasonable certainty of cost recovery.

5. The first full-year cost of service directly attributable to the Project (rate base, return, interest, tax, depreciation and O&M) to the Project is approximately $15.3 million. Using the allocation of Dawn-Parkway costs per the 2013 Board approved cost allocation study results in: (i) a reduction of approximately $2.1 million, allocated to in-franchise rate classes, and (ii) an increase of approximately $17.4 million, allocated to ex-franchise rate classes.

a) Can Union confirm that it has never before applied for pre-approval of recovery of the cost consequences for any project proposal?

b) If the requested pre-approval of cost consequences is granted by the Board, would there be any future review of costs possible under any circumstances prior to recovery from ratepayers?

c) Given that "the ex-franchise customers who will pay for the cost of the Project support the Project" and that the impact on ratepayers, i.e., in-franchise rate classes, is "a reduction of approximately $2.1 million," what is the significance to ratepayers of Union seeking "pre-approval of recovery of the cost consequences of all facilities associated with the development of the Project from ratepayers" and why does Union need this pre-approval to "recover from ratepayers" what amounts to a $2.1M credit to ratepayers?

d) Would Union undertake this Project if the Board either disallowed pre-approval to recover the cost consequences from ratepayers or conditioned its approval by requiring an after the fact prudence review?

Response:

a) Confirmed. Union has never applied for pre-approval to recover the cost consequences of a project as part of a leave to construct application. The Parkway West Project, however, represents a significant capital outlay without any incremental contractual commitments or revenues. Under these circumstances requesting cost recovery at the same time that leave to construct approval is being sought is a reasonable, efficient and appropriate course of action.

b) Union is requesting the Board approve the inclusion in rates of the annual revenue requirement related to the Parkway West Project per Exhibit I.A3.UGL.LPMA.7 Attachment 2, the term of the next Incentive Regulation Mechanism. To the extent that there are any differences between the revenue requirement built into rates and the actual revenue requirement, those variances will be captured in the deferral account and reviewed as part of the annual deferral account disposition process.

c) For the Board to approve Union's request for pre-approval to recover the costs consequences associated with the Parkway West Project, the Board needs to understand how the total revenue requirement increase impacts all rate classes. Although in-franchise rate classes in total will see a reduction of approximately $2.1 million, some individual in-franchise rate classes will see rate increases.

   Further, the ex-franchise rate classes will see an increase of approximately $17.4 million. The fact that in-franchise rate classes receive a rate reduction in total and that ex-franchise shippers support the project does not negate the Board's requirement to understand the rate impacts to all ratepayer groups.

   Please see EB-2012-0433, Schedule 12-2 for the 2016 Parkway West Project rate impacts by rate class.

d) Union will not proceed with the Parkway West Project without pre-approval to recover the cost consequences or reasonable assurances that it will receive approval to recover the costs consequences. If Union receives the facilities approvals requested under Sections 90 and 91, and the Board and intervenors accept Union's proposal to pass through the annual revenue requirement associated with the project as part of Union's next IRM, Union would proceed.

If, on the other hand, Union receives facilities approvals under Sections 90 and 91 but does not receive Section 36 approval in this proceeding and does not receive approval to pass through the costs associated with this project as part of Union's next IRM, Union will not proceed.

Union is proposing to capture the difference between the revenue requirement built into rates and the actual revenue requirement in a deferral account for future review and disposition by the Board and intervenors. If the actual revenue requirement is less than what is built into rates, the differences will be credited to ratepayers. If the actual revenue requirement is greater than what is built into rates, the differences will be debited to ratepayers. In either case there will be a full review of the balance in the deferral account. No further condition around a prudence review is required.

Please also see Exhibit I.B5.UGL.CCC.29.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Application, Page 1, paragraph 2; and, Page 2, paragraph 3

Preamble: Union applied for two Board orders for leave to construct facilities: one under Section 90 and the other under Section 91 of the OEB Act.

Under section 90, Union applied for a Board Order approving construction of 750 meters of NPS42 pipeline.

a) Please comment on the attached Board staff proposed draft conditions of approval for section 90 order. Please note that these conditions are standard conditions and are a draft version subject to additions or changes.

Union Gas Limited
Leave to Construct Application under section 90 of OEB Act
EB-2012-0433
Board Staff Proposed Draft
Conditions of Approval

1 General Requirements

1.1 Union Gas Limited ("Union") shall construct the facilities and restore the land in accordance with its application and the evidence filed in EB-2012-0433 except as modified by this Order and these Conditions of Approval.

1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2014, unless construction has commenced prior to that date.

1.3 Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee ("OPCC") review.

1.4 Union shall advise the Board's designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, Union shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.

1.5 Within 15 months of the final in-service date, Union shall file with the Board

Secretary a Post Construction Financial Report. The Report shall indicate the actual capital costs of the project and an explanation for any significant variances from the estimates filed in this proceeding.

2 Project and Communications Requirements

2.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Natural Gas Applications.

2.2 Union shall designate a person as project engineer and shall provide the name of the individual to the Board’s designated representative. The project engineer will be responsible for the fulfillment of the Conditions of Approval on the construction site. Union shall provide a copy of the Order and Conditions of Approval to the project engineer, within seven days of the Board’s Order being issued.

2.3 Union shall give the Board's designated representative and the Chair of the OPCC ten days written notice in advance of the commencement of the construction.

2.4 Union shall furnish the Board's designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board's Order.

2.5 Union shall file with the Board’s designated representative notice of the date on which the installed pipelines were tested, within one month after the final test date.

2.6 Union shall furnish the Board’s designated representative with five copies of written confirmation of the completion of construction. A copy of the confirmation shall be provided to the Chair of the OPCC.

3 Monitoring and Reporting Requirements

3.1 Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date, and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.

3.2 The interim monitoring report shall confirm Union’s adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.

3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

4 Other Approvals

4.1 Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approvals, permits, licences, and certificates upon the Board's request.

Response:

Union can accept all of the proposed Conditions of Approval, except Condition 1.2. As shown in Schedule 13.1, Union is not proposing to construct the NPS 42 pipeline until 2015. Union requests that the date of December 31, 2014 be changed to December 31, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2012-0433, Application, Page 1, paragraph 2; and, Page 2, paragraph 3

Preamble: Union applied for two Board orders for leave to construct facilities-under section 90 and under section 91 of the OEB Act.

Under section 91, Union applied for a Board Order that would approve the construction of connection to Union's Dawn-Parkway system to flow gas to the proposed Parkway West site, measurement and control station connecting to Enbridge pipeline system, loss of critical unit compressor and general infrastructure necessary to construct and operate Parkway West site.

a) Please comment on the attached Board staff proposed draft conditions of approval and for section 91 order. Please note that these conditions are standard conditions and are a draft version subject to additions or changes.

Union Gas Limited
Leave to Construct Application under section 91 of OEB Act
EB-2012-0433
Board Staff Proposed Draft
Conditions of Approval

1 General Requirements

1.1 Union Gas Limited ("Union") shall construct the facilities and restore the land in accordance with its application and the evidence filed in EB-2012-0433 except as modified by this Order and these Conditions of Approval.

1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2014, unless construction has commenced prior to that date.

1.3 Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee ("OPCC") review.

1.4 Union shall advise the Board's designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, Union shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.

1.5 Within 15 months of the final in-service date, Union shall file with the Board Secretary a Post Construction Financial Report. The Report shall indicate the actual capital costs of the project and an explanation for any significant variances from the estimates filed in this proceeding.

2 Project and Communications Requirements

2.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Natural Gas Applications.

2.2 Union shall designate a person as project engineer and shall provide the name of the individual to the Board's designated representative. The project engineer will be responsible for the fulfillment of the Conditions of Approval on the construction site. Union shall provide a copy of the Order and Conditions of Approval to the project engineer, within seven days of the Board's Order being issued.

2.3 Union shall give the Board's designated representative and the Chair of the OPCC ten days written notice in advance of the commencement of the construction.

2.4 Union shall furnish the Board's designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board's Order.

2.5 Union shall file with the Board's designated representative notice of the date on which the installed pipelines were tested, within one month after the final test date.

2.6 Union shall furnish the Board's designated representative with five copies of written confirmation of the completion of construction. A copy of the confirmation shall be provided to the Chair of the OPCC.

3 Monitoring and Reporting Requirements

3.1 Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date, and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.

3.2 The interim monitoring report shall confirm Union's adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.

3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

4 Other Approvals

4.1 Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approvals, permits, licences, and certificates upon the Board's request.

Response:

Union can accept all of the proposed Conditions of Approval.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

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

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

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

d) In particular:

i. What is the relevance of the fact that the project is the "largest one in Union's history"?
ii. What is the relevance of the fact that the auditor's test for materiality in its audit is $5 million?
iii. What is the evidence that the M1 customers support the project? Please provide specifics. What is the relevance of the fact that ex-franchise customers "support" the project?
iv. If the rates impacts are considered as part of the IRM case, which will take place later in 2014, please confirm that the Board will only consider the rate impacts once, not twice.
v. Is Union's position that if the Board does not approve its request for pre-approval of the rate impacts, it will not proceed with Parkway West? If not, please discuss what Union means by the phrase "without reasonable certainty of cost recovery". Please clarify exactly what Union would want from intervenors and/or the Board.

Response:

a) To Union's knowledge there are no cases where the Board granted pre-approval to recover the cost consequences associated with a facility as part of a leave to construct.

b) Union is proposing to pass through the revenue requirements associated with the Projects as part next Incentive Rate Mechanism. Its proposal is consistent with the Board's EB-2012-0064 Decision.

There is no Incremental Capital Module ("ICM") for natural gas utilities. Assuming the ICM for electricity applied to natural gas utilities, Union has calculated the capital materiality threshold at $188 million. Based on this materiality threshold, the Parkway Projects would qualify for ICM treatment. Please see below for the calculation of the materiality threshold.

Union Incremental Capital Module Calculation*

Rate Base (RB)	$	3,734,532,000
Depreciation (d)	$	196,091,000
Revenue Growth (g)		-2.87%
Price Cap Index (PCI)		1.63%
Materiality Threshold Calculation		95.6%
Union Materiality Threshold	$	187,377,317

* Calculation based on Chapter 3 of the OEB Electricity Filing Requirements for Transmission and Distribution Applications (June 22, 2011).

c) As indicted at EB-2012-0433, Section 12, pg. 101-102, Union is seeking pre-approval of the cost consequences of the Parkway West Project because:

i. The Project is the single largest project in the history of Union. It is an important reliability project requiring a significant capital outlay, without any new, incremental contractual commitments or revenues. At $203 million, the Project is comparable to Union's entire annual maintenance capital budget. The revenue requirement associated with the Project is approximately $15.3 million; in comparison, the materiality level used by Union's external auditors for the annual financial statement audit is less than $5 million. Given the magnitude of this project, Union is not able to proceed with the development of the Project without reasonable certainty of cost recovery;

ii. It would be more efficient for the Board to address all known impacts from the Project at once, and provide a predictable rate impact to Union's customers and other stakeholders. Union has provided detailed evidence in support of the Project in this application. The evidence addresses the need, the alternatives considered, the capital costs, the revenue requirement, the cost allocation and the rate impacts. Further, this evidence will be examined in this proceeding through interrogatories, possibly a technical conference and cross-examination. Accordingly, the Board will have the information and process necessary to support the approval of the facilities and recovery of the cost consequences in this proceeding. If the Board determines that the recovery of the cost consequences are to be the subject of a future proceeding, the vast majority of the evidence presented in this proceeding will need to be re-introduced and re-tested in that future proceeding. The Board's determination of the appropriateness of the cost consequences in this proceeding represents an efficient use of regulatory time and resources, and will benefit future Board panels as they incorporate the rate and operational impacts of the Project into Union's prospective rates and other applications;

iii. The ex-franchise customers who will pay for the cost of the Project are supportive. There is no reason to delay the final determination of the rate impacts. Furthermore, an early finding by the Board will allow those ex-franchise customers, who are primarily utilities, to incorporate the service and rate impacts into their future regulatory filings as needed; and

iv. A finding on the rate impacts from the Project will help inform the parameters of Union's next regulatory framework.

d)

i. Indicating that the Parkway West Project is the largest single project in Union's history provides context to the Board and intervenors. It also supports Union's position that a project of this size is "not business as usual" and requires pre-approval of recovery of cost consequences.

ii. The reference to our auditor's materiality threshold of $5 million provides the Board and intervenors with the benchmark used by the auditors when assessing impacts to our financial statements as a result of changes in our operations. With a revenue requirement of approximately $15.3 million, the Parkway West Project is in excess of that threshold and is clearly material change affecting our financial statements.

iii. Please see the response to Exhibit I.C5.UGL.Staff.35.

iv. It is Union's proposal to adjust rates by the annual revenue requirement of the Parkway West Project as per Exhibit I.A3.UGL.LPMA.7 Attachment 2 over the term of the IRM. The Board will review any differences between revenue requirement built into rates and the actual revenue requirement as part of the annual deferral account disposition process.

v. Union will not proceed with the Parkway West Project without pre-approval to recover the cost consequences or reasonable assurances that it will get approval to recover the costs consequences. For example, if Union received facilities approvals requested under Section 90 and Section 91 and the Board and intervenors accepted Union's proposal to pass through the annual revenue requirement associated with the project as part of Union's next IRM, Union would proceed.

If, on the other hand, Union receives facilities approvals under Sections 90 and 91 but does not receive Section 36 approval in the proceeding and does not receive approval to pass through the costs associated with this project as part of Union's next IRM, Union will not proceed.

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association ("BOMA")

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

Response:

Confirmed. Union has executed Options to Purchase the following lands for the Parkway West site, with the following Option Date to exercise the option to purchase the land

- Parts 1 and 2 on Schedule 13-8 – July 31, 2013 – option price $0
- Part 5 on Schedule 13-8 - August 31, 2013 – option price $10,000
- Part 3 on Schedule 13-8 - August 31, 2013 – option price $20,000
- Part 4 on Schedule 13-8 – August 31, 2013 – option price $10,000

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

For each of the LTC approvals Union has been granted in the past 5 years, please indicate if those approvals were subject to Board conditions. To the extent conditions were imposed, please list the conditions for each of the relevant projects.

Response:

The Conditions of Approval for Leave to Construct applications granted by the Board over the past five years to Union are consistent with the draft conditions as set out in the responses to Exhibit I.B6.UGL.Staff.25 and 26.

C

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, page 16, Cultural Heritage

Preamble: An archaeological assessment will be completed by a licensed archaeological firm along the pipeline route and at the Parkway West Compressor Station, as recommended in each Environmental Report. Union proposes to complete the archaeological assessment during the 2013 and 2014 field season.

a) Please confirm that Union would apprise impacted parties, including the City of Hamilton and any impacted Aboriginal communities of any archaeological sites discovered by the planned archaeological survey along the route of the proposed pipeline.

Response:

a) Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, Schedule 12-4, Environmental Report Addendum – Brantford Take-off to Kirkwall Valve Site Pipeline Project, Section 7.5 Permits Required

Preamble: The Environmental Report stated that Union should obtain permits and approvals for construction of the project from Federal and Provincial levels of Government, and the Conservation Authorities.

a) Please provide the status and anticipated timeline for obtaining the necessary permits for location and construction of the project.

b) Please provide an updated list of all permits that have been obtained or will be acquired for the construction of the project.

Response:

a) For the Brantford-Kirkwall pipeline, environmental permits will be applied for by mid 2014. No environmental permits for the Brantford-Kirkwall pipeline project have been applied for to date.

b) For the proposed Brantford – Kirkwall pipeline project, it is anticipated that the required environmental permits will include a Permit to Take Water from the Ministry of the Environment and a permit from the Grand River Conservation Authority for pipeline construction works in regulated areas. Environmental field studies are on-going which may necessitate the need for additional environmental permits.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, Schedule 12-4, Environmental Report Addendum – Brantford Take-off to Kirkwall Valve Site Pipeline Project, Appendix A3-Brantford to Kirkwall Comment-Response Table

Preamble: A Route Selection and Environmental Impact Assessment Report ("ER") for the Proposed Pipeline was originally completed in January, 2009 by Stantec Consulting Limited and updated in 2012 as an Addendum to the ER.

a) Please file an up-to-date summary table and copies of documentation with comments received from landowners, the OPCC and any other party to date.

b) Please include a description on how Union plans to address any outstanding issues or concerns raised in the project public consultation process.

Response:

a) The summary table of comments for the proposed Brantford – Kirkwall project are attached as Attachment 1 and 2.

b) On an ongoing basis, Union will log and address issues and concerns raised by the public and other stakeholders as they are made know to Union. Generally, representatives from Union's Environmental, Engineering or Lands departments in conjunction with Union's consultants address the majority of issues or concerns raised.

OPCC Review Summary

Brantford Take-off to Kirkwall Valve Site

AGENCY	COMMENT	RESPONSE
Curve Lake First Nation Letter dated February 19, 2013, received February 21, 2013	Provided contact information for the Williams Treaty First Nation Claims Coordinator. Requested to be informed of archaeological findings, and any new, undisclosed or unforeseen issues that have potential for negative environmental impacts or anticipated impacts on their Treaty or Aboriginal rights.	Follow-up correspondence by Union Gas's Aboriginal Relations Department.
Ontario Ministry of Transportation Email dated April 19, 2013	Requested information on the crossing of Highway 8, and provided information on an Encroachment permit.	Follow-up correspondence will be undertaken by Union Gas's Permitting Department.
Ontario Ministry of the Environment Letter dated April 24, 2013	Noted the potential for a Permit to Take Water, the need for proper erosion and sedimentation controls and management of waste materials, and the need to determine potential adverse impacts from noise and/or interference with water wells.	No response required.
Alderville First Nation Letter dated May 9, 2013	Requested any existing reports, information on potential impacts, and information on economic benefits and funding.	Response by email dated May 14, 2013. Provided an electronic copy of the Environmental Report and Environmental Report Addendum. Provided information on the status of field investigations, potential impacts to drinking water, the possibility of a leak impacts surface or groundwater, the need for a permit from the Grand River Conservation Authority. Provided a contact at Union Gas to discuss economic benefits and funding.
City of Hamilton Letter dated May 15, 2013	Provided concerns and comments regarding an Emergency Response Plan.	Response not yet provided.

	Noted that the City of Hamilton requires that copies of all archaeological assessments be submitted to the satisfaction of the City. Provided information on a property designated under the Ontario Heritage Act, and requested that all land owners impacted by the construction and operation of the pipeline should be appropriately notified and compensated for use or acquisition of their property. Provided information on natural heritage. Stated that any proposed land use changes within or adjacent to identified Core Areas requires the completion of an Environmental Impact Statement (EIS), that field studies should be undertaken, and that the EIS should demonstrate that there will be no negative impacts. Requested that the tree replacement program use native trees.	
Grand River Conservation Authority Letter dated May 16, 2013	Suggested that Table 5.1 of the ER could include qualitative information. Noted that a permit will be required prior to work being undertaken in regulated areas, and recommended contact with the Ministry of Natural Resources.	No response required.

GOVERNMENT SERVICES BUILDING
AND CULTURAL CENTRE

CURVE LAKE FIRST NATION

PHONE (705) 657-8045
FAX (705) 657-8708

CURVE LAKE, ONTARIO K0L 1R0

RECEIVED
FEB 2 1 2013

February 19, 2013

Mark Knight
Suite 1-70 Southgate Drive
Guelph, Ontario N1G 4P5

Dear Mark Knight,

RE: Notice of Project Resumption, Union Gas Limited, Brantford to Kirkwall Proposed Pipeline Project File: 160960762

We would like to acknowledge receipt of your correspondence, which we received on 1/7/2013 regarding the above noted project.

As you may be aware, the area in which your project is proposed is situated within the Traditional Territory of Curve Lake First Nation. Our First Nation's Territory is incorporated within the Williams Treaty Territory and is the subject of a claim under Canada's Specific Claims Policy. We strongly suggest that you provide Karry Sandy-Mackenzie, Williams Treaty First Nation Claims Coordinator, 8 Creswick Court, Barrie, ON L4M 2S7, with a copy of your proposal as your obligation to consult to also extend to the other First Nations of the Williams Treaty.

Although we have not conducted exhaustive research nor have we the resources to do so, Curve Lake First Nation Council is not currently aware of any issues that would cause concern with respect to our Traditional, Aboriginal and Treaty rights.

Please note that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains or other such evidence of a native burial site or any Archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the *Cemeteries Act* to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately. Curve Lake First Nation also has available, trained Archaeological Liaisons who are able to actively participate in the archaeological assessment process as a member of a field crew, the cost of which will be borne by the proponent.

If any new, undisclosed or unforeseen issues should arise, that has potential for anticipated negative environmental impacts or anticipated impacts on our Treaty and Aboriginal rights we require that we be notified regarding these as well.

Thank you for recognizing the importance of consultation and respecting your duty to consult obligations as determined by the Supreme Court of Canada.

Should you have further questions or if you wish to hire a liaison for a project, please feel free to contact Melissa Dokis or Krista Coppaway at 705-657-8045x222 or dutytoconsult@curvelakefn.ca.

Yours sincerely,

Phyllis Williams

Chief Phyllis Williams
Curve Lake First Nation

C.C. John BoninUnion Gas Limited

Knight, Mark

From: Kolet, Arieh (MTO) <Arieh.Kolet@ontario.ca>
Sent: Friday, April 19, 2013 4:56 PM
To: Knight, Mark
Subject: Project Resumption - Union Gas Ltd. Brantford to Kirkwall Proposed Pipeline Project

Good Afternoon Mark,

Re: Project Resumption - Union Gas Ltd. Brantford to Kirkwall Proposed Pipeline Project

I am following up on the status of the above mentioned project. We have the following comments:

1) Please specify the methodology of how you will be crossing the highway on Highway 8?
2) There will be NO open cuts permitted to cross the highway, only Horizontal Drilling.
3) Please send us a detailed drawing showing plan and profiles, method of crossing and traffic control plan.
4) Please specify the duration of work.
5) Please send us a scope of work letter.
6) Specify when you are planning to begin the project.

You would require an Encroachment permit before work begins. Please fill out in detail the attached application form and sent it in to us with a fee of $520.00.

http://www.mto.gov.on.ca/english/engineering/management/corridor/forms/encroach.pdf

Regards,

Arieh Kolet,
Permits Officer
Ministry of Transportation
1201 Wilson Ave., 7th Floor
Toronto, ON., M3M 1J8
Tel: (416) 235 3497
Email: arieh.kolet@ontario.ca

Ministry of the Environment
West Central Region

119 King Street West
12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7251
Fax: 905 521-7820

Ministère de l'Environnement

119 rue King ouest
12e ètage
Hamilton (Ontario) L8P 4Y7
Tèl. : 905 521-7251
Tèlèc. : 905 521-7820

Ontario

April 24, 2013

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

Ms. Walli:

Re: Notice of Application - EB-2013-0074
Union Gas Limited has applied for approval to build a natural gas pipeline and supporting infrastructure in the City of Cambridge and City of Hamilton, and for approval to recover the costs from its ratepayers

Thank you for advising the ministry on April 12, 2013 of the Notice of Application of the above-noted project, that is proposed to be undertaken to build a natural gas pipeline and supporting infrastructure in the City of Cambridge and City of Hamilton. For the construction and testing of the pipeline the ministries West Central Region offers the following comments.

If dewatering or taking of water is required of more then 50,000L/day a permit to take water will be required, and can be obtained from this ministry. The discharge of water from the dewatering or any potential hydrostatic testing must ensure water quality is not degraded. Proper erosion and sedimentation controls and other practices for managing surface runoff and water crossings, to prevent entry of contaminants into water bodies, including proper discharge of hydrostatic test water and proper sitting and disposal of excess fill and excavated material are required.

The need to ensure proper management of waste materials, including those from construction (e.g., excess oil and fuel), excavation (e.g., contaminated sediments/soils), operation and the clean-up and disposal of any contaminants. Also any incompatible or conflicting land uses which affect or are affected by pipeline proposals these include: landfill sites, industrial sites and residences which might suffer adverse impact from noise and/or interference with water wells.

The report indicates that mitigation and restoration measures will be completed in accordance with established procedures outlined in the "Environmental Guidelines For Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario, 2003, Fifth Edition". In addition, Union Gas has developed operating and construction practices in consultation with the approval agencies which include the MOE. These practices should help mitigate environmental risk from construction.

Should you have any questions, please do not hesitate to contact me at (905) 521-7251 or at Thomas.lewis@ontario.ca

Sincerely,

Thomas Lewis
EA/Planning Coordinator (A)

ALDERVILLE FIRST NATION
11696 Second Line
P.O. Box 46
Roseneath, Ontario K0K 2X0
PHONE:(905) 352-2011
Fax: (905) 352-3242

Chief: James R Marsden
Councilor: Pam Crowe
Councilor: Wes Marsden
Councilor: Dave Mowat

May 9, 2013

Stantec Consulting ltd
70 Southgate Druve Suite 1
Guelph ON N1G 4P5

Att: Mark Knight MA MCIP RPP

Re: Brantford Take-off Station to Kirkwall Valve Site Environmental Report

Dear Mark,

Thank you for your consultation request to Alderville First Nation regarding the Brantford Take-off Station to Kirkwall Valve Site Environmental Report which is being proposed within our Traditional and Treaty Territories. We appreciate the fact that Stantec consulting ltd recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process.

As per the Alderville First Nation Consultation Protocol, please forward in a timely manner project information such as; a project information overview, PIC meeting agendas, all required project assessment summaries, addendums, and updates, etc. directly to myself, either, at the mailing address above or electronically via email, at the email address below.

In addition to those, hard copies of the relevant Environmental Site Assessment and Site Selection studies, or draft plan of subdivision, as well as all applicable Reports (Stage 1-3) of Archaeological Assessments conducted for the subject property, would be appreciated via Canada Post or courier service.

In order to assist us in providing you with timely input it would be appreciated if you could provide a summary statement indicating how the project will address the following areas that are of concern to our First Nation within our Traditional and Treaty Territory, such as; possible environmental impact to drinking water, endangerment to wild game, impact on Aboriginal heritage and cultural values, and to endangered species, lands, savannas etc.

Additionally, we are interested in being made aware of any undertaking in the Alderville First Nation Traditional and Treaty Territories that have potential economic benefits to community members, for example; construction contracts, employment opportunities, hiring of community monitors on archaeological field crews, natural resources benefit sharing, etc.

As well, where opportunities in the process allow, e.g. individual EA undertakings, etc., we will be interested in obtaining funding for outside peer review of the undertakings.

Although we may not always have representation at all stakeholders meetings, it is our wish to be kept apprised throughout all phases of this project. I can be reached at the contact information below.

In good faith and respect,

Dave Simpson — dsimpson@alderville.ca

Lands and Resources

Communications Officer — Tele: (905) 352-2662

Alderville First Nation — Fax: (905) 352-3242

Knight, Mark

From:	Knight, Mark
Sent:	Tuesday, May 14, 2013 10:18 AM
To:	'dsimpson@alderville.ca'
Cc:	'jbonin@uniongas.com'; 'tvadlja@uniongas.com'
Subject:	RE: consultation request
Attachments:	memNHStatusUpdate_BK_03May2013.pdf

Hi Dave,

Thank you for your letter dated May 9, 2013.

At the ftp site below please find the Environmental Report, and Environmental Report Addendum, for the project. These reports form part of an application that is before the Ontario Energy Board for approval of the project. Please let me know if you would like any hard copies of the reports, and if so how many.

Field investigations are being planned to determine the exact nature of any impacts of the project on natural and cultural heritage. I will make sure you receive copies of all summary reports as they become available.

- Wildlife and wildlife habitat: Investigations began in April of this year. Attached is a status update outlining work completed and upcoming field investigations. If you wish, I would be happy to copy you on all status updates as they become available.
- Surficial aquatic features: Investigations are scheduled to begin in June.
- Cultural heritage: Archaeological investigations are in the planning stages. Archaeology is planned to be undertaken by D.R. Poulton & Associates Inc.

We anticipate no impacts from the project on drinking water. The pipeline will carry compressed natural gas and therefore there is no possibility of a natural gas leak impacting surface or groundwater. Any watercourse crossings will be permitted through the Grand River Conservation Authority who will require an erosion and sediment control plan at each crossing.

Please note that I have passed your letter onto John Bonin, Union Gas Limited (JBonin@uniongas.com, 519-539-8509, extension 5021063). John will be in contact with you, and is better suited to answer your inquiry regarding economic benefits and funding.

Respectfully,

Mark Knight

Automatic Login

FTP site link: ftp://s0528081201:4849164@ftptmp.stantec.com
By clicking on the link above (or pasting the link into Windows Explorer) you will be automatically logged into your FTP site.

Manual Login

FTP link: ftp://ftptmp.stantec.com
Login name: s0528081201
Password: 4849164
Disk Quota: 2GB
Expiry Date: 5/28/2013

Mark Knight, MA, MCIP, RPP
Environmental Planner
Assessment, Permitting and Compliance

70 Southgate Drive Suite 1
Guelph ON N1G 4P5
Ph: (519) 836-6050 Ext. 218
Fx: (519) 836-2493
C: (519) 400-9618
mark.knight@stantec.com
stantec.com

From: reception@aldervillefirstnation.ca [mailto:reception@aldervillefirstnation.ca]
Sent: Thursday, May 09, 2013 1:10 PM
To: Knight, Mark
Subject: re: consultation request

a reply to your consultation request regarding the **Brantford Take-off Station to Kirkwall Valve Site Environmental Report** is attached.

Receptionist
Alderville First Nation
Phone: 905-352-2011
Fax: 905-352-3242

Hamilton

City of Hamilton
City Hall, 71 Main Street West
Hamilton, Ontario
Canada L8P 4Y5
www.hamilton.ca

Growth Management Division, Planning and Economic Development Department
Physical Address: 71 Main Street West, 6th floor
Phone: 905.546.2424 Ext. 5807 Fax: 905.540.5611
Email: Guy.Paparella@hamilton.ca

May 15, 2013

Stantec Consulting Ltd.
Attn: Mark Knight
70 Southgate Drive Suite 1
Guelph ON N1G 4P5

Dear Mr. Knight:

Subject: Brantford Take-Off Station to Kirkwall Valve Site Environmental Report

Thank you for allowing us the opportunity to review and comment on the Union Gas Limited – Brantford Take-off to Kirkwall Valve Site Pipeline Project Environmental Report Addendum.

The City of Hamilton has reviewed the report and has some concerns and comments that are as follows:

Hamilton Fire Department:

- A comprehensive site-specific emergency response plan that addresses how a major pipeline incident along the route within our municipality will be responded to shall be provided to the Hamilton Fire Department, including (but not limited to):
    - Identify the personnel (including level of training) and resources available for a response and the anticipated time of the arrival of these assets after an incident is discovered.
    - Response plans for a number of potential scenarios including but not limited to: an explosion, a fire and a leak.
    - Information on the potential impact radius in the event of a worst case occurrence for each of the scenarios mentioned previously.
    - Detailed and comprehensive procedures for responding to a large-scale emergency such as a transmission line break, including a defined command structure that clearly assigns a single point of leadership and allocates specific duties to staff and other involved agencies.
    - Realistic metrics concerning the pipeline operator's ability to detect a problem. This would include a drop in pressure (SCADA) and then the time to react to a problem (close valves; notify emergency response staff – corporate and municipal).

- A commitment from the system operator that ensures that their control room operators immediately and directly notify the 911 emergency call center(s) for the communities and jurisdictions in which those pipelines are located when a possible rupture of any pipeline is indicated.
- Given the geology of the area, provide Information on the possibility/probability of product from a small undetected leak migrating through the soil or bedrock into the basement of a structure or other confined area.
- Whether the product in the pipeline is odorized at this point. If the product is not odorized, Union Gas should supply natural gas detectors to properties along the right-of-way that could potentially be affected by a leak.
- The pipeline operator shall be willing to participate in periodic training sessions to demonstrate that the emergency response plan meets all of the goals for which it was designed.
- Whether the line has automatic or remote control shut offs, the location and how quickly will they react should be appropriately determined. The amount of residual product remaining after they are closed and how long is it anticipated that the residual product would continue to leak or burn after the valves are closed should be addressed.
- During the construction phase of the line, if there will be workers operating within confined spaces and, in the event of a mishap whether a response from the municipal fire department is required should be determined and communicated.
- Section 10.2.5 of the Environmental Report prepared by Stantec, January 2009 – addresses "Accidental Spills" during the construction of the line. A portion of this section states;
  A Spills Response Plan should be developed by the Contractor, reviewed with staff, and posted in site trailers. Appropriate spill containment apparatus and absorbent materials should be available on-site, especially near water or sensitive wells. Staff should be trained in the use of spill containment equipment and materials.
  - The operator should fulfill all of the recommendations that are qualified by the word "should" that precedes each of them.
- Section 7.1.2 of that same report also identifies the potential need for blasting during the construction phase.
  - Adequate measures should be in place to control any airborne debris from the operation.
  - Since blasting operations can be a potential source of stray carbon-based gases (specifically carbon monoxide and carbon dioxide) measures should be in place to ensure structures in the vicinity of any blasting operations are not impacted negatively.
- The Environmental Reports indicates that the line will undergo pressure testing after construction to check on its integrity. Since corrosion has been a major factor in pipeline failures in the past, the operator during the operating period of the line is to assess the integrity of their line (pressure testing, in-line inspections, direct assessments or other technology) to

provide a comprehensive understanding of the pipe condition during its usage.

Archaeology

- The proposed pipeline affects properties that meet the criteria used by the City of Hamilton and Ministry of Culture for determining archaeological potential.
- A Stage 2 Archaeological Assessment shall be completed along the preferred route.
- The City of Hamilton requires that copies of all archaeological assessments be submitted to the satisfaction of the City.

Built Heritage

- The preferred route transects the property municipally known as 1965 Cooper/Safari Road (the Cooper House), which is designated under Part IV of the Ontario Heritage Act. This property should be referenced and evaluated in the Environmental Report.
    - The proposed route should be evaluated to identify any adverse impacts on the heritage attributes of the designated property and, if applicable, how any adverse impacts will be mitigated.
    - Any alterations or additions to or demolition on the subject property that affects the Reasons for Designation (stone cottage) will require a Heritage Permit under the Ontario Heritage Act.
- All land owners impacted by the construction and operation of the pipeline should be appropriately notified and compensated for use or acquisition of their property.

Natural Heritage

- The preferred route is located entirely within the Greenbelt Plan Protected Countryside and portions are within the Greenbelt Plan Natural Heritage System.
- The preferred route crosses a number of Core Areas in the City of Hamilton's Natural Heritage System, including Provincially Significant Wetlands (PSWs), Environmentally Significant Areas (ESAs), streams, and Significant Woodlands. There is also habitat of species at risk known in the study area.
    - In accordance with the City of Hamilton Rural Official Plan, any proposed land use changes within or adjacent to identified Core Areas requires the completion of an Environmental Impact Statement (EIS) which demonstrates, to the satisfaction of City staff, and Conservation Authority staff, the proposed works will not have a negative impact on the existing natural heritage features and their ecological functions.
    - Field Studies (completed within the appropriate field seasons and according to accepted field protocols) should be completed within the portion of the Environmental Significant Areas which may be impacted by the proposed works, to determine whether any of the identified species at risk exist within the proposed right-of-way.

- The EIS should demonstrate that there will be no negative impacts. If impacts are unavoidable, appropriate mitigation measures (if applicable) to the satisfaction of the Ministry of Natural Resources, City of Hamilton and Conservation Authority Staff must be identified.
- For the tree replacement program, the use of native trees, similar to those found within the Environmental Significant Areas, should be planted to allow for natural regeneration within the disturbed areas.

Thank you again for the opportunity to provide comments. If you have any questions or concerns please contact me at 905-546-2424 Ext. 5807.

Sincerely,

Guy Paparella
Director, Growth Planning

c.c. Dave Cunliffe, Deputy Fire Chief
Cathy Plosz, Natural Heritage Planner

RECEIVED
MAY 2 2 2013

Grand River Conservation Authority
Resource Management Division
Ashley Wilcox, Resource Planner

400 Clyde Road, P.O. Box 729
Cambridge, Ontario N1R 5W6
Phone: (519) 621-2761 ext. 2238
Toll Free: 1-866-900-4722
Fax: (519) 621-4945
E-mail: awilcox@grandriver.ca

May 16, 2013

Mr. Mark Knight
Environmental Planner
Stantec Consulting Ltd.
70 Southgate Drive
Suite 1
Guelph, ON
N1G 4P5

Dear Mr. Knight:

RE: Brantford to Kirkwall Proposed Pipeline Project – Union Gas Limited
Notice of Project Resumption
Grand River Conservation Authority File No. W.86.254

Grand River Conservation Authority (GRCA) staff have review the Environmental Report Addendum – Brantford Take-off to Kirkwall Valve Site Pipeline Project prepared by Stantec Consulting Ltd., dated February 21, 2013.

In the GRCA's previous comments concerning the Brantford to Kirkwall Proposed Pipeline Project dated March 6, 2009, staff suggested the evaluation matrix provided in Table 5.1, page 5.5 of the report is quantitative only. Further review and inclusion of qualitative information regarding the wetland features that may potentially be directly and/or indirectly impacted by the proposed works would assist in providing adequate justification for the preferred route

The preferred route traverses lands regulated under Ontario Regulation 150/06 Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations. Written permission (a permit) will be required from the GRCA prior to works being undertaken in the regulated areas. The permit process involves the submission of a Permit Application to this office, the review of the application by GRCA staff and the subsequent presentation of the Permit Application to Management Committee for their approval/refusal.

The regulated areas include:
- floodplain associated with the watercourses plus a 15 metre wide allowance;
- local wetland features and a 30 metre or 120 metre wide area of interference;
- Provincially Significant Wetland (PSW) features as well as a 120 metre wide area of interference.

GRCA staff will undertake a more in-depth review of the proposed crossings of the watercourse and wetland features at the time detailed plans are submitted accompanying the GRCA permit application. We request the inclusion of a location map identifying the crossing sites at a broader scale as well as detailed site plans showing the proposed works and depicting the location of watercourses and wetlands to facilitate the GRCA permit application review.

Please be advised endangered species may be present in the area. As such, you should contact the Ministry of Natural Resources and obtain any permissions that may be required through the Endangered Species Act.

The Grand River Conservation Authority is interested in continuing our involvement with this project. We trust these comments are of assistance. Should you have any further questions please do not hesitate to contact the undersigned at 519-621-2763 ext 2238.

Sincerely,

Ashley Wilcox

Ashley Wilcox
Resource Planner
Grand River Conservation Authority

OPCC Review Summary

Parkway West Compressor Station

AGENCY	COMMENT	RESPONSE
GTA Realty Email dated April 1, 2013	Expressed concern regarding conflict of future residential land use with noise, odors, gases and vibration from the proposed Station.	Meeting undertaken on April 16, 2013 to discuss concerns.
Canadian Environmental Assessment Agency Email dated April 5, 2013	Provided generic information on the *Canadian Environmental Assessment Act, 2012*.	Not Required.
Ministry of Natural Resources Email dated April 17, 2013	Requested to be advised if species at risk were encountered during field investigations.	Response by email dated April 17, 2013 Field investigations identified a barn swallow nest. Future investigations will be undertaken to ascertain the number of nests.

Knight, Mark

From: Frank Varga <gtarealty@rogers.com>
Sent: Monday, April 01, 2013 1:06 PM
To: Romanick, Greg; Knight, Mark
Cc: G. T. A. REALTY LTD.; Schmidt, Doug
Subject: Union Gas / Parkway West Compressor Station Milton

Mark, Greg
Thanks you for your letter dated March 18 2013 and enclosed CD re Parkway West Compressor Station Environmental Report / Union Gas.

Today I have advised Mark that we (Schuller, Varga Gatka etc) are the owners of the farm on the west side of the Eight Line, directly across from the proposed site of the compressors.
Specifically we are located as Part of the north east half of Lot 9 Concession 8 New Survey Trafalgar, Town of Milton, Regional Municipality of Halton, and are a farm of about 92 acres.
This location situates us as being one of the larger landowner most affected.

As you are aware our lands are designated future residential under Regional Official Plan Amendment #38 (ROPA 38), subject to appeal at the OMB, as well as the Milton Official Plan.
Our main concern is with conflicting land uses as the Union Gas Site Compressor station will emit continuous noise at varying levels. Additionally future expansion would be on lands closer to our property. We need further information on noise levels under different compressor loads, air humidity, and time of day. In addition we request an indication of what other noises to expect (maintenance etc), and emissions of odors, gases, & vibration and mitigation thereof. Accordingly, we request Participant Status and reserve the right to request Intervener Status.

As discussed can you also forward the contact at the Town of Milton that is looking after the rezoneing application.

Please note the cc to Doug Schmidt of Union Gas

Can you also confirm receipt of this email.
Regards
Frank Varga
416 733-8155

Knight, Mark

From:	Davis,Stephanie [CEAA] <Stephanie.Davis@ceaa-acee.gc.ca>
Sent:	Friday, April 05, 2013 12:07 PM
To:	Knight, Mark
Subject:	Parkway West Compressor Station
Attachments:	img-405103950-0001.pdf
Follow Up Flag:	Follow up
Flag Status:	Completed

Dear Mr. Knight

Thank you for your letter of March 18, 2013 regarding the Parkway West Compressor Station.

As part of the Government's plan for Responsible Resource Development which seeks to modernize the regulatory system for project reviews, the former *Canadian Environmental Assessment Act* was repealed when the *Canadian Environmental Assessment Act, 2012* (*CEAA 2012*) came into force on July 6, 2012.

The CEAA 2012 applies to projects listed in the *Regulations Designating Physical Activities*. Under CEAA 2012, the proponent must provide the Canadian Environmental Assessment Agency (the Agency) with a description of their proposed project if it is captured under the above-noted regulations.

For more information about CEAA 2012, please access the following links http://www.ceaa.gc.ca/default.asp?lang=En&n=16254939-1 and http://www.ceaa.gc.ca/default.asp?lang=En&n=9EC7CAD2-1. You may also find the Guide to Preparing a Description of a Designated Project and the *Prescribed Information for a Description of a Designated Project Regulations* on the Agency website.

If it appears that CEAA 2012 applies to your proposed project or if you have questions, please contact me.

Regards,

Stephanie

Stephanie Davis, BEng, LEED AP
Project Manager | Gestionnaire de projets
Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale
Ontario Region | Région de l'Ontario
55 St. Clair Avenue East, Suite 907, Toronto, ON M4T 1M2 | 55, avenue St-Clair Est, pièce 907, Toronto, ON M4T 1M2
stephanie.davis@ceaa-acee.gc.ca
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Telephone I Téléphone 416-954-7334
Facsimile I Télécopieur 416-952-1573
Government of Canada | Gouvernement du Canada

Knight, Mark

From:	Knight, Mark
Sent:	Wednesday, April 17, 2013 11:28 AM
To:	'Burkart, Jackie (MNR)'
Cc:	ESA Aurora (MNR); Straus, Melissa; Catton, Shannon; 'dschmidt@uniongas.com'
Subject:	RE: Parkway West Compressor Station - Environmental Report Union Gas Limited Parkway West Project

Hi Jackie,

Thanks for your email. Our field investigations have identified a barn swallow nest in one of the abandoned sheds on-site. Numbers were difficult to ascertain, so we'll be going back during the field season to confirm. Please note that Melissa Strauss from our office will be undertaking this work, and I believe has started work on the Information Gathering Form.

Please note that in addition to Melissa I've copied Shannon Catton, our terrestrial team leader, and Doug Schmidt, Union Gas's environmental planner.

Best Regards,

Mark

Mark Knight, MA, MCIP, RPP
Environmental Planner
Assessment, Permitting and Compliance

70 Southgate Drive Suite 1
Guelph ON N1G 4P5
Ph: (519) 836-6050 Ext. 218
Fx: (519) 836-2493
C: (519) 400-9618
mark.knight@stantec.com
stantec.com

From: Burkart, Jackie (MNR) [mailto:Jackie.Burkart@ontario.ca]
Sent: Wednesday, April 17, 2013 11:10 AM
To: Knight, Mark
Cc: ESA Aurora (MNR)
Subject: Parkway West Compressor Station - Environmental Report Union Gas Limited Parkway West Project

Good morning Mark,

MNR received your March 18, 3013 letter regarding completion of the environmental report. Please advise this office (by reply to all) if any species at risk were encountered during the field investigations. If this is the case, authorisations may be required under the Endangered Species Act, 2007.

Thanks,

Jackie Burkart

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 12, Page 4

Preamble: The evidence indicates that the proposed pipeline design includes two different grades of pipe and two different wall thicknesses.

Please provide the total estimated pipe length of the two different grades of pipe.

Response:

The approximate length of the 15.6 mm WT pipe is 2600 metres. The approximate length of the 11.7 mm WT pipe is 11300 metres.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 12, Page 7

Preamble: Union indicates it will construct the proposed pipeline in accordance with its current construction procedures.

Please provide a copy of Union's current construction procedures.

Response:

Section 12, pages 6-8 and Schedule 12-2 set out the methods of construction that Union will employ for the construction of the proposed pipeline.

The referenced construction procedures refer to the aggregate set of contract documents including General Conditions, special instructions, drawings, bills of material, specifications, permits, schedules, landowner lists with special requirements, environmental construction plan and other project specific information and instructions. The contract package is subject to continuous improvement project over project. The documentation for this project will be finalized in 2014.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 12, Page 7

Preamble: Union indicates that prior to tendering the construction contract it will contact each Landowner along the route prior to construction to obtain site specific requirements.

Please confirm the number of Landowners along the pipeline route.

Response:

There are 33 Landowners along the pipeline route as described in Schedule 12-9.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 12, Page 8

Preamble: Union retains a qualified drainage consultant to contact Landowners and prepare a tiling plan.

Please discuss when the drainage consultant will be retained and the timing for completion of the tiling plan in the context of the overall construction schedule.

Response:

The drainage consultant will be retained when land rights are being negotiated. Landowners with drainage tile on their properties will be able to discuss their current and planned drainage system with the consultant in order to arrive at the best solution for drainage modifications necessary to accommodate the proposed pipeline. Drainage construction plans are created and accepted in writing by the landowner before construction. Modifications to systematically tiled properties are completed prior to pipeline construction, in order to keep the drainage system operational at all times. Such work will be completed either in the fall of 2014 or spring of 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 12

Please provide a Project-Environment Interaction Matrix that shows the interaction (x = interaction; N/A if not applicable) between the construction activities for the pipeline and Parkway D Compressor Station and each specific environmental features for each project discussed in Schedule 12-3, Schedule 12-4 & Schedule 12-5.

Response:

Please refer to Page 3.14, Section 3.6 of the Parkway West Compressor Environmental Report that summarizes the Environmental Feature, the Potential Effects and the Proposed Mitigation and Protective Measures that will be implemented to ensure minimal environmental effects of the Parkway West Station project.

Chapter 7 of the January 2009 Brantford to Kirkwall Environmental Report provides a description of the project environmental interactions including potential impacts and mitigation measures. Similar information is also provided in the Brantford-Kirkwall Environmental Addendum report.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12-5, Page 2.1

Preamble: The evidence indicates Union tracked members of the public who communicated with project staff and a Landowner contact list was developed through property tax roll data. The public and landowner lists have not been provided for confidentiality reasons.

Please provide a summary of the comments received from members of the public and landowners regarding the project and include dates and Union's response.

Response:

Members of the public and landowners have been engaged through both Union's consultation programs and the municipal planning process for approval of the Parkway West Compressor Station. Public meetings included a August 1, 2012 Information Session, an additional Information Session on March 7, 2013 and a Town of Milton public meeting on April 22, 2013.

Comments from the August 1, 2012 and March 7, 2013 Information Sessions are provided in the Parkway West Pipeline Environmental Report and the Parkway West Compressor Station Environmental Report.

Comments from the Town of Milton public meeting on April 22, 2013 are in Attachment 1.

Parkway West Compressor Station
Landowner Concerns Raised at the April 22, 2013 Statutory Public Meeting

LAND OWNER	CONCERNS
A	➢ Impact on property values ➢ Limitations of future uses of their lands ➢ Project considerations including: safety and environmental impact
B	➢ Impact on property values ➢ Limitations of future uses of their lands ➢ Lack of notification for Neighbourhood Information Session held by Union Gas Limited ➢ Safety concerns ➢ Impact to wildlife
C	➢ Lighting, light overspill, etc. ➢ Impact on property values
D	➢ Noise levels associated with emergency vents. ➢ Noise level contours that could be expected if two plants were added west of the header system ➢ Has Ortech ever completed gas dispersion modeling for UGL blowdowns, and how the location selected might impact neighboring properties?

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: Environmental Guidelines for the Location, Construction and Operation of Hydro Carbon Pipelines and Facilities in Ontario, 6th Edition 2011

Preamble: The Board's Environmental Guidelines provide information requirements for new projects to be approved by the Board.

a) Page 8 – Please provide all correspondence from the OPCC related to the Brantford-Kirkwall Pipeline project and/or the Parkway D Compressor project.

b) Page 17 - Please provide a matrix of any outstanding issues related to the Brantford-Kirkwall Pipeline project and/or the Parkway D Compressor project.

c) Page 46 – Please provide a tabular summary of causes of cumulative effects, a cumulative effects description, recommended mitigation measures, all residual effects and approaches to deal with residual effects.

d) Please provide a table of notifications, permits and approvals by agency that may be required.

Response:

a) The OPCC and other stakeholder comments on the Brantford-Kirkwall Pipeline Project and the Parkway D Compressor Project received by Union up to May 27th, 2013 can be found at Exhibit I.C1.UGL.Staff.29 a).

b) The status of OPCC and other stakeholder issues as of May 27th, 2013 is reflected in the summaries provided in the Attachment for Exhibit I.C1.UGL.Staff.29 a). Union Gas is actively working with stakeholders, including landowners, municipalities and public agencies, to address any outstanding issues.

c) The cumulative effects assessment is provided Section 9 of the January 2009 Brantford to Kirkwall Environmental Report, Page 5 and 6 of the Brantford to Kirkwall Environmental Report Addendum and in Section 4 of the Parkway West Station Environmental Report.

d) Field investigations are on-going to determine potential environmental permits and approvals from Conservation Authorities and the Ontario Ministry of Natural Resources. Archaeological field studies are planned for the summer of 2013. Archaeological Assessments reports will be submitted to the Ontario Ministry of Tourism, Culture and Sport for their review and comment. Prior to construction it is likely that Permits to Take Water may be required from the Ontario Ministry of the Environment. It has also been determined that the proposed Brantford – Kirkwall pipeline will cross lands managed by Infrastructure Ontario, and thus may require a Category B Class Environmental Assessment under the MEI Class EA Process.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12-5, Page 2.1

Preamble: The evidence states that it is the opinion of Stantec that no additional parties are required to be notified for the Station site.

Does Union agree with Stantec that no additional parties are required to be notified for the Station site?

Response:

Union believes that throughout the consultation efforts for the Parkway West Compressor Site and at the time of the completion of the Parkway West Pipeline Environmental Report that all known interested parties had been notified. Should Union become aware of other interested parties, Union will consult and provide project information as necessary.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref 1: EB-2013-0074 Schedule 12-4, Letter, Page 5
Ref 2: EB-2013-0074 Schedule 12, Page 16

Preamble: At Reference 1, the evidence states "While it is unlikely that the 2008 Stage 1 Archaeological Assessment contains elements that are inconsistent with the 2011 archaeological guidelines, nonetheless the assessment should be revisited by a licensed archaeologist during the Stage 2 process to ensure it is consistent with the new archaeological guidelines". At reference 2, the evidence states "An archaeological assessment will be completed by a licensed archaeological firm along the pipeline route and at the Parkway West Compressor Station, as recommended in each ER. Union proposes to complete the archaeological assessment during the 2013 to 2014 field season.

Please confirm the assessment described at Reference 1 will be undertaken as part of the archaeological assessment during the 2013 to 2014 field season.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12-5

a) Page 3.3 – Please provide the status of the additional field investigation to be undertaken in the spring of 2013 to confirm the categorization of the on-site water feature and provide any updates.

b) Page 3.7 – Please explain the role of Union's Environmental Planner compared to the Environmental Inspector.

c) Page 3.8 – Please discuss if Union anticipates its clearing activities will occur during the migratory bird nesting period (May 1 to July 31).

d) Page 3.9 – Please discuss the timing of the municipal Site Plan Review Process.

e) Page 3.11 – Please discuss Union's plans to reuse and recycle construction materials.

Response:

a) The recommended field investigation for the Parkway West Station site is planned for the spring and summer of 2013.

b) Union's Environmental Planner is responsible for overseeing environmental matters for the entire project including the planning and approval stages of a project. Once construction starts, the Environmental Inspector is responsible to oversee daily construction activities and to ensure commitments made in the Environmental Report, Conditions of Approval and permitting requirements are addressed in the field during construction.

c) No clearing is planned at the Parkway site during the migratory bird nesting period (between May 1 and July 31).

d) It is anticipated that Union will be making an application for Site Plan Approval in early June 2013 with expectations for full Site Plan Approval by November 2013.

e) Please see Union's response to Exhibit I.B1.UGL.Energy Probe.35 g).

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12

If the application is approved by the Board, please confirm it is Union's intent to provide a construction schedule to all directly affected landowners before the commencement of construction on their property.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, pages 20-22 Proposed Pipeline Easement Requirements and Section 12, Schedule 12-10

Preamble: Union will require approximately 36.18 hectares (89.40 acres) of permanent easement for the Proposed Brantford-Kirkwall Pipeline. Union will also require approximately 25.58 hectares (63.21acres) of temporary easement for construction and top soil storage purposes. Union's form of easement is attached as Schedule 12-10.
Pursuant to section 97 of the OEB Act the applicant "has offered or will offer to each owner of land affected by the approved route or location an agreement in a form approved by the Board.

Union will commence easement negotiations with individual Landowners in spring of 2013.

a) Please confirm that the form of the easement agreement provided in the evidence has been offered or will be offered to all of the private landowners from whom the easements are required.

b) Regarding the negotiations for permanent and temporary easements please indicate the status of negotiations and anticipated timeline for obtaining required land rights for project location and construction.

c) Please file updates of any communication with the potentially impacted landowners and Union's responses since the application was filed with the Board.

Response:

a) Confirmed.

b) and c) No negotiations for permanent or temporary easements have been undertaken. Union anticipates commencing negotiations with landowners once a decision has been received from the Board. Union has discussed the project with all landowners and no landowners have advised Union of any strong objections to the project. Union has obtained access from all landowners from whom Union has requested early access for the purpose of completing preliminary environmental and land surveys.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 20

a) Please confirm the number of permanent easements and temporary easements required for the pipeline project.

b) Please discuss the status of Union's negotiations with individual Landowners for the pipeline project.

c) Please discuss if Union has identified and communicated with tenants as either directly affected or indirectly affected for both projects.

Response:

a) There are 30 permanent easements and 78 temporary as described in Schedule 12-9.

b) and c) Union has discussed the project with all landowners and tenants. Neither has advised Union of any strong objections to the project. Union has obtained access from all landowners from whom Union has requested early access for the purpose of completing preliminary environmental and land surveys.

UNION GAS LIMITED

Answer to Interrogatory from
Metrolinx

Ref: Union Application Schedule A; Section 8; and Schedule 1-1

a) Please list all crossings of GO Transit/Metrolinx rail lines and facilities (including, without limitation, stations, access roads, and parking lots and structures) being proposed by Union.

b) If Union proposes to route the proposed pipeline along any GO Transit/Metrolinx rail lines, please identify the locations in which it is proposed that this will take place.

c) With respect to both (a) and (b) above, in the event that Union is proposing to cross GO Transit/Metrolinx rail lines and/or facilities, or is proposing to route its proposed facilities along any GO Transit/Metrolinx rail lines:

   i. Please describe all anticipated temporary and permanent impacts of the construction and operation of the proposed pipeline on existing and planned GO Transit facilities. The description of impacts should include, without limitation, all anticipated disruption in train travel and reductions in access to and use of parking facilities. Facilities should include, without limitation, GO train lines, Park and Ride lots and current and future GO stations.

   ii. Please advise as to how Union will address any impacts on GO Transit/Metrolinx facilities.

   iii. Please provide all available detailed engineering plans, construction plans with laydown areas, and planned depths of pipe in the vicinity of GO Transit facilities, including stations, Park and Ride lots and track crossings.

Response:

a), b) and c) Union proposes no crossings or construction parallel to any GO Transit/Metrolinx rail lines or other facilities.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, pages 2-4, Design; and, Section 12, pages 4-6, Specifications

Preamble: Pre-filed evidence describes the requirements and states Union's adherence to the pipe design and specifications to these requirements.

a) Please file a copy of correspondence from the TSSA which confirms that the TSSA has reviewed the design and pipe specifications for the proposed project and that it has no outstanding concerns regarding Union's compliance with pipeline design, technical and safety requirements under TSSA's jurisdiction.

Response:

a) Correspondence from TSSA and answers from Union demonstrate the TSSA review and acceptance of the proposed project. Please see attachments as follows:

1. TSSA Letter Jan 15, 2009
2. Union Response Jan 26 2009
3. TSSA Letter Dec 28 2012
4. Union Response May 31 2013
5. TSSA Acceptance May 31 2013

FUELS SAFETY DIVISION

Tel: (416) 734-3353
Fax: (416) 231-7525

RECEIVED
JAN 21 2009
Union Gas Limited
Major Projects Department

January 15, 2009
File: CF

Mr. D. F. Schmidt
Principal Environmental Planner
Union Gas Limited
P. O. Box 2001
Chatham, ON N7M 5M1

Dear Mr. Schmidt:

Re: Union Gas Limited Trafalgar Facilities Expansion Program– Brantford to Kirkwall Pipeline Project.

This is in response to your letter of January 9, 2009 regarding the referenced project. We reviewed the Stantec Consulting Ltd. Report dated January 2009 (File No. 160960409) and the Design and Pipe Specifications attached to your submission.

The segment crossing the John Bayus Park is of concern, since it would appear that buildings or trailers are closer than the setback distances stated in the Guideline for Locating New Oil and Gas Pipeline Facilities. If this is the case, we would like to know what mitigation measures Union Gas is contemplating for this particular pipeline segment.

Yours truly,

Oscar Alonso, P. Eng.
Fuels Safety Engineer

cc: Zora Crnojacki, Chair, OPCC, OEB

I\users\fsesb\oa\schmidt 14

unionigas
A Spectra Energy Company

January 26, 2009

Technical Standards & Safety Authority
3300 Bloor Street West, 14th Floor, Centre Tower,
Toronto, Ontario
M8X 2X4

Attention: Mr. Oscar Alonso

Re: Union Gas Limited Trafalgar Facilities Expansion Program – Brantford to Kirkwall Pipeline Project

Dear: Mr. Alonso

Thank you for you for your letter dated January 15, 2009 regarding the Union Gas Limited Trafalgar Facilities Expansion Program - Brantford to Kirkwall Pipeline.

In response to your question relating to John Bayus Park, we can confirm that the proposed pipeline will have a setback of 20 metres or more from any dwelling intended for human occupancy along the entire alignment. I believe that this meets the minimum setback requirements stated in the Guideline for Locating New Oil and Gas Pipeline Facilities.

Should you have any further questions or concerns regarding this matter, please contact Grant Strachan at 519 681-0777, Extension 22.

Sincerely,

UNION GAS LIMITED

D.F. (Doug) Schmidt
Principal Environmental Planner

Cc: Zora Crnojacki, Chair, OPCC, OEB
Cc: Grant Strachan

TECHNICAL STANDARDS & SAFETY AUTHORITY
TSSA

RECEIVED
JAN 07 2013

14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4
Tel.: 416.734.3300
Fax: 416.231.1626
Toll Free: 1.877.682.8772
www.tssa.org

December 28, 2012

File: 50 Keil St., Chatham

Mr. Mark Knight, MA, MCIP, RPP,
Stantec Consulting Ltd.,
Suite 1, 70 Southgate Drive,
Guelph, ON N1G 4P5

Re: Union Gas Limited - Brantford to Kirkwall Proposed Pipeline Project.

Dear Mr. Knight,

This is in response to the letter received on December 12, 2012 regarding the notice of project resumption, your file No. 160960762.

After the last Environmental Report prepared by Stantec (File No. 160960409) dated January 2009 on this project that we have in file, a new Oil and Gas Pipeline Systems Code Adoption Document Amendment (FS-196-12) have been enacted. As this document in Section 2.(5) requires consideration of High Consequence Areas, we would like to ensure that the mitigation and protective measures described in section 7.4.3 for the African Lion Safari of the January 2009 Stantec report are reviewed to confirm that the requirements of the FS-196-12 document are being met.

If you have any further questions, please call me.

Yours truly,

Oscar Alonso, P. Eng.
Fuels Safety Engineer
Tel.: 416 734 3353
Fax.:416 231 7525
e-mail: oalonso@tssa.org

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From: Oscar Alonso [oalonso@tssa.org]
Sent: May-31-13 2:52 PM
To: Mallette, Gerry
Cc: Zora.Crnojacki@oeb.gov.on.ca
Subject: Re: Union Gas Limited - Brantford to Kirkwall Proposed Pipeline Project

Thanks Gerry for the information. This proposed actions are acceptable to us.

Thanks again,

Oscar Alonso

On Fri, May 31, 2013 at 11:56 AM, Mallette, Gerry <gmallette@uniongas.com> wrote:

Mr Alonso, please find attached an response to your Dec 28 2012 letter regarding the subject project (also attached). Although it has taken some time to respond, we hope you find the information helpful and that it will satisfy your concerns.

Upon review, could you please confirm your receipt of the document and let us know if you have any outstanding concerns regarding the proposed project? I can also be reached at 519-365-0688 if you would like to discuss in person. Thank you very much for your consideration of this.

Yours truly,

Gerry

Gerry Mallette, P.Eng
Principal Project Manager

Union Gas Limited, Major Projects
ph 519-437-6984 cell 519-365-0688

uniongas
A Spectra Energy Company

May 31, 2013

Technical Standards & Safety Authority
3300 Bloor Street West, 14th Floor, Centre Tower,
Toronto, Ontario
M8X 2X4

Attention: Mr. Oscar Alonso

Re: Union Gas Limited – Brantford to Kirkwall Proposed Pipeline Project

Dear: Mr. Alonso

Thank you for you for your letter dated December 28, 2012 to Mr. Mark Knight at Stantec Consulting Ltd. regarding the referenced proposed pipeline project.

In response to your request to confirm that the requirements of the latest Oil and Gas Pipeline Systems Code Adoption Amendment (FS-196-12) Section 2.(5) concerning High Consequence Areas have been reviewed to ensure the protective measures described in section 7.4.3 of the Environmental Report will be met, Union Gas provides the following:

The Environmental Report indicates protective mitigation measures will include "construction timing, work hours, noise and dust control and the use of fences to prevent animal injury". Union confirms that these mitigation measures will be employed.

From a design perspective, the pipeline has been designed to a Class 3 location, with a 1.2 m depth of cover and remote control valves at the start and end of the new section to address any design considerations related to high consequences areas.

The pipeline will be included within Union's Pipeline Asset Integrity Management Program and Union's Emergency Response Plan that would ensure that the ongoing operation of the pipeline takes into account the high consequence area requirements and addresses any threats to the pipeline. Part of this will be regular inline inspection of the line, including a baseline assessment within the first year of construction.

Should you have any further questions or concerns regarding this matter, please contact Gerry Mallette at 519-365-0688.

Sincerely,

G. Mallette

Gerry Mallette, P.Eng.
Principal Project Manager
UNION GAS LIMITED

cc: Zora Cronojacki, Chair, OPCC, OEB
cc: Tony Vadlja, Lead Environmental Planner, Union Gas

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 9

Preamble: The evidence indicates the plant will include all main gas piping and equipment, auxiliary support systems, and safety systems required for a facility of this nature and scope.

Please discuss the safety systems required and the applicable safety standards and/or guidelines for a facility of this nature/scope.

Response:

There are many elements of the Parkway West Station, and specifically Parkway D Plant, which are designed and constructed in compliance with regulations, codes, and standards that address the integrity and safety of a facility of this nature and scope. Examples of the most widely used of these would include the following: CSA Z662 Oil and Gas Pipeline Systems; CSA Z245 series pipeline materials standards; CSA B51 Pressure Vessels; Ontario TSSA Fuel Safety Program; ASME B31.3 Process Piping; C22 Canadian Electrical Code(s); Ontario Occupational Health and Safety Act; and Ontario Building Code. In addition to the requirements spelled out in these various codes and regulations, Union also implements their own design standards and philosophies which are specifically geared towards the safety of our employees and the public. For example, all of Union's compression facilities incorporate emergency shutdown (ESD) equipment in each individual plant. These ESD systems are designed to immediately stop any operating equipment, isolate the plant piping from any possible gas sources, and evacuate all gas from within the plant to a safe area outside the potential hazard zone. The ESD systems are designed failsafe, and act quickly in response to automated hazard detection systems (ie gas leakage or fire) or manual intervention. Additionally, the compressor buildings themselves are equipped with a CO_2 fire extinguishing system for the engine enclosure, and a sprinkler system over remaining critical equipment. All of Union's mainline compression facilities are monitored and controlled 24/7; from both locally at the facility, and remotely from Union's Dawn and Chatham Control Centres.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, Page 24, Figure 12-6, First Nations and Metis Consultations

Preamble: Figure 12-6 lists all the First Nations and Metis communities that were notified of the project in the summer of 2012.

a) What responses did Union receive from the notified communities to date?

b) For those that did not reply to the initial notification, what follow-up attempts were made by Union? Please explain the follow-up approach Union undertook.

Response:

a) and b)

1) Union held initial project introductory meetings with the Six Nations of the Grand First Nation, Mississaugas of New Credit First Nation, the Métis Nation Lands, Resources and Consultation branch and the Haudenosaunee Development Institute (HDI) who represents the Haudenosaunee Confederacy Chiefs Council.
2) Union has initiated a formal consultation process with the Six Nations Elected Consultation Committee and the Mississaugas of New Credit. Consultations meetings are continuing
3) Union has committed to a formal Engagement Protocol with the HDI and monthly meetings are scheduled
4) Union has phoned the Métis Nation to discuss any further updates that they require on the project
5) Union has phoned and left messages at the Chippewas of Georgina Island to discuss what information may be required.
6) Both the Métis Nation and Chippewas of Georgina Island have been included in all correspondence regarding information meetings and project application to the OEB.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 12, Page 23-26, First Nation and Metis Consultations

Preamble: As a result of initial notification with affected First Nations or Metis communities, the Grand River First Nation, and Haudenosaunee Confederacy Chiefs Council requested that Union conduct formal consultations and/or engagement meetings.

a) Please provide a status update and anticipated timeline for next steps on consultations with these First Nations with respect to the project.

b) Please describe how Union will conduct the consultation with those First Nations or Metis communities that did not request formal consultation if there are any outstanding concerns indicated by these communities.

c) Identify any specific issues or concerns that have been raised with respect of the project and, where applicable, how those issues or concerns will be mitigated or accommodated.

d) Provide details of any know Crown involvement in consultations with affected First Nations or Metis communities in respect of the applied-for project.

e) Explain whether any of the concerns raised by affected First Nations or Metis communities have been discussed with any government department or agencies, and if so, identify when contacts were made and who was contacted.

Response:

a)

1) Six Nations of the Grand Elected Council Consultation Committee:
    i. Regular update meeting held May 22nd to preview the Environmental work completed to date. Funding to support Capacity requirements has been established with the committee and payments occur on a pre-determined basis. Next Committee meeting will be scheduled for mid June.

2) Haudenosaunee Development Institute (HDI)
    i. Meeting held May 14th where the Engagement Protocol and Capacity Funding has been agreed to. Next meeting set for June 19th and monthly thereafter.

b) A meeting was held with the Métis Nation LRC office on May 8th to discuss the project's status. The Chippewas of Georgina Island and the Métis Nation are included in all correspondence regarding this project. There have been no specific issues raised by either the First Nation or the Métis Nation.

c)

1) Having Capacity funding available to fully participate in the Consultation process has been raised by Six Nations, New Credit and the HDI.
   i. Union has negotiated a formalized Capacity Funding agreement with the three committees.

2) Six Nations, HDI and New Credit were interested in participating in the Archeology and Environmental review work.
   i. Union's consultants have been instructed to work with each community's designed contact person to arrange attendance of the applicable monitors while surveys are underway.

3) Six Nations and the HDI were interested in employment and goods and services supplies for the project.
   i. Union has held meetings with their designed Economic Development agency to explore what goods and service providers are available and how they can participate.
   ii. Union's contractor for the project will be part of a working group to look for employment opportunities and other goods and services opportunities.

d) The Crown has not been directly involved with the Consultation with the affected First Nations or Métis Nation.

e) Union has directly discussed and negotiated solutions for the issues raised by the First Nations or Métis Nation. No Crown agencies were involved in those discussions.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 24, Figure 12-6

Preamble: Figure 12-6 shows the date of the initial notification letter sent to First Nations and Metis. In the evidence three First Nation groups are not listed as requesting that Union conduct formal consultations and or engagement meetings with them.

Please provide additional details on Union's contact with these three groups and if Union has continued and maintained communications regarding the project. Please include a listing of the dates of any phone calls, meetings etc.

Response:

1) Union held initial project introductory meetings with the Six Nations of the Grand First Nation, Mississaugas of New Credit First Nation, the Métis Nation Lands, Resources and Consultation branch and the Haudenosaunee Development Institute (HDI) who represents the Haudenosaunee Confederacy Chiefs Council.

2) Union has initiated a formal consultation process with the Six Nations Elected Consultation Committee and the Mississaugas of New Credit. Consultations meetings are continuing.

3) Union has committed to a formal Engagement Protocol with the HDI and monthly meetings are scheduled.

4) Union has phoned the Métis Nation to discuss any further updates that they require on the project.

5) Union has phoned and left messages at the Chippewas of Georgina Island to discuss what information may be required.

6) Both the Métis Nation and Chippewas of Georgina Island have been included in all correspondence regarding information meetings and project application to the OEB.

7) Union has entered into a confidentiality agreement with the Six Nations, Mississaugas of New Credit and the Haudenosaunee Development Institute (HDI) respectively, related to the Consultation process. Letters sent to the First Nations and Métis peoples sent prior to signing the Confidentiality agreements were filed with the original submission.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Schedule 12, Page 25

a) Please provide written documentation of the notes or minutes that may have been taken at meetings or from phone calls, or letters received from Aboriginal Peoples.

b) Please provide a description of the issues or concerns that have been raised by Aboriginal Peoples in respect of the project and, where applicable, how these issues or concerns will be mitigated or accommodated.

c) Please discuss how Union plans to continue engaging with Aboriginal Peoples as the pipeline and Parkway projects move forward to identify potential impacts to traditional land uses.

d) Please confirm Union will provide a copy of the completed archaeological assessments for the project, not just the First Nations or Metis that request a copy.

Response:

a) Union has entered into a confidentiality agreement with the Six Nations, Mississaugas of New Credit and the Haudenosaunee Development Institute (HDI) respectively, related to the Consultation process. Letters sent to the First Nations and Métis peoples sent prior to signing the Confidentiality agreements were filed with the original submission.

b) Please see the response to Exhibit I.B4.UGL.Energy Probe.39.

c) Please see the response to Exhibit I.B4.UGL.Energy Probe 39.

d) Union commits to sharing the completed Archeology Assessments to all of the First Nations and the LRC unit of the Métis Nation identified in the Project.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Executive Summary, Pages 1-2 of 4
EB-2013-0074, Section 10, Page 10 of 11

Preamble: Union is seeking an order from the Board, pursuant to Section 36 of the Act, for pre-approval of recovery of the cost consequences of all facilities associated with the development of the project from ratepayers. Union is also seeking pre-approval of recovery of the cost consequences of two long term short haul transportation contracts on the TCPL Mainline from ratepayers.

Union notes that in order to align with an anticipated 2014 to 2018 Incentive Regulation term, it proposes to adjust in-franchise and ex-franchise rates on an annual basis from 2015 to 2018 in order to recover the estimated annual costs associated with the Project.

a) Please discuss the rationale for entering into long-term transportation contracts rather than short-term contracts.

b) Is Union seeking a rate order in this Application to recover the revenue requirement?

c) If the answer to (a) is no please discuss when Union will make a separate application seeking a rate order and what the requested effective date of that rate order will be.

Response:

a) Section 11, page 19, lines 12-21 of Union's evidence discusses the investment that TCPL (and Enbridge) must make in infrastructure from Parkway to Maple. The commercial viability of TCPL building new infrastructure relies on commitments by future Shippers. In order to garner these commitments, the associated open season will typically require a minimum term.

In the May 4, 2012 Open Season that TCPL issued and Union participated in, the minimum term in order to obtain the capacity was for 10 years:

"TransCanada is prepared to build facilities for Firm Transportation Service (FT); Storage Transportation Service (STS); Firm Transportation – Short Notice (FT-SN); and Short Notice Balancing Service (SNB) for a minimum term commitment of ten (10) years."[1]

---

[1] TransCanada's Firm Transportation New Capacity Open Season dated March 30, 2012 – May 4, 2012

b) & c) No, Union is not seeking a rate order in this application to recover the revenue requirement associated with the Brantford-Kirkwall Pipeline and Parkway D Compressor Facilities Project or the costs associated with the two proposed long-term short haul TCPL transportation contracts.

Union will seek final rate orders to recover the revenue requirement associated with the Brantford-Kirkwall Pipeline and Parkway D Compressor Facilities Project and the two proposed long-term short haul TCPL transportation contracts in conjunction with its annual rates filings, commencing with rates effective January 1, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 10 – Pre-approval of the Cost Consequences of the Brantford-Kirkwall Pipeline and Parkway D Compressor Facilities, Page 3 of 11, Lines 11-12

Preamble: Union notes that the ex-franchise customers who will pay for the majority of the proposed pipeline and facilities are supportive.

a) Please provide documentation supporting the statement above.

Response:

a) Enbridge has expressed its support for the Parkway West Project in its evidence at EB-2012-0451, Exhibit A, Tab 3, Schedule 1, page 11 and as provided in response to Exhibit I.A1.UGL.CME.5. Enbridge support for the Brantford-Kirkwall pipeline/Parkway D Compressor project is evidenced by the executed contracts for the incremental transportation capacity and associated correspondence (see EB-2013-0074, Section7 and response to Exhibit I.A1.UGL.CME.5)**.**

   TransCanada does not oppose the Parkway West Project and Union's growth related projects as provided in the response to Exhibit I.A4.UGL.CCC.23.

   Union has held a number of consultations with Gaz Métro and ANE regarding the Parkway West Project and the Brantford-Kirkwall pipeline/Parkway D Compressor and has not received any objection to those proposed facilities. Gaz Métro, in particular, has already received approval from the Régie to increase its natural gas supply at Dawn, including a commitment to incremental Dawn-Parkway System capacity, and has executed contracts for that incremental transportation capacity.

   Accordingly, Union's largest M12 shippers do not oppose the Parkway West Project and the Brantford-Kirkwall pipeline/Parkway D Compressor. The M12 shippers will be allocated most of the costs for the proposed facilities.

   Union has also consulted with other M12 shippers as detailed in EB-2012-0433, Section 9; EB-2013-0074, Section 8, pages 9 and 10; and response to Exhibit I.A1.UGL.SEC.12. While some of these shippers are interested in the impacts of the projects, none of these shippers have expressed opposition to the projects.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 10 – Pre-approval of the Cost Consequences of the Brantford-Kirkwall Pipeline and Parkway D Compressor Facilities, Page 4 of 11, Lines 7-10

Preamble: Union notes that a delay in the construction of the Proposed Parkway D Compressor facilities could arise if there is a delay by either Enbridge or TCPL in constructing their proposed facilities downstream of Parkway in order to provide new transportation capacity through to Maple.

a) Please provide more details on how much of a delay in construction of the proposed Parkway D Compressor would be experienced if:

   i. Enbridge's project is delayed by a year.
   ii. TCPL's project is delayed by a year.
   iii. Both Enbridge and TCPL's projects are delayed by a year.

b) Discuss the impacts of a delay to the Parkway D Compressor on the in-service date of the Brantford-Kirkwall pipeline.

Response:

a)
   i. Please see the response to Exhibit I.A1.UGL.Staff.8.

   ii. Please see the response to Exhibit I.A1.UGL.Staff.7.

   iii. Please see the response to Exhibit I.A1.UGL.Staff.7 and Exhibit I.A1.UGL.Staff.8.

b) A delay in the in-service date for the Parkway D Compressor would also impact the in-service date of the Brantford-Kirkwall pipeline.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 10 – Pre-approval of the Cost Consequences of the Brantford-Kirkwall Pipeline and Parkway D Compressor Facilities, Page 5 of 11, Lines 18-19

Preamble: Union notes that it is not proposing any changes to the allocation methodology of the Dawn-Parkway transmission costs as a result of the Project.

a) Please discuss if Union is proposing any changes to the allocation methodology of the delivery costs as a result of the Project.

b) Please provide all relevant documentation regarding any changes to the allocation of delivery costs as a result of the Project, if any.

Response:

a) and b) No, Union is not proposing any cost allocation methodology changes as a result of the Brantford-Kirkwall Pipeline and Parkway D Compressor Project.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 10

If pre-approval of the cost-consequences of the projects is not granted by the Board will Union proceed with the projects?

Response:

Please see Exhibit I.B5.UGL.CCC.29. This answer is applicable to both projects.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 11, p. 5

Please explain how the economic benefits associated with the contracts of $18-$28 million per year were derived. Please include all assumptions.

Response:

The $28.2 million and the $18.1 million are detailed in EB-2013-0074, Figures 11-7 and 11-8 respectively. The assumptions are also provided in Section 11, pages 27-31.

As discussed at Exhibit I.A1.UGL.Staff.1e), Union has estimated the gas cost savings to be approximately $15 to $18 million as a result of the TCPL toll changes identified in the RH-003-2011 NEB Decision and TCPL's Review and Variance filing.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 11, p. 35

The evidence indicates that the North American natural gas markets are in a period of substantial change. In addition there is forecast risk surrounding commodity prices and the price differentials between various supply basins. Given this context why is it prudent to lock Union's customers into two long- term contracts with demand charges exceeding over $100 million over the contract term?

Response:

It is prudent to enter into these two long-term contracts because they ensure access to Dawn and the multiple supply basins connected to it. This diversity of supply is critical to the Union North customers.

In EB-2013-0074, Section 4, Union has illustrated that the WCSB (Empress) has been declining and its future security of supply is at question. Although customers in Union North are captive to using the TCPL Mainline to access supply, these same customers need not be captive to the WCSB (Empress) supply basin. These new contracts ensure that these customers will have long-term access to diverse supply basins including Empress.

As discussed at Exhibit I.C5.UGL.Staff.34, in order to obtain the capacity in TCPL's open season, the minimum term commitment was for 10 years.

By entering into these contracts, Union will replace TCPL long haul demand charges of approximately $540 million over the 10 year period with TCPL short-haul demand charges of $110 million over the 10 year period. North ratepayers, therefore, benefit to the amount of $430 million in reduced demand charges by entering into a long-term arrangement.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Ref: EB-2013-0074, Schedule B, paragraph 7

7. The total estimated capital cost of the Project is $204 million. The largest revenue requirement associated with the Project increases to approximately $15.9 million over the 2015 to 2018 period. The Project will result in: (i) an increase of costs of approximately $1.6 million, allocated to Union North in-franchise rate classes, (ii) an increase of costs of approximately $16.0 million allocated to ex-franchise rate classes and (iii) a reduction in costs of approximately $1.7 million, allocated to Union South in-franchise rate classes. The ex-franchise customers that will bear the majority of the costs associated with the Project are supportive.

a) Given that the net impact to Union's in-franchise classes is a reduction in revenue requirement of about $0.1M ($1.6M increase in the North offset by a $1.7M reduction in the North) and that the ex-franchise classes will be paying the project costs, please explain why pre-approval of cost recovery from ratepayers is required by Union in order to proceed with this application.

b) If the requested pre-approval of cost consequences is granted by the Board, would there be any future review of costs possible under any circumstances prior to recovery from ratepayers?

c) Would Union undertake this Project if the Board either disallowed pre-approval to recover the cost consequences from ratepayers or conditioned its approval by requiring an after the fact prudence review?

d) Please provide a "worst case scenario" for in-franchise rate classes in the event that there were assets stranded by the actions of ex-franchise rate classes in respect of the facilities.

Response:

a) Please see Exhibit I.B5.UGL.VECC.3 c). Please see EB-2013-0074, Schedule 10-1 for the rate impacts associated with the Brantford to Kirkwall and Parkway D facilities.

b) Union is requesting the Board approve the annual inclusion in rates of the annual revenue requirement related to the Brantford to Kirkwall and Parkway D Compressor Project per EB-2013-0074, Schedule 10-7 over the next incentive regulation term. To the extent that there are any differences between the revenue requirement built into rates and the actual revenue requirement, those variances will be deferred and reviewed as part of the annual deferral account disposition process.

c) Union will not proceed with the Brantford to Kirkwall and Parkway D Compressor Project without pre-approval to recover the cost consequences or reasonable assurances that it will receive approval to recover the costs consequences. If Union received facilities approvals requested under Sections 90 and 91 and intervenors accepted Union's proposal to pass through the annual revenue requirement associated with the project as part of Union's next IRM, Union would proceed.

   Union's is proposing to capture the difference between the revenue requirement built into rates and the actual revenue requirement in a deferral account for future review and disposition by the Board and intervenors. If the actual revenue requirement is less than what is built into rates, the differences will be credited to ratepayers. If the actual revenue requirement is greater than what is built into rates, the differences will be debited to ratepayers. In either case there will be a full review of the balance in the deferral account. No further condition around a prudence review is required.

d) Please see Exhibit I.A3.UGL.Staff.18.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 11 – Pre-Approval of the Cost Consequences of Two Long-Term Transportation Contracts, Page 18-19 of 53, lines 21, 1-3

Preamble: Union suggests that the Board review and approve the cost consequences of the Contracts in the context of Union's facilities applications which they support.

a) Please discuss whether Union will still be able to efficiently and economically utilize the proposed capacity under the Contracts if the proposed Brantford-Kirkwall facilities are not approved.

b) Please discuss the effects of a Board decision to not provide pre-approval of the cost consequences for the Contracts, but approve the Brantford-Kirkwall facilities.

c) Please discuss how a decision of the Board to not approve the EGD GTA Project would affect the economic viability of the proposed facilities.

Response:

a) Union requires the 70,157 GJ/d of Dawn-Parkway capacity. To serve this capacity and other capacity represented in Union's May 2012 Open Season, Union requires both the Parkway D compressor and Brantford-Kirkwall pipeline to be constructed.

b) Please see Exhibit I.A3.UGL.Staff.20.

c) Please see Exhibit I.A1.UGL.Staff.8.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 11 – Pre-Approval of the Cost Consequences of Two Long-Term Transportation Contracts, Page 21 of 53, Lines 6-10

Preamble: Union notes that Marcellus shale production has increased nearly 7 PJ/d since the beginning of 2007 and that supplies from this area are expected to more than triple by 2035.

a) Please provide reference to the documentation that supports this statement.

b) Please discuss the current level of supply from both Marcellus and Utica that Union currently uses to serve either its in-franchise and/or its ex-franchise customers.

c) Please discuss Union's understanding of pipeline capacity from Marcellus and Utica to serve Ontario and Eastern markets between now and 2035.

Response:

a) This response was provided by ICF International:

Data for the growth in the historic period was extracted from data released by the State of Pennsylvania and the State of West Virginia referenced below:

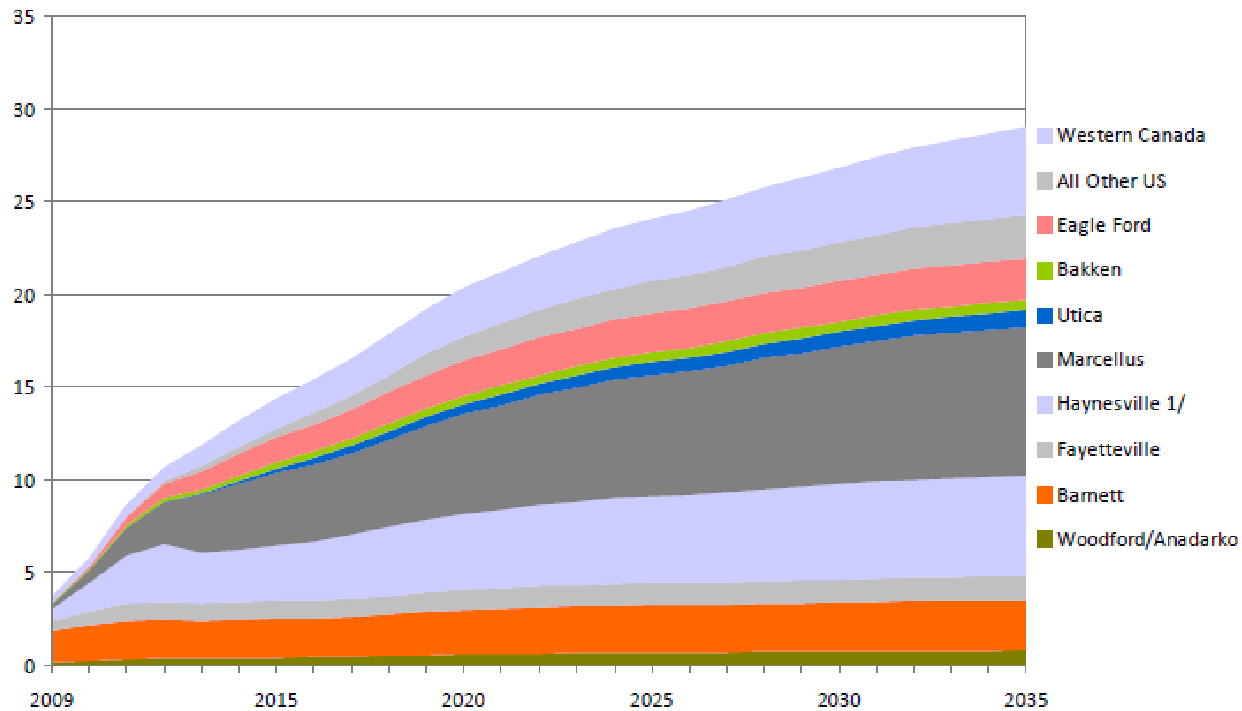
PA production downloads by well – six month blocks

https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/DataExports/DataExports.aspx

WV Marcellus production by well

http://www.wvgs.wvnet.edu/www/datastat/devshales.htm#Pubs

Projected growth volumes are taken from the ICF GMM Base Case. Shale gas production growth from all sources from the ICF April 2013 Base Case is shown below.



Source: ICF International GMM Base Case, April 2013

From EB-2012-0433, Figure 4-10 – ICF Marcellus and Utica Production Forecast, 2012 Marcellus and Utica production was about 8 Bcf/d, by the end of 2012 (mostly Marcellus production) and the forecast for 2035 was between 21 and 22 Bcf/d (again mostly Marcellus production).

b) Effective November 1, 2012, Union increased the diversity of the transportation portfolio serving Union South in-franchise system sales customers by contracting on TCPL to move supply from Niagara to Union's interconnect at Kirkwall. This contract provides Union access to gas from the Marcellus shale formation (Section 11, page 7 lines 18-20). This transportation contract was for a volume commitment of 21,101 GJ/d for a 10 year term.

Union is not familiar with the sources of gas for ex-franchise customers.

c) For the long term natural gas market outlook, Union Gas relies on ICF. ICF regularly reviews gas pipeline projects planned for the US and Canada for inclusion into the ICF Base Case Forecast. ICF is projecting significant investment in new pipeline capacity to bring Marcellus gas to market. The new pipeline capacity is likely to lead to significant growth in pipeline exports from the Marcellus into Ontario via New York at Niagara, as well as additional pipeline capacity through Ohio into Michigan and then Ontario. In addition, many of the major Northeast pipelines are evaluating investments in new capacity to bring additional natural gas into New England and other Northeastern US natural gas markets, as well as moving Marcellus gas south and west, further displacing regional imports from the Gulf Coast and Rocky Mountains.

In the near term through about 2015, most potential new pipeline capacity additions are already on the drawing board at various different stages of design and have been announced or submitted to regulatory authorities for approval. The table below lists the projects that ICF is tracking that have been announced as under development that would be expected to directly or indirectly impact the amount of capacity available to users of the Dawn Hub, as well as projects that are designed to increase capacity to east coast or more southern markets. ICF identifies the projects listed are in a variety of stages varying from “Announced” to “Under Construction”.

Announced Pipeline Expansions That Could Affect Ontario Markets, Including Expansions in Ontario, Northeast US, and Michigan	Route	Capacity (MMcfd)	Planned In Service	Status
TransCanada - Eastern Mainline Expansion 2012	*Parkway Project - 42" Loops at Brampton and Vaughan in Central Ontario*	*286 PJ*	*Jun-13*	*Under Construction*
TransCanada - Eastern Mainline Expansion2013	*Maple Compression*	*130 PJ*	*Nov-13*	*Announced*
Dominion Transmission - Marcellus 404 Project	*West Virginia*	*300*	*Mar-13*	*Plant Under Construction*
Dominion Transmission - Tioga Area Expansion	*Tioga, Potter, Clinton, and Greene Counties*	*270*	*Nov-13*	*Filed with FERC*
Dominion Transmission - Sabinsville-to-Morrisville Project	*Expand Sabinsville interconnect w/ Tennessee*	*92*	*Jun-14*	*Announced*
Texas Eastern - Ohio Pipeline Energy Network (OPEN)	*Utica shale and backhaul to Ohio.*	*1000*	*Nov-15*	*Potential Expansion*
DTE/Enbridge/Spectra - NEXUS Gas Transmission	*NE Ohio to Michigan and Ontario*	*1000+*	*Nov-16*	*Potential Expansion*
National Fuel - Mercer Expansion Project	*Deliveries to Tennessee Pipeline in western PA*	*105*	*Sep-13*	*Announced*
National Fuel - West Side Expansion	*Production receipts in western PA*	*95*	*~2014*	*Announced*
Empire Pipeline - Central Tioga County or (TCE2)	*Tioga PA Interconnect to TGP*	*260*	*Sep-15*	*Potential Expansion*
National Fuel - West to East Phase 1 & 2	*Overbeck PA to Leidy*	*425*	*~2015*	*Filed with FERC*
Tennessee Gas Pipeline - Rose Lake Expansion Project	*Line 300 Reverse flow back to St. 313*	*230*	*Nov-14*	*Pre-File w Open Season*
Columbia Gulf Transmission - West Side Exp - Columbia Gulf Bi-Directional	*Leach KY to Rayne LA*	*540*	*Apr-13*	*Planned Expanson*
Dominion Transmission - Natrium-to-Market	*WV Gas Plant and upgraded interconnect with TETCO in Greene Co PA*	*185*	*Jun-14*	*Announced*
Spectra -TETCO - Algonquin - NJ-NY Expansion	*Linden NJ to Staten Island NY and new connection to ConEd in Manhattan*	*800*	*Nov-13*	*Under Construction*
Texas Eastern - TEAM 2014	*OH, WV, PA Looping & Compression*	*600*	*Nov-14*	*Pre-File Review*
Algonquin - AIM Project	*Algonquin compression*	*450*	*Nov-16*	*Potential Expansion*
Tennessee Gas Pipeline - MPP Project	*Z4 with backhaul to Z1-Z3*	*240*	*Nov-13*	*FERC Approved*
Tennessee Gas Pipeline - Northeast Upgrade Project	*Line 300 to Interconnects with NJ Pipelines*	*636*	*Nov-13*	*FERC Approved*
Tennesse Gas Pipeline - NE Exp Opt 1 - Bullet Line	*New bullet line from Wright NY to Dracut MA*	*1200*	*2017-18*	*In Development*
Tennesse Gas Pipeline - NE Exp Opt 2 - Line 200 Loops	*Looping of Line 200 in NY, CT, and MA*	*500-1000*	*2016-18*	*In Development*
Iroquois Gas Transmission - Wright Interconnect Project	*Expand Wright Interconnect to accomdate Consitution Pipeline*	*650*	*Mar-15*	*Announced*
Columbia Gas Transmission - West Side Exp - Smithfield III	*Waynesburg PA and Smithfield WV to Leach KY*	*444*	*Nov-14*	*Planned Expanson*
Columbia Gas Transmission - East Side Exp	*Increased receipt capacity in NY from Millenium and NJ from Tennessee*	*310*	*Dec-15*	*Announced*
Columbia Gas Transmission - Quick Link	*Utica Shale connections in East Ohio*	*500*	*Nov-15*	*Announced*
Millennium Pipeline - Minisink Compression	*Corning to Ramapo mainline*	*120*	*Jan-13*	*Under Construction*
Millennium Pipeline - Hancock Compression	*Corning to Ramapo mainline*	*150*	*Nov-13*	*FERC Approved*
Millennium Pipeline - Neversink Compression Replacement	*Corning to Ramapo mainline*	*525*	*~2014*	*Potential Expansion*
Williams Transcontinental - Northeast Connector	*St195 SE PA to Rockaway Deliv Lateral - National Grid NYC*	*100/647**	*2014*	*Waiting FERC*
Williams Transcontinental - Northeast Supply Link	*Northern NJ and Leidy Line looping and compression*	*250*	*Nov-13*	*Under Construction*
Williams - Atlantic Access	*SW PA Marcellus to Transco St195*	*1800*	*Dec-15*	*Potential Expansion*
Williams Transcontinental - Leidy Southeast	*Looping and compression along Leidy line with backhual along Transco mainline to Alabama*	*800*	*Dec-15*	*Potential Expansion*
Williams/Cabot Oil/Piedmont Nat Gas - Constitution Pipeline	*Susquehanna PA to Schoharie NY*	*650*	*Mar-15*	*Potential Expansion*
Williams Transcontinental - Virginia Southside Expanison	*Backhaul to VA*	*TBD*	*Sep-15*	*Potential Expansion*
Commonwealth Pipeline - Inergy Midstream, UGI, and WGL	*Lycoming Co PA to Charles Co MD*	*1200*	*Dec-15*	*Potential Expansion*

ICF does not believe that all of the projects that have been announced will ultimately be constructed. In some cases, two or more projects are competing to fill the same market need.

In other cases, ICF believes it unlikely that the proposed projects will clear regulatory or market hurdles or generate sufficient market interest to support development.

ICF includes specific projects in the forecast after project development has advanced to the point where the specific project has received the request for contractual support or momentum to receive a Certificate from the FERC. If multiple projects are proposed that target the same market with similar size and path, and if ICF concludes that sufficient market support will exist to support one or more of the projects, ICF will include a "generic" project in the forecast, rather than pick a "winner" from the various competing projects. Similarly, in for the period that is four or more years in the future, ICF will examine the likely developments that may support projects that have not yet been announced. ICF will include pipeline expansions when demand for additional pipeline capacity indicates that expansion would be economic.

The named projects included in the ICF Base Case natural gas market forecast are listed below by expected year of completion:

Projects expected to be completed and likely enter service in 2013 include:

- Millennium Pipeline - Minisink Compression (1A) and Hancock Compression (1B)
- Texas Eastern & Algonquin – NY-NJ Expansion (2)
- Tennessee Gas Pipeline - Northeast Upgrade Project (3)
- Tennessee Gas Pipeline - MPP Project (4)
- TransCanada Pipeline - Eastern Mainline Expansion –Parkway Project Loops (5)
- Transcontinental Pipeline - Northeast Supply Link (6)
- Dominion Tioga Area Expansion (8)

Projected expected to be completed and likely enter service in 2014 include:

- Texas Eastern Transmission - TEAM 2014 (7)
- Tennessee Gas Pipeline - Rose Lake Expansion (9)
- Transcontinental Pipeline - Northeast Connector w/Rockaway Delivery Lateral (10)
- NiSource companies Columbia Gas and Columbia Gulf - West Side Expansions (11)

Projects expected to be completed and likely enter service in 2015 include:

- Constitution Pipeline (15)

Beyond 2014, ICF also includes a number of generic pipeline projects in our Base Case forecast. Generic projects include pipeline expansions in markets where more than one proposal is currently active and it is not possible to determine which project will proceed, as well as in markets where our projections indicate that new pipeline capacity will be required, but the time frame is too far into the future for companies to have developed any specific project proposals. The generic projects often resemble actual proposed projects that have yet to receive construction approval.

The following exhibit lists generic expansions included in the ICF April 2013 Base Case that are likely to impact gas markets at the Dawn Hub and in Ontario and Quebec through 2035.

Northeast and Midwest US Generic Expansions		**Capacity**	**Planned In**
Pipeline - Expansion Name	**Area**	**(MMcfd)**	**Service**
Generic - Marcellus/Utica to Midwest	*Marcellus/Utica to Lower Midwest*	*350*	*Nov-15*
Generic - Marcellus to South Atlantic	*Marcellus/Utica to South Atl (Western Route)*	*650*	*Nov-15*
Generic - Marcellus to Ontario	*Marcellus/Utica to Upper Midwest and Ontario*	*1000*	*Nov-16*
Generic - Marcellus to South Atlantic	*Marcellus to South Atl (Eastern Route)*	*700*	*Nov-17*
Generic - Chicago-Michigan-Dawn	*Vector Corridor - Chicago through Michigan to Dawn*	*500*	*Nov-18*
Generic - Marcellus to Mid-Atlantic	*Marcellus WV to Mid-Atlantic*	*200*	*Jun-20*
Generic - New York to New England	*New York to New England*	*500*	*Oct-21*
Generic - Chicago-Michigan-Dawn	*Vector Corridor - Chicago through Michigan to Dawn*	*500*	*Nov-21*
Generic - Leidy PA to New England	*Central and NE PA via Upstate NY into New England*	*500*	*Nov-24*
Generic - Marcellus to Mid-Atlantic	*Marcellus WV to Mid-Atlantic*	*500*	*Jan-25*
Generic - Marcellus to New York City	*NW PA through NJ into NYC*	*250*	*Nov-25*
Generic - Marcellus to South Atlantic	*NW PA south through MD and VA*	*1000*	*Apr-27*
Generic - Marcellus to New England	*Marcellus to New England*	*600*	*Apr-30*
Generic - Into NYC	*East PA through NJ into NYC*	*250*	*Apr-30*

The generic pipeline expansion projects included in the ICF Base Case include several pipelines to provide backhaul capacity or new pipe to deliver Marcellus and Utica gas from western Pennsylvania and eastern Ohio to markets in Ohio and Indiana. The Marcellus to Lower Midwest Generic project represents projects like Spectra's OPEN project or Quick Link by NiSource.

Marcellus gas is also expected to replace gulf supplies in the south Atlantic markets around Virginia and the Carolinas. Projects like Commonwealth Pipeline, Atlantic Access and Virginia Southside by Williams, and the Columbia's East Side Expansion are all seeking to move eastern Pennsylvania gas southward.

Gas produced in the Marcellus and Utica formations is also projected to move northward out of Ohio through Michigan to Ontario. The ICF Base Case includes construction in 2016 of a generic project similar to the proposed DTE/Enbridge/Spectra NEXUS project to transport gas from Ohio to Toronto. The Marcellus to Ontario generic project is built as a 1 Bcf per day of capacity from Ohio to Michigan and a 500 MMcfd of capacity into Ontario.

The current ICF Base Case also includes two generic expansions across Michigan from Chicago to Ontario in 2018 and 2021 of 500 MMcfd each. These expansions facilitate movement of gas coming to Chicago from the northern Rockies or Western Canada shale formations, as well as mid-continent gas displaced from eastern markets by Marcellus projection, to markets further downstream in Ontario or Quebec. These projects will increase capacity into Ontario in addition to what is planned coming from Ohio.

The ICF Base Case also includes construction of sufficient additional capacity between Parkway and Maple by TransCanada to match the increase in demand facilitated by the additional capacity into Dawn from these projects as well as expansion of receipt point capacity and other associated facilities needed to increase capacity on the TransCanada system from Niagara to Kirkwall sufficient to meet demand.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 11 – Pre-Approval of the Cost Consequences of Two Long-Term Transportation Contracts, Page 37 of 53, Lines 9-17

Preamble: Union notes that certain contracts and services that it will be de-contracting with TCPL have expiry dates of December 31, 2015 which are not aligned with the November 1, 2015 implementation date of the new contracts discussed in this application. Union notes that the potential overlap could result in additional transportation demand charges of up to $1.8 million.

a) Please provide a status update of Union's discussion with TCPL on aligning the contract dates. Within your response, please discuss how Union proposes to mitigate unnecessary demand charges so that its customers are not adversely affected.

Response:

a) Initial discussions with TCPL held prior to May 9, 2013, indicated that TCPL was willing to work with Union to alter end dates of contracts by Union extending existing contracts for a 21 or 22 month period such that the current term ended October 31, 2015 to coincide with the start date of the new contracts. This would mitigate any potential overlap demand charges while still allowing Union to retain future renewal rights on these contracts.

   However, on May 9th, TCPL amended their tariff to limit renewal rights for Shippers. Specifically, it prevented shippers with one year rolling contracts from renewing a contract for a period longer than 1 year. This tariff amendment was filed through a process [NEB Section 60(1)(a)]which does not allow for intervener involvement and the tariff changes became effective immediately. Many Shippers, including Union, challenged these tariff changes without a process which allows for intervener comments.

   On May 22nd, the NEB suspended the May 9th TCPL Filing and tariff renewal provisions and stated that "The Board has not set a process to consider the amendments set out in the Filing." In its decision, the NEB indicated that an expiring shipper seeking a renewal term greater than one year, must inform TCPL and the NEB of its intention before the renewal deadline. Union will continue discussions with TCPL to amend the end dates.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Ref: EB-2013-0074, Section 11 – Pre-Approval of the Cost Consequences of Two Long-Term Transportation Contracts, Page 39 of 53, Lines 19-22

Preamble: Based on proposed 2014 TCPL tolls as revised June 29, 2012, Union estimates the potential TCPL toll impact could decrease Union North customer savings by approximately $1.6 million per year. In addition, Union South customers could experience a toll increase on the TCPL Empress to Union CDA contract of $0.9 million per year.

a) Please update the estimated potential TCPL toll impacts on Union North and Union South customers using the National Energy Board's, March 2013 Decision in RH-003-2011 that addressed TCPL Mainline Final Tolls for 2012 and 2013.

b) Please discuss what volumes these estimated toll impacts are based on and the accuracy of these estimates.

c) Please discuss the added impacts of other customers de-contracting supply from TCPL and the effects this would have on the estimated gas cost savings discussed within the application (approximately $18 million).

d) Please discuss how high TCPL tolls would need to rise for no gas cost saving to be realized and how this price compares with historical toll prices.

Response:

a) The decision by the National Energy Board in the RH-003-2011 hearing fixed TCPL Mainline tolls for a five year period from 2013 through 2017. Any throughput increase or decrease will not affect tolls during this period. However, as TCPL's proposed tolls as discussed at Section 11, page 39 is similar to the NEB's suggested Empress to SWDA toll, there will be minimal difference of the toll impact from what is provided at Section 11, page 39, lines 16-22.

b) Union estimated the tolls impacts based on an assumption that a $10 million change in annual revenue has the impact of one cent change in Union EDA tolls (Section 11, page 39, lines 5-7). Union did not consider volumes in this analysis.

c) Union cannot control the turnback of other customers on TCPL. TCPL mainline tolls from Alberta to eastern markets (Empress to TCPL's Eastern Zone) have escalated from $1.20 in 2007 to $2.24 in 2012 (interim rates) largely based on turnback from market participants.

There has been significant turnback by many market participants as illustrated in Section 5, Figure 5-1. Customers continue to turnback TCPL capacity (and Union capacity) in pursuit of new supply sources that are more robust and provide security of supply, diversity of supply and economic supply.

d) The higher the TCPL tolls increase, the greater the savings. As indicated at the response to Exhibit I.A1.UGL.Staff.1 e), the decline in TCPL tolls has reduced the savings.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 10, p. 1

If pre-approval of the cost consequences of the proposed contracts is not granted will Union proceed with the contracts?

Response:

Please see Exhibit I.A3.UGL.Staff.20.

UNION GAS LIMITED

Answer to Interrogatory from
Consumers Council of Canada ("CCC")

Ref: Section 11

Does the recent NEB Decision regarding TCPL tolls impact this evidence, as filed, regarding the long-term contracts. If so, please explain how.

Response:

Please see Exhibit I.A1.UGL.Staff.1 e).

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

a) Please comment on the attached Board staff proposed draft conditions of approval. Please note that these conditions are standard conditions and are a draft version and subject to additions or changes.

Union Gas Limited
Leave to Construct Application
EB-2013-0074
Board Staff Proposed Draft
Conditions of Approval

1 General Requirements

1.1 Union Gas Limited ("Union") shall construct the facilities and restore the land in accordance with its application and the evidence filed in EB-2013-0074 except as modified by this Order and these Conditions of Approval.

1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2014, unless construction has commenced prior to that date.

1.3 Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee ("OPCC") review.

1.4 Union shall advise the Board's designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, Union shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.

1.5 Within 15 months of the final in-service date, Union shall file with the Board Secretary a Post Construction Financial Report. The Report shall indicate the actual capital costs of the project and an explanation for any significant variances from the estimates filed in this proceeding.

2 Project and Communications Requirements

2.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Natural Gas Applications.

2.2 Union shall designate a person as project engineer and shall provide the name of the individual to the Board's designated representative. The project engineer will be responsible for the fulfillment of the Conditions of Approval on the construction site. Union shall provide a copy of the Order and Conditions of Approval to the project engineer, within seven days of the Board's Order being issued.

2.3 Union shall give the Board's designated representative and the Chair of the OPCC ten days written notice in advance of the commencement of the construction.

2.4 Union shall furnish the Board's designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board's Order.

2.5 Union shall file with the Board's designated representative notice of the date on which the installed pipelines were tested, within one month after the final test date.

2.6 Union shall furnish the Board's designated representative with five copies of written confirmation of the completion of construction. A copy of the confirmation shall be provided to the Chair of the OPCC.

3 Monitoring and Reporting Requirements

3.1 Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date, and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.

3.2 The interim monitoring report shall confirm Union's adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.

3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

4 Other Approvals

4.1 Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approvals, permits, licences, and certificates upon the Board's request.

Response:

Union can accept all of the proposed Conditions of Approval, except Condition 1.2. As shown in Schedule 12.1, Union is not proposing to construct the NPS 48 pipeline until 2015. Union requests that the date of December 31, 2014 be changed to December 31, 2016 in the event that there is a delay in the expansion to Maple.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Ref: EB-2013-0074 Section 10, Page 5, Page 13, Figure 11-4 and Page 17, Figure 11-5

Preamble: In EB-2008-0280, the Board issued Guidelines for the pre-approval of long term natural gas supply and/or upstream transportation contracts.

a) Please explain why each of the proposed TCPL contracts and associated cost is material in the context of Union's current gas supply and transportation portfolios for the EDA and NDA.

b) Please provide a list of new significant/material upstream transportation Union contracted for in the past 10 years. Indicate if Board pre-approval was obtained.

c) What are the risks to Union if preapproval is not obtained, given the other conditions precedent in this case and at the NEB (TCPL Union and EGD).

d) What are the risks to ratepayers if the conditions precedent are not met. Please discuss and in particular, the cost consequences?

Response:

a) In the context of the gas supply and transportation portfolio for the EDA and NDA, the proposed TCPL contracts and associated cost is material for the following reasons:

1. The Contracts provide access to new supply basins for Union North. Today, Union North is predominantly supplied by the WCSB via long haul TCPL transportation. The Contracts will provide access to Dawn and the diverse supply basins that are connected to Dawn. This represents a fundamental shift in how Union North is served. As shown at EB-2013-0074, Section 11, Figure 11.4, with the implementation of these contracts, approximately 41% of the north transportation portfolio and associated supply will shift from WCSB to Dawn. For Union EDA and Union NDA, the Contracts represent approximately 63% of the transportation portfolio for those delivery areas that will shift to Dawn.
2. There are significant economic benefits of \$18 million to \$28 million per year to customers as a result of these changes in the Union North portfolio. In Union North, this represents a demand charge reduction of \$43 million in total Union North transportation costs (EB-2013-0074, Schedule 11.8, page 1 of 2, line 13). This benefit applies to all customers in Union North. As discussed at Exhibit I.A1.UGL.Staff.1e), Union has estimated the gas cost savings to be approximately \$15 to \$18 million as a result of the

TCPL toll changes indentified in the RH-003-2011 NEB Decision and TCPL's Review and Variance filing.

3. These Contracts represent significant volume and cost commitments by Union (110,000 GJ/d of transportation capacity for 10 years). The total cost commitment by Union exceeds $110 million.
4. In addition, the investments necessary with respect to these contracts are significant and will create new opportunities for gas to flow in response to changes in the North American gas supply dynamics providing access to new sources of supply for Union North customers that would not otherwise be accessible. These benefits will also be significant for Ontario.

b) The following chart shows upstream transportation commitments greater than 5 years in length and that had an annual demand charge exposure greater than $1 million.

Year	Path	Quantity (GJ/d)	Monthly Demand Toll[1]	Annual Cost	Aggregate Cost over term	OEB Pre-Approval?[2]
2006	Union Parkway Belt – Union EDA	30,000	$3.734	$1.3M	$13.4M	Not Available at the Time
2007	Union Parkway Belt – Union EDA	5,000	$4.009	$0.2M	$2.4M	Not Available at the Time
2012	Niagara – Kirkwall	21,101	$3.844	$1.0M	$9.7M	Applied for in EB-2008-0280; The Board ruled that the contract did not qualify for pre-approval
2015	Union Parkway Belt – Union EDA	100,000	$8.158	$9.8M	$97.9M	To Be Determined
2015	Union Parkway Belt – Union NDA	10,000	$12.306	$1.5M	$14.8M	To Be Determined

[1]Monthly Demand Toll prior to 2013, rate is as of initial invoice. Monthly Demand Toll post 2013 as per Schedule 11-8.

c) & d) Please see Exhibits I.A1.UGL.Staff.1, Exhibits I.A1.UGL.Staff.7 and Exhibit I.A1.UGL.Staff. 8.