uniongas
A Spectra Energy Company

August 25, 2015

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

RE: EB-2015-0166/EB-2015-0175 – Union Gas Limited – Pre-Approval of the Cost Consequences of NEXUS Long Term Contract - Interrogatory Responses

Please find attached Union's responses to the interrogatories received in the above proceeding. Union used the topics/Provisional Issues List attached as Schedule A to Procedural Order No. 1 to organize the interrogatories into categories, as requested by the Board.

The interrogatories will be filed in the RESS and copies sent to the Board.

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: Charles Keizer, Torys
Mark Kitchen, Union Gas
All Intervenors

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Application Covering Letter dated May 28, 2015 paragraph 1

At paragraph 1, Union makes the following statement:

> Please find attached Union Gas Limited's ("Union") application and evidence seeking pre-approval of the cost consequences of a long-term transportation contract that supports the development of new natural gas infrastructure.

OEB staff seeks clarity on the relief that Union is seeking.

a) In regards to Union's reference to pre-approval of the "cost consequences", is Union requesting that the OEB grant approval now to **all** future gas transportation-associated costs it may incur over the 15 year term of the NEXUS contract, even in the event that other supply options become more economic or otherwise more attractive during the course of the 15 year contract term?

b) Would there be any exceptions to the requested pre-approval? If so, please elaborate on what may be an exception.

Response:

a) Yes. The purpose of requesting pre-approval of the cost consequences of entering a long-term contract commitment for upstream transportation capacity is to provide the necessary assurance of cost recovery.

   This contract requires a significant financial commitment by Union, approximately $715 million over a 15 year contract term (Exhibit A, page 3) representing 31% of Union's annual upstream portfolio (Exhibit B.T1.Union.BOMA.4). As a major natural gas utility in Ontario, Union must encourage and support new infrastructure projects such as NEXUS to connect and bring new supplies to Ontario.

   The Board developed guidelines for such pre-approval, recognizing the role that an LDC plays in encouraging new, large-scale infrastructure projects:

> "*The Board recognized that the enrolment of regulated utilities for such long term arrangements would be a necessary and desirable element in new infrastructure development*."

Union has entered into a long-term commitment (subject to certain conditions precedent in the Precedent Agreement in Exhibit A, Schedule 1) with NEXUS for a significant volume on behalf of system supply customers. The NEXUS contracts allow Union to provide new sources of supply (along with downstream transportation contracts) to in-franchise customers, resulting in cost savings to sales service customers of greater than $700 million over the 15 year term (Exhibit A, page 41) or an average bill impact of $29 per year per customer assuming a 15% increase to the negotiated toll (Exhibit B.T1.Union.Staff.8).

Given the financial obligations resulting from the commitment, Union is requesting pre-approval of the cost consequences related to the contract. The Board has recognized the need for utilities to obtain pre-approval in this situation, stating that:

> *"…regulated utilities whose sourcing decisions are typically and conventionally subject to ex post facto prudence review would be reluctant or unwilling to accept very significant long-term commitments without assurances of costs recovery. The result would be a frustration of demonstrably needed new natural gas infrastructure."*

Union has managed ratepayer risks associated with the NEXUS contract through a number of different means as described in Exhibit A, pages 46-52. Some measures of risk management include: implementation of a capital cost tracker mechanism to cap the toll and realize toll savings where capital costs are less than target; the ability to choose the reservation rate instead of the negotiated toll after the project has been completed; negotiating a Most Favoured Nations clause where Union can receive more favourable terms negotiated by a similar shipper (Exhibit B.T4.Union.Staff.20); securing transportation capacity that provides diversity of path and supplier in the Union gas supply portfolio; and supporting a pipeline infrastructure that when complete will increase the liquidity of the Dawn Hub to the benefit of all Ontario customers (Exhibit B.T1.Union.LPMA.8).

Without pre-approval of the cost consequences, Union cannot continue to commit to the NEXUS contract and remain an anchor shipper, the consequences of which would be a higher risk that the market pull-supplier push NEXUS pipeline would not be completed (Exhibit B.T1.Union.Staff.5) and the benefits to customers and the Dawn Hub would not be realized (Exhibit B.T3.Union.BOMA.35, Exhibit B.T1.Union.LPMA.1, Exhibit B.T1.Union.LPMA.8, and Exhibit B.T1.Union.Staff.6).

b) Union is not aware of any exceptions. Union negotiated a fixed rate with NEXUS that includes a known capital cost tracker adjustment mechanism which allows Union to participate in any cost savings realized while limiting any cost overrun potential. The upper limit of the contract rate is known and can be approved by the Board.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 2 / Lines 1-2

Union's evidence states that it intends to enter into a 15 year contract with NEXUS Gas Transmission (NEXUS).

Please briefly summarize the key points of other OEB proceedings in which Union has requested pre-approval of the cost consequences of long term transportation contracts. Please indicate the OEB's decision in terms of its acceptance, or rejection, of the application.

Response:

This is also responsive to Exhibit B.T1.Union.CME.1.

Union requested pre-approval of the cost consequences of long term transportation contracts under the Filing Guidelines issued by the Board in EB-2008-0280, Long Term Contract Guidelines, in two prior applications.

In each of these cases, the Board made no comment on the prudence of the contracts however they determined that pre-approval was not required because specific criteria of the Guidelines were not met.

The first application, in EB-2010-0300, Pre-Approval of 3 Long Term Transportation Contracts, Union applied for pre-approval of the cost consequences of 3 contracts.

1. The Parkway to Eastern Delivery Area (EDA) contract was a minimum ten-year contract for 20,000 GJ/d firm short haul capacity, commencing November 1, 2013. Based upon TransCanada's current rates at the time of that filing, transportation service on this contract was estimated to cost $2,827,400 CDN/year or $28 million over the 10 year term of the contract. This contract request was withdrawn January 17, 2011 as no Precedent Agreements ("PA") were negotiated.

2. The Parkway to Northern Delivery Area (NDA) contract was a minimum ten-year contract for 10,000 GJ/d of firm short haul capacity, commencing November 1, 2013. Based upon TransCanada's current rates at the time of that filing, transportation service on this contract was estimated to cost $1,072,500 CDN/year or $11 million over the 10 year term of the contract. This contract request was withdrawn January 17, 2011 as no PA's were negotiated.

3. The Niagara contract for firm transportation of 21,101 GJ/d on the TransCanada system was a minimum ten-year contract commencing November 1, 2012. The receipt point of the contract is Niagara and the delivery point is Kirkwall. The annual demand commitment of the contract at National Energy Board (NEB)-approved rates in place at the time of filing was $697,000 CDN per year.

The second application was part of a larger project (EB-2013-0074) which included requests for leave to construct approval of facilities tied to the contracts. This capacity would allow Dawn sourced gas to be delivered to the benefit of Union North sales service and bundled direct purchase customers. The demand charges associated with the contracts over the 10 year term are in excess of $110 million.

Union applied for approval of 2 contracts:

1. Contract with TransCanada for 10,000 GJ/d firm short haul transportation capacity between Parkway Belt and the Union NDA, starting November 1, 2015 for a term of 10 years.
2. Contract with TransCanada for 100,000 GJ/d of firm short haul transportation capacity between Parkway Belt and the Union EDA starting November 1, 2015 for a term of 10 years.

The overall project was approved however the Board did not pre approve the cost consequences of the long term contracts because there were no PA's or contracts and the cost impact was unknown. The Board noted costs were tied to TransCanada tolls which are subject to change by the NEB.

As noted, in prior proceedings, the Board did not disagree that the contracts were prudent, but rather that they did not meet the hurdle to require pre-approval as per the Filing Guidelines.

The following is a list of key requirements of the guidelines where the NEXUS contract differs from prior requests:

	NEXUS	
UNDERPINS SIGNIFICANT GREENFIELD INFRASTRUCTURE	• The required infrastructure is defined. • The NEXUS pipeline project includes 250 miles of NPS 36 GREENFIELD pipe as a cost of approximately $2 Billion to provide 1.5 Bcf/d transport to the market.	
VOLUME	• NEXUS represents a more significant volume of 158,258 GJ/d which represents approximately one third of Union's overall gas supply portfolio • This does not represent typical day to day contracting • Prior volumes of 21,101 GJ/d and 110,000 GJ/d	
COST of CONTRACT	• Tolls are known and are fixed in the contract terms - this mitigates risk of pre-approval • In prior applications, tolls on TransCanada would vary as approved by the NEB	
INFRASTRUCTURE PROJECT	• Project is defined and the cost impact to Union (shipper) is known and capped	
CONTRACT OR PA	• PA filed in EB-2013-0074, were not yet signed	
MAGNITUDE OF COST COMMITMENT	• Significantly larger commitment in NEXUS proceeding with a financial commitment of greater than $700 million over the 15 year term of the agreement • This compares to prior commitments estimated at $7 million and $39 million over the 10 year term of the agreements	

d) Union is not aware of any cases where the Board has granted pre-approval to any Ontario distributor for the cost consequences of a long term upstream transportation contract or long term supply contract. No significant new upstream transportation infrastructure to Ontario has been added since the issuance of the Board's pre-approval guidelines in 2009.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 43 / Line 6

Union is seeking pre-approval of the gas consequences associated with the NEXUS pipeline.

Union indicates that the delivery point in the NEXUS transportation agreement is Union St. Clair. Is Union requesting pre-approval of the gas consequences associated with the transportation agreement on DTE in Michigan from Willow Run to Union St. Clair?

Response:

NEXUS will contract for third-party transportation capacity on the DTE system from Willow Run to Union St. Clair. As Union is seeking pre-approval of the cost consequences of the NEXUS contract, this would include the portion of the path where NEXUS will transport gas on the DTE system from Willow Run to Union St. Clair.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 3 / line 6

Union's evidence states:

> The long-term contract requires a substantial financial commitment by Union Gas. The contracted volume of 150,000 Dth/d (158,258 GJ/d) of transportation capacity for 15 years will result in a total cost commitment estimated to be approximately $715 million.

Is the proposed volume of 150,000 Dth/day intended to solely meet Union's in-franchise customers' demand, or is some of the volume intended for ex-franchise customers?

Response:

The 150,000 Dth/d (158,258 GJ/d) of NEXUS transportation capacity will be purchased to meet Union's in-franchise sales service customer demand only.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Pages 26-28

Union has said it has "anchor shipper" status on NEXUS meaning its participation is significant in terms of the project being able to proceed.

In the absence of Union and Enbridge committing to the Precedent Agreement volumes and 15 year contract length, would the NEXUS transmission project have the necessary commitment to be able to proceed?

Response:

As outlined in Exhibit A, page 4, "*In a scenario where Union was unable to obtain contract pre-approval and not commit as an anchor shipper to the contract as proposed, there is significant risk that producers, who are also anchor shippers on the NEXUS project, may interpret Union's action as a lack of endorsement of Dawn as an important market hub and an indication of a weak market for their supplies at Dawn. If these producers were to reconsider their participation on the project, or their plans to bring supplies to Dawn, there is significant risk that the NEXUS project would not proceed as planned*."

The NEXUS project includes both demand pull (LDC end users) and supply push (suppliers) entities. Without this balanced support there is a higher risk that the project will not be completed. As is noted in the response at Exhibit B.T1.Union.BOMA.2, the Union and Enbridge committed volumes are a significant portion of the NEXUS capacity contracted to Dawn (35%) and without the participation of the LDCs, the project may not proceed. Please also see the response at Exhibit B.T1.Union.Energy Probe.3.

Please also see the response at Exhibit B.T3.Union.Energy Probe.22 where Union details the Board recognition of a need for a pre-approval process for large, long term contracts to remove the natural disincentive from LDCs supporting demonstrably needed new natural gas infrastructure.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Pages 40-41

Union has estimated potential cost savings of over $700 million based on the volumes that the NEXUS supply will replace.

a) Are the cost savings related solely to Union's in-franchise customers?

b) What portion of the cost savings is expected to materialize for system gas customers versus direct purchase customers?

c) Are they are any other financial benefits that the NEXUS transportation system will provide to Union in terms of both its regulated and unregulated business activities? Please explain and quantify any such benefits.

Response:

a) Yes, all cost savings are related solely to Union's in-franchise sales service customers.

b) Please see the response to a) above.

c) As stated throughout Exhibit A, Section 5, there are numerous benefits to both Union's customers and the rest of Ontario. With the enhanced liquidity at Dawn, due to Union's participation in the NEXUS project, comes the benefit of added reliability, diversity, price stability and cost savings.

   Having more upstream pipeline options (i.e. diversity) also helps to enhance reliability by reducing the reliance on any one source or basin and mitigates the risk related to this reliance.

   Union would expect that with lower and more competitive energy costs as a result of maintained or increased liquidity and competition at Dawn, that there would be incremental opportunities for Ontario to maintain and/or attract business, that otherwise may locate elsewhere.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Pages 40-41 / Figure 5-5

Union at Figure 5-5 provides a summary of the landed cost analysis as of January 2015. The total landed cost of the NEXUS project is very similar to the Rover pipeline project. Union has further estimated a total cost saving of $708 million over the 15 year term to sales service customers as compared to current contracted supplies.

What would be the quantum of the total cost savings if Union selected the Rover pipeline project in place of the NEXUS project?

Response:

Please note that the Rover pipeline project was not an announced project when Union entered into the NEXUS open season in 2012 and began negotiations toward a transportation agreement.

Using the landed costs provided in Exhibit A, page 40, Union has calculated the total cost savings if Union selected the Rover pipeline project in place of the NEXUS project below. Union has also included the various NEXUS / St. Clair and TCPL Niagara to Kirkwall landed costs for comparison purposes.

Path	Landed Cost of Column A ($Cdn/GJ)	Alliance/Vector Landed Cost ($Cdn/GJ)	TCPL Empress to Dawn Landed Cost ($Cdn/GJ)	Annual Savings ($ Cdn)	Savings Over 15 Year Term ($ Cdn)
(A)	(B)	(C)	(D)	(E) = ((C - B) x 85,000 x 365) + ((D-B) x 73,000 x 365)	(F) = D x 15
NEXUS / St. Clair	$ 8.38	$ 9.00	$ 9.67	$ 53,607,550	$ 804,113,250
NEXUS / St. Clair (increased by 15%)	$ 8.49	$ 9.00	$ 9.67	$ 47,263,850	$ 708,957,750
NEXUS / St. Clair (decreased by 15%)	$ 8.27	$ 9.00	$ 9.67	$ 59,951,250	$ 899,268,750
Rover *	$ 8.36	$ 9.00	$ 9.67	$ 54,760,950	$ 821,414,250
TCPL Niagara to Kirkwall	$ 8.10	$ 9.00	$ 9.67	$ 69,755,150	$ 1,046,327,250

** The analysis is based on an indicative rate for Rover of $0.80 USD/mmbtu. The analysis does not contemplate potential toll increases arising from factors such as capital cost overruns or pipeline undersubscription.*

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / page 41 / lines 7-8

Union estimates potential cost savings of over $700 million over the term of the contract to sales service customers compared to current contracted supplies.

What is the impact on a typical residential customer's bill of incorporating the NEXUS contract volumes into Union's portfolio versus the status quo portfolio – i.e. without NEXUS?

Response:

The annual bill impact associated with the potential cost savings of over $700 million for a typical residential customer in Union North and Union South consuming 2,200 m^3 per year is a reduction of approximately $29.

Please see Table 1 below for the calculation.

Table 1

Annual Residential Bill Impact
based on the $700 million landed cost savings on NEXUS

Line No.	Particulars	
1	Annual Cost Savings ($) (1)	47,263,850
2	Sales Service Volumes (10^3m^3) (2)	3,533,863
3	Unit Cost Savings (cents/m^3) (line 1 / line 2)	1.3375
4	Typical Annual Residential Volume (m^3)	2,200
5	Annual Residential Bill Reduction ($) (line 3 * line 4)	29.42

Notes:
(1) From Exhibit A, page 41, footnote 29 (NEXUS/St. Clair increased by 15%)
(($9.00-$8.49) * 85,000GJ/day + ($9.67-$8.49) * 73,000GJ/day)) * 365 days

(2) Sales Service Volume per EB-2014-0271 (2015 Rates) Rate Order
Working Papers, Schedule 16 UPDATED, line 2, column (c).

UNION GAS LIMITED

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

Reference: i) Exhibit A Section 3 page 14

Preamble: In Reference i), Union notes that the NEXUS Pipeline has a 250 mile greenfield component to the project. APPrO would like to understand the market conditions necessary for the project to proceed.

a) Please provide Union's understanding of the minimum level of contractual commitments necessary for the NEXUS Pipeline proponents to proceed with the development.

Response:

a) The level of shipper commitment that NEXUS has received to date is sufficient for the project to move forward. The volumes from the various producers and LDCs who have executed Precedent Agreements have allowed NEXUS to advance the project and submit its FERC pre-filing. Should certain Precedent Agreement holders not be able to fulfill their obligations and satisfy their respective conditions precedent, and therefore drop from the project, there is a risk that the project would no longer move forward. That minimum level is not known to Union and would be up to the sole discretion of the project proponents.

UNION GAS LIMITED

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

Reference: i) Exhibit A Section 3

Preamble: In Reference i), Union describes the NEXUS project, including the Canadian portion that utilizes existing capacity on the Vector Pipeline and Union's St. Clair to Dawn facilities. APPrO would like to better understand the flow dynamics into Dawn both before and after the in-service date of the NEXUS Pipeline.

a) Please provide a map showing on all pipeline systems in and around Dawn as well as Southeast Michigan (where such pipelines are capable of flowing gas into Ontario). Please include a table on the map illustrating the expected firm capacity both into and out of Dawn as of: November 1, 2015, November 1, 2016, and November 1, 2017.

b) For each pipeline into or out of Dawn, please provide a separate graph that illustrates the daily flow during 2014.

c) Union indicates that "For most shippers, the NEXUS path will then utilize capacity on the DTE and Vector Pipeline systems from Willow Run to the Dawn Hub in Ontario". Union further notes that "The DTE and Vector facilities that NEXUS facilities will utilize will likely require reinforcement". Please provide the following:

   i. What is Union's understanding of the amount of capacity that NEXUS has committed to purchase on the Canadian portion of the Vector Pipeline?

   ii. What is Union's understanding of the amount of incremental capacity into Dawn that will result from the development of the NEXUS Pipeline as of November 1, 2017?

   iii. Please provide Union's understanding of the amount of uncontracted firm capacity that exists on the Canadian portion of the Vector Pipeline into Dawn.

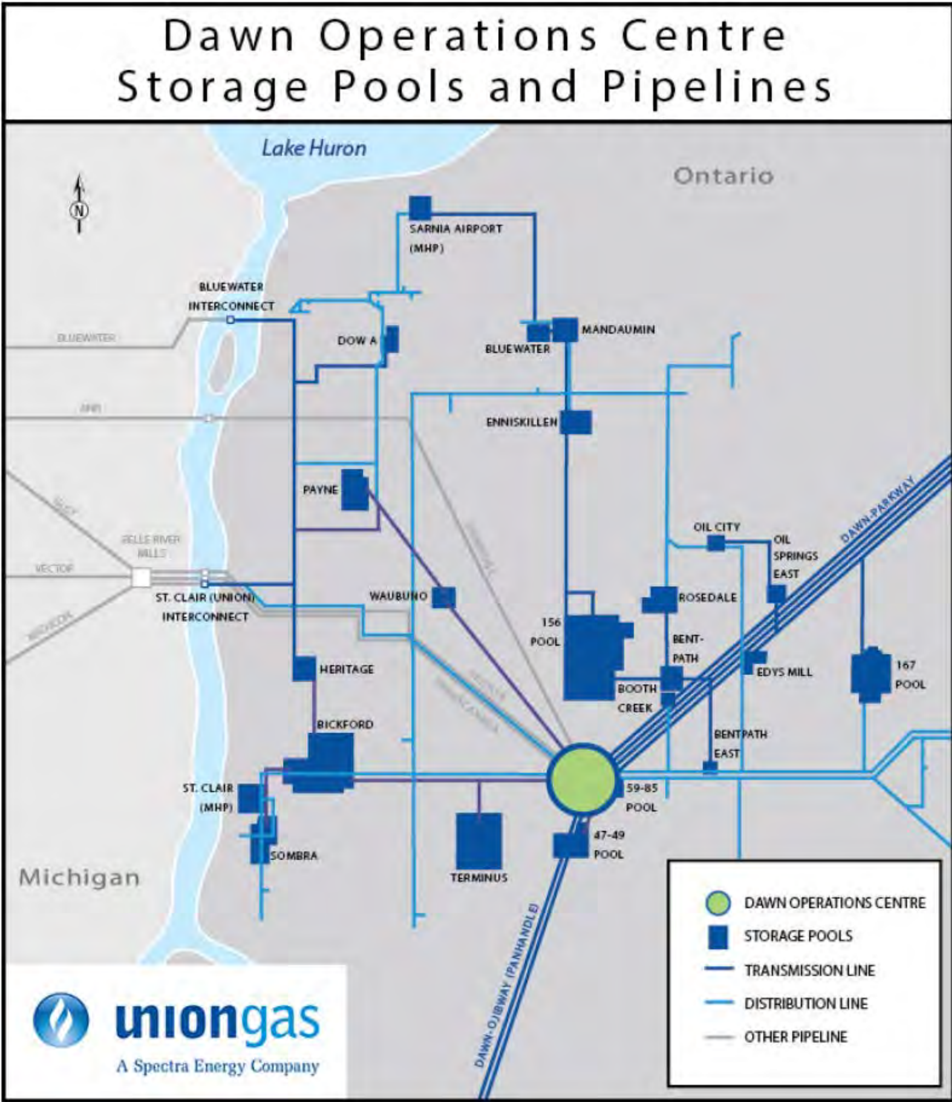
   iv. What is Union's understanding of the total level of contractual commitment on NEXUS that can be made without any physical reinforcement of the DTE and/or Vector systems?

   v. Please confirm that if NEXUS contracts with Vector for capacity to deliver to Dawn, that a similar amount of capacity is unavailable for the Ontario market to contract on Vector from Chicago. If not confirmed, please explain fully.

vi. Please confirm that with Union utilizing its capacity on the St. Clair to Dawn facilities that a similar amount of capacity is unavailable for Ontario markets to access. If not confirmed, please explain fully.

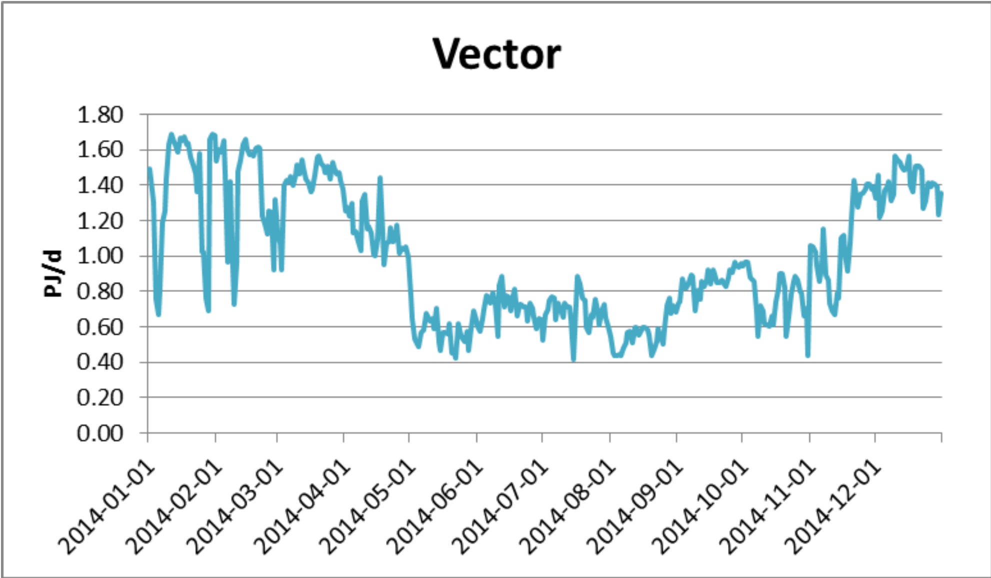
Response:

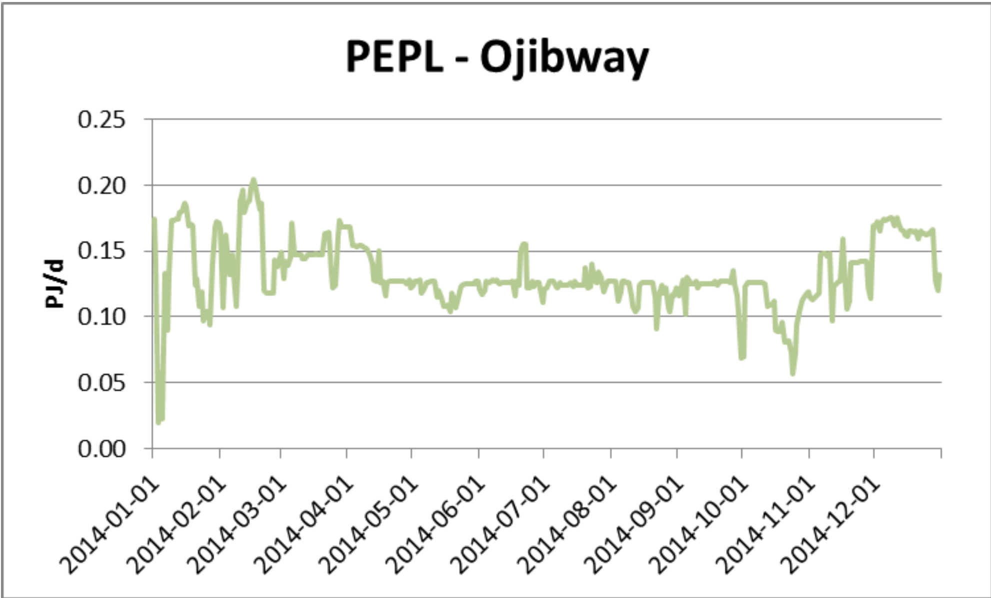
a)

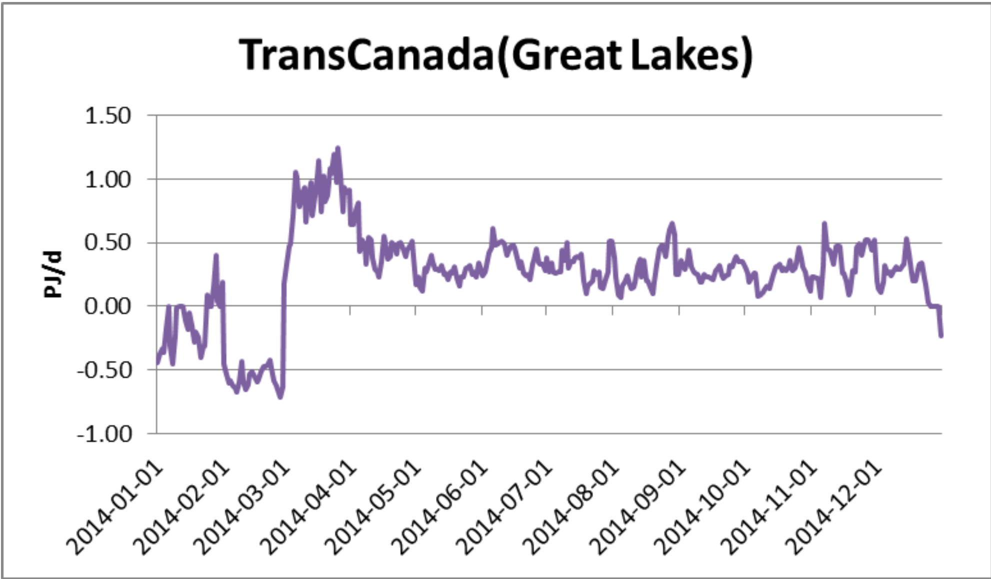


Upstream Pipelines	**Peak Day Pipeline Capacity (PJ/D)**		
	2015	**2016**	**2017**
Vector	1.6	1.6	1.9
Panhandle Pipelines - Ojibway	0.2	0.2	0.2
TransCanada (Great Lakes)	2.0	2.0	2.0
Bluewater	0.3	0.3	0.3
Enbridge (Tecumseh Storage)	2.7	2.7	2.7
St. Clair/Michcon	0.3	0.3	0.3

b) Daily Flow for each of the pipelines is provided in the following graphs:




PEPL - Ojibway
PJ/d
0.25
0.20
0.15
0.10
0.05
0.00
2014-01-01
2014-02-01
2014-03-01
2014-04-01
2014-05-01
2014-06-01
2014-07-01
2014-08-01
2014-09-01
2014-10-01
2014-11-01
2014-12-01


TransCanada(Great Lakes)
PJ/d
1.50
1.00
0.50
0.00
-0.50
-1.00
2014-01-01
2014-02-01
2014-03-01
2014-04-01
2014-05-01
2014-06-01
2014-07-01
2014-08-01
2014-09-01
2014-10-01
2014-11-01
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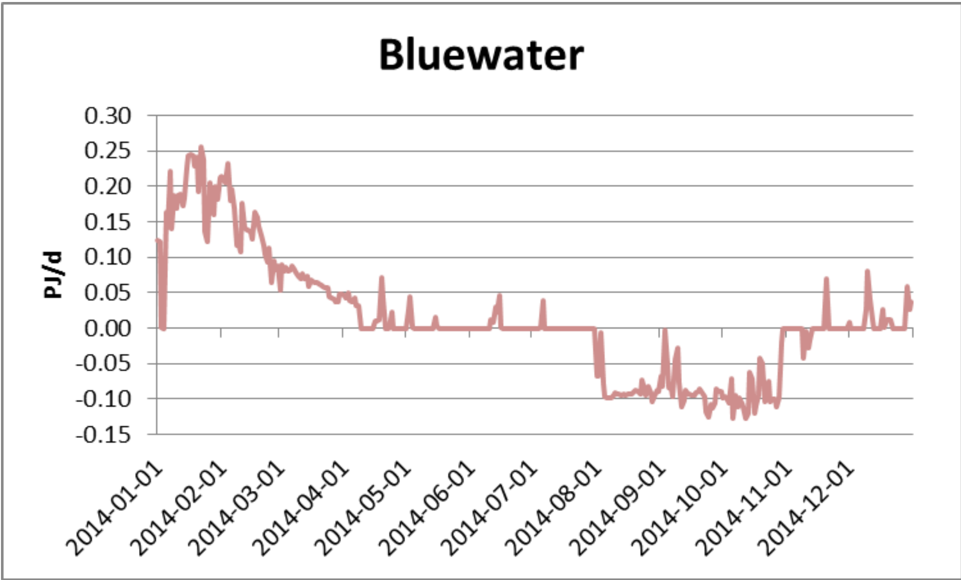
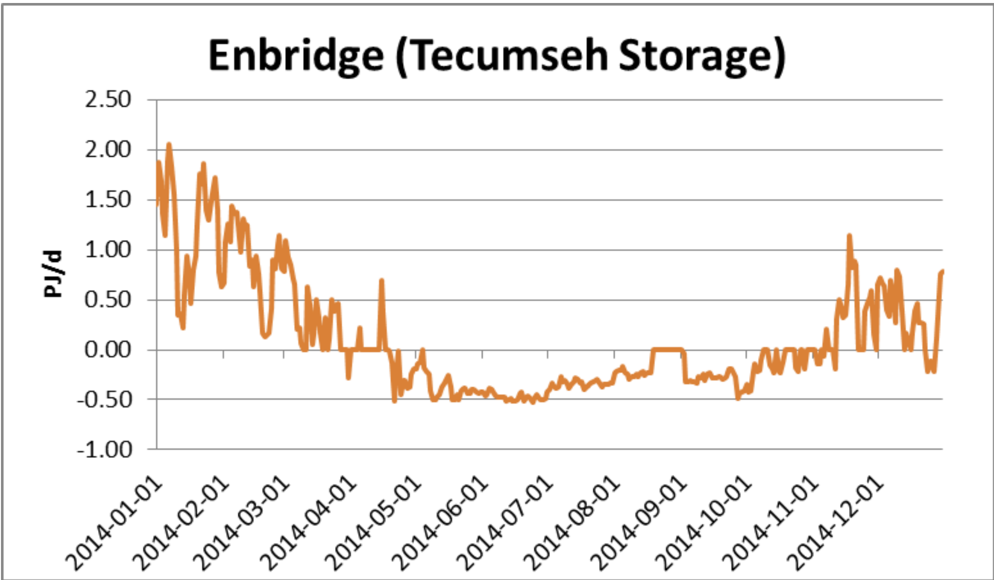

Bluewater
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
PJ/d
2014-01-01
2014-02-01
2014-03-01
2014-04-01
2014-05-01
2014-06-01
2014-07-01
2014-08-01
2014-09-01
2014-10-01
2014-11-01
2014-12-01


Enbridge (Tecumseh Storage)
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
PJ/d
2014-01-01
2014-02-01
2014-03-01
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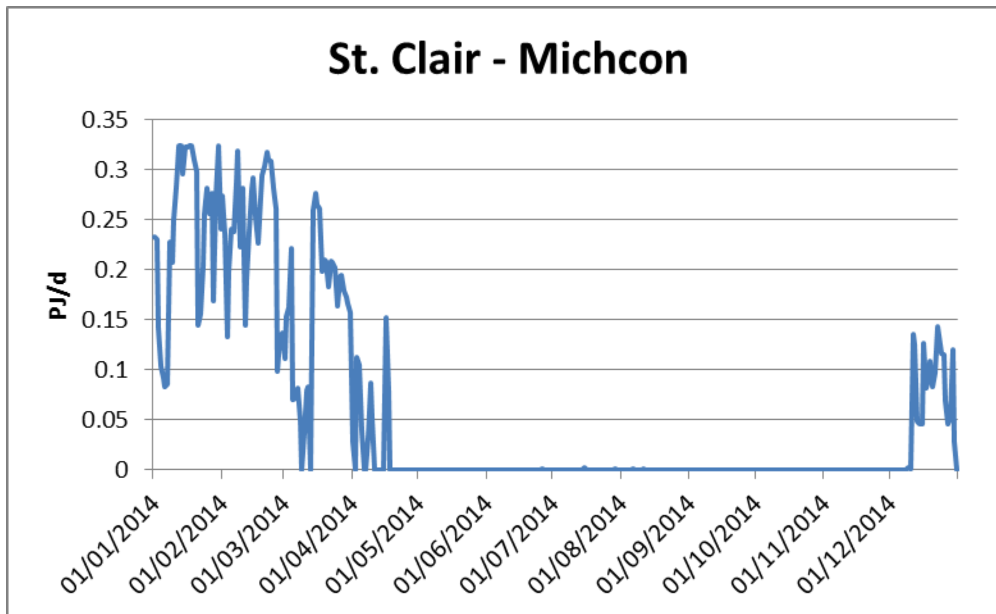
2014-12-01



c)

i) Given the publicly available information, it is Union's understanding that approximately 500 Dth/d has been contracted by NEXUS.

ii) The development of the Rover and NEXUS Pipelines along with other potential changes on the Vector system will result in up to 0.3 PJ/d of incremental capacity into Dawn.

iii) Union does not know what un-contracted firm capacity on the Canadian portion of Vector exists.

iv) Union does not know that level of contractual commitment.

v) Confirmed. However given the decontracting of parties on the Alliance/Vector path, if shippers did not use the Vector path for NEXUS volumes, the un-contracted capacity may not be used at all. Using the Vector and DTE paths to transport NEXUS volumes to Dawn is an efficient use of existing infrastructure.

vi) Confirmed. Please see the response to v) above.

UNION GAS LIMITED

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

Reference: i) Exhibit A page 3
ii) Exhibit A page 33
ii) Exhibit A page 28

Preamble: Union notes that the expected cost of entering into the proposed 15 year transportation agreement is approximately $715 million. APPrO would like to understand how Union is proposing to recover these costs.

a) In Reference i) Union indicates the costs associated with this transportation capacity will be approximately $715 million. In Reference iii) Union indicates that the "transportation capacity will be allocated based on a split of approximately 2/3 for Union South and 1/3 for Union North.". Other than the costs associated with Union providing the St. Clair to Dawn portion of the service as noted in Reference ii), please indicate which customers in each of Union South and Union North Union will be expected to pay for the balance of the costs associated with the transportation service.

b) Please indicate which customers in Union North and Union South will be expected to pay for any gas supply purchased for the related transportation capacity on the NEXUS Pipeline.

Response:

a) All transportation costs associated with the NEXUS capacity will be paid for by Union North and Union South sales service customers only.

b) All gas supply purchased will paid for by Union North and Union South sales service customers only.

UNION GAS LIMITED

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

Reference: i) Exhibit A page 26

"Most power generation contracts are commercially structured based on their price of natural gas at Dawn for a large portion of Ontario's electricity production capacity."

ii) Exhibit A page 13

"In summary, the resulting benefits of NEXUS are extensive, and will not only apply to Union's customers for which it is responsible to procure supply and transportation, but to all natural gas market participants in Ontario including Direct Purchase and Power Generation customers, and other LDCs."

Preamble: APPrO would like better understand Union's purported benefits to other markets.

a) Please clarify what is meant by the statement in Reference i)

b) Please confirm that for most power generation in Ontario, the resulting savings from a decline in the index price of gas at Dawn is passed on by generators and directly results in a lower price of electricity in Ontario when gas is the marginal generation source and as such, a lower price of gas does not benefit gas-fired power generation customers as implied in Reference ii). If not confirmed, please explain.

Response:

a) Union's understanding is that the Clean Energy supply contracts use the Dawn daily index price as the reference price. It is Union's experience that these customers prefer to secure their gas supply at Dawn.

b) The APPrO statement in b) above is correct for electricity contracted with the IESO. In this case the lower gas costs at Dawn will result in lower electric prices. NEXUS will also bring other benefits for buyers of gas at Dawn, including benefits related to enhanced liquidity (i.e. enhanced supply competition and price stability). For any output above the contracted amount, Union's understanding is that the lower priced natural gas input would benefit the power generator.

UNION GAS LIMITED

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

Reference: i) Sussex Economic Advisors Evidence Exhibit A Schedule 3 pages 35-36
"As proposed, NEXUS provides a direct pipeline path between the Marcellus and Utica supply basins and the Dawn Hub, allowing more supply to be delivered to the Dawn Hub. NEXUS will not only increase the physical supply to the Dawn Hub, but also increase the number of counterparties that are active at the Dawn Hub (e.g., the NEXUS capacity holders that are natural gas producers). This increase in natural gas supply and counterparties will increase the overall liquidity of the Dawn Hub. In addition, the transportation capacity on NEXUS that is contracted by the Ontario LDCs will be utilized to deliver physical natural gas supply to the Dawn Hub to meet customer demand."

Preamble: APPrO would like to better Sussex's understanding of the NEXUS Pipeline.

a) Sussex's indicates that there will be increased NEXUS producer counterparties that will be active at Dawn. Please have Sussex provide:
   i. A list of all shippers and their respective capacity commitments that have been made to the NEXUS pipeline. If these are not all commencing as of November 2017, please illustrate how these will be phased in over time. Please also note the sector that they represent (e.g. LDCs, producers, marketers, etc.).
   ii. Please provide Sussex's understanding of the minimum aggregate transportation commitments necessary for the NEXUS Pipeline to proceed to be developed.
   iii. Please provide Sussex's understanding of the changes to the net physical pipeline capacity into Dawn as a result of the NEXUS Pipeline.
   iv. Please provide Sussex's understanding of the net increases to the physical gas supply availability for sale to third parties at Dawn as a result of the NEXUS Pipeline.
b) Sussex indicates that there will be increased liquidity at Dawn as a result of the NEXUS Pipeline. Please have Sussex provide the following:
   i. A definition of liquidity
   ii. A description of how liquidity is quantified and measured.
   iii. Please provide a quantitative estimate of the level of current liquidity at Dawn and an estimate of the liquidity after the NEXUS Pipeline has been completed. Please show how these were derived.
   iv. To the extent that number of parties buying their gas at Dawn is a factor that increases liquidity, please confirm that an increase in the volume of gas purchased at Dawn will have a positive effect on liquidity. If not confirmed, please explain.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

a)

i) With respect to project shippers on the NEXUS Gas Transmission Project ("NEXUS"), it is the understanding of Sussex that NEXUS has executed precedent agreements with both "market pull" entities (e.g. local distribution companies ("LDCs")) and "supply push" entities (e.g. natural gas producers). Sussex has summarized the publicly available information regarding the capacity commitments on NEXUS, service commencement dates, and sector description by shipper in the table below.

NEXUS Project Shipper	Sector	Capacity Commitment (Dth/day)	Service Commencement Date	Source
Union Gas Limited	LDC	150,000	November 2017	Union Contract Approval Filing for NEXUS
Enbridge Gas Distribution Inc.	LDC	110,000	November 2017	Enbridge Contract Approval Filing for NEXUS
DTE Gas Company	LDC	75,000	November 2017	DTE Gas Contract Approval Filing, Case No. U-17691
DTE Electric Company	EDC	75,000	November 2017	DTE Electric Contract Approval Filing, Case No. U-17680
Chesapeake Energy Marketing Inc.	Producer	Not available	November 2017	Draft Resource Report 1 filed by NEXUS with the FERC in June 2015
CNX Gas Company LLC	Producer	Not available	November 2017	Draft Resource Report 1 filed by NEXUS with the FERC in June 2015
Noble Energy Inc.	Producer	Not available	November 2017	Draft Resource Report 1 filed by NEXUS with the FERC in June 2015

ii) Sussex is not aware of the minimum aggregate capacity commitment level required for the NEXUS Pipeline to be developed.

iii) It is the understanding of Sussex that NEXUS will utilize certain existing pipeline capacity for delivery to the Dawn Hub. Sussex has not reviewed the facility filings or application of the particular pipelines that will deliver NEXUS volumes to the Dawn Hub, and, as such Sussex does not have the requested information. Please see Union's response to Exhibit B.T1.Union.APPrO.2 c) ii).

iv) NEXUS will provide direct access to the Marcellus and Utica shale basin, thus diversifying the physical gas supply available to the Dawn Hub. The addition of this gas supply source (i.e. Marcellus and Utica basin) will provide more physical gas supply options for third parties at Dawn. The volume of natural gas available to third parties as a result of the NEXUS Pipeline will depend on the utilization of that gas supply by the shippers, or replacement shippers, on NEXUS. For example, a natural gas producer with a capacity contract on NEXUS may provide that gas supply to third parties.

b)

i) In general, liquidity in reference to a natural gas pricing point or location refers to the ability of counterparties to enter into transactions to buy and sell natural gas in a manner that is efficient (i.e. available counterparties) and transparent (i.e. standard transactions with minimal transaction costs).

ii) While there are different measures for liquidity, certain metrics may include:

- Trade volume – the higher the volume traded the more liquidity
- Number of counterparties and diversity of parties (e.g. producers, LDCs, marketers and end-users) – the more parties available to transact and the diversity of those parties would provide more liquidity
- Price volatility – lower price volatility would suggest more liquidity
- Percent of days with a transaction – a higher number of days when a transaction has occurred would suggest more liquidity
- Number of transactions per day – a great number of daily transactions or deals would suggest more liquidity

Finally, in general, natural gas price locations that are a "hub" may have certain physical facilities or other attributes that provide for a higher level of liquidity. These hub attributes may include:

- Deliveries to/from multiple pipelines
- Access to various gas supply basins
- Access to natural gas storage facilities
- Access to downstream markets

The U.S. Energy Information Administration ("U.S. EIA") has noted that market centers/hubs offer certain key services: 1) transportation between and interconnections with other pipelines, and 2) the physical coverage of short-term receipt/delivery balancing

needs. The U.S. EIA further notes that many market centers "provide unique services that help expedite and improve the natural gas transportation process overall". New sources of gas supply would only enhance the ability of a market center such as the Dawn Hub to provide these services.

iii) With respect to a quantitative metric for the current liquidity at the Dawn Hub, Sussex provides the following information from Platts. Since 2003, Platts has grouped price point locations in its monthly natural gas price survey into three tiers:

- Tier 1, points with traded volumes of at least 100,000 MMBtu/day and at least 10 trades;
- Tier 2, points with traded volumes of 25,000 to 99,999 MMBtu/day and at least five trades; and
- Tier 3, points with traded volumes below 25,000 MMBtu/day and/or fewer than five trades.

The following table is a summary of the Platts ranking for the Dawn Hub price index.

	Dawn		
Split-Year (Nov-Oct)	**Avg. Daily Volume (000 MMBtu)**	**Avg. No. of Deals**	**Avg. Tier**
2009/2010	594	110	1
2010/2011	624	123	1
2011/2012	509	97	1
2012/2013	662	105	1
2013/2014	395	92	1
2014/2015	420	113	1

As illustrated in the table above, the Dawn Hub price index has been, on average, a Tier 1 price index (i.e. the highest category for traded volumes and number of deals) over the time period reviewed by Sussex.

For comparison purposes, a summary of the Platts ranking for Niagara is provided below.

	Niagara		
Split-Year (Nov-Oct)	**Avg. Daily Volume (000 MMBtu)**	**Avg. No. of Deals**	**Avg. Tier**
2009/2010	103	18	2
2010/2011	64	11	2
2011/2012	23	5	2
2012/2013	1	1	3
2013/2014	3	2	3
2014/2015	6	2	3

As illustrated above, Niagara was, on average, a Tier 2 price index in 2009/2010, 2010/2011, and 2011/2012; and a Tier 3 price index in 2012/2013, 2013/2014, and 2014/2015.

With respect to a forecast estimate of liquidity once the NEXUS project is in service, Sussex has not developed such an analysis. However, the gas supply from NEXUS should provide support for volumes traded and average number of deals, such that the Dawn Hub retains its Tier 1 ranking. Please see the response to Exhibit B.T1.Union.LPMA.8 regarding the benefits of NEXUS to the Dawn Hub.

iv) As discussed in the response to Exhibit B.T1.Union.APPrO.5 b) iii), the level of transaction activity is one metric for assessing the liquidity at a pricing point. Therefore, an increase in the number of transactions at Dawn should have a positive effect on liquidity.

UNION GAS LIMITED

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

Please provide a list of proceedings since the Guidelines were put in place in which Union and EGD applied for pre-approval of long-term contracts, and for each case, whether the Board approved or did not approve the request.

Response:

Please see the response at Exhibit B.Union.T1.Staff.2.

UNION GAS LIMITED

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

Reference: Tab 1

What percentage of the NEXUS pipeline's total planned capacity do Union and EGD initial commitment constitute? Please provide a list of shippers that have signed Precedent Agreements for the project, in each case indicating whether they are an LDC, or producer (agent for producer) the volumes, the receipt and delivery points. If there are confidentiality issues (for non-LDC shippers only), shipper can be identified as A, B, C.

Response:

Please see the responses at Exhibit B.T4.Union.FRPO.21 and Exhibit B.T1.APPrO.5 a) i) for the known information related to other NEXUS shippers.

Union is aware through the NEXUS FERC pre-filing that approximately 760,000 Dth/d will be contracted to Dawn. Therefore, Union and Enbridge's volumes make up approximately 35% of the capacity to Dawn ((Enbridge 110,000 + Union 150,000) divided by 760,000 Dth/d).

UNION GAS LIMITED

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

Please provide copies of, or links to, the most recent annual and six-month reports of the publicly listed parent companies of the two lead developers of the NEXUS pipeline, Spectra Inc. and DTE Inc.

Response:

Annual and quarterly financial reports are made publically available through EDGAR on the U.S. Securities and Exchange Commission website.

Spectra Energy Corp.
https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001373835&owner=exclude&count=40&hidefilings=0

DTE Energy Co.
https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0000936340&owner=exclude&count=40&hidefilings=0

UNION GAS LIMITED

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

Please provide the projected annual expenditures on the NEXUS project tolls (assuming equal annual volumes purchased over the fifteen year contract term), and show that as a percentage of the total projected pipeline tariffs paid by each utility over each of the years 2017, 2018, 2019, 2020, 2021.

Response:

Based on the $715 of total NEXUS project tolls, the annual cost for the NEXUS project tolls is $47.7 million $US. This represents approximately 31% of Union's 2017 total projected transportation portfolio costs. At this point in time, Union does not have any planned changes to the portfolio beyond 2017.

UNION GAS LIMITED

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

Given that Union is a wholly-owned subsidiary of Spectra, and that Spectra is one of the two lead developers of NEXUS, is it not reasonable to believe that Union will ultimately contract for capacity on NEXUS even if the Board does not pre-approve the cost consequences of the contract?

Response:

Please see the response at Exhibit B.T1.Union.LPMA.3.

UNION GAS LIMITED

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

Union states that the Affiliate Relationship Code does not apply to the relationship between Union Gas and NEXUS because NEXUS is a 50-50 Partnership between affiliates of Spectra Inc. and DTE Inc., under which neither party has control.

Response:

No question.

UNION GAS LIMITED

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

a) Please provide a copy of the joint venture agreement between Spectra and DTE Energy.

b) Please confirm that Spectra Inc. or its affiliates will operate the pipeline.

c) Please provide a copy of the operating agreement.

d) Please confirm that if Spectra is found to control the joint venture operation by contract or otherwise, the joint venture would be an affiliate of Union even if each of Spectra and DTE owned fifty percent of the common shares of the venture. Please discuss fully.

e) Please provide a status report on US pipelines that are in operation or in development to transport gas from the Marcellus basin to the Canadian border.

Response:

a) Union is not party to the agreement.

b) Based on information available on the NEXUS Transmission website (www.nexusgastransmission.com), it appears that Spectra Inc. will operate the NEXUS pipeline.

c) Union is not party to the agreement.

d) Union and Nexus are not affiliated in accordance with Section 1(4) of the Business Corporations Act (Ontario) which is the basis of the definition of "affiliate" adopted by the OEB under the Affiliate Relationship Code.

e) Please see the chart below for announced projects bringing Marcellus and Utica gas to Canada. The data is based on the ICF International report "Impact of Natural Gas Market Trends on Utilization of the Union Gas Dawn Parkway System", EB-2015-0200, Exhibit A, Tab 5, Schedule 1, Exhibits 4-7, 4-8 and 4-9. Also, please see the responses at Exhibit B.T1.Union.FRPO.1 and Exhibit B.T1.Union.APPrO.2 for the status of pipeline systems into Ontario.

Projects Bringing Marcellus and Utica Gas to Canada

Project Name	Company	Route	Planned In-Service Date	Planned Capacity MMcfd	Status
Niagara Expansion	Tennessee Gas Pipeline	Modify Interconnect with NFGS and small pipeline loops in NY and PA.	Nov-15	158	FERC Approved
Northern Access 2015	National Fuel Gas Supply	Compression expansion to allow additional Niagara deliveries	Nov-15	140	FERC Approved
Northern Access 2016	National Fuel & Empire Pipeline	Loop pipe and add compression to increase deliveries to Niagara and Chippawa	Nov-16	350	FERC Filed
Rover Pipeline Pt1	Energy Transfer	Marcellus/Utica to Ohio/Michigan	Dec-16	2,200	FERC Filed
Rover Pipeline Pt2	Energy Transfer	Marcellus/Utica to Ohio/Michigan	Jun-17	1,050	FERC Filed
ANR East	ANR Pipeline	Clarington OH to feed ANR pipeline at Defiance OH and into Michigan	Jul-17	~1,000	Annnounced
South to North	Iroquois Gas Transmission	Reversal of system between Wright and Waddington	Nov-17	300	Annnounced
Nexus Gas Transmission	Spectra Energy/DTE	NE Ohio to Michigan	Nov-17	~2,000	Prelim FERC Filed
Atlantic Bridge	Algonquin & M&N	New Jersey to New England and Maritimes Canada	Nov-17	300	Annnounced

UNION GAS LIMITED

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

Do Union and EGD agree that Dawn is now a liquid hub, and will remain a liquid hub regardless of whether either company contracts with NEXUS transmission? If not, please explain. Please discuss fully.

Response:

Please see the response at Exhibit B.T1.Union.LPMA.1 a).

UNION GAS LIMITED

Answer to Interrogatory from
Building Owners and Managers Association Toronto (“BOMA”)

Reference: Exhibit A, Tab 3, Schedule 2, Page 35

You state that "currently, Ontario LDCs do not have direct access to the Marcellus/Utica supply". How is this statement correct, in light of the fact, as stated by EGD at Exhibit A, Tab 3, Schedule 1, Page 50: "Absent NEXUS, Enbridge's only natural gas supply from the Appalachian basin will be purchased at Niagara", that EGD currently (November 1, 2016) purchases gas from the Marcellus basin and brings it directly to its service area (Parkdale/Consumers receipt point) via the TCPL domestic line?

Response:

The reference in Union’s evidence is the Sussex Report at Exhibit A, Schedule 3, page 35.

The following response was prepared by Sussex Economic Advisors, LLC.

NEXUS will provide the Ontario LDCs with direct access (i.e., purchases) of natural gas supplies within the Marcellus and Utica basin as NEXUS connects that basin to the Dawn Hub. Stated differently, the purchases of natural gas supplies into NEXUS are within the Marcellus and Utica basin and will reflect market conditions and prices within the basin. To provide context, please see the following quote from Enbridge, as stated at Exhibit A, Tab 3, Schedule 1, page 15: “NEXUS provides direct access to new natural gas supply from the Utica and Marcellus shale formations. These supplies are not currently a component of Enbridge’s supply portfolio in that Enbridge does not procure Utica or Marcellus gas from directly within the supply basin.”

UNION GAS LIMITED

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

Reference: Ibid, Page 42

"Sussex reviewed the landed cost analysis prepared by the Ontario LDCs to verify that: (1) the approach was reasonable and consistent with typical landed costs approaches; (2) alternative options had been identified and modeled; and (3) the decision process and analysis was documented."

Please confirm that NEXUS did not do its own landed cost analysis of the options available to the two utilities.

Response:

The reference in Union's evidence is the Sussex Report at Exhibit A, Schedule 3, page 42.

The following response was prepared by Sussex Economic Advisors, LLC.

As the question is drafted, Sussex is not aware if NEXUS conducted its own landed cost analysis. Assuming the question meant to refer to Sussex and not NEXUS, Sussex did not complete its own landed cost analysis.

UNION GAS LIMITED

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

Reference: Ibid

You have provided information on pre-approval processes and recent decisions in four states in the United States.

a) Are these the only four states that make provision for pre-approvals of long-term natural gas?

b) If not, what other states provide such pre-approval option? For each such state, please provide references for legislation/PUC guidelines/recent decisions.

Response:

The reference in Union's evidence is the Sussex Report at Exhibit A, Schedule 3, pages 54-58.

The following response was prepared by Sussex Economic Advisors, LLC.

a) The four states (i.e. Massachusetts, Connecticut, Florida, and North Carolina) reviewed by Sussex in the Sussex Report were intended to be a representative, and not exhaustive, list of other regulatory jurisdictions that have implemented processes regarding pre-approval of pipeline capacity contracts.

b) As stated in the response to a) above, Sussex has not conducted an exhaustive search of the pre-approval options in other states. However, as a result of recent project work Sussex is aware of the pre-approval processes for pipeline capacity in New Hampshire and Maine, which are summarized below.

   New Hampshire
   On June 26, 2015 in Docket Number DG-14-380, the staff of the New Hampshire Public Utilities Commission and Liberty Utilities (i.e., EnergyNorth Natural Gas) submitted a settlement recommending the approval of a precedent agreement between EnergyNorth and Tennessee Gas Pipeline for a capacity contract on the Northeast Energy Direct Project.

   To receive approval for the Precedent Agreement between EnergyNorth and Tennessee Gas Pipeline, the New Hampshire Public Utilities Commission will need to determine if the contract for pipeline capacity is prudent and in the public interest.

To demonstrate that the precedent agreement with Tennessee Gas Pipeline is in the public interest, EnergyNorth filed testimony summarizing the contract and demonstrating EnergyNorth's need for the capacity to replace existing capacity and to meet forecasted long-term demand. In addition, EnergyNorth provided quantitative and qualitative analysis to support the decision to enter into the precedent agreement.

Maine

On August 11, 2015 in Docket Number 2015-00063, the Maine Public Utilities Commission ("ME PUC") approved a settlement between Maine Natural Gas ("MNG"), the Maine Office of the Public Advocate, and Northeast Energy Solutions with respect to a precedent agreement between Maine Natural Gas and Algonquin Gas Transmission/Maritimes and Northeast Pipeline for pipeline capacity on the proposed Atlantic Bridge Project. As discussed in the MNG application for approval, the ME PUC is tasked with determining that the decision of MNG to enter into the Atlantic Bridge precedent agreement is prudent and "represents efficient operation of the utility and the utilization of sound management practices." To support this requirement, MNG filed testimony and other supporting materials including the following:

- A demonstration of the need to begin holding upstream pipeline capacity,
- A summary of the key terms of the agreement,
- A demonstration of the cost effectiveness of the proposed agreement, and
- A qualitative discussion of the benefits of the project, including its consistency with Maine Energy Policy.

UNION GAS LIMITED

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

Reference: Exhibit A, Schedule 1

a) BOMA is not clear on how Union has calculated the Reservation Rate that Union will pay to the NEXUS pipeline over the term of the Agreement, what the components of that rates are, which of those components are fixed for the duration of the contract, and which are subject to adjustment by FERC as part of its approval of the pipeline.

b) At Exhibit A, Schedule 1, Page 61 (Statement of Negotiated Rates), NEXUS states that the Final Estimated Reservation Rate for Union's contract shall be $0.77, "subject to further adjustment as set forth herein and in the Restated Precedent Agreement dated May 28, 2015". At Page 66 of 68 in a letter to Union dated May 28, 2015, NEXUS stated that the portion of the Final Estimated Reservation Rate that is derived from the estimated capital costs associated with the construction of the Project is US$0.635, and the $0.635 is the base number to which the Capital Cost Tracking Adjustment is applicable. Is BOMA's interpretation correct? If not, please clarify.

c) Please list and explain each additional cost item that constitute the difference between the $0.6325 and $0.77 numbers. Is either of the numbers subject to modification by FERC as part of the initial approval process and decision, or at any other time during the fifteen year contract term?

d) Please rationalize the $8.938 CDN/GJ number (Exhibit A, Page 40 of 54) which appears to be Union's landed cost (commodity plus transportation tariffs) from the project receipt point to Dawn via the St. Clair pipeline with the $0.77 US. In other words, please provide an itemized breakdown or buildup of the numbers, including the detailed assumption underlying each component.

e) At Page 4, the Precedent Agreement states:

   i. "The reservation rates payable by Customer for transportation service (as set forth in the applicable Pipeline tariffs approved by the FERC, the "Reservation Rates") will be set and applied for on a commercially reasonable basis".

   ii. Please explain what this statement means.

   iii. Please reconcile this statement with the statements made elsewhere in the evidence that, with the exception of the ±15% change to that portion of the Reservation Rate determined

by the capital cost of the project, the rate is fixed for fifteen years. Please explain fully, including a "translation" for Ontario readers of FERC terminology.

f) Please provide copies of FERC's prototype gas transmission FT tariff including its General Terms and Conditions, and including a template FT service agreement. Please highlight any differences between the FERC template agreement and the "illustrative" form of transportation service agreement provided in Exhibit A.

Response:

a) Union's Reservation Rate on NEXUS is a negotiated fixed rate of $0.77 US/Dth for gas delivered to the interconnect of Union and DTE at the International Border at St. Clair. The Reservation Rate is is split into two components. The first is the greenfield rate from Kensington (the origination point of the contract) to DTE's facilities at Willow Run, Michigan ($0.635 US/Dth) and the second, a rate to move gas from Willow Run to the International Border ($0.135 US/Dth). The greenfield rate of $0.635 US/Dth is subject to a +/- 15% capital cost tracker which could result in a rate of between $0.67 to $0.87 US/Dth. The $0.135 US/Dth rate is fixed and not subject to a capital cost tracker. Neither of these rates would be subject to adjustment by FERC and the greenfield rate will be fixed for the term once the cost tracker adjustment is set.

b) Correct. Please see the response to a) above.

c) Please see the response to a) above.

d) Please see the response at Exhibit B.T1.Union.SEC.12.

e) Although Union does have a negotiated rate (subject to the capital cost tracker), Union could choose the FERC approved Reservation Rate once the project is complete and therefore would want to ensure these rates are set and applied for on a commercially reasonable basis. The expectation is that this rate would be higher and could also change over time therefore the likelihood of Union choosing that option would be low.

f) Union's understanding is that FERC does not have its own prototype gas transmission service agreement. Instead, FERC's regulations dictate what needs to be included in service agreements filed by regulated companies and what these companies must do if they develop a service agreement that does not conform to a previously approved standard agreement. While similar to each other, FERC approves standard service agreements that are unique for each company and these standard service agreements can evolve over time.

UNION GAS LIMITED

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

Reference: Exhibit A

CME supports the rational development of new natural gas infrastructure in Ontario. Particularly, CME believes that there is benefit in connecting Ontario to the Appalachian region of the United States Northeast, which is a fast-growing production region of natural gas in North America. That said CME wishes to better understand the need for pre-approval of the cost consequences of the NEXUS long-term contract. In this regard, please answer the following questions:

a) CME understands that Union has previously requested pre-approval of long-term natural gas supply and/or upstream transportation contracts from the Ontario Energy Board ("Board"). Please identify all of the previous applications in which Union has sought pre-approval of the cost consequences associated with a long-term natural gas supply and/or upstream transportation contract.

b) For each of the previous applications in which pre-approval was sought, please confirm whether the Board granted pre-approval.

c) Please identify all differences within this application, as compared to previous applications in which pre-approval was denied by the Board, which would justify the Board granting pre-approval in this case.

d) Is Union aware of the Board ever providing pre-approval of the cost consequences of a long-term natural gas supply and/or upstream transportation contract to any Ontario distributor? If yes, please identify the applications in which approval was granted.

Response:

Please see the response at Exhibit B.T1.Union.Staff.2.

UNION GAS LIMITED

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

Reference: Exhibit A, page 4 of 54

Union has stated that without the assurance provided by contract pre-approval, Union will not commit to the NEXUS contract. In its previous applications where it sought pre-approval, did Union make a similar statement, namely that it would not commit to the contract if pre-approval was not granted by the Board? If so, please identify the application(s) where it made such a statement. If such a statement was made in any of the applications in which the Board denied pre-approval, please confirm whether Union nevertheless entered into those particular long-term natural gas supply and/or transportation contracts regardless of the fact that it did not receive pre-approval.

Response:

As detailed in Exhibit B.T1.Union.Staff.2, Union applied for pre approval of the cost consequences of long term contracts in two prior proceedings.

1) In the first (EB-2010-0300), Union requested pre-approval related to a 10 year firm contract with TCPL for 21,101 GJ/d of transportation from Niagara to Kirkwall starting November 1, 2012.

   Union, when asked in the hearing whether they would proceed without pre-approval, Union indicated "At this time, no." (EB-2010-0300/EB-2010-0333 Transcript from January 20, 2011, Volume 1, page 111, lines 5-10).

   The Board determined that the applied for contracts did not qualify for pre-approval of the cost consequences as the contracts were not required to support significant greenfield infrastructure builds. The Board noted that the Applicants were not able to confirm that estimated facilities costs would result in the construction of new natural gas infrastructure as opposed to creating new capacity and/or services on existing natural gas infrastructure. In their Decision issued January 27, 2011, however, the Board went on to note:

   "In so doing, the Board is in no way suggesting that the proposed contracts are not prudent, or that costs recovery should in any degree be limited or precluded. That is an issue that a subsequent panel may have to decide upon if the utilities proceed with these or analogous long term contracts for access to Marcellus or any other gas supplies. The Applicants should take some comfort in the Board's decision in EB-RP-2001-0032 which established that in making a finding of prudence the Board should not apply hindsight, but rather should be

guided by what utility management knew, or can reasonably be considered to have known at the time of contracting. Much of Union's reply argument is directed to advancing the reasons why it considers the proposed contract desirable. These reasons may well be relevant in a subsequent prudence review."

Union had bid into the open season to bring diversity, to access the Marcellus basin and to support the infrastructure required by TransCanada. Union determined that the contract volume could be absorbed into the Union South portfolio and still allow enough flexibility in the portfolio to manage around it. Based on this, and upon review of the Board's decision and reasons, Union did ultimately proceed with the Niagara contract for 21,101 GJ/d from Niagara to Kirkwall.

2) In the second request (EB-2013-0074, Brantford-Kirkwall/ Parkway E Compressor Application), Union requested pre-approval of the cost consequences of two long term short haul firm TransCanada transportation contracts from Union Parkway Belt to the NDA and EDA, respectively. The total of the contracts was 110,000 GJ/d commencing November 1, 2015 for a term of 10 years.

Union made no statement about whether it would proceed with the contracts without pre-approval of the cost consequences, but did state that it would not proceed with the Parkway Projects without pre-approval to recover the cost consequences or reasonable assurances that it will receive approval to recover the cost consequences. The bids and PA's with TCPL did not allow for conditions, so once signed, Union was committed to proceed.

In its Decision issued January 30, 2014, the Board approved the overall project components but did not grant the requested pre-approval of the cost consequences of the two long term contracts with TCPL, as there were no contracts in place.

The Board commented on the benefits of supply diversity of one of the project in the Decision at page 29 and 30:

> *"Furthermore, Ontario gas consumers will obtain additional certainty through this project concerning their access to alternative supply sources. The project will provide access to more supply and to more sources of supply while retaining market access to existing WCSB supplies. That is a clear benefit to Ontario consumers, and is a positive element in relation to the economic viability of the project. Supply diversity enhances security and has the tendency to lower gas prices from what they would otherwise be if the market continued to rely on fewer sources of supply."* (p. 29)
>
> *"Even if gas cost savings do not materialize, the project is justified on the grounds of enhanced security and diversity of gas supply, and the contribution that the project will make to enhance a competitive natural gas market in Ontario through increased liquidity at Dawn."* (p. 30)

Regarding the contract pre approval request, the Board stated:

> *"Board will not grant the requested pre-approval of the cost consequences of the two long-term contracts with TransCanada.*
>
> *The Guidelines specify that pre-approval of the cost consequences of long-term contracts should be limited to those contracts that support the development of new natural gas infrastructure. Although the proposed contracts are related to the new infrastructure proposals, no contract has yet been put in place, nor is there any precedent agreement. The Board has difficulty with the concept of approving the cost consequences of a contract which does not yet exist. How can the Board consider the cost consequences of these proposed contracts when the Board does not know what those costs may be? Union maintained that all the key factors are known, including anticipated tolls. However, in the absence of actual agreements, or even precedent agreements, that information remains highly uncertain. It would be contrary to the public interest to make a decision that is based on an absence, or paucity, of evidence. In addition, there was no cogent evidence to show that the requested approval was crucial to the project."* (p.32)

Given the approval of the overall Parkway Projects by the Board and the supporting reasons of that decision, Union proceeded with these related contracts.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: EB-2015-0175 Exhibit A, Tab 2, Schedule 1, Appendix A

Preamble: Enbridge Gas Distribution Inc. provides tables at Appendix A showing the information requested in Part I, II, III, IV, V and VI of the Filing Guidelines and the corresponding references in Enbridge's evidence where the information can be found.

Please provide a similar Table for Union.

Response:

Part I – Identification of Applicant	File No. EB-2015-0166 Application, paragraphs 1-13
Part II – Needs, Costs and Benefits 2.1 A description of the proposed project that includes needs, costs, benefits (such as this project improves the security of supply and diversity of supply resources and timelines). 2.2 An assessment of the landed costs (supply costs and transportation costs including fuel costs) for the newly contracted capacity and/or natural gas supply compared to the landed costs of the possible alternatives.	 2.1 - Exhibit A, Part 4 The Need for the NEXUS Project, pp 18-25. Exhibit A, Part 5 Benefits of the NEXUS Project, pp. 26-41. 2.2 - Exhibit A, Part 5, pp. 38-41. Exhibit A, Schedule 4 and Schedule 5.
Part III – Contract Diversity 3.1 A description of all the relevant contract parameters such as transportation/supply provider, contract length, conditions of service, price, volume and receipt and delivery points. 3.2 An assessment of how the contract fits into the applicant's overall transportation and natural gas supply portfolio in terms of contract length, volume and services.	 3.1 - Exhibit A, Part 6 The NEXUS Agreement, pp. 42-45. 3.2 - Exhibit A, Part 4 The Need for the NEXUS Project, pp 18-25.

Part IV – Risk Assessment	
4.1 Identification of all the risks (such as forecasting risks, construction and operational risks, commercial risk and regulatory risk) and plans on how these risks are to be minimized and allocated between ratepayers, parties to the contract and/or the applicant's shareholders.	4.1 - Exhibit A, Part 7 Risk Mitigation of the NEXUS Agreement, pp. 46-52.
Part V – Other Considerations	
5.1 A description of the relationship and other conditions, rights or obligations between the parties to the contract and applicant's parent company and/or affiliates.	5.1 - Exhibit A, Part 6 The NEXUS Agreement, Union Relationship with Project Proponents, p. 45.
5.2 An assessment of retail competition impacts and potential impacts on existing transportation pipeline facilities in the market (in terms of Ontario customers).	5.2 - Exhibit A, Part 4 The Need for the NEXUS Project, pp. 18-25. Exhibit A, Part 5 Benefits of the NEXUS Project, pp. 26-41.
Part VI – Contract	
6.1 The contract for which the utility is seeking pre-approval for is filed in this application. The utility may request confidential treatment of its contract in accordance with the Ontario Energy Board's *Practice on Confidential Filings.*	6.1 - Exhibit A, Schedule 1.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 3

Please provide the conversion rate of Dth/d to GJ/d.

Response:

The conversion from Dth/d to GJ/d is 1.055056 (e.g. 150,000 Dth/d = 158,258 GJ/day).

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, page 4

Preamble: Union says that if it wasn't able to sign on as an anchor shipper "there is a significant risk that producers, who are also anchor shippers on the NEXUS project, may interpret Union's action as a lack of endorsement of Dawn as an important market hub and an indication of a weak market for their supplies at Dawn." It then says that this might result in NEXUS failing to proceed as planned.

a) Does Union have any support for this statement? How many other companies are interested in the NEXUS project?

b) Is Union integral to the project going ahead?

Response:

a) A list of shippers on the NEXUS pipeline is included at Exhibit B.T1.Union.APPrO.5. Three of the listed shippers are producers, or represent producers. They are Chesapeake Energy Marketing Inc., CNX Gas Company LLC and Noble Energy Inc. None of these producers have extensive experience with the Dawn market however all are making significant financial commitments to secure transportation capacity to access the Michigan and/or Dawn markets.

   Union has discussed the Ontario and Québec markets with these shippers explaining the shift of natural gas supply and transportation from Western Canada and Empress to Dawn and the significant investment in expansion of the take away capacity from Dawn to growing eastern markets. These shippers are aware of Union's commitments to the NEXUS pipeline as an anchor shipper and Union's belief that these recent market developments create an opportunity for new supply at Dawn from Marcellus and Utica production to meet a portion of Ontario and Québec natural gas demand.

   Many of the Marcellus and Utica producers are cautious with respect to entering new markets such as Dawn, despite the fact that Dawn is the second most physically traded hub in North America. Many producers without affiliated Canadian entities or significant Canadian business (such as in the Western Canada Supply Basin) have also taken a cautious approach to doing business or initiating business in Canada. Union has worked closely with Marcellus and

Utica producers (including the NEXUS shippers) to facilitate their understanding of the Dawn market and the requirements of doing business in Canada. If Union did not remain an anchor shipper then this would undoubtedly be viewed as a negative signal and a lack of endorsement.

Union also notes that transportation capacity contracted by Union and Enbridge on the NEXUS pipeline to Dawn represents approximately 273 TJ/d out of a total of approximately 800 TJ/d (one-third). Union does not know how many other companies have expressed an interest to the project proponents of the NEXUS pipeline however Union expects that all or nearly all of the remaining transportation capacity to Dawn would be contracted by producers or marketers on behalf of producers. If Union and Enbridge did not contract, the remaining shippers would be left to carry more of the cost of service of the pipeline, which would result in higher tolls, unless other parties contracted for the Union and Enbridge capacity. This negative economic pressure creates a challenge for the NEXUS pipeline, the remaining shippers, including anchor shippers, and the markets to which the NEXUS pipeline would serve. These economic pressures (i.e. higher rates) could have a negative impact on the development of NEXUS.

b) Please see the response at Exhibit B.T1.Union.Staff.5.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Pages 8-9

a) Please discuss the WCSB production levels between 2014 and 2035.

b) Please extend Figure 2-2 to include the years 2015-2035.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

a) Please refer to Figure 3.6 at Exhibit A, Schedule 3, page 20, which provides historical and forecasted WCSB production levels from 2000 to 2035 obtained from the National Energy Board of Canada. Sussex has provided a detailed discussion of the WCSB including production levels on Exhibit A, Schedule 3, pages 15-21.

b) Please note that Figure 2-2 at Exhibit A, pages 8-9 also appears at Figure 3.8 at Exhibit A, Schedule 3, page 22. This figure was intended to illustrate a comparison of the historical natural gas production from the WCSB and Appalachian basins. Please refer to Figure 3.4 at Exhibit A, Schedule 3, page 18 and Figure 3.6 at Exhibit A, Schedule 3, page 20 for the forecasted natural gas production from the WCSB through 2035, and Figure 3.14 at Exhibit A, Schedule 3, page 31 for the forecasted Appalachian natural gas production through 2040.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 11, lines 1-7

Please provide the specific analysis/calculation to demonstrate that WCSB supplies are becoming less economic over time.

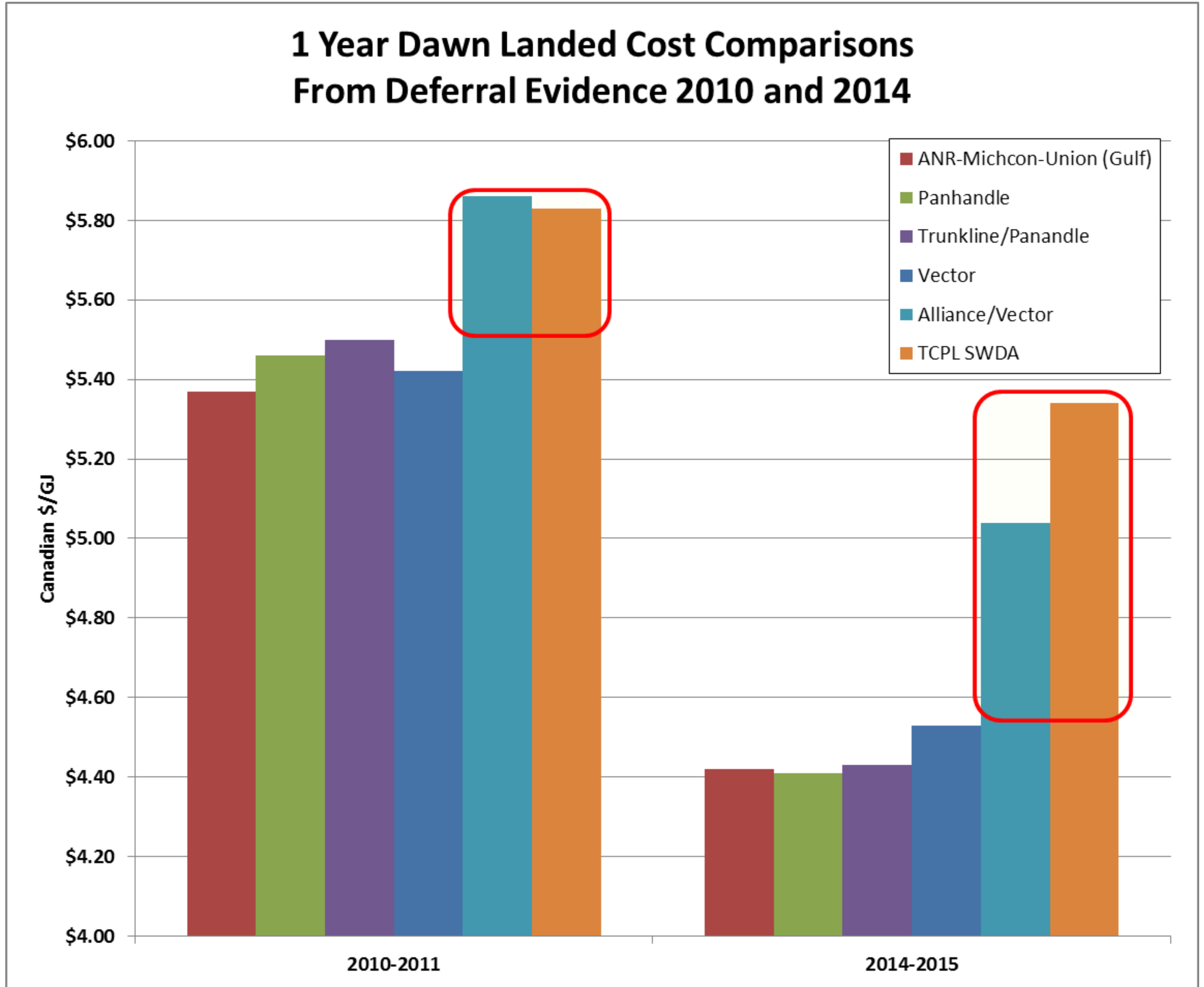
Response:

There has been a general movement since 2006 of parties shifting from long haul (Empress based supply) to short haul (Dawn/Niagara supply). The desire to continue the shift from long haul to short haul was one of the drivers behind the TransCanada Settlement Agreement.

Union has consistently used landed cost analyses to evaluate various upstream pipeline options. Landed cost combines the impact of commodity costs and cost of transportation to Ontario and is a means of determining the economics of supply sources relative to one another (i.e. evaluating options and alternatives). Although the landed costs change from year to year, the two paths that continually produce the highest landed cost to Union are the Alliance and TransCanada long haul paths accessing WCSB supplies.

Please see Table 1 for landed cost comparison details.

Table 1



Source: EB-2012-0087 - 2011 Deferrals Disposition, EB-2015-0010 – 2014 Deferrals Disposition

As can be seen in the chart above, in the 2010-2011 time period the landed cost of the Alliance/Vector and TransCanada paths from the WCSB were approximately 6% to 7% higher priced when compared to the other basins and paths that Union uses in the landed costs analysis. When you move ahead to 2014/2015, the premium has more than doubled to between 14% to 20%.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 11

Preamble: Union states the NEXUS capacity will replace an Alliance Pipelines contract for Union South customers, and TransCanada long-haul transportation contracts serving Union North and South.

a) Please discuss any cost implications of replacing these contracts.

b) How will these costs be allocated and recovered?

Response:

a) As shown on Exhibit A, page 41, based on the landed costs analysis, Union expects that replacing the Alliance and TransCanada long haul contracts with NEXUS capacity will save Union's sales service customers over $700 million in costs over the term of the agreement. There is no cost to terminate the Alliance/Vector contracts.

b) Please see the response at Exhibit B.T1.Union.APPrO.3.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 11

Please provide the specific details of the changes to Union's contracted capacity that were contemplated and approved in the TransCanada Settlement Agreement RH-001-2014.

Response:

The NEB approval of RH-001-2014 (TransCanada Settlement Agreement), was an approval of a change in TransCanada's framework that allows them a reasonable opportunity to earn a return on their capital, and provides TransCanada a framework that allows them to facilitate a conversion of long haul contracts from Empress to short haul contracts from Dawn. The NEB was not asked nor do they have authority to approve Union's gas supply arrangements.

All the changes to Union's gas supply contracts were identified in the 2015-2016 Dawn Parkway Project applications, and in the 2014 and 2015 Gas Supply Memorandum presentations.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 13

Preamble: Union indicates it has started working on gas supply arrangements with producers in the Appalachian shale region.

Please provide the details on the scope and outcome of the Expression of Interest and subsequent Request for Proposal (RFP) processes.

Response:

Union had provided a request for a non-binding Expression of Interest (EOI) to source up to 50,000 Dth/d at Kensington (the receipt point of the NEXUS contract) commencing in November 2017. Union received 26 different proposals from 13 parties that responded. Union subsequently went out with a binding supply RFP to the parties that responded to the EOI and Union is currently evaluating the responses received.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 14

a) Please discuss how the potential reinforcement work and cost to the DTE and Vector facilities fits into this application.

b) Please provide the proposed scope of work and associated costs in Ontario related to new pipeline infrastructure and other facilities to allow the use of St. Clair to Dawn facilities.

Response:

a) The re-enforcement work on Vector and/or DTE (if any) is not part of this application. Please see the response at Exhibit B.T1.Union.LPMA.2 c) i) and Exhibit B.T1.Union.APPrO.2.

b) There will be no new pipeline infrastructure required in Ontario to allow the use of St. Clair to Dawn capacity for the Union NEXUS volumes.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 21

Please discuss the timing of when the supplies arriving from the traditional western sources are expected to decline.

Response:

The supplies that have been arriving from traditional western sources have been declining since 2006. Please see the Sussex Report, Exhibit A, Schedule 3, Figure 3.3, page 17.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Please provide the landed costs of the status quo.

Response:

The landed costs for all paths in Union's current upstream transportation portfolio are included in Exhibit A, Schedule 5.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 24

Please provide the contracted volumes required to obtain a Most Favored Nations (MFN) clause for shippers on Rover.

Response:

To obtain a Most Favored Nations (MFN) clause on the Rover Pipeline, a shipper must commit to a minimum of 500,000 Dth/d for a term of 15 years. The minimum volume required to obtain anchor shipper status, which on NEXUS provided for MFN as well, is 150,000 Dth/d.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 38

Please summarize the types of assumptions that can change over time and impact the landed cost analysis.

Response:

Landed cost assumptions that can change over time include basis differentials, forecasted commodity prices, transportation tolls (where transportation tolls are not fixed), commodity charges, fuel ratios, and foreign exchange rates. Given assumptions can change on all supply paths, Union mitigates this by maintaining diversity of path and supplier. Union notes that in the case of NEXUS, transportation tolls are fixed over the term of the contract.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 42

Please summarize the key changes in the amended and restated Precedent Agreement (PA) as of May 28, 2015 compared to the PA as of August 11, 2014.

Response:

Change	Notes
NEXUS Project capacity size	Project capacity increased from 1 Bcf to 1.5 Bcf.
Removal of Phase 1	Includes removal of all references, conditions precedent, etc. for Phase 1. For more information, see Exhibit A, page 39.
Delivery point change from Dawn to St. Clair	Removal of reference to any Canadian portion of the path and related NEB approvals. For more information, see Exhibit A, page 15.
Inclusion of negotiated rate and greenfield portion of rate	The original PA included rate ranges of $0.63 US/Dth - $0.78 US/Dth for the U.S. service, and $0.04 CDN/Dth - $0.06 CDN/Dth for the Canadian service assuming the existence of Phase 1. The restated PA now includes the negotiated rate of $0.77 US/Dth and the breakdown of $0.635 US/Dth for the greenfield portion of the path.
Updated capital cost estimate	Capital cost estimate was updated from $1.625 billion to $2.019 billion.
Clarification of capital cost tracker	For the avoidance of doubt, further wording included to ensure that the capital cost tracker will be capped at +/- 15% of the greenfield portion of the rate.
Inclusion of withholding tax clause	Union shall make reasonable efforts to minimize or eliminate withholding of taxes for any pre-service costs.
Various minor changes	These were minor changes that did not have a material difference on the terms of the agreement.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 43

a) Please provide Union's analysis of the capital cost tracker adjustment amounts commonly used in the past with U.S. pipelines.

b) Please discuss if the capital cost tracker adjustment amount was negotiable.

c) Please explain how the capital cost tracker adjustment amount of 15% was determined.

Response:

A cost tracker is a mechanism (common in the U.S.) utilized in commercial precedent agreements. It is used with negotiated fixed rates to mitigate/share the risk of increases or decreases in capital costs between initial estimations and actual costs.

a) Union is aware of pipeline expansion projects that included capital cost tracker adjustments or a similar mechanism (such as, a rate cap or a greenfield pipeline). Union is not aware of specific adjustments for those projects as the specifics of these transactions are confidential.

b) The capital cost tracker is one component of the overall comprehensive agreement and was part of the overall negotiation. The 15% tracker amount was presented to Union and was considered to be reasonable and acceptable as part of that overall PA.

c) Please see the response to b) above.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 45

Please provide the pricing for other anchor shippers on the project.

Response:

Please see the response at Exhibit B.T4.Union.FRPO.21.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Schedule 6, Page 1

Please reproduce paragraph 2 with 2014 data.

Response:

As per EB-2015-0200, 2017 Dawn to Parkway Project, Exhibit A, Tab 4, page 1, Union serves approximately 1.4 million customers in northern, eastern and southern Ontario through an integrated network of over 69,000 kilometres of natural gas pipelines. Union owns storage and transmission assets that include 157 Bcf of underground natural gas storage at the Dawn Hub as well as the Dawn Parkway System, which connects the Dawn Hub to consuming markets in Ontario, Québec and the U.S. Northeast. Throughput serving Union's in-franchise customers during 2014 was over 521 Bcf. Throughput serving Union's ex-franchise storage and transmission customers during 2014 was 695 Bcf. In total, Union transported over 1.2 Tcf of natural gas in 2014, which is slightly greater than all of the natural gas consumed in Ontario and Québec or approximately 4% of North American demand.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 9, lines 4-6

Preamble: "Ontario is very fortunate to be in close proximity to this supply basin, and yet Ontario does not currently have access to a direct pipeline route from this basin to Dawn.

Please provide a map showing the natural gas pipelines that currently connect with Southern and Eastern Ontario at locations other than Dawn.

a) Please identify the name of the pipeline and the capacity into Ontario

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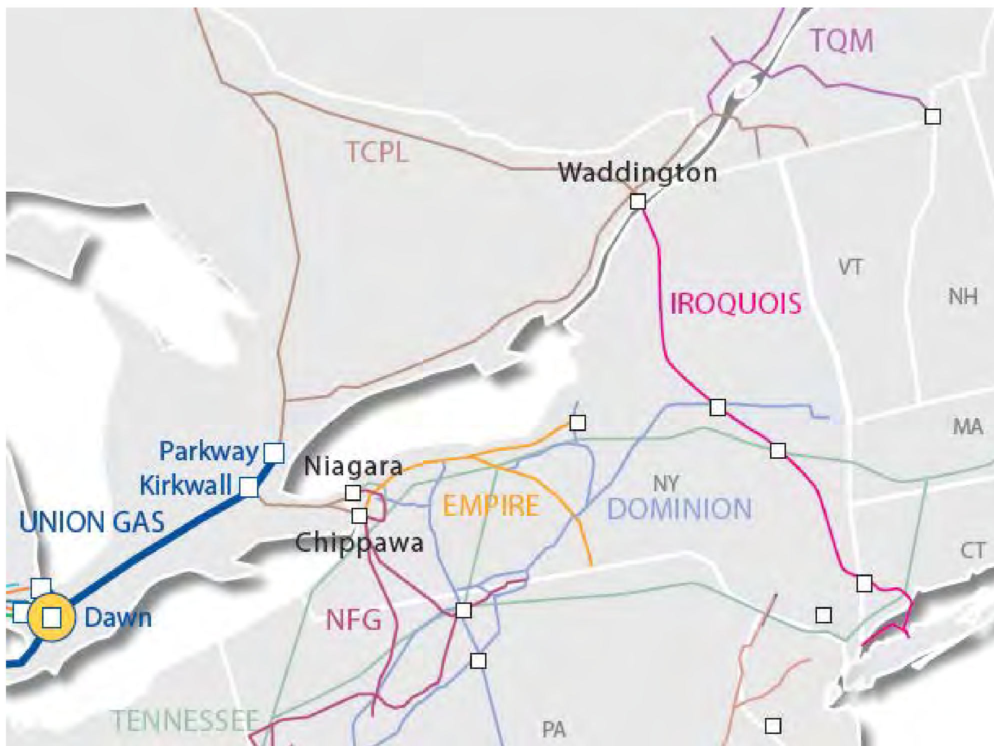
Response:

Please see the map provided below.



a) In 2014, pipelines with combined capacity to import approximately 0.4 PJ/d of natural gas into Ontario at Niagara respectively were Tennessee Gas Pipeline and National Fuel Gas. These pipelines connect to TransCanada at Niagara through the jointly owned Niagara Spur Line (Tennessee Gas Pipeline, National Fuel Gas, and Dominion Transmission). By 2017, an additional 1 PJ/d of incremental import capacity may be available through Niagara and Chippawa (into Ontario via TransCanada). Please see the response at Exhibit B.T2.Union.Staff.17.

In addition, Iroquois Gas Transmission proposed up to 0.3 PJ/d of import capacity at Waddington (into Ontario via TransCanada) however no public announcement regarding the results of that open season has been made.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

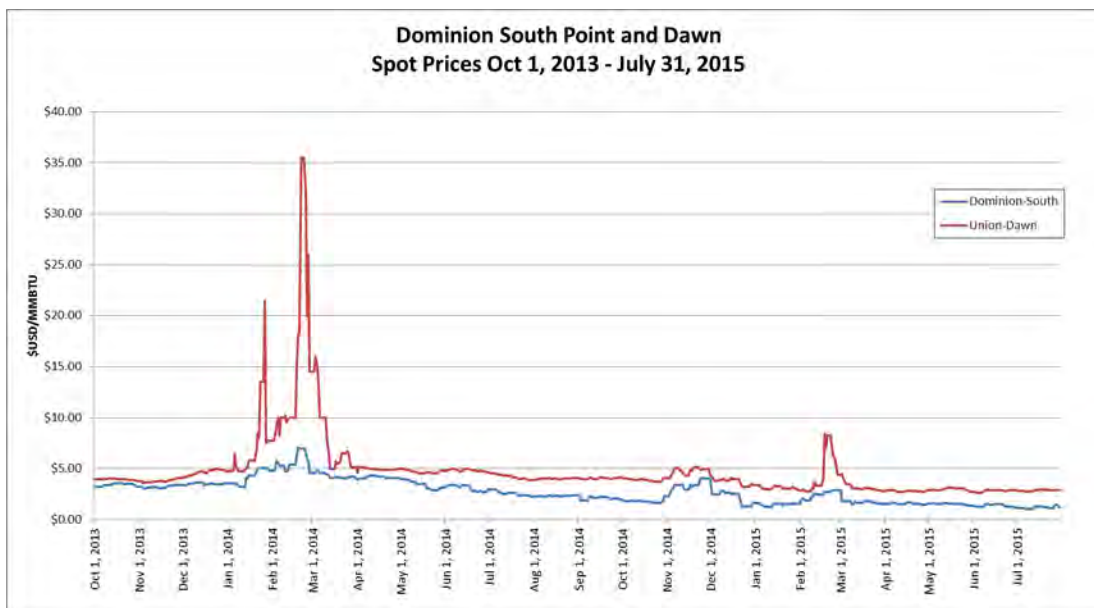
Reference: Exhibit A, page 10, lines 4-6

Preamble: "Without access to the abundant and affordable supplies in the Utica and Marcellus shale basins, gas prices at Dawn, and therefore energy prices in Ontario, would be disconnected from the continent-wide lower costs resulting from these emerging supplies. In other words, the cost of energy in Ontario would not benefit from the moderating effect of the low-priced natural gas in the Appalachian Basin available to neighbouring areas."

Please provide quantitative evidence that demonstrates that with existing infrastructure, Dawn is disconnected and not currently benefiting from the lower prices available to neighbouring areas.

Response:

In looking at the relative pricing that has been experienced over the period 2013/2014 and 2014/2015 the difference between the Dominion South Point price, and that of Dawn can be seen in the graph below. The Dominion South Point prices, for example, have been much lower and more stable than those at other points including Dawn due to its access to Marcellus/Utica supply. This shows how added connections to this area can only increase Ontario's access to this stable and reasonably priced supply which will only add stability to the prices at Dawn.



UNION GAS LIMITED

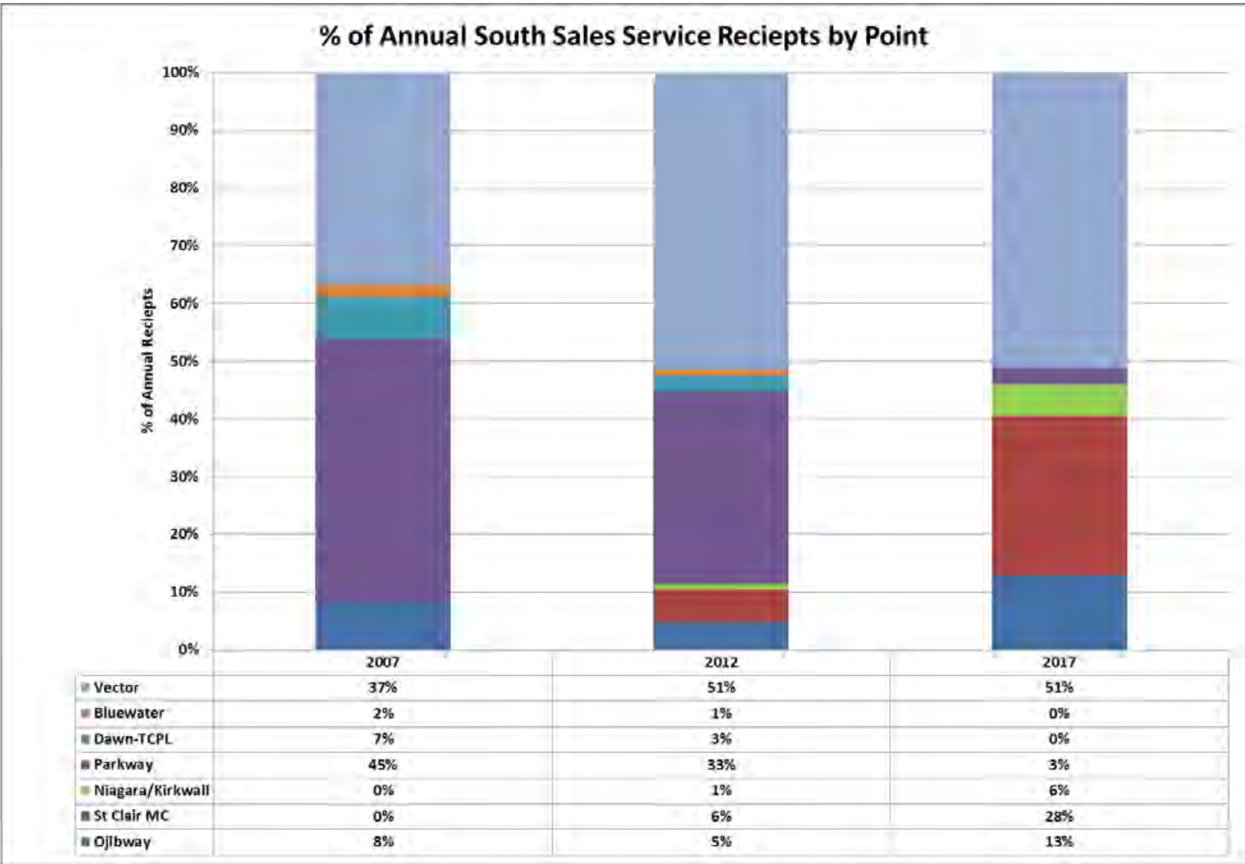
Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 21, Figure 4-2

Please graph the percentage of annual gas received on to the Union Gas south transmission system at the various receipt points (Ojibway, St. Clair, Dawn, Kirkwall and Parkway) at five year intervals culminating in 2017 with proposed Nexus volumes added.

Response:

Please see the graph below.



	2007	2012	2017
Vector	37%	51%	51%
Bluewater	2%	1%	0%
Dawn-TCPL	7%	3%	0%
Parkway	45%	33%	3%
Niagara/Kirkwall	0%	1%	6%
St Clair MC	0%	6%	28%
Ojibway	8%	5%	13%

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 24, lines 14-18

Please provide a map showing the pipeline route of Rover including the pipelines that connect at the receipt and delivery points.

a) Please provide the standard toll offered.

b) Please provide the volumes threshold required to access the MFN tolls and the reduction associated with this class of shippers.

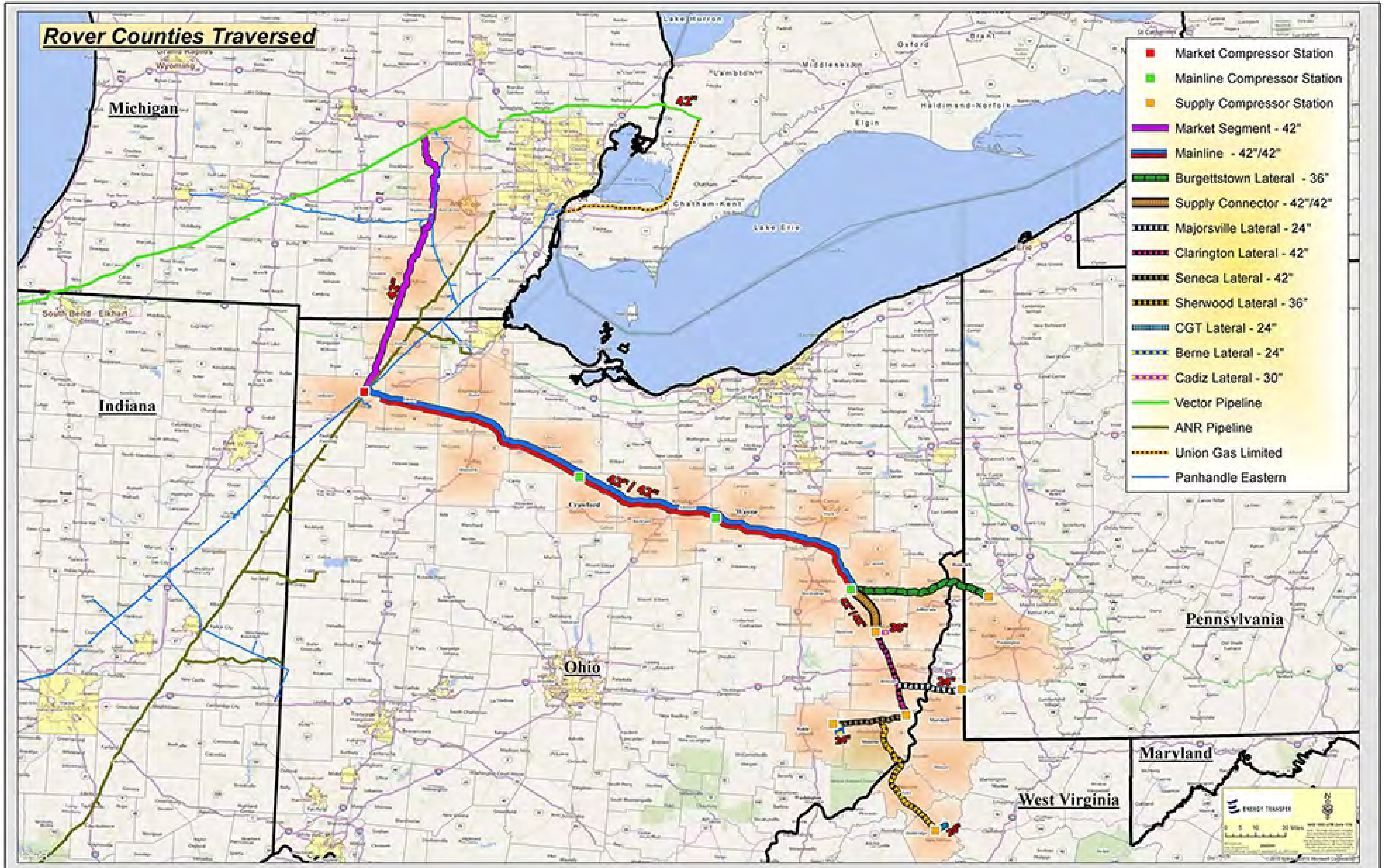
Response:

Please see Attachment 1 for a map of the Rover pipeline route (source: www.roverpipelinefacts.com, accessed August, 2015).

a) Rover has indicated that the negotiated rate would be $0.80 US/Dth, while the recourse rate would be higher. Note that the amount above is based on an indicative rate for Rover. The amount does not contemplate potential increases arising from factors such as capital cost overruns or pipeline undersubscriptions.

b) Rover required a minimum commitment of 500,000 Dth/d to be granted a Most Favored Nations (MFN) clause. Union is not aware of the toll reduction on Rover if granted MFN clause.

Filed: 205-08-25
EB-2015-0166/
EB-2015-0175
Exhibit B.T1.Union.FRPO.4
Attachment 1



UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 24, lines 14-18

To the extent that NEXUS and Rover are competing projects, should the Board take actions that benefit one project over another?

Response:

The Board is not being asked to take actions that would benefit one project over another. If an entity chose to seek pre-approval of the cost consequences of a Rover contract, the Board should evaluate that request on its own merits as it should for this request. Union is not aware that there are any end users who have contracted for capacity on Rover to come to Ontario.

As is noted in the response to Exhibit B.T1.Union.Energy Probe.15, since there is significant lead time required on projects of this size and magnitude, it is necessary to enter and commit to capacity early in the process to ensure such projects can be delivered on time.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 24, lines 14-18

To the extent that it would be positive for Ontario for both the NEXUS and Rover projects to be completed, as Union suggests, does Union agree that it would be beneficial to Ontario for Union Gas to contract for some amount of capacity in each of the two projects?

Response:

Union does not agree.

The Rover project has not required the commitment of Union and Enbridge to move forward. It has reached the necessary threshold to proceed with producer support only.

Union was not aware of Rover until the project was announced in June 2014. Union and Enbridge first committed to NEXUS in 2012 when they entered the open season. As well, Union was in continuous discussions with NEXUS working toward a binding precedent agreement throughout 2013 and early 2014 and was in the final stages of negotiations, when Rover was announced.

At the time Rover discussed their project with Union, the project already had sufficient commitment from suppliers to move forward. Union did not see any significant benefit to the Rover project and, in fact, the minimum contract term was longer (20 years) and the MFN threshold was much higher as noted in the response at Exhibit B.T1.Union.FRPO.4 b).

The Rover project required substantially more greenfield pipeline capacity to be built in order to get to Dawn. NEXUS planned to use existing infrastructure on DTE, Vector and Union. Also, the Rover capital cost was over double that of NEXUS. As a result of these factors, Union chose to retain its volumes on the NEXUS project as it meets the needs of its customers and would provide the best chance for success. Had Union split volumes between the projects, this may have put the NEXUS project at risk. Please see the responses at Exhibit B.T1.Union.Staff.1, Exhibit B.T1.Union.Staff.5, and Exhibit B.T2.Union.FRPO.15. Supporting NEXUS gas deliveries to Dawn provides some balance in the Ontario supply from the Marcellus/Utica between Dawn and Niagara.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 28, lines 11-14

Preamble: The NEXUS transportation capacity is intended to service customers in Union North and Union South, and will be allocated based on a split of approximately 2/3 for Union South and 1/3 for Union North.

What are the actual quantities of NEXUS capacity that will be allocated to the Union EDA, Union NDA, and Union NCDA delivery areas?

Response:

As per Union's recent EB-2015-0181, Dawn Reference Price application, Union is proposing to merge the Union NDA, Union EDA, and Union NCDA into a "North East Zone" for rate-making purposes. Approximately 1/3 (or 52,753 GJ/d) of the NEXUS transportation capacity will be allocated to this zone.

For a map of Union's proposed zones, please see the response at Exhibit B.T2.Union.Energy Probe.18.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 28, lines 11-14

Preamble: The NEXUS transportation capacity is intended to service customers in Union North and Union South, and will be allocated based on a split of approximately 2/3 for Union South and 1/3 for Union North.

For each year over the 15-year term of the NEXUS contract, what is the additional transportation cost to deliver the gas from Dawn to each of the Union North delivery areas that will be allocated NEXUS capacity?

Response:

Once the TransCanada facilities associated with the 2015 to 2017 new capacity open seasons within the Parkway to Maple corridor are in-service, Union plans to serve a portion of Union North demand with supply from Dawn whether or not the NEXUS contract is executed. As such, the Dawn Parkway System and TransCanada transportation costs required to serve Union North from Dawn are not a result of the NEXUS contract.

More detail of how these changes will impact customer rates and services can be found in Union's EB-2015-0181, Dawn Reference Price and North T-Service application. In this application Union proposed:

i) new Union North West and Union North East Zones to set gas commodity, storage and transportation rates;
ii) changes to the reference price used to set rates as determined in Union's quarterly rate filing to better reflect where Union will be purchasing gas supply in the future; and
iii) changes to the recovery of upstream transportation compressor fuel costs in rates for Union North sales service and bundled direct purchase customers.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 28, lines 11-14

Preamble: The NEXUS transportation capacity is intended to service customers in Union North and Union South, and will be allocated based on a split of approximately 2/3 for Union South and 1/3 for Union North.

Please provide the January 2015 landed cost analysis shown in Schedule 5 for each of the Union North delivery areas that will be allocated NEXUS capacity.

Response:

Union's landed costs analysis in January 2015 was not performed separately for the North Delivery Areas as Union had already committed to source a large portion of their supply at Dawn, regardless of NEXUS. The landed costs analysis compares the alternatives of transporting gas to Dawn or purchasing gas at Dawn, not in the North delivery areas.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, Schedule 5 and EB-2014-0261, Exhibit B.OGVG_FRPO_CME.9(e)

Preamble: In the EB-2014-0261 proceeding, Union stated that "When evaluating options for new transportation services Union considers all of its guiding principles including the impacts of the delivery point on Union's facilities."

Please explain how Union included the impact of the delivery point on Union's facilities when comparing the TCPL Niagara to Kirkwall route, with delivery at Kirkwall, to the NEXUS/St. Clair route, with delivery at Dawn, in its landed cost analysis.

Response:

The following references provide a response to the question above:

- Please see the responses at Exhibit B.T2.Union.Staff.17 and Exhibit B.T2.Union.BOMA.29 demonstrating the balance of Appalachian gas to be delivered at Dawn and Niagara.

- Please see the response at Exhibit B.T1.Union.LPMA.1 where Union describes the importance of maintaining liquidity at the Dawn Hub and the importance of Union's contracting in supporting the NEXUS project.

- Please see the response at Exhibit B.T3.Union.BOMA.35 for a description of the security and reliability of the Dawn Hub.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, Schedule 5 and EB-2014-0261, Exhibit B.OGVG_FRPO_CME.9(e)

Preamble: In the EB-2014-0261 proceeding, Union stated that "When evaluating options for new transportation services Union considers all of its guiding principles including the impacts of the delivery point on Union's facilities."

If an incremental gas supply resource is added for Union South, will the requirement for additional Dawn-Parkway transmission system facilities be less if the new supply is delivered at Kirkwall instead of Dawn?

Response:

The impact on the Dawn Parkway System of shifting supply from Dawn to Kirkwall in the 2017/2018 peak day analysis is dependent upon the amount of supply delivered at Kirkwall from the TransCanada system.

If 158,258 GJ/d (as referenced in Exhibit B.T4.Union.FRPO.18) was shifted from Dawn delivery to Kirkwall delivery (and transported to Parkway) in the 2017/2018 peak day analysis, 63,954 GJ/d of Dawn to Parkway capacity could also be transported without impacting the capacity shortfall of the Dawn Parkway System.

A switch of 158,258 GJ/d of supply from Dawn to Kirkwall would not affect the facility set being proposed in the 2017 Dawn to Parkway Project (EB-2015-0200). If one of the three compressors (Bright C or Lobo D) was removed from the proposed 2017 Dawn Parkway Project, the capacity shortfall of the Dawn Parkway System would be approximately 244,000 GJ/d in winter 2017/2018. This large shortfall on the Dawn Parkway System would not be manageable through contracted services. Therefore, in this scenario, all compression proposed in the 2017 Dawn Parkway Project is required.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, Schedule 5 and EB-2014-0261, Exhibit B.OGVG_FRPO_CME.9(e)

Preamble: In the EB-2014-0261 proceeding, Union stated that "When evaluating options for new transportation services Union considers all of its guiding principles including the impacts of the delivery point on Union's facilities."

What is the projected 100% load factor Union firm transportation charge from Dawn to Parkway for 2018 (demand rate and fuel)?

Response:

The projected 100% load factor Union firm transportation demand charge from Dawn to Parkway for 2018 is $0.121/GJ/d as filed in EB-2015-0200, 2017 Dawn Parkway Project. This rate includes the Parkway West, Parkway D Compressor/Brantford to Kirkwall, 2016 Dawn to Parkway Expansion and 2017 Dawn Parkway Project. The estimated 100% load factor Union firm transportation fuel charge from Dawn to Parkway for 2018 is approximately $0.040/GJ to $0.045/GJ.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, Schedule 5 and EB-2014-0261, Exhibit B.OGVG_FRPO_CME.9(e)

Preamble: In the EB-2014-0261 proceeding, Union stated that "When evaluating options for new transportation services Union considers all of its guiding principles including the impacts of the delivery point on Union's facilities."

What is the projected 100% load factor Union firm transportation charge firm Kirkwall to Parkway for 2018 (demand rate and fuel)?

Response:

The projected 100% load factor Union firm transportation demand charge from Kirkwall to Parkway for 2018 is $0.018/GJ/day as filed in EB-2015-0200, 2017 Dawn Parkway Project. This rate includes the Parkway West, Parkway D Compressor/Brantford to Kirkwall, 2016 Dawn to Parkway Expansion and 2017 Dawn Parkway Project. The estimated 100% load factor Union firm transportation fuel charge from Kirkwall to Parkway for 2018 is approximately $0.020/GJ to $0.025/GJ.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 1

a) The evidence states that the NEXUS contract will maintain liquidity at Dawn (line 10). Please confirm that the NEXUS will not increase liquidity at Dawn. Please explain fully if this is not the case.

b) In the absence of the NEXUS project, would the liquidity at Dawn decrease? Please explain fully.

c) What would be the impact on Dawn liquidity if the NEXUS project volume was decreased with the reduction in volumes brought into Ontario at other points, such as Niagara? Please explain fully.

d) How much gas could be sourced through Niagara rather than as part of the NEXUS project and have no impact on Dawn liquidity? Please explain fully.

Response:

a) As outlined in Exhibit A, Schedule 6, page 7, the liquidity of the Dawn Hub is a result of the combination of a number of factors including: access to underground storage, interconnections with upstream pipelines and a large number of buyers and sellers of natural gas. Liquidity cannot be measured in absolute terms, but rather can be discussed in relative terms. Attracting a project that introduces another upstream pipeline, another supply basin, new incremental supply, and new market participants to Dawn will tend to increase liquidity at Dawn. Declining Vector volumes and the decrease in natural gas flowing from the Western Canadian Sedimentary Basin ("WCSB") to the Ontario market, had the opposite impact – tending to decrease liquidity at Dawn.

With the benefits that the NEXUS pipeline will bring to the natural gas market at the Dawn Hub, it is reasonable to expect that the current level of liquidity of Dawn will be supported. Please see the response at Exhibit B.T1.Union.LPMA.8 by Sussex, the NEXUS project is expected to enhance the liquidity of the Dawn Hub.

In the absence of the NEXUS project, there would be one less pipeline connection to Dawn, less connectivity to a new emerging supply basin, Utica, and less connectivity to the Marcellus. There is no guarantee that the other anchor shippers (producers) would continue to

seek a path to Dawn versus seeking access to another market, resulting in fewer market participants at Dawn. Without the benefits that the NEXUS pipeline will bring to Dawn, liquidity would decrease affecting pricing at the Dawn Hub.

b) Please see a) above.

c) Union's support of the NEXUS project as an anchor shipper will encourage the project to be completed and therefore maintain or increase the liquidity of the Dawn Hub by attracting supply and market participants (including Appalachian shale gas producers who wish to sell their gas at Dawn) that otherwise would not have been transacting at Dawn.

   It is important to note that 150,000 Dth/d is the minimum volume required for a party to qualify as an anchor shipper on the project. Decreasing Union's NEXUS project volume and increasing by an identical amount at another point on Union's system (such as Niagara) would diminish or eliminate Union's support of the project. Please see the response at Exhibit B.T1.Union.Staff.5.

d) As is stated in the response at Exhibit B.T2.Union.Staff.17, the Niagara connection and the 1.4 PJ/d of total import capacity is already fully committed and being developed. Any new incremental needs above those already planned will require significant Greenfield pipeline infrastructure.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 3

a) How much of Union's system gas supply for the southern and northern operation areas does the 158,258 GJ/day represent?

b) Will the 158,258 GJ/day be used solely to purchase gas for system gas customers in Union's South and/or North operating areas? Please explain fully.

c) Will the addition of this project require any capital expenditures by Union to:
   i) increase transportation capacity to Dawn; and/or
   ii) increase transportation capacity away from Dawn?

   If yes, please explain fully and provide the expected capital costs.

d) Will the addition of this project result in the need for any incremental storage related capital expenditures for injections, withdrawals, space, etc? If yes, please explain fully and indicate whether these additional costs would be part of the regulated or unregulated storage assets.

Response:

a) The 158,258 GJ/d of NEXUS supply is projected to represent approximately 26% of the Union North upstream transportation portfolio and approximately 30% of the Union South upstream transportation portfolio. More detail can be found in Exhibit A, Figure 5-1 and Figure 5-2, pages 29-31.

b) Yes, the 158,258 GJ/d of NEXUS supply will be purchased to serve Union's sales service customers only.

c)
   i) No. Any capital expenditures related to any requirements at Dawn for the receipt of gas as a result of the NEXUS project will be paid for directly by Vector and/or DTE.

ii) No. Union is expanding its system in 2015 and 2016 (approved) and 2017 (proposed) independent of the NEXUS project. In addition to meeting incremental ex-franchise demand, these expansions also facilitate Union's shift to serving Unions North East customers from Dawn rather than Empress. Given NEXUS is upstream of Dawn, NEXUS is not creating additional need for Union to expand the Dawn Parkway System – it is just one of the upstream sources of "Dawn Gas" that will be used to serve the North East.

d) No.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 5

Given that Union is not likely to receive pre-approval for the contract on or before October 1, 2015, please confirm that Union will not commit to the NEXUS capacity.

Response:

As Union has stated at Exhibit A Page 4 line 9, "Without the assurance provided by Contract pre-approval, Union will not commit to a contract of this magnitude".

Please see the response at Exhibit B.T4.Union.Staff.19 that discusses the 90 day Temporary Waiver of Conditions Precedent clause within the NEXUS Precedent Agreement.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 7

a) Please confirm that the reference in footnote 11 should be EB-2014-0261.

b) Please confirm that the reference to further growth planned for 2017 is in reference to the EB-2015-0200 application.

Response:

a) Confirmed.

b) Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 28

a) What is the forecast annual cost savings impact of being an anchor shipper?

b) Please explain why Union negotiated a unique path for the NEXUS pipeline for the DTE delivery route from Willow Run to the St. Clair Interconnect rather the Vector route to Dawn.

c) What is the expected annual cost savings of this unique path as compared to the Vector path? Please show all calculations and include the impact of the $2 million per year costs associated with the St. Clair to Dawn charge noted on page 35 in the analysis.

Response:

a) As stated in Exhibit A, page 28, *"The project developers have offered anchor shippers appropriate rate and rate-related incentives, including lower transportation rates as compared to non-anchor shippers. Anchor shippers generally receive a rate that is $.015 to $.03 US/Dth lower than other shippers."*

Therefore, assuming 150,000 Dth/d, the potential annual savings are in the range of $0.8M and $1.6M per year with Union being an anchor shipper.

b) Union negotiated this path as it will allow Union to use the St. Clair to Dawn facilities existing infrastructure, and costs are already recovered in Union delivery rates. It's a lower cost option than the Vector path and reduces the potential requirement for Vector to construct new pipeline infrastructure.

c) As outlined in the Enbridge NEXUS application, EB-2015-0175, the NEXUS toll using the Vector path is $0.21 US/Dth/d from Willow Run to Dawn. This rate is calculated by taking Enbridge's full NEXUS toll and subtracting the greenfield portion from Kensington to Milford ($0.70 - $0.65 = $0.05) and then adding the Vector rate from Milford to Dawn ($0.05 + $0.16 = $0.21). This toll, combined with Union's negotiated Kensington to Willow Run rate of $0.635 US/Dth/d, results in a rate of $0.845 US/Dth/d. Comparing this to the St. Clair path results in a savings of approximately $0.04 US/Dth/d or $2.2M per year. The assumptions and savings calculation are shown below.

Path	Toll ($US/Dth/d)	Annual Cost ($)
(A)	(B)	(C) = B x 150,000 x 365
Union Negotiated Path	$ 0.805	$ 44,073,750
NEXUS Vector Path	$ 0.845	$ 46,263,750

Tolls for Union Negotiated Path	
Path	Toll ($US/Dth/d)
Kensington to Willow Run	$ 0.635
Willow Run to St. Clair	$ 0.135
St. Clair to Dawn	$ 0.035
Total Toll	**$ 0.805**

Tolls for NEXUS Vector Path	
Path	Toll ($US/Dth/d)
Kensington to Willow Run	0.635
Willow Run to Milford	0.05
Milford to Dawn	0.16
Total Toll	**0.845**

As noted at Exhibit A, page 35, $0.805 US/Dth/d includes the St Clair to Dawn C1 rate.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, pages 34-35

Please confirm that no direct purchase customers will be allocated any of the St. Clair to Dawn capacity that is to paid through the gas supply commodity rates from system sales service customers only.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Schedule 5

How would changes in the foreign exchange rate affect the difference between the prices shown in Schedule 5? If there is a difference, please provide a schedule showing the prices based on the current exchange rate.

Response:

Please see Attachment 1 for updated landed cost schedules at the current foreign exchange rate. For reference please also see the response at Exhibit B.T3.Union.Staff.18 for schedules reflecting the 1.4 exchange rate.

Since all ICF gas price forecasts are provided in $US/mmBtu, a change to the foreign exchange rate assumption only impacts Canadian pipeline tolls and the final conversion of each path to $CDN/GJ in Column K. The relative ranking of all pipeline paths remain the same.

Recalculated Landed Cost Analysis - Current Foreign Exchange Rate of 1.3133

Nov 2017 to Oct 2032 Transportation Contracting Analysis

	Route	Point of Supply	Basis Differential $US/mmBtu	Supply Cost $US/mmBtu	Unitized Demand Charge $US/mmBtu(1)(7)	Commodity Charge $US/mmBtu (1)	Fuel Charge $US/mmBtu (1)	100% LF Transportation Inclusive of Fuel $US/mmBtu	Landed Cost $US/mmBtu	Landed Cost $Cdn/G	Point of Delivery	Comment
	(A)	(B)	(C)	(D) = Nymex + C	(E)	(F)	(G)	(I) = E + F + G	(J) = D + I	(K)	(L)	
(6)	**TCPL Niagara to Kirkwall**	Niagara	-0.449	7.0511	0.1798	0.0000	0.0103	0.1902	$7.24	**$9.01**	Kirkwall	
(3)	**Rover****	Southwest PA	-0.954	6.5455	0.8000	0.0000	0.1577	0.9577	$7.50	**$9.34**	Dawn	
*	**NEXUS / St. Clair**	Southwest PA	-0.954	6.5455	0.7997	0.0000	0.1728	0.9725	$7.52	**$9.36**	Dawn	Includes St. Clair to Dawn costs
(5)	**NEXUS/St. Clair (Increase Upper end of toll by 15%)**	Southwest PA	-0.954	6.5455	0.8952	0.0000	0.1728	1.0680	$7.61	**$9.48**	Dawn	Toll is $ 0.77+ $ 0.635*15%. Includes St. Clair to Dawn costs
(6)	**Vector (2014 - 2017)**	Chicago	-0.103	7.3972	0.1883	0.0017	0.0732	0.2633	$7.66	**$9.54**	Dawn	
(2)	**Dawn**	Dawn	0.177	7.6769	0.0000	0.0000	0.0000	0.0000	$7.68	**$9.56**	Dawn	
(6)	**Michcon (2014-2015)**	Michcon Generic	0.023	7.5229	0.0630	0.0000	0.1398	0.2029	$7.73	**$9.62**	Dawn	Includes St. Clair to Dawn costs
(6)	**Vector (2012 - 2016)**	Chicago	-0.103	7.3972	0.2500	0.0990	0.0732	0.4222	$7.82	**$9.73**	Dawn	
(6)	**Trunkline / Panhandle**	Trunkline Field Zone 1A	-0.092	7.4075	0.2212	0.0268	0.2995	0.5475	$7.95	**$9.90**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2012-2017)**	Panhandle Field Zone	-0.377	7.1230	0.3492	0.0439	0.4687	0.8617	$7.98	**$9.94**	Dawn	Includes Ojibway to Dawn costs
(6)	**Alliance / Vector**	CREC	-1.067	6.4335	1.5608	-0.3405	0.3593	1.5795	$8.01	**$9.97**	Dawn	
(6)	**Panhandle (2014-2015)**	Panhandle Field Zone	-0.377	7.1230	0.4547	0.0439	0.4687	0.9672	$8.09	**$10.07**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2010-2017)**	Panhandle Field Zone	-0.377	7.1230	0.4547	0.0439	0.4687	0.9672	$8.09	**$10.07**	Dawn	Includes Ojibway to Dawn costs
(2)	**TCPL Empress to Dawn**	Empress	-0.722	6.7782	1.4550	0.0000	0.2745	1.7296	$8.51	**$10.59**	Dawn	
(6)	**TCPL Empress to Union CDA**	Empress	-0.722	6.7782	1.5790	0.0000	0.2793	1.8583	$8.64	**$10.75**	Union CDA	

(1) Unitized Demand Charges, Commodity Charges and Fuel Charges per Maximum Applicable Tariff and include capacity required to flow fuel for downstream pipeline segments
(2) For Reference Only
(3) Toll Estimates used in lieu of official toll for portion of path
(5) Sensitivity Analysis
(6) Existing Union Contract
* indicates path referenced in evidence for this analysis
** The analysis is based on an indicative rate for Rover of $0.80 USD/mmbtu. The analysis does not contemplate potential toll increases arising from factors such as capital cost overruns or pipeline undersubscription.

Assumptions used in Developing Transportation Contracting Analysis:

Annual Gas Supply & Fuel Ratio Forecasts	Point of Supply Col (B) above	Nov 2017 - Oct 2018	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2020 - Oct 2021	Nov 2021 - Oct 2022	Nov 2022 - Oct 2023	Nov 2023 - Oct 2024	Nov 2024 - Oct 2025	Nov 2025 - Oct 2026	Nov 2026 - Oct 2027	Nov 2027 - Oct 2028	Nov 2028 - Oct 2029	Nov 2029 - Oct 2030	Nov 2030 - Oct 2031	Nov 2031 - Oct 2032	Average Annual Gas Supply Cost $US/mmBtu Col (D) above	Fuel Ratio Forecasts Col (G) above
Henry Hub (NYMEX)	Henry Hub	$4.62	$5.43	$6.12	$6.59	$6.81	$6.89	$7.06	$7.23	$7.56	$8.03	$8.44	$8.90	$9.26	$9.62	$9.96	$7.50	
TCPL Niagara to Kirkwall	Niagara	$4.62	$5.35	$5.96	$6.37	$6.54	$6.59	$6.71	$6.78	$7.00	$7.33	$7.71	$8.13	$8.56	$8.86	$9.26	$7.05	0.15%
Rover	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.41%
NEXUS / St. Clair	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
NEXUS/St. Clair (Increase Upper end of toll by 15%)	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
Vector (2014 - 2017)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Dawn	Dawn	$4.82	$5.62	$6.29	$6.76	$6.98	$7.07	$7.24	$7.42	$7.75	$8.21	$8.63	$9.08	$9.43	$9.77	$10.09	$7.68	0.00%
Michcon (2014-2015)	Michcon Generic	$4.70	$5.49	$6.16	$6.62	$6.84	$6.92	$7.09	$7.26	$7.59	$8.05	$8.46	$8.91	$9.25	$9.59	$9.90	$7.52	1.86%
Vector (2012 - 2016)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Trunkline / Panhandle	Trunkline Field Zone 1A	$4.56	$5.37	$6.05	$6.51	$6.72	$6.80	$6.97	$7.14	$7.46	$7.93	$8.33	$8.79	$9.14	$9.49	$9.83	$7.41	4.04%
Panhandle (2012-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Alliance / Vector	CREC	$3.69	$4.44	$5.08	$5.54	$5.77	$5.87	$6.04	$6.23	$6.55	$6.99	$7.36	$7.78	$8.09	$8.39	$8.67	$6.43	5.58%
Panhandle (2014-2015)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Panhandle (2010-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
TCPL Empress to Dawn	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.05%
TCPL Empress to Union CDA	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.12%

Sources for Assumptions:

Gas Supply Prices (Col D):	ICF Base Case Jan 2015			
Fuel Ratios (Col G):	Average ratio over the previous 12 months or Pipeline Forecast			
Transportation Tolls (Cols E & F):	Union Tolls in Effect Jan 2015			
Foreign Exchange (Col K)	$1 US =	1.3133	CDN	Updated August 7, 2015 Bank of Canada Closing
Energy Conversions (Col K)	1 dth = 1 mmBtu =	1.055056		
Union's Analysis Completed:	Updated August 2015 to change FX rate for Exhibit B.T1.Union.LPMA.7			

* indicates path referenced in evidence for this analysis

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Schedule 3, pages 35-36

The heading at the bottom of page 35 implies that NEXUS will enhance Dawn liquidity. Given that the NEXUS contract will replace two other contracts associated with the same volumes being delivered to Dawn, please explain how this "enhances" Dawn liquidity as opposed to maintaining the current level of Dawn liquidity.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

In aggregate, NEXUS will enhance the liquidity at the Dawn Hub as it will diversify the gas supply available to the Dawn Hub. Specifically, NEXUS will provide increased gas supply diversity due to the following:

- New, incremental pipeline to the region – NEXUS will provide an incremental 1.5 Bcf/day of capacity to the region;
- New, incremental access to the Marcellus and Utica gas supply basin – NEXUS will provide a direct connection to the Marcellus and Utica basin;
- Access to new pricing points associated with the Marcellus and Utica basin – the natural gas supply area pricing points for Marcellus and Utica gas supply will be available to NEXUS shippers; and
- Incremental counterparties at the Dawn Hub – certain of the NEXUS shippers or short-term replacement shippers may represent new counterparties at the Dawn Hub.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Schedule 3, page 41

Improved liquidity at Dawn is based on the assumption that the volume of gas available to be purchased at Dawn will increase. Given that the NEXUS contract is replacing two existing contract that total the same amount, please explain how the volume of gas available to be purchased at Dawn will increase as a result of the NEXUS project.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

Please see the response at Exhibit B.T1.Union.LPMA.8.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Schedule 3, page 36

Did Sussex consider the impact of delivery point diversity in Ontario as part of its review of the risks associated with the NEXUS project? If not, why not? If yes, did Sussex include a review of adding more diversity to delivery points by moving some of the Dawn deliveries to other points such as Niagara?

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

As stated in Exhibit A, Schedule 3, the Sussex risk assessment reviewed certain risks relative to NEXUS and the attributes associated with that project (i.e. deliveries to the Dawn Hub). Sussex did not review risks related to Niagara since NEXUS as proposed will not deliver natural gas to that point.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, pages 24-25

a) Please provide a map similar to that shown in Figure 3-1 that shows the location of each the projects noted in pages 24-25.

b) What is the volume (in GJ/day) that Union is flowing on TransCanada's Niagara to Kirkwall line?

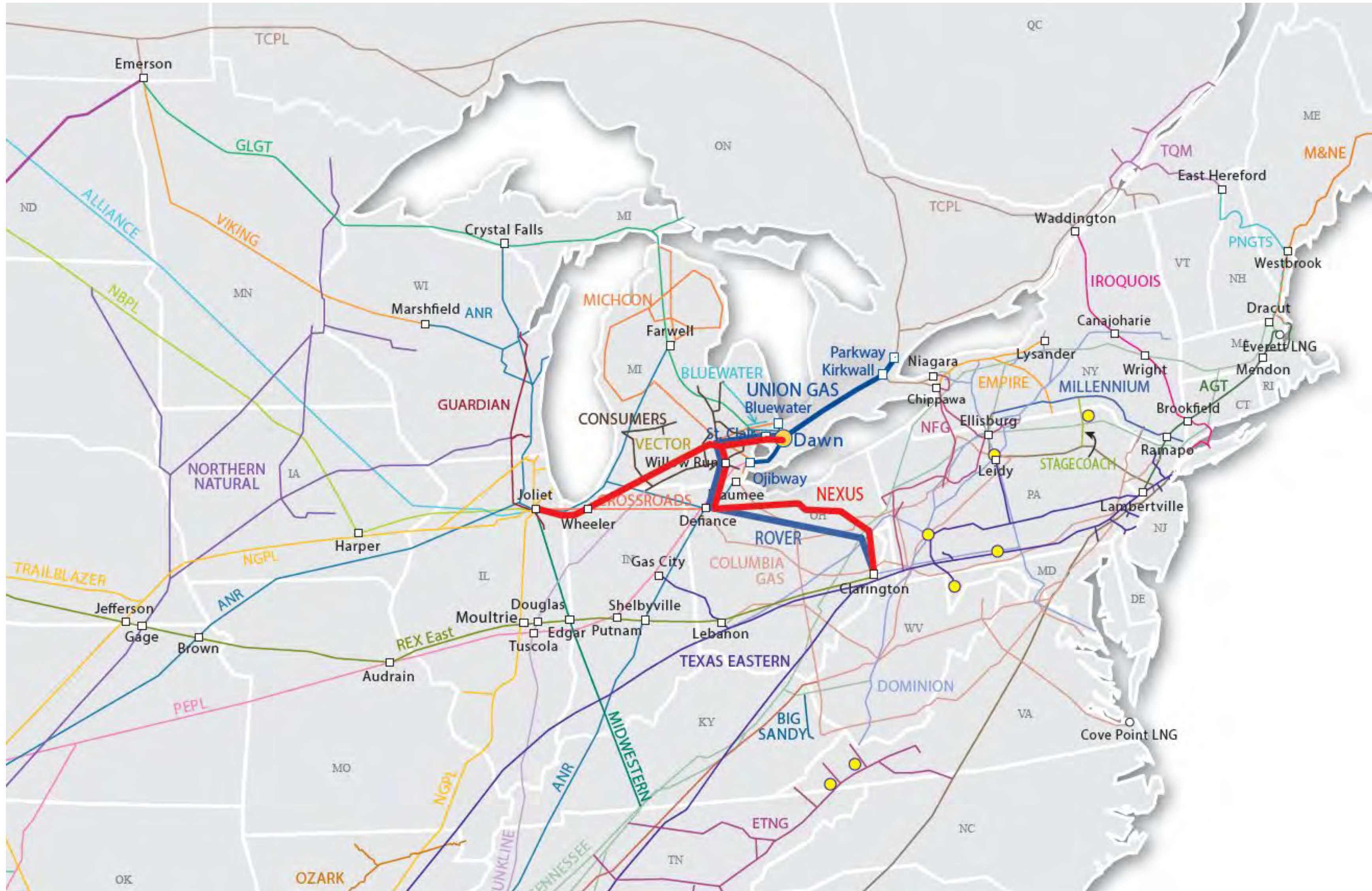
Response:

a) Please see Attachment 1.

b) Union currently contracts for 21,101 GJ/d of TransCanada Niagara to Kirkwall capacity.

Filed: 2015-08-25
EB-2015-0166/
EB-2015-0175
Exhibit B.T1.Union.LPMA.11
Attachment 1

UNION PROJECT LOCATIONS



UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, page 41

Similar to the calculations provided in footnote 29, please show the reduced costs related to TCPL Niagara to Kirkwall and Rover relative to NEXUS/St. Clair and to NEXUS/St. Clair (Increase Upper end of toll by 15%).

Response:

Please see the response at Exhibit B.T1.Union.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, p.2

Please provide a list of all NEXUS anchor shippers and their contracted, committed, or successfully bid capacity.

Response:

Please see the response at Exhibit B.T4.Union.FRPO.21.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A

Please provide copies of all materials that were provided to Union's senior management team, and if applicable, its parent company, in approving the decision to bid into the NEXUS open season. Please provide any similar materials relevant to subsequent approvals for the NEXUS Agreement that may have been provided.

Response:

Please see attachment 1 for materials provided to Union senior management regarding approval to bid into the NEXUS open season.

Filed: 2015-08-25
EB-2015-0166/
EB-2015-0175
Exhibit B.T1.Union.SEC.11
Attachment 1

From: Hodgson, Tina
Sent: November-29-12 10:06 AM
To: Isherwood, Mark
Cc: Shorts, Chris; McClacherty, Shawn; Wilson, Gaelyn
Subject: APPROVAL REQUEST: Business Case to enter Nexus Non-Binding Open Season
Attachments: NEXUS Open Season Response - Business Case v5.pptx

Mark,
Attached is the business case to support approval request to enter the Nexus Non-Binding Open Season. Please respond with your approval or any questions you may have.
Thank you
Tina

uniongas
A Spectra Energy Company

NEXUS OPEN SEASON
UNION GAS BID PROPOSAL

Gas Supply

November 2012

MAP – NEXUS PIPELINE

uniongas
A Spectra Energy Company

Nexus Ownership

uniongas
A Spectra Energy Company

- 3 owners with evenly distributed ownership
  - Spectra Energy
  - DTE Energy
  - Enbridge
- Union Gas Limited is 100% owned by Spectra Energy
- The Affiliate Relationship Code (ARC) does not apply to Union transactions with NEXUS Gas Transmission as this entity is not an affiliate under ARC.

Gas Supply Plan Guiding Principles

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- In determining the appropriate transportation portfolio, Gas Supply uses the following guiding principles:
  - Ensure secure and reliable gas supply to Union's service territory at a reasonable cost
  - 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
  - Deliver gas to various receipt points on Union's system to maintain system integrity

NEXUS Project Summary

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- Non-Binding Open Season from October 15, 2012 to November 30, 2012
- The service commencement date for the NEXUS project is targeted for November 2016 or earlier.
- Greenfield pipeline that will extend approximately 250 miles from receipt points in eastern Ohio to interconnects with multiple delivery points in Ohio, Michigan and Ontario.
- The path will utilize both existing and expansion capacity on the interstate pipeline system owned by Vector Pipeline, L.P. (Vector) to access the Dawn Hub in Ontario.
- The project will be capable of transporting 1 billion cubic feet per day (Bcf/d)
- A bidder in the Open Season can qualify as an "Anchor Shipper" for the NEXUS project by submitting a bid of 150 MDth/d or greater for a term of 15 years or more.
- Shippers will choose between a cost-based recourse rate for long-term firm transportation service on the NEXUS project facilities or to pay a mutually agreeable negotiated rate for such service.
- Final rates for transportation service will be determined based on actual customer subscriptions, receipt/delivery point selections, negotiated services and final project scope of facilities.
- During the Open Season period interested parties must submit a transportation Service Request Form, which specifies the Maximum Daily Quantity (MDQ), contract term (minimum term of 15 years), and receipt and delivery points.
- Any party who is awarded capacity must enter into discussions leading to a binding Precedent Agreement. *The project developers reserve the right to reject any party's valid request for service in the event a duly authorized representative of such party has not executed a binding Precedent Agreement on or before 90 days following the end of the Open Season.*

Drivers

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- As outlined in the 2012 Long Term Acquisitions strategy, Union is interested in obtaining access to the rapidly developing Marcellus and/or Utica shales.
- Lack of direct access to the Marcellus/Utica shales limits Ontario's access to a key North American supply basin.
- Decrease WCSB volumes available to move east.
- Dawn must have access to this basin to stay competitive with surrounding hubs and trading points and ensure Ontario customers have access to lower cost supplies.
- There is a risk that a lack of infrastructure being built into Ontario may limit Ontario customers' ability to benefit from the supply growth from the Marcellus/Utica shales.
  - This is the only project initiated to date to bring this required liquidity from Marcellus/Utica directly to Dawn.
  - This project will also provide an alternate path for this gas to move towards Chicago which is a key market hub from which Union purchases supply.

Recommendation Overview

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- Bid into Nexus Open Season for anchor shipper capacity of 150,000 dth/d
- Include Conditions Precedent (next slide)
- Based on gas supply principles of
  - ensuring secure and reliable gas supply to Union's Service territory,
  - minimizing risk by increasing diversity through new supply basin and upstream pipeline, and
  - encouraging new sources of supply and infrastructure to Union's territory.
- Buy gas supply at a Dawn index minus the toll (netback structure)

Conditions Precedent for Bid

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1. (a) Nexus shall have built and placed into service, and/or acquired the necessary infrastructure for the complete path from the Central Receipt Point to Dawn.

   (b) Union shall have deemed the tolls from 1)(a) acceptable, in Union's sole discretion.
2. Nexus shall have agreed to provide a list of the specific facilities and the schedule (including major milestones) required at the time the Precedent Agreements are executed and shall have agreed to commit to providing ongoing quarterly updates throughout the remainder of the project.
3. Union shall have deemed the Final Project Receipt and Delivery points acceptable.
4. Union shall have granted internal management approval, in Union's sole discretion.
5. (a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under, all governmental and regulatory approvals, consents, orders and authorizations that are required with respect to any facilities needed to be constructed by Union in order to utilize the Nexus Capacity.

   (b) Trans Canada Pipelines shall have built and placed into service any facilities deemed to be needed by Union in order to utilize the Nexus Capacity, specifically including Parkway Belt to Maple.
6. Union shall have obtained, in form and substance satisfactory to Union, approval from the Ontario Energy Board, as to the prudence and recovery of all gas related costs associated with the contract commitment resulting from this and subsequent bids (if any) into this open season.
7. Union shall have satisfied itself as to the availability of proven and economic reserves in the basins directly connected to Nexus and/or shall have secured sufficient supply at costs deemed acceptable by Union.
8. Nexus shall have demonstrated, to Union's satisfaction, the capability to support Union's Vertical Slice program.

Landed Cost - Chart

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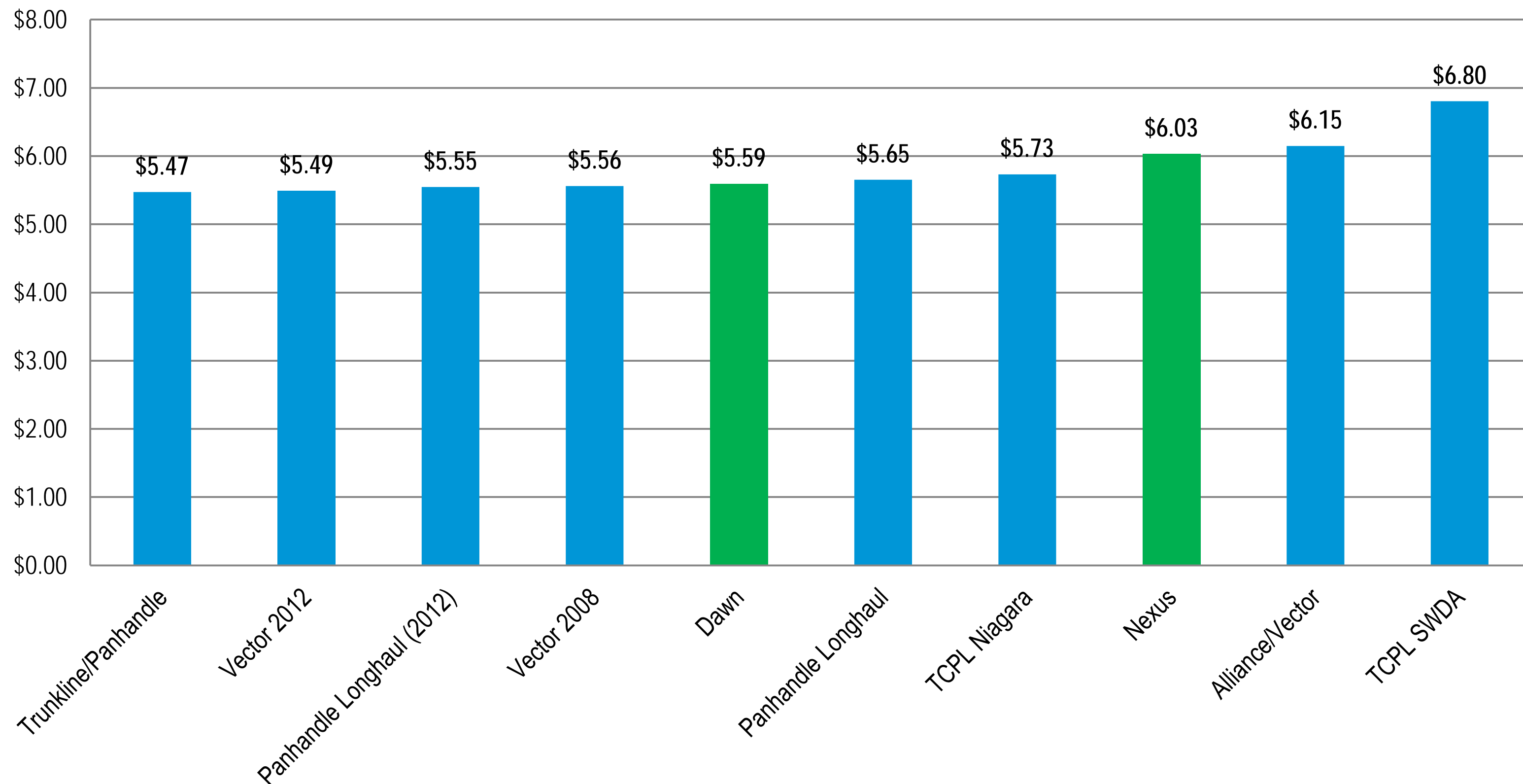

Notes: 1)Dawn Route also reflects an even Dawn netback structure
2) Assumptions are documented on next page

Landed Cost Analysis

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Nov'15-Oct'30 Transportation Contracting Analysis

Route	Point of Supply	Basis Differential $US/mmBtu	Supply Cost $US/mmBtu	Unitized Demand Charge $US/mmBtu	Commodity Charge $US/mmBtu	Fuel Charge $US/mmBtu	100% LF Transportation Inclusive of Fuel $US/mmBtu	Landed Cost $US/mmBtu	**Landed Cost $Cdn/Gj**	Point of Delivery
(A)	(B)	(C)	(D) = Nymex + C	(E)	(F)	(G)	(I) = E + F + G	(J) = D + I	**(K)**	(L)
Trunkline/Panhandle	Trunkline Field Zone 1A	-0.091	5.0631	0.1900	0.0248	0.1939	0.4087	$5.47	**$ 5.87**	Dawn
Vector 2012	Chicago	0.096	5.2506	0.1800	0.0018	0.0588	0.2406	$5.49	**$ 5.90**	Dawn
Panhandle Longhaul (2012)	Panhandle Field Zone	-0.244	4.9100	0.3200	0.0441	0.2725	0.6366	$5.55	**$ 5.95**	Ojibway
Vector 2008	Chicago	0.096	5.2506	0.2500	0.0018	0.0588	0.3106	$5.56	**$ 5.97**	Dawn
Dawn	Dawn	0.439	5.5932	0.0000	0.0000	0.0000	0.0000	$5.59	**$ 6.00**	Dawn
Panhandle Longhaul	Panhandle Field Zone	-0.244	4.9100	0.4251	0.0441	0.2725	0.7417	$5.65	**$ 6.07**	Ojibway
TCPL Niagara	Niagara	0.444	5.5982	0.1357	0.0000	0.0000	0.1357	$5.73	**$ 6.16**	Kirkwall
Nexus	Northeast PA	0.076	5.2305	0.7500	0.0000	0.0523	0.8023	$6.03	**$ 6.48**	Dawn
Alliance/Vector	CREC	-0.700	4.4543	1.7275	-0.2875	0.2552	1.6953	$6.15	**$ 6.60**	Dawn
TCPL SWDA	Empress	-0.463	4.6909	1.9021	0.1302	0.0802	2.1125	$6.80	**$ 7.30**	Dawn

Sources for Assumptions:

Gas Supply Prices (Col D):	ICF International Q4 2012 Base Case		
Fuel Ratios (Col G):	Average ratio over the previous 12 months or Pipeline Forecast		
Transportation Tolls (Cols E & F):	Tolls in effect on Alternative Routes at the time of Union's Analysis		
Foreign Exchange (Col K)	$1 US =	$0.983 CDN	From Bank of Canada Closing Rate Oct 1, 2012
Energy Conversions (Col K)	1 dth = 1 mmBtu =	1.055056	
Union's Analysis Completed:	Oct-12		
Nexus demand toll:	$0.75/dth		
Nexus fuel ratio:	1%		

**Note: Dawn Route also reflects an even Dawn netback structure*

Risks

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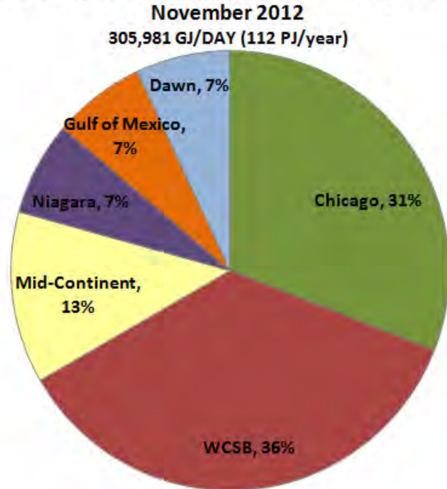
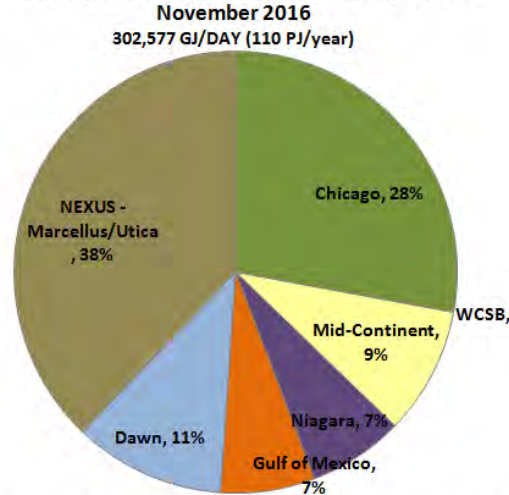
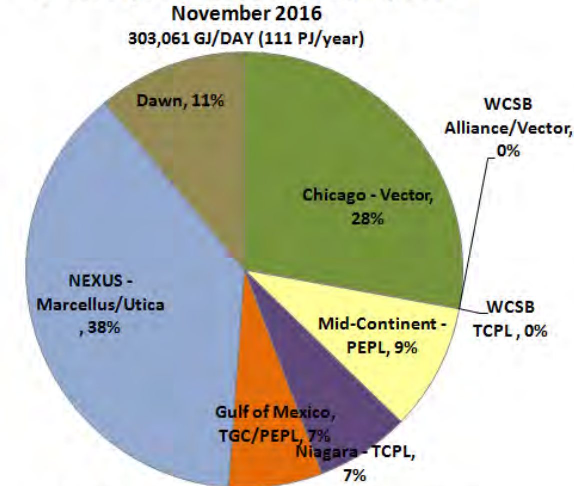
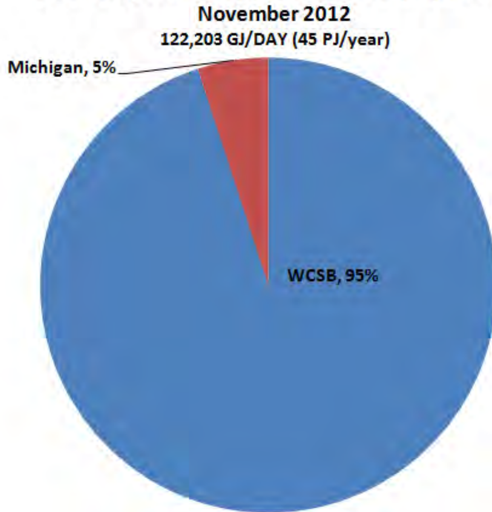
Risk	Mitigation
Regulatory Risks	
Union cost allowances on Transportation and/or Supply contracts	Seek OEB preapproval using LTC process
Restrictions on infrastructure in producing areas	Monitor ongoing basin development and government actions
Governmental intervention in production areas (royalties, fees, moratoriums, etc)	Monitor ongoing basin development and government actions
Project related risks	
Delays (construction related, permit related, etc)	Include condition precedent regarding project updates and monitor
Lack of commitment from a sufficient number of pipeline shippers	Include condition precedent regarding project updates and monitor
Competition from alternate pipelines	Monitor competitive pipeline proposals and progress
Basin related risks	
Utica development slower than anticipated	Monitor ongoing basin development
Production volumes lower/more expensive to produce than anticipated	Monitor ongoing basin development
Basis spread between Dawn and Utica is uncertain	Negotiate Dawn index netback structure for supply purchases

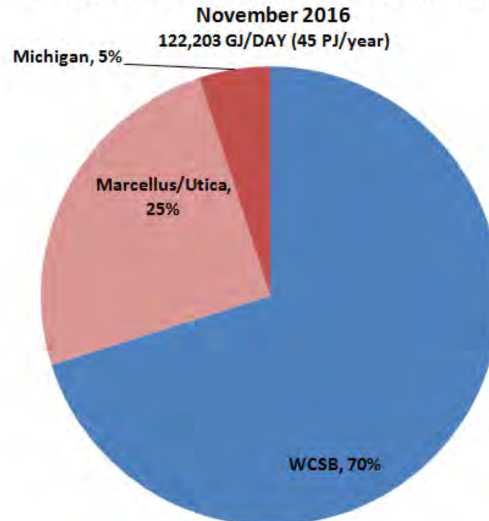
Supply Diversity

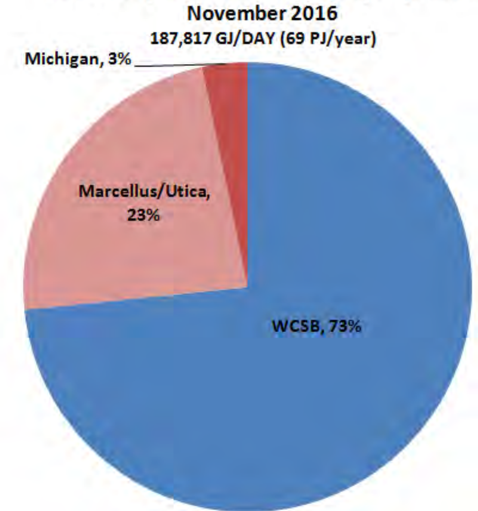












Supply Diversity

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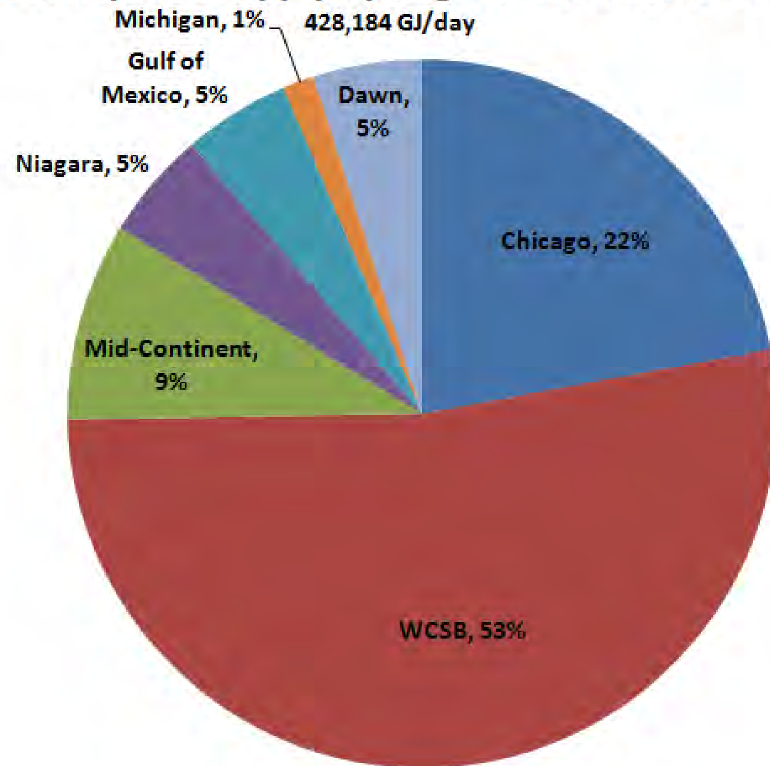

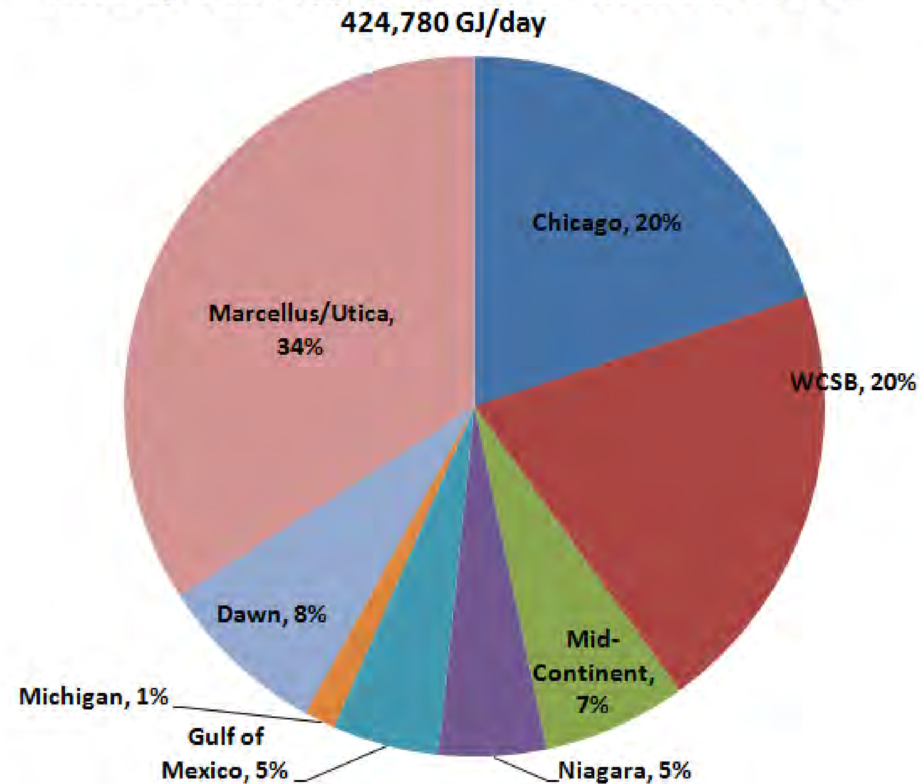

UNION NEXUS COMMITMENT

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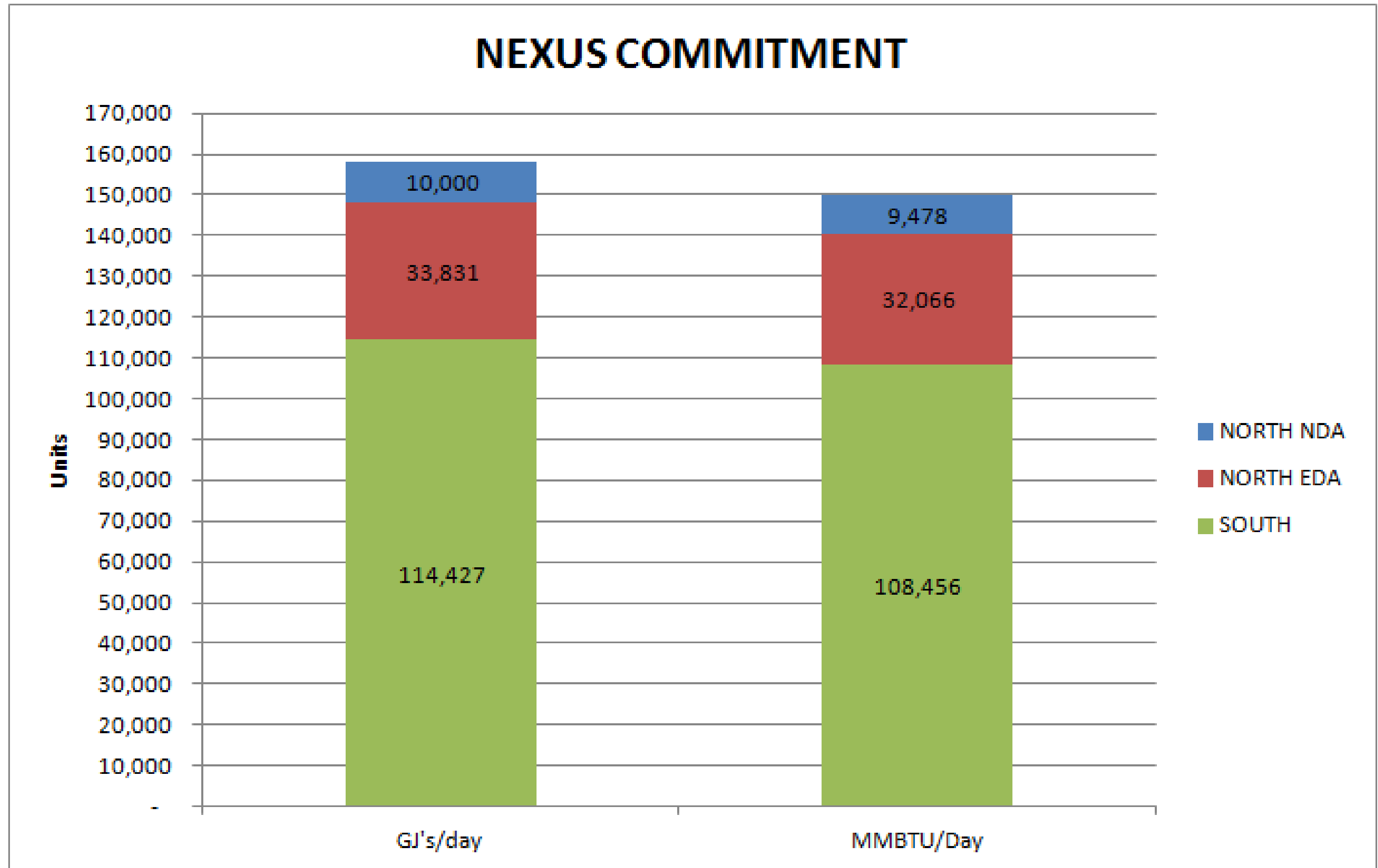

Assumption: Constraint downstream of Parkway assumed to be relieved by 2015

Pavli, Emily

From: Hodgson, Tina
Sent: November-29-12 9:42 AM
To: Wilson, Gaelyn
Subject: FW: Nexus non-binding Open Season
Attachments: Nexus Open Season Bid - draft CP's Shortsv6.docx; Nexus Service request Scan.pdf

Signed service request for filing on server

From: Shorts, Chris
Sent: November 29, 2012 9:28 AM
To: Hodgson, Tina
Subject: FW: Nexus non-binding Open Season

From: Shorts, Chris
Sent: November-29-12 8:54 AM
To: Isherwood, Mark
Cc: Hodgson, Tina
Subject: Nexus non-binding Open Season

Mark, as we have been discussing, Union will be entering a bid into the Nexus non-binding open season which closes Friday Nov 30, 2012. We have evaluated our options and will be requesting service equal to 150,000 dth/d for a term of 15 years. This amount will designate us as an Anchor Shipper and allow Union access to this new and emerging gas supply basin to supplement our decreasing supply availability from the west. We are also including conditions precedent that we will require as we move to a potential binding agreement over the next few months.

This opportunity still needs further analysis around rates, supply and resulting landed supply, but the non binding bid keeps our options open for now.

I have included copies both of the actual Service request form (bid) and the conditions precedent that is accompanying it.

If you have any questions or concerns please let me know...

Chris....

Chris Shorts
Director, Gas Supply
cshorts@uniongas.com

Office (519) 436-4668 Cell (519) 365-0536
fax (519) 436-5461

One of Canada's Top 100 Employers

Nexus Non Binding Open Season Bid
Conditions Precedent

The obligations of Union Gas Limited ("**Union**") under any precedent or transportation agreement for capacity on the Nexus system ("**Nexus Capacity**") are subject to the following conditions precedent, which are for the sole benefit of Union and may change prior to Union executing a binding agreement:

1) (a) Nexus shall have built and placed into service, and/or acquired the necessary infrastructure for the complete path from the Central Receipt Point to Dawn.

1) (b) Union shall have deemed the tolls from 1)(a) acceptable, in Union's sole discretion.

2) Nexus shall have agreed to provide a list of the specific facilities and the schedule (including major milestones) required at the time the Precedent Agreements are executed and shall have agreed to commit to providing ongoing quarterly updates throughout the remainder of the project.

3) Union shall have deemed the Final Project Receipt and Delivery points acceptable.

4) Union shall have granted internal management approval, in Union's sole discretion.

5) (a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under, all governmental and regulatory approvals, consents, orders and authorizations that are required with respect to any facilities needed to be constructed by Union in order to utilize the Nexus Capacity.

5) (b) Trans Canada Pipelines shall have built and placed into service any facilities deemed to be needed by Union in order to utilize the Nexus Capacity, specifically including Parkway Belt to Maple.

6) Union shall have obtained, in form and substance satisfactory to Union, approval from the Ontario Energy Board, as to the prudence and recovery of all gas related costs associated with the contract commitment resulting from this and subsequent bids (if any) into this open season.

7) Union shall have satisfied itself as to the availability of proven and economic reserves in the basins directly connected to Nexus and/or shall have secured sufficient supply at costs deemed acceptable by Union.

8) Nexus shall have demonstrated, to Union's satisfaction, the capability to support Union's Vertical Slice program.

NEXUS Gas Transmission Project
Open Season for Firm Transportation Capacity
Service Request Form

Shipper Information

Company Union Gas Limited.

Contact Shawn McClacherty

Address 50 Keil Dr. N., Chatham, Ontario N7M 5M1

Telephone 519-436-4515 Fax 519-436-4643

E-mail smcclacherty@uniongas.com

Maximum Daily Quantity

150,000 dth/d

Term (15 year minimum)

15 years

Receipt Point(s)	Quantity (Dth/d)	Delivery Point(s)	Quantity (Dth/d)
Central Receipt Pt	150,000	Dawn	150,000

Signature of Requestor/Customer:

Chris Shorts
Director, Gas Supply

Nov 29, 2012

Name Title Date

By completing this Service Request Form, subject to the acceptance of shipper's request for service and shipper's receipt of notification from of the quantities of capacity allocated to shipper, shipper hereby agrees to enter into negotiations with the objective to enter into a binding Precedent Agreement with the project company. If shipper does not enter into a binding Precedent Agreement, the project developers reserve the right to reject shipper's request for service as set forth in this Service Request Form.

If you have any questions, please contact the representative listed below. In addition, please send your completed Service Request Form to:

Bobby Huffman, Director, Business Development
5400 Westheimer Court
Houston, TX 77056

713-627- 4727 *fax*
rlhuffman@spectraenergy.com

Should you have any questions about the NEXUS Gas Transmission Project or the Service Request Form, please contact Bobby Huffman at (713) 627-5259, Mark Bering at (313) 235-6531, or Rene Dartez at (713) 821-2004.

Pavli, Emily

From: Hodgson, Tina
Sent: November-30-12 8:33 AM
To: Isherwood, Mark
Cc: Shorts, Chris; McClacherty, Shawn; Wilson, Gaelyn
Subject: RE: APPROVAL REQUEST: Business Case to enter Nexus Non-Binding Open Season

Done – thanks Mark

From: Isherwood, Mark
Sent: November 29, 2012 7:00 PM
To: Hodgson, Tina
Cc: Shorts, Chris; McClacherty, Shawn; Wilson, Gaelyn
Subject: RE: APPROVAL REQUEST: Business Case to enter Nexus Non-Binding Open Season

Tina – the only comment – please change and/or on CP #7 to and. Thanks. Mark

Mark
Office: (519) 436-4527
Cell: (519) 359-5700

From: Hodgson, Tina
Sent: November-29-12 10:06 AM
To: Isherwood, Mark
Cc: Shorts, Chris; McClacherty, Shawn; Wilson, Gaelyn
Subject: APPROVAL REQUEST: Business Case to enter Nexus Non-Binding Open Season

Mark,
Attached is the business case to support approval request to enter the Nexus Non-Binding Open Season. Please respond with your approval or any questions you may have.
Thank you
Tina

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition (“SEC”)

Reference: Exhibit A, p. 40, Figure 5-5

Please provide a step-by-step description of how Union calculated the average landed gas cost. Please provide details of all assumptions made.

Response:

Figure 5-5 is a summary of the landed cost analysis provided in Exhibit A, Schedule 5.

Assumptions for the landed cost analysis are documented at the bottom of the Schedule 5, including the sources for gas supply commodity prices, fuel ratios, transportation tolls, and foreign exchange rates.

For reference, these assumptions are as follows:

Gas Supply Prices (Col D): ICF Base Case January 2015
Fuel Ratios (Col G): Average ratio over the previous 12 months or Pipeline Forecast
Transportation Tolls (Col E & F): Union Tolls in Effect January 2015
Foreign Exchange (Col K): $1 US = 1.1762 CDN, Source: Jan 2, 2015 Bank of Canada Closing
Energy Conservation (Col K): 1 Dth = 1 mmBtu = 1.055056 GJ
Union’s Analysis Completed: January 2015

The landed costs schedules are structured in a format where the calculations are intended to be easy to follow. The table provides the following information and calculations:

Column A – Route name
Column B – Point of supply where basis differential is assumed
Column C - Basis differential is the gas price at a location subtracted from the gas price at Henry Hub (NYMEX price). As an example, if prices at Dawn are $7.68 and NYMEX is $7.50 then the basis differential is $0.18.
Column D – The commodity price at the supply location (C+NYMEX)
Column E – The demand charge for the path being analyzed
Column F – The commodity charges for the path (variable charges when path is utilized)
Column G – The fuel charge for flowing on the path (variable charges when path is utilized)
Column I – 100% load factor charge (includes all variable charges) – Sum of column E, F, G
Column J – Commodity plus 100% Load factor charge – Column D + I
Column K – Column J converted to $CDN/GJ

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, pp. 25 of 54, Lines 10 - 12

Preamble: In Reference i), Union states its belief that it was both "prudent and required" to make "large, long-term commitments within its portfolio for a project that would result in new infrastructure that would make a significant difference to the future of Ontario and all natural gas consumers."

a) If the OEB does not approve the cost consequences of Union's transportation contract, does Union believe the NEXUS project will proceed? Please explain.

b) Does Union continue to believe that its participation in the initial NEXUS open season was critical to the viability of the proposed project, as stated in the application? If yes, why?

c) Why does Union expect the NEXUS project to make significant difference to the "future of Ontario" when major incremental capacity has also been planned or will be provided by alternative pipelines that will also connect incremental Marcellus and/or Utica supply to Ontario such as the Niagara / Chippawa expansions, the Rover Pipeline, and the Constitution Pipeline? Please explain.

Response:

a) Please see the response at Exhibit B.T1.Union.Staff.5.

b) Yes. Please see the response to a) above.

c) Please see the response at Exhibit B.T1.Union.LPMA.1 a) and Exhibit B.T4.Union.TCPL.8 b).

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, Schedule 5, Page 1 of 1

Preamble: Union's most recently filed (January 2015) Landed Cost Analysis assumed a foreign exchange rate of $1 US = $1.1762 CDN from 2017 - 2032.

In light of significant changes to the Canadian-US exchange rate since the filing of the original application, TransCanada seeks updated information.

a) Please provide an updated Landed Cost Analysis utilizing the same format as in the reference above, and incorporating any changes that may have occurred since the most recent analysis, including - but not limited to - an updated foreign exchange assumption.

Response:

Please see Attachment 1 for the landed cost analysis, which includes updated foreign exchange rates and ICF forecasted gas prices.

Recalculated Landed Cost Analysis - Current Foreign Exchange Rate of 1.3133 and updated assumptions

Nov 2017 to Oct 2032 Transportation Contracting Analysis

	Route	Point of Supply	Basis Differential $US/mmBtu	Supply Cost $US/mmBtu	Unitized Demand Charge $US/mmBtu(1)(7)	Commodity Charge $US/mmBtu (1)	Fuel Charge $US/mmBtu (1)	100% LF Transportation Inclusive of Fuel $US/mmBtu	Landed Cost $US/mmBtu	**Landed Cost $Cdn/G**	Point of Delivery	**Comment**
	(A)	(B)	(C)	(D) = Nymex + C	(E)	(F)	(G)	(I) = E + F + G	(J) = D + I	(K)	(L)	
(6)	**TCPL Niagara to Kirkwall**	Niagara	-1.001	5.0450	0.1798	0.0000	0.0074	0.1872	$5.23	**$6.51**	Kirkwall	
(3)	**Rover****	Southwest PA	-1.582	4.4640	0.8000	0.0000	0.1076	0.9076	$5.37	**$6.69**	Dawn	
*	**NEXUS / St. Clair**	Southwest PA	-1.582	4.4640	0.7997	0.0000	0.1179	0.9176	$5.38	**$6.70**	Dawn	Includes St. Clair to Dawn costs
(5)	**NEXUS/St. Clair (Increase Upper end of toll by 15%)**	Southwest PA	-1.582	4.4640	0.8952	0.0000	0.1179	1.0130	$5.48	**$6.82**	Dawn	Toll is $ 0.77+ $ 0.635*15%. Includes St. Clair to Dawn costs
(6)	**Vector (2014 - 2017)**	Chicago	-0.385	5.6604	0.1883	0.0017	0.0560	0.2461	$5.91	**$7.35**	Dawn	
(6)	**Michcon (2014-2015)**	Michcon Generic	-0.295	5.7504	0.0630	0.0000	0.1069	0.1699	$5.92	**$7.37**	Dawn	Includes St. Clair to Dawn costs
(2)	**Dawn**	Dawn	-0.113	5.9327	0.0000	0.0000	0.0000	0.0000	$5.93	**$7.38**	Dawn	
(6)	**Vector (2012 - 2016)**	Chicago	-0.385	5.6604	0.2500	0.0990	0.0560	0.4050	$6.07	**$7.55**	Dawn	
(6)	**Alliance / Vector**	CREC	-1.437	4.6084	1.5608	-0.3405	0.2574	1.4776	$6.09	**$7.58**	Dawn	
(6)	**Panhandle (2012-2017)**	Panhandle Field Zone	-0.621	5.4243	0.3492	0.0439	0.3569	0.7500	$6.17	**$7.69**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2014-2015)**	Panhandle Field Zone	-0.621	5.4243	0.4547	0.0439	0.3569	0.8555	$6.28	**$7.82**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2010-2017)**	Panhandle Field Zone	-0.621	5.4243	0.4547	0.0439	0.3569	0.8555	$6.28	**$7.82**	Dawn	Includes Ojibway to Dawn costs
(6)	**Trunkline / Panhandle**	Trunkline Field Zone 1A	-0.104	5.9420	0.2212	0.0268	0.2402	0.4882	$6.43	**$8.00**	Dawn	Includes Ojibway to Dawn costs
(2)	**TCPL Empress to Dawn**	Empress	-1.094	4.9518	1.4550	0.0000	0.2005	1.6556	$6.61	**$8.22**	Dawn	
(6)	**TCPL Empress to Union CDA**	Empress	-1.094	4.9518	1.5790	0.0000	0.2040	1.7830	$6.73	**$8.38**	Union CDA	

(1) Unitized Demand Charges, Commodity Charges and Fuel Charges per Maximum Applicable Tariff and include capacity required to flow fuel for downstream pipeline segments
(2) For Reference Only
(3) Toll Estimates used in lieu of official toll for portion of path
(5) Sensitivity Analysis
(6) Existing Union Contract

* indicates path referenced in evidence for this analysis
** The analysis is based on an indicative rate for Rover of $0.80 USD/mmbtu. The analysis does not contemplate potential toll increases arising from factors such as capital cost overruns or pipeline undersubscription.

Assumptions used in Developing Transportation Contracting Analysis:

Annual Gas Supply & Fuel Ratio Forecasts	Point of Supply Col (B) above	Nov 2017 - Oct 2018	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2020 - Oct 2021	Nov 2021 - Oct 2022	Nov 2022 - Oct 2023	Nov 2023 - Oct 2024	Nov 2024 - Oct 2025	Nov 2025 - Oct 2026	Nov 2026 - Oct 2027	Nov 2027 - Oct 2028	Nov 2028 - Oct 2029	Nov 2029 - Oct 2030	Nov 2030 - Oct 2031	Nov 2031 - Oct 2032	Average Annual Gas Supply Cost $US/mmBtu Col (D) above	Fuel Ratio Forecasts Col (G) above
Henry Hub (NYMEX)	Henry Hub	$3.56	$4.42	$4.89	$5.20	$5.36	$5.51	$5.66	$5.84	$6.17	$6.43	$6.73	$7.04	$7.52	$7.91	$8.46	$6.05	
TCPL Niagara to Kirkwall	Niagara	$3.52	$4.19	$4.52	$4.70	$4.74	$4.66	$4.53	$4.46	$4.60	$5.02	$5.45	$5.94	$6.08	$6.52	$6.75	$5.05	0.15%
Rover	Southwest PA	$2.88	$3.60	$3.96	$4.16	$4.25	$4.24	$4.13	$3.96	$3.97	$4.32	$4.80	$5.33	$5.48	$5.84	$6.04	$4.46	2.41%
NEXUS / St. Clair	Southwest PA	$2.88	$3.60	$3.96	$4.16	$4.25	$4.24	$4.13	$3.96	$3.97	$4.32	$4.80	$5.33	$5.48	$5.84	$6.04	$4.46	2.64%
NEXUS/St. Clair (Increase Upper end of toll by 15%)	Southwest PA	$2.88	$3.60	$3.96	$4.16	$4.25	$4.24	$4.13	$3.96	$3.97	$4.32	$4.80	$5.33	$5.48	$5.84	$6.04	$4.46	2.64%
Vector (2014 - 2017)	Chicago	$3.54	$4.28	$4.67	$4.91	$5.09	$5.23	$5.36	$5.47	$5.73	$6.03	$6.29	$6.64	$6.88	$7.31	$7.49	$5.66	0.99%
Michcon (2014-2015)	Michcon Generic	$3.60	$4.34	$4.73	$4.98	$5.17	$5.31	$5.44	$5.56	$5.82	$6.12	$6.39	$6.74	$6.99	$7.43	$7.61	$5.75	1.86%
Dawn	Dawn	$3.74	$4.48	$4.88	$5.13	$5.32	$5.47	$5.60	$5.73	$6.01	$6.32	$6.59	$6.95	$7.21	$7.67	$7.86	$5.93	0.00%
Vector (2012 - 2016)	Chicago	$3.54	$4.28	$4.67	$4.91	$5.09	$5.23	$5.36	$5.47	$5.73	$6.03	$6.29	$6.64	$6.88	$7.31	$7.49	$5.66	0.99%
Alliance / Vector	CREC	$2.61	$3.34	$3.70	$3.91	$4.10	$4.22	$4.31	$4.41	$4.67	$4.94	$5.17	$5.51	$5.76	$6.17	$6.32	$4.61	5.58%
Panhandle (2012-2017)	Panhandle Field Zone	$3.34	$4.08	$4.47	$4.71	$4.89	$5.03	$5.15	$5.26	$5.50	$5.78	$6.03	$6.36	$6.59	$7.01	$7.17	$5.42	6.58%
Panhandle (2014-2015)	Panhandle Field Zone	$3.34	$4.08	$4.47	$4.71	$4.89	$5.03	$5.15	$5.26	$5.50	$5.78	$6.03	$6.36	$6.59	$7.01	$7.17	$5.42	6.58%
Panhandle (2010-2017)	Panhandle Field Zone	$3.34	$4.08	$4.47	$4.71	$4.89	$5.03	$5.15	$5.26	$5.50	$5.78	$6.03	$6.36	$6.59	$7.01	$7.17	$5.42	6.58%
Trunkline / Panhandle	Trunkline Field Zone 1A	$3.50	$4.35	$4.81	$5.11	$5.27	$5.41	$5.55	$5.73	$6.06	$6.32	$6.62	$6.92	$7.40	$7.78	$8.32	$5.94	4.04%
TCPL Empress to Dawn	Empress	$2.97	$3.65	$4.01	$4.24	$4.42	$4.56	$4.68	$4.78	$5.01	$5.29	$5.53	$5.86	$6.10	$6.50	$6.68	$4.95	4.05%
TCPL Empress to Union CDA	Empress	$2.97	$3.65	$4.01	$4.24	$4.42	$4.56	$4.68	$4.78	$5.01	$5.29	$5.53	$5.86	$6.10	$6.50	$6.68	$4.95	4.12%

Sources for Assumptions:

Gas Supply Prices (Col D): ICF Base Case July 2015 - Updated August 2015 for Exhibit B.T1.Union.TCPL.2
Fuel Ratios (Col G): Average ratio over the previous 12 months or Pipeline Forecast

Foreign Exchange (Col K): $1 US = 1.3133 CDN — Updated August 7, 2015 Bank of Canada Closing
Energy Conversions (Col K): 1 dth = 1 mmBtu = 1.055056
Union's Analysis Completed: Updated August 2015 for Exhibit B.T1.Union.TCPL.2
* indicates path referenced in evidence for this analysis

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, Schedule 5, p. 1

Preamble: Union's Landed Cost Analysis shows the Point of Supply for NEXUS as "Southwest PA".

a) Please confirm that Union utilized the price at Dominion South as a proxy for the gas supply cost at NEXUS' receipt point at Kensington, Ohio. If not confirmed, please explain how the gas supply cost at Kensington was determined.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, p. 20 of 54, Figure 4-1
ii) Application, Exhibit A, p. 21 of 54, Figure 4-2

Preamble: In Reference i), Union provides the sales service and bundled direct purchase portfolio of Union North as of January 2015.

In Reference ii), Union provides the portfolio for Union South as of January 2015.

a) Please provide the forecast Union North sales service and bundled direct purchase portfolio for the following dates, assuming all new capacity builds are in-service on the requested in-service dates.

i. November 1, 2015

ii. November 1, 2016

iii. November 1, 2017

b) Please provide the forecast Union South portfolio for the following dates, assuming all new capacity builds are in-service on the requested in-service dates.

i. November 1, 2015

ii. November 1, 2016

iii. November 1, 2017

Response:

a) and b) Please see the response at Exhibit B.T2.Union.Staff.12 for Union's currently projected 2015-2017 upstream transportation portfolios for Union North and Union South.

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UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 7

The purpose of this interrogatory is to understand the relative importance of incremental NEXUS capacity in relation to the overall Dawn capacity.

a) Please provide a chart showing the total Dawn (average) capacity for each year 2005 through 2020 (forecast).

b) On the same chart please show the incremental capacity related to the NEXUS pipeline.

Response:

a) and b) Please see Attachment 1 showing the capacity into Dawn from various pipelines for the years 2005 to 2020, inclusive.

Highlighted in the table on Attachment 1, an expansion of Union's interconnection at Dawn (within the Dawn yard) with Vector may be required; however, this may be dependent upon both the NEXUS project and Rover project being completed.

Capacity into Dawn from Various Pipelines

Upstream Pipelines	Peak Day Pipeline Capacity (PJ/d)												
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017-2020**
Vector	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.9
Panhandle Pipelines - Ojibway	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
TransCanada (Great Lakes)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Bluewater	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Enbridge (Tecumseh Storage)	2.1	2.3	2.3	2.3	2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
St. Clair/Michcon	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 18

a) Please provide a map which shows the entire Utica/Marcellus Shale basins and identifies all natural gas processing plants and all transmission pipelines which terminate at Canadian border points.

b) Please show the proposed Rover Pipeline on this map.

Response:

a) Union does not have the requested map, however please see Attachment 1 for a map of gas processing plants in the Utica/Marcellus Shale basins (source: www.eia.gov, accessed August 14, 2015). For all pipelines which terminate at Canadian border points, please see the response at Exhibit B.T1.Union.LPMA.11.

b) Union does not have the requested map, however please see the response at Exhibit B.T1.Union.FRPO.4 for a map of the Rover Pipeline and the response at Exhibit B.T1.Union.LPMA.11 for a map of Rover in relation to NEXUS and other existing pipelines.

Natural Gas Processing Plants and Transmission Pipelines Map

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 34

a) Please provide the S&T revenue for the St. Clair to Dawn Transportation in each of 2012 through 2014.

b) What is the forecast of S&T revenues currently included in rates?

Response:

a) Please see Table 1 for the S&T revenue for St. Clair to Dawn Transportation.

Table 1

Year	2012	2013	2014
St. Clair to Dawn Revenue $ (in 000's)	$3,394	$3,219	$3,289

b) The Board-approved revenue included in rates is $2.8 million.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 43; EGDI Exhibit A, S1, p. 3

a) Union explains that the NEXUS rate will be capped between approximately $.67 US/Dth30 and $.87 US/Dth31 (plus fuel). Please explain how (if) Union will hedge its exchange risk.

b) Union explains that it has negotiated a rate of $0.77 US/Dth plus fuel, which is between $0.015 US/Dth to $0.03 US/Dth lower than the rate offered to non-anchor shippers. Please explain how this discount range was calculated or derived.

c) EGDI appears to have negotiated a reservation rate of 0.70 per Dth which is different than that of Union (0.77). Does Union understand why EGDI has been able to negotiate a better deal?

Response:

a) Union does not hedge exchange risk on any purchases of gas supply or transportation costs.

b) Union's negotiated rate on the greenfield portion of the NEXUS pipeline is $0.635 US/Dth, which is $0.015 US/Dth lower than the greenfield rate of $0.650 US/Dth offered to Enbridge who is not an anchor shipper. It is also Union's understanding that typically this can be as high as $0.03 US/Dth through discussions with transmission providers.

c) Union and Enbridge have negotiated different paths for their NEXUS capacity. Enbridge's route on the NEXUS pipeline, from Kensington to Milford, Michigan, is shorter than Union's route on the NEXUS pipeline, which is from Kensington to St. Clair. For a visual approximation of the routes, please see Exhibit A, page 16, Figure 3-2. Both Enbridge and Union still require additional transportation beyond the NEXUS transportation to get the respective supply to Dawn. Enbridge's route on Vector from Milford to Dawn is longer than Unions route from St. Clair to Dawn on Union's system. The total transportation cost for the Union path to Dawn is slightly lower for Union compared to the Enbridge path to Dawn via Vector. Given that the Enbridge path is shorter on NEXUS and requires a longer path on Vector to get to Dawn, Union does not consider this a better deal on NEXUS.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, pp. 47-51

a) Union has stated that is has not worked with many suppliers operating in the Appalachian shale basin. What evidence has Union provided in this Application to show that it will be able to source supply commensurate with the NEXUS capacity?

b) Please explain the significance of the "North American Standard Board base agreements" with respect to discussions with these new suppliers.

c) Please explain how negotiating firm services will allow Union to purchase gas, on an interim basis, in the Appalachian basin (pg.51)".

Response:

a) The Sussex report filed as Exhibit A, Schedule 3, pages 21-33 discusses the robust supply in the Utica and Marcellus supply basins. The supply risk and mitigation assessment found on page 61 of that same report states:

   "Various third party forecasts support the availability of sufficient natural gas supply for the duration of the NEXUS contract."

   In addition, please see the response at Exhibit B.T1.Union.Energy Probe.8.

b) Union only purchases gas from suppliers with which it has a North American Energy Standards Board ("NAESB") base agreement in place. A NAESB agreement is a contract between a supplier and Union that ensures a supplier meets credit and legal requirements in order to conduct business. NAESB contracts are considered to be Industry standard agreements.

c) Please see the response at Exhibit B.T3.Union.FRPO.24.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A

a) What, if any, discussions has Union had with TCPL to provide alternative capacity from Niagara and in lieu of the NEXUS project.

b) Please provide all correspondence related to these discussions.

c) If no such discussions have taken place, please explain what steps Union has taken to determine that it has prudently explored alternative capacity options through Niagara/Chippawa.

Response:

a) Union has not had discussions with TransCanada to provide alternative capacity from Niagara in lieu of the NEXUS project.

b) Please see the response to a) above.

c) Please see the response at Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 53

a) Union states that the NEXUS contract results in a commitment in excess of $715 million. Please show how this figure is calculated. Specifically show the long-term committed costs which include the impact of the St. Clair to Dawn transportation changes and any other transportation/supply changes that are expected to occur as a result of this contract (i.e. show total net committed costs for the 15 year period).

Response:

a) The maximum transportation commitment of $715 million is calculated by using the upper end of the NEXUS toll of $0.87 US/Dth (calculated in Exhibit A, page 43) over the 15 year term of the contract:

$0.87 US/Dth x 150,000 Dth/d x 365 days x 15 years = $715 million

When including the $0.035 CDN/GJ St. Clair to Dawn toll (converted to $0.0314 US/Dth), the calculation is:

(($0.87 US/Dth x 150,000 Dth/d) + ($0.0314 US/Dth x 150,000 Dth/d)) x 365 days x 15 years
= ($130,500 + $4,710) x 365 days x 15 years = $740 million

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

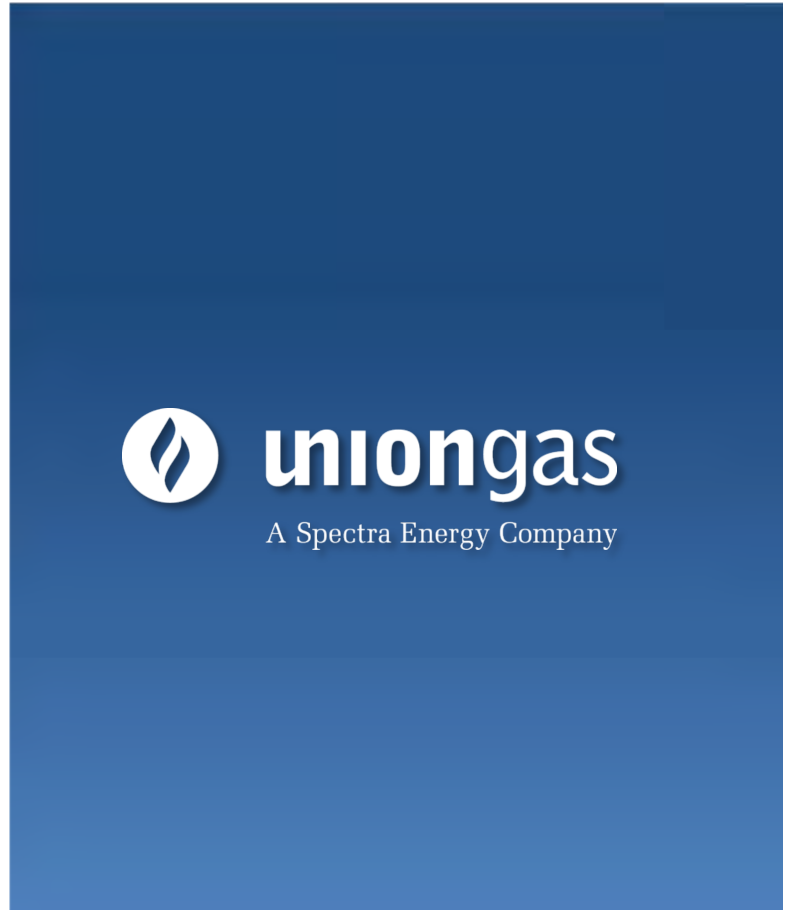
a) Please file Union Gas' most recent Gas Supply Memorandum.

b) Please highlight which aspects of this plan contemplate the NEXUS project.

Response:

a) Please see Attachment 1 for Union's Gas Supply Memorandum as filed in EB-2015-0010 (2014 Deferrals Disposition), Tab 5.

b) Please see the Gas Supply Memorandum, Tab 5, Section 6.8, Pages 33-34.



2014-2015 Gas Supply Plan Memorandum

April 2015

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1. INTRODUCTION

This document provides an overview of the 2014/2015 Gas Supply Plan and includes the underpinning assumptions and the market context from which it was formed. This includes future trends that may impact the gas supply plan going forward.

1.1 Overview of the Gas Supply Planning Process

The objective of Union's Gas Supply Plan is to create an efficient supply portfolio that will meet the demands of sales service and bundled direct purchase ("DP") customers, while meeting the overall gas supply planning principles.

Union's Gas Supply Plan provides the strategic direction guiding the Company's long-term supply acquisition process. The Plan does not commit Union to the acquisition of a specific supply type or facility, nor does it preclude Union from pursuing a particular supply. Rather, the Gas Supply Plan identifies the transportation and supply volume requirements to meet annual, seasonal and peak day demand for sales service and bundled DP customers. Union recognizes that the gas supply planning process is dynamic, reflecting changing market forces. Union's rate setting mechanism and associated gas supply deferral accounts support a direct pass through of gas supply commodity and transportation costs to ratepayers.

1.2 Summary of Union North and Union South

In Ontario, natural gas is a significant and critical energy source relied on for providing heat and hot water to homes and institutions, fuelling manufacturing plants and generating electricity. Approximately 950 PJ of natural gas is consumed annually in Ontario in residential, commercial, industrial and power generation markets. Approximately 70% of homes in Ontario use natural gas for heating and producing hot water. These applications operate on demand, meaning that consumers expect the energy to be readily available to be used when needed.

Home owners in Ontario depend on a reliable supply of natural gas. The natural gas infrastructure supporting Ontario needs to be robust reflecting the critical role it plays in Ontario, and flexible to allow Ontario to position itself to secure long-term access to economic supply in light of the changing North American supply dynamics.

Union serves approximately 1.4 million customers in northern, eastern and southern Ontario through an integrated network of over 67,000 kilometres of natural gas distribution pipelines. Total consumption in Union's franchise areas during 2013 was approximately 555 PJ.

Union operates storage and transmission assets that include 166 PJ of underground natural gas storage at the Dawn Hub and the Dawn-Parkway transmission system. Union's Dawn-Parkway system is an integral part of the natural gas delivery system for Ontario, Québec and U.S. Northeast residents, businesses, power plants and industry. The Dawn-Parkway system connects these consuming markets to most of North America's major supply basins, the largest area of underground natural gas storage in North America, and the liquid Dawn Hub.

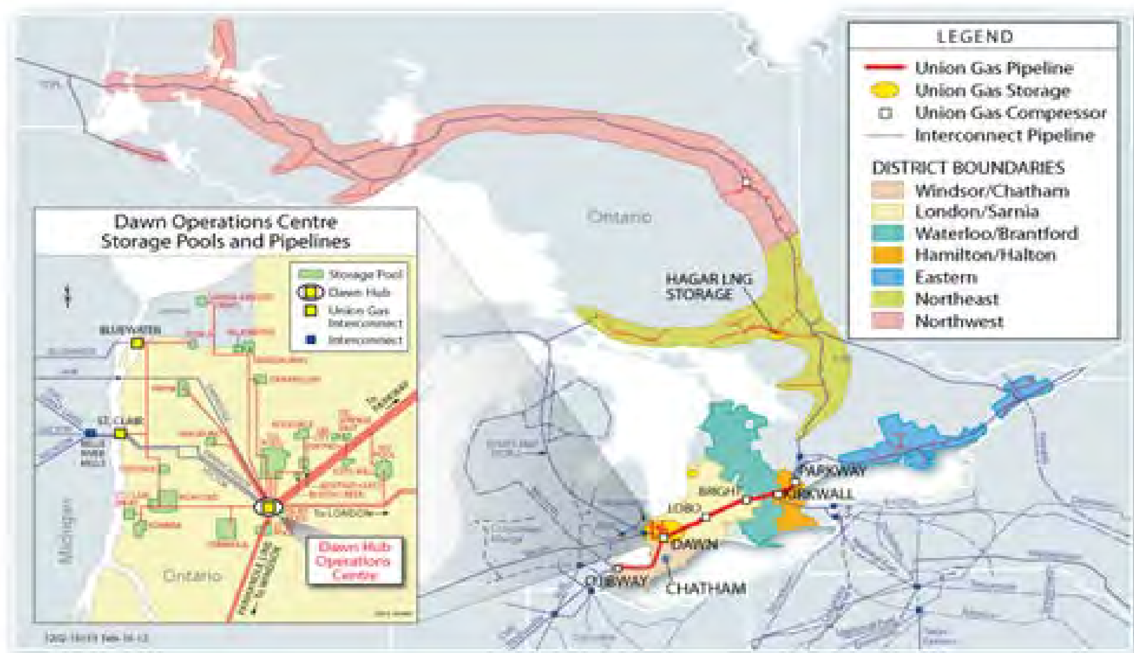
Union's Dawn Hub has been recognized as a key market hub for the Province of Ontario and the entire Great Lakes region. The growth of Dawn as an energy hub and the availability of competitively and transparently priced natural gas supplies and services that come with an effective and efficient trading hub have benefitted all Ontarians. Dawn is one of the most physically traded, liquid hubs in North America. The liquidity of Dawn is the result of the

combination of access to underground storage, interconnections with upstream pipelines, take away capacity to growth markets, a large number of buyers and sellers of natural gas, and price transparency.

Of the 1.4 million customers that Union serves, over 1.2 million are sales service customers that rely on Union to provide their gas supply. These customers are primarily residential and small commercial customers. The remaining customers rely on DP arrangements with marketers and alternate suppliers to meet their gas supply needs. From a volume perspective, sales service customers consumed 169 PJ in 2013, while DP customers consumed 386 PJ.

For gas supply planning purposes, Union is divided into two separate operating areas: Union South and Union North. To serve Union South, Union contracts for transportation capacity on multiple upstream pipelines to access several supply basins or market hubs. These upstream pipelines provide access to supplies in Western Canada, Gulf of Mexico, Chicago, the U.S. mid-continent and the Appalachian shale basins. Union may also serve Union South by purchasing supply at Dawn. Union South includes four Districts, Windsor/Chatham, London/Sarnia, Waterloo/Brantford and Hamilton/Halton shown in Figure 1 below.

Figure 1



Union North is located throughout Northern and Eastern Ontario, from the Manitoba border in the west, to Cornwall in the east. Union North is depicted by the Eastern, Northeast and Northwest Districts shown in Figure 1 above. Union North is further divided into six delivery areas for gas supply planning purposes. Five of the six delivery areas align with delivery areas on the TransCanada Pipeline Limited (“TransCanada”) Mainline. From West (Manitoba border) to East (Cornwall) these delivery areas are:

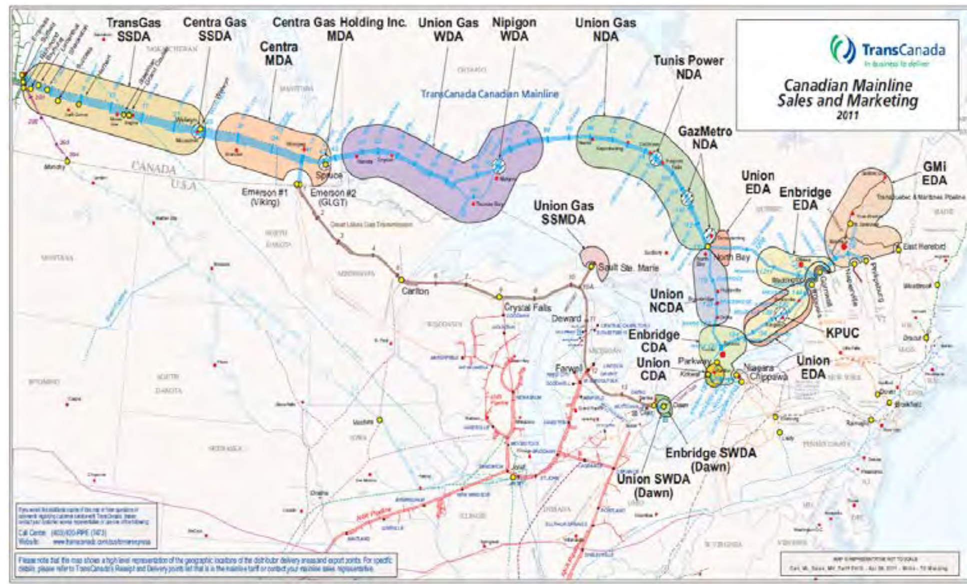
- Manitoba Delivery Area (“ MDA”)
- Union Western Delivery Area (“Union WDA”)
- Union North Delivery Area (“Union NDA”)
- Union Sault Ste. Marie Delivery Area (“ Union SSMDA”)

- Union North Central Delivery Area (“Union NCDA”)
- Union East Delivery Area (“Union EDA”)

The delivery area that does not align is Union’s Manitoba Delivery Area, which is connected to the TransCanada Mainline at the Spruce interconnect in the Centra MDA by two additional pipelines (Centra Transmission Holdings and Centra Pipeline Minnesota.

A map of these delivery areas is provided in Figure 2 below.

Figure 2



Today, all of the customers in Union North are served directly from TransCanada interconnects from the Western Canadian Sedimentary Basin (“WCSB”). Union uses a portfolio of contracted firm assets including TransCanada long-haul firm transportation, TransCanada short-haul firm transportation and TransCanada firm Storage Transportation Service (“STS”) to meet the needs of Union North. In the future, Union anticipates serving a portion of Union North delivery areas with short-haul firm transportation from Dawn replacing long-haul transportation from Empress.

Union provides distribution services to all customers, however customers continue to have the option to either purchase their supply from the utility or arrange supply through a DP arrangement. Union’s in-franchise customers fall into four distinct categories.

- Sales service: Union acquires supply and transportation capacity for these customers in Union North and Union South. Sales service demand requirements are included in the Gas Supply Plan.
- Bundled DP: These customers acquire their own supply with Union providing transportation options. Currently, Union North bundled DP customers deliver their supply to Union at Empress and Union uses TransCanada services to bring the supply to market. In Union South, customers are given a vertical slice (a proportionate amount of the transportation that Union holds in the Union South portfolio) when they first choose the DP option. The DP customers then manage this capacity subject to Union’s DP transportation policies. These customers are included in the Gas Supply Plan.

- Unbundled DP: These customers acquire their own supply and transportation from an energy marketer and are not considered within the Gas Supply Plan. This service is available to small residential, commercial and industrial customers.
- Transportation service (or T-Service) DP: These customers acquire their own supply and transportation and are not considered within the Gas Supply Plan. This service is available to large contract commercial and industrial customers.

Union performs the role of system operator and supplier of last resort. As system operator, Union manages many operational factors. These include:

- seasonal balancing requirements for sales service customers;
- weather variances outside of checkpoint balancing for bundled DP customers;
- changes in supply and balancing requirements as customers move between sales service and DP;
- differences between daily receipts from TransCanada and the demands of all end users including transportation service customers in the Union North; and,
- unaccounted for gas and compressor fuel variances.

As supplier of last resort, Union is the default supplier to its in-franchise customers. A supplier of last resort must ensure it has the assets or can acquire the assets to serve customers that others choose not to serve or fail to serve (e.g. for reason of financial failure), or any customer who chooses to be a sales service customer and have Union provide gas supply services. DP customers can revert back to sales service on short notice.

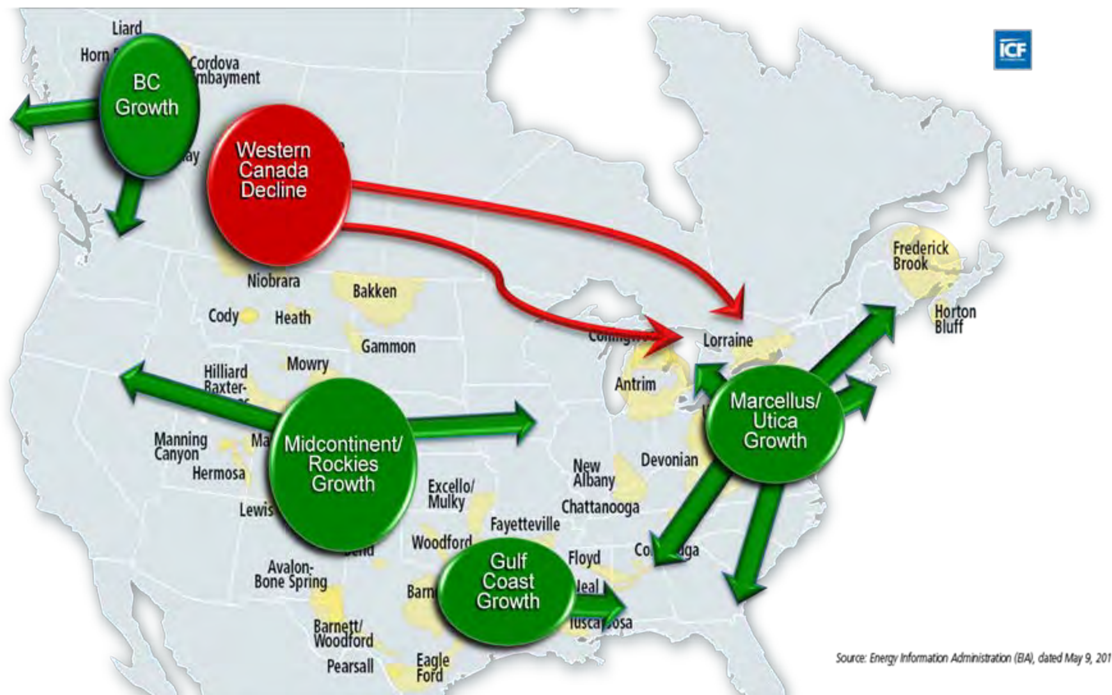
2. MARKET CONTEXT

2.1 Emerging Supply Sources

North American natural gas markets continue to experience dramatic change. Production from mature North American natural gas basins is in decline while new production basins have emerged and continue to grow. While natural gas reserves still exist in mature natural gas basins, the economics of natural gas production favors new emerging production basins such as Marcellus and Utica Shale. This shift in terms of where natural gas is being produced is fundamentally changing how natural gas flows in North America. Figure 3 illustrates projected flow changes in North America.

Figure 3

Gas Supply Basin Trends



Today shale gas comprises over one-third of all natural gas production in the United States. Shale gas as a share of total natural gas production in 2013 was 36% in the United States and 15% in Canada. According to the U.S Energy Information Administration ("EIA") the U.S. Northeast (Marcellus/Utica) production already surpassed 14 Bcf/d, providing approximately 18% of the total U.S. natural gas production. In its "2014 Annual Energy Outlook" the EIA forecasts dry shale gas to constitute 51% of U.S. domestic production in 2035. The Appalachian basin has been one of the most prolific natural gas supply growth areas in North America. This emerging and abundant supply is located within the Great Lakes region in close proximity to Ontario and other eastern North American consuming markets.

The rapid increase in natural gas supply has put downward pressure on North American natural gas prices and volatility. This has impacted market behavior and has driven eastern North American customers to increase the amount of shale gas supply and decrease the amount of supply from traditional supply basins requiring long-haul transportation in their portfolios. For eastern customers that have a choice, these fundamental changes in supply economics will mean that natural gas supply will increasingly be sourced from cost competitive shale gas in closer proximity to the market and less from traditional sources.

Marcellus and Utica shale gas present Ontario consumers, including power, industrial, commercial and residential, with an opportunity to diversify their natural gas supply portfolio and replace declining WCSB supply. Accessing this new supply will be essential to providing diversity of supply and affordable energy prices to fuel Ontario's economic competitiveness. With new infrastructure, access to these new, proximate and abundant sources of supply can increase reliability and security for the Ontario natural gas supply portfolio.

2.2 Western Canadian Supply

The majority of Ontario's natural gas supply needs for the past five decades were met through the large resources of the WCSB. Natural gas from Alberta was supplied to Ontario on the TransCanada mainline either across northern Ontario or through the U.S. via Great Lakes Gas Transmission ("GLGT"). Starting in the 1980's, other pipelines such as the Northern Border Pipeline, the Foothills pipeline and eventually the Vector pipeline (2000), were built to transport WCSB gas to markets east of Alberta, enhancing security of supply and reliability by providing diversity. Over the past ten years, two key trends have been occurring in Alberta: i) Alberta traditional production has matured and is in decline; and ii) domestic use of natural gas in Alberta has increased.

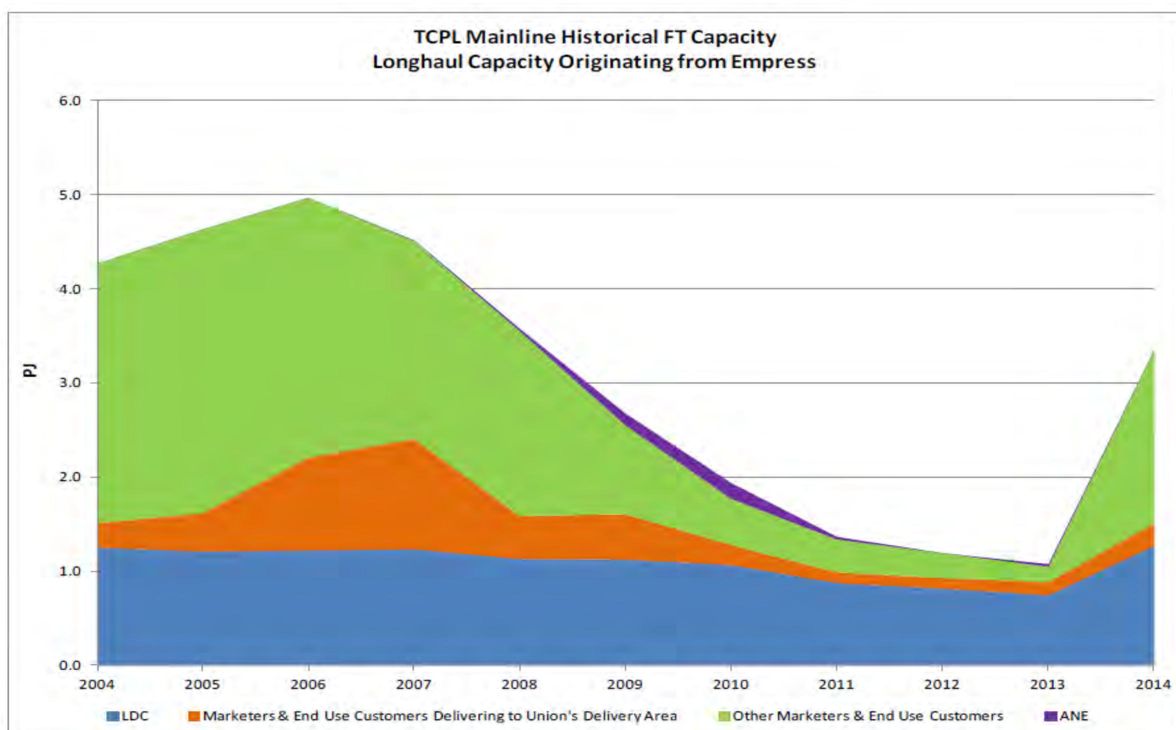
Although shale gas in Alberta and BC is a promising resource with growing production, it is unclear whether these new supplies will be attracted to Eastern markets or LNG export markets.

Western Canadian natural gas has been, and continues to be, an important source of supply for Ontario. However, as a result of the trends listed above, there is a declining amount of conventional supply available to flow east to Ontario, leaving the TransCanada Mainline and other pipelines connected to the WCSB increasingly challenged. The lower amount of WCSB conventional supply available requires new supply sources to support Ontario's natural gas supply portfolio. To feed Ontario's energy-intensive industry, natural gas-fired generators, businesses and homes, new supply will be required. Union, like other eastern LDCs, is proactively looking to diversify its supply portfolio with natural gas sourced from other production basins. Beginning in the mid-2000's, there has been a trend in the market away from TransCanada long-haul from Empress to short-haul back to Dawn.

Figure 4 shows the long-haul firm transportation contracts held on TransCanada by customer category starting in 2004. Between 2005 and 2013, there was a continuous decline in the amount of long-haul firm transportation contracts on the TransCanada Mainline. Marketers and end use customers have de-contracted the greatest amount of long-haul firm transportation capacity at almost 4 PJ/d. As tolls from Empress to eastern markets increased above the difference in commodity price between Empress and trading points in eastern markets, marketers de-contracted to seek more economic alternatives.

Since the release of the National Energy Board's RH-003-2011 Decision, firm long-haul contracts from Empress on the TransCanada Mainline have increased by approximately 2.3 PJ/d (over 2 Bcf/d). These firm long-haul transportation services have largely been secured by shippers on a short-term non renewable basis as an alternative to contracting for discretionary services (IT and STFT) on the TransCanada Mainline until further short-haul capacity from Dawn to eastern markets is available.

Figure 4



(Source: TransCanada CDE Report – January 2004 to June 2014)

2.3 Natural gas price signals

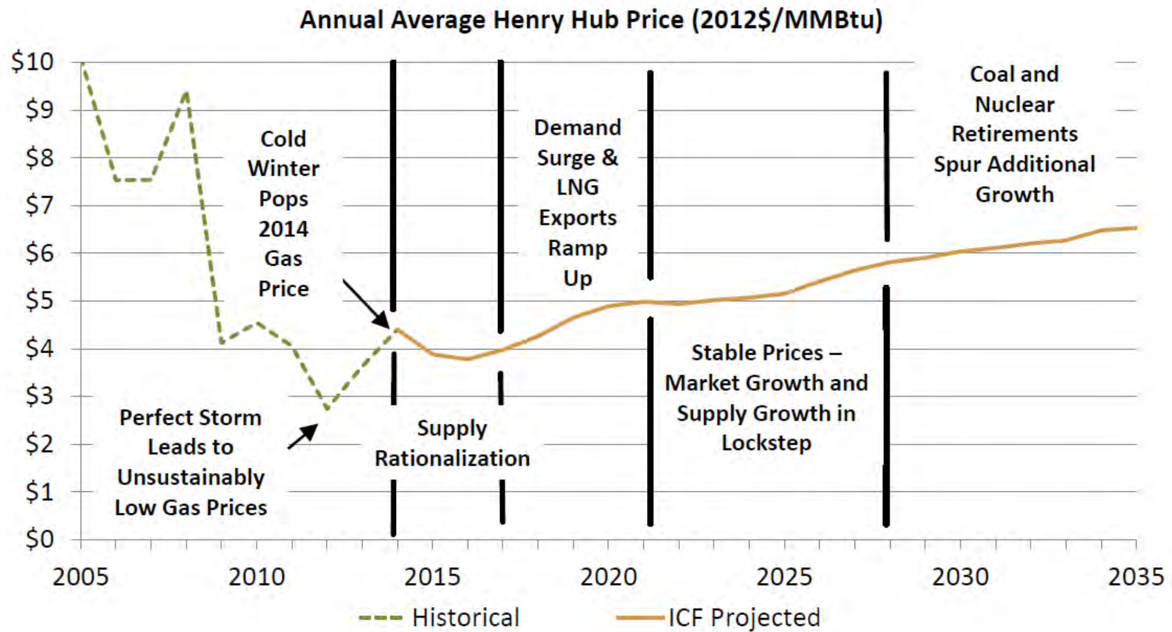
As the emergence of shale production has increased dramatically since 2007, the increase in available supply has put downward pressure on natural gas prices. As shown in Figure 5 below, the price of natural gas dropped from a high of nearly $10 USD/mmbtu in 2005 to current levels under $5 USD/mmbtu.

After the price run up related to the winter of 2013/2014 (driven by widespread cold weather and hence increased demand), in the near term to 2016, prices of natural gas at Henry Hub are expected to continue to hover between $4.00-$5.00 USD/mmbtu. This is predominantly driven by continued increased productivity in shale plays (particularly in the Marcellus), offset by growth potential in the industrial and power markets. As demand for natural gas rises, the speed with which producers respond will dictate how much and how quickly gas prices respond.

In the long-term, between 2020 and 2030, gas prices at Henry Hub are expected to rise to near $6 USD/mmbtu. This price reflects sufficient incentive for producers to continue to develop supply sources, while not so high to reduce market growth. Beyond 2030, prices are projected to continue a gradual increase towards $7 USD/mmbtu, reflecting the increased demand for natural gas from electricity generators and retirement of nuclear facilities.

These projections, provided by ICF International ("ICF") in August, 2014, are depicted in Figure 5.

Figure 5



2.4 Transportation / Pipeline changes

As supply and transportation market options change, so does Union's gas supply mix and how gas is transported to Ontario. Unchanged, however, is Union's application of the gas supply planning principles and the requirement to ensure secure, reliable supplies to serve its customers at prudently incurred costs. When Union considers a new supply basin, new upstream transportation capacity or existing transportation capacity up for renewal, cost alternatives are considered. The landed cost analysis is completed and filed when a new transportation path is contracted for, in accordance with the Board-approved EB-2005-0520 Settlement Agreement. The analysis for new transportation paths included in Union's 2014/2015 Gas Supply Plan will be filed as part of Union's 2014 Deferral Disposition and Earnings Sharing evidence (EB-2015-0010, Exhibit A, Tab 4).

Until the 1950's, Union sourced its natural gas supplies through local Ontario production, manufactured gas, and imported U.S. supplies. In the late 1950's, the construction of the TransCanada Mainline connected western Canadian supplies to eastern Canadian consuming markets. By the 1990's, up to 90% of Union's system supply portfolio was sourced from western Canada, and was predominantly transported to Ontario via TransCanada. Through the 1990's, Union introduced more supply diversity into the Union South portfolio to increase diversity and take advantage of economic supply options from U.S. locations (i.e. Panhandle, Vector).

Given the changes in flows of gas supply across North America described earlier, and as discussed in EB-2013-0074 and EB-2012-0433, Union is working to increase the level of supply diversity in Union North by replacing a portion of long-haul TransCanada transportation from Empress with short-haul deliveries from Dawn to the Union EDA and

Union NDA. This significant change will afford Union North greater access to Dawn and the multiple supply basins Dawn connects to, providing security and diversity of supply. This is discussed in more detail in Section 6.2.

3 GAS SUPPLY PLANNING OBJECTIVES AND PRINCIPLES

The Gas Supply Plan defines the gas supply requirements and the necessary upstream transportation capacity and assets to meet customers' annual, seasonal and design day gas delivery. Union's Gas Supply portfolio is guided by a set of principles that are designed to ensure customers receive secure, diverse gas supply at a prudently incurred cost and minimal risk. The principles 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 have been presented to and accepted by the Board on a number of occasions. Most recently these principles were presented to the Board in Union's 2013 Cost of Service proceeding (EB-2011-0210) and the 2013/2014 Gas supply Memorandum filed as part of the 2013 Deferral Disposition proceeding (EB-2014-0145).

Cost is an important consideration in the Gas Supply Plan; however, Union must balance the benefits of all the attributes of the guiding principles. A description of each guiding principle and how this balance is achieved, is provided below.

3.1 Ensure secure and reliable gas supply to Union's service territory

Union has an obligation to ensure its firm sales service and bundled DP customers (i.e. residential and commercial customers) have access to secure and reliable gas supply sources. This includes firm upstream transportation contracts to deliver this supply to Union's franchise areas. Union also provides a load balancing function for all sales service and bundled DP customers to manage the seasonal differences between supply and demand. Union's obligation is to provide gas supply and transportation capacity for sales service customers and transportation capacity for bundled DP customers. To meet this obligation Union uses a combination of firm upstream transportation contracts, Dawn sourced supply and storage capacity. Union ensures adequate firm capacity is available on a sustained basis to meet firm design day and annual demands through transportation capacity contractual rights. This includes a combination of long-term transportation contracts with third parties, transportation contracts with guaranteed renewal rights, as well as dedicated Union storage, transmission and distribution assets.

3.2 Minimize risk by diversifying contract terms, supply basins and upstream pipelines

Union's current upstream transportation portfolio and related supply are diversified with respect to supply basin access, gas supply producers and marketers, contract term and transportation service provider. Union's approach to diversifying the portfolio of firm assets is analogous to a prudent investment portfolio where diversity of funds, risk and term are critical to a successful portfolio.

In Union South, Union utilizes capacity on multiple upstream pipelines to access several supply basins or market hubs. These pipelines provide access to supplies in Western Canada, Gulf of Mexico, Chicago, the U.S. mid-continent and Marcellus through Niagara. The Gas Supply Plan also includes Dawn purchases as part of the Union South supply portfolio. Union purchases gas from suppliers under a North American Energy Standards Board ("NAESB") contract. Union has NAESB contracts with approximately 80 suppliers. The portfolio of suppliers and upstream transportation contracts provides diversity and reduces the exposure to price volatility for Union South customers. It also provides Union the flexibility to manage to its seasonal inventory targets.

Union also manages risk to customers by diversifying the length of the contract terms to provide flexibility in managing the upstream transportation portfolio. In Union South, contract terms range from one to fifteen years. Union holds renewal rights on the majority of these contracts at expiry date. In Union North, Union's long-haul TransCanada firm contracts renew on a two year rolling basis. Union is taking steps to introduce Dawn supplies into the Union North portfolio starting in 2015.

For gas supply purchases, the sales service supply portfolio consists of annual and multi-year terms, seasonal, monthly, and in rare cases, daily purchases. In addition, Dawn delivered service in the Union South supply portfolio can be re-sized monthly and annually to manage changes in demand.

3.3 Encourage new sources of supply as well as new infrastructure to Union's service territory

Union continues to seek new sources of cost-effective supplies to serve its customer base either through accessing new supply sources with existing infrastructure or participating in longer-term projects to encourage the development of new infrastructure to and through Ontario. The development of new supply sources and the related infrastructure often require long-term commitments. In the Board's EB-2010-0300 / EB-2010-0333 Decision (p. 7), the Board recognized the role that regulated utilities play in supporting new infrastructure development:

> *"The Board recognized that the enrolment of regulated utilities for such long term arrangements would be a necessary and desirable element in new infrastructure development…"*

Union supports the development required to bring new supply sources to or through Ontario. For example, Union entered into an open season and signed a ten year agreement with TransCanada for capacity on the Niagara to Kirkwall path effective November 1, 2012. This path provided Ontario customers with access to supplies from the Marcellus shale basin.

In addition, Union supports the infrastructure required to allow new supply sources to flow to eastern and northern Ontario. In order for all Ontario natural gas customers to access new emerging supply, new infrastructure at Parkway and between Parkway and Maple on the TransCanada Mainline is required. The required infrastructure on Union and Enbridge systems

has been approved by the Board (EB-2012-0433 / EB-2013-0074 / EB-2012-0451). In its Decision, the Board stated:

> *"The project is part of a group of projects, including Enbridge's GTA Segment A pipeline and TransCanada's proposed King's North pipeline that will facilitate greater flows of mid-continent natural gas into Dawn for transportation to downstream markets. The projected benefits of these projects stem from an enhanced diversity of supply, gas costs savings, and enhanced liquidity at Dawn."(p.22)*

This infrastructure will provide additional diversity to Union North starting November 1, 2015.

3.4 Meet planned peak day and seasonal gas delivery requirements

Inherent in the obligation to meet sales service and bundled DP customers' gas supply needs is the requirement to construct a gas supply portfolio that will meet:

- Design day requirements – to provide service to sales service and bundled DP customers on the day of highest anticipated peak or design day demand in each delivery area.
- Seasonal/annual requirements – to be able to meet the annual requirements of the markets while balancing the summer / winter load changes.

A further description of how Union meets these requirements is provided in Section 5.

3.5 Deliver gas to various receipt points on Union's system to maintain system integrity

The Union South transportation portfolio has delivery points at Dawn, Parkway, Kirkwall, St. Clair and Ojibway. It is Union's practice to receive gas at multiple points. This practice provides two benefits.

First, it maintains system integrity as Union is not reliant on one receipt point for all of its gas supplies. A system interruption or upset at one receipt point would not cause a complete supply failure to Union's system.

Second, delivery to multiple receipt points allows Union to minimize its pipeline facilities in the area. For example, the delivery of gas at Ojibway enables the Dawn-Ojibway transmission system to be smaller than would otherwise be necessary to meet design day requirements. In this case, if Union delivers gas to Ojibway, Union does not have to ship the equivalent volume from Dawn to Ojibway.

4 GAS SUPPLY PLANNING PROCESS

Union's Gas Supply Plan is a five-year rolling plan that is prepared annually, with the primary focus being the first two years. The annual gas supply planning process is summarized at Appendix A. The Gas Supply Plan is finalized and receives executive approvals in the third quarter each year.

The Gas Supply Plan identifies the efficient combination of upstream transportation, supply purchases, and storage assets required to serve sales service and bundled DP customers' annual, seasonal and design day gas delivery requirements, while adhering to the planning principles described earlier. Once the design day demands are calculated, the planning process continues with a monthly forecast by market of total consumption by each delivery area in Union North and

Union South. The Gas Supply Plan is then used to generate a forecast of natural gas supplies, transportation and storage services required by Union's in-franchise sales service and bundled DP customers. The upstream transportation contracts in the Gas Supply Plan, along with storage assets, are managed by Union to provide an integrated service to all sales service and bundled DP customers. The costs for both the supply and the transportation services identified in the Gas Supply Plan are recovered through commodity, transportation and storage charges.

Union's integrated supply planning is a complex process that incorporates demand related items such as customer growth, normalized weather, design day requirements, customer consumption patterns and economic outlooks. Demands are analyzed relative to Union's existing system design and gas supply portfolio (supply and transportation). The firm needs of these customers are analyzed to ensure the appropriate level of firm transportation and storage assets are held to meet design day, seasonal and annual demand. The Gas Supply Plan is appropriately sized and there are no assets in the Gas Supply Plan in excess of those necessary to meet firm customer requirements.

To complete the Plan, Union uses gas supply planning software known as SENDOUT. SENDOUT, supplied by VENTYX, is a widely recognized gas supply planning tool and is used by a number of LDC's in North America. Union has used this software for 27 years and it has been presented in a number of rate applications since 1987.

Union uses SENDOUT to ensure that the assets incorporated in the Gas Supply Plan meet annual, seasonal, and design day demands. SENDOUT determines the amount of capacity, supply and associated costs required to meet customer demands. Union's five-year Gas Supply Plan includes the following key inputs and assumptions:

- The design day demand forecast for each Union North delivery area;
- Union's in-franchise monthly demand forecast based upon customer location, supply arrangement, storage requirement and service type (excludes Transportation Service and Unbundled service);
- A monthly commodity price forecast using the same pricing methodology as the Quarterly Rate Adjustment Mechanism ("QRAM") process;
- Upstream transportation tolls in effect at the time the forecast was prepared;
- All upstream transportation contracts held by Union plus existing obligated Ontario deliveries for the bundled DP market;
- Sales service and bundled DP storage requirements that are cycled completely each year in the Plan with storage full on November 1 and empty by March 31 assuming normal weather;
- Applicable heating value;
- Sufficient inventory at February 28 to meet the design day requirements for sales service and bundled DP customers;
- No migration between sales service and bundled DP customers for the term of the Plan. Any migration is therefore a risk that needs to be managed by Union; and,
- 9.5 PJ of system integrity space. This storage space is used in a number of ways to maintain the operational integrity of Union's integrated storage, transmission and distribution systems. The Gas Supply Plan has 6.0 PJ of this space filled with system integrity supply while the remaining 3.5 PJ is left empty as contingency space.

The outcome of the annual planning process is a five-year plan that provides a monthly volumetric forecast of supplies (by transportation path) and demands and a monthly forecast of Union's costs to serve its sales service and bundled DP customers. The key inputs and outputs of the Gas Supply Plan are discussed in more detail below.

5 UNION'S 2014/2015 GAS SUPPLY PLAN

The Gas Supply Plan defines the gas supply requirements and the necessary upstream transportation capacity and assets to meet customers' annual, seasonal and design day gas delivery. The key inputs and outputs, as well as the changes, are described in more detail below.

5.1 Design Day

The purpose of the Gas Supply Plan is to determine the appropriate level of assets required to meet firm customer demands for annual, seasonal and design day requirements. To create the Gas Supply Plan, Union must forecast the firm customer demand on the design day as well as annual and seasonal requirements. The main information required to develop the demand includes weather, firm customer demand, forecast demand growth and pipe and/or storage assets which are available.

Weather

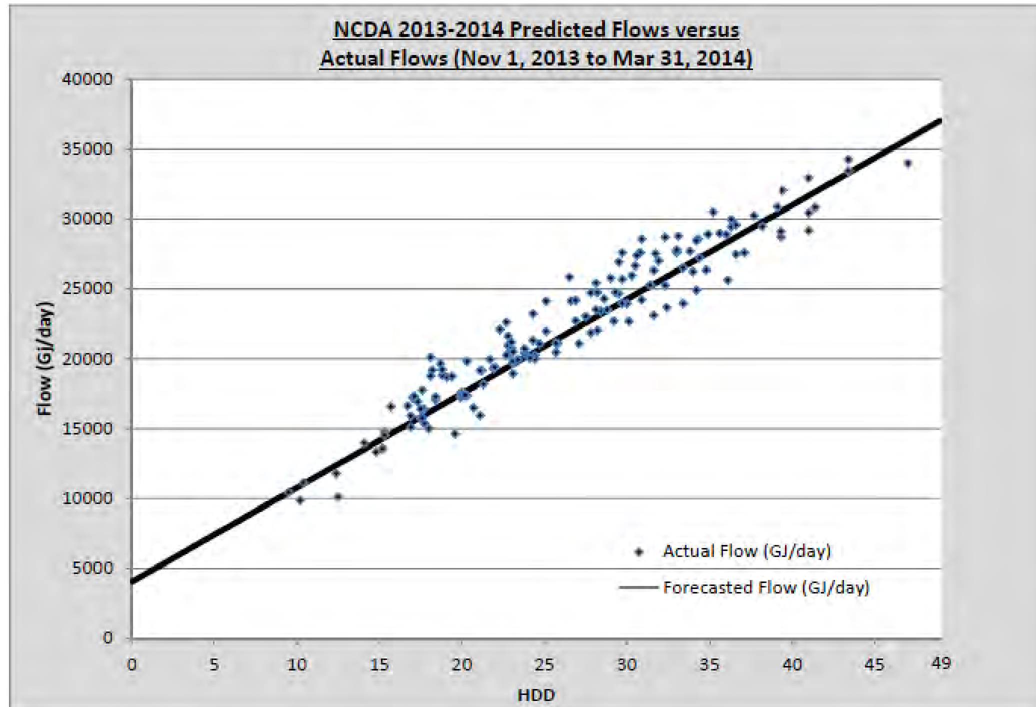
Union ensures assets are available to provide firm service to customers on an extreme cold weather day called the Design Day. The design day is measured in heating degree days ("HDD"). In the gas industry, temperature is translated to hHDD; the colder the temperature, the higher the HDD. A heating degree day is a temperature 1 degree C below 18 degrees C. Therefore an 18 degree HDD would translate to a temperature of 0 degree C on average for the day. Union uses the coldest observed degree day for Union South and each of the six delivery areas in the North.

Firm Customer Demand

The firm customer design day demand is forecast by multiplying the firm use per degree day factor with the coldest observed degree day.

Union develops a trend line using the daily firm customer consumption from the prior winter and the associated daily degree day data. Union extrapolates the calculated trend line to the coldest observed degree day resulting in the estimated design day demand for each delivery area. An illustrative example of the degree day data and the trend line calculation for the NCDA is provided in Figure 6 .

Figure 6



Forecast

The design day demand described above is increased by the winter season growth factor reflected in the demand forecast. This forward looking forecast growth factor is added to the firm customer demand noted above, to provide a total forecasted design day demand for each delivery area.

Required Assets

The design day requirements are met by holding storage and transportation capacity. Design day weather does not occur every year, however, the assets must be available should that design day occur given Union's role as the supplier of last resort for sales service and bundled DP customers.

In order to meet these design day requirements for Union South and Union North, Union uses a combination of contracted upstream transportation capacity, and Union's storage, transmission, and distribution assets. The use of storage assets is more cost effective than contracting for full, all year firm upstream transportation capacity. Since Union's storage and transmission assets reside within its South franchise area, the role of the gas supply portfolio is different on a design day in Union South than in Union North. The North design day demand is a direct input into the Gas Supply Plan, while Union South design day demand is an input into the storage and transmission design day plan.

For March 31, Union assumes that the storage levels will be 0 plus 6 PJ of integrity gas remaining for both Union North and Union South. Average winter demands are met through a combination of gas flowing on upstream transportation and storage withdrawals.

The differing methodologies are described below. These methodologies are consistent with what was reviewed in the Sussex report.

5.1.1 Union South Design Day

Union South design day demand is the total firm requirement of the in-franchise sales service, bundled, unbundled and transportation service customers in the South delivery area.

The design day weather condition for the Union South area is based on the coldest observed degree day experienced in the Union South delivery area. The design degree day for Union South is 43.1 measured at the London airport.

For Union South, the Gas Supply Plan is focused on purchasing upstream supply and transportation to meet Union's annual demand requirements. The annual volume requirement is divided by 365 days such that the upstream pipe flows at 100% utilization each day of the year. During times when usage is less than the upstream supply, the excess supply is injected into storage at Dawn. When demands are greater than the upstream supply, gas is withdrawn from storage and transported to Union South in-franchise customers.

The role of meeting the entire design day needs for Union South resides within the gas storage and transmission system plans. The Gas Supply Plan is only a component of this broader exercise and only manages the average day supply needs for Union South sales customers. To meet the design day requirements of Union's South in-franchise customers, Union must have sufficient volume of gas in storage for the seasonal and firm design day demand requirements (storage plan) and sufficient transportation assets to move the upstream supply and gas out of storage into the transmission pipeline systems and to markets. The transmission system plan requires Union to have enough transmission assets to move the firm design day demand from the systems supply points to its customers on design day. Union's distribution systems are designed to meet peak day requirements. If the transmission or storage assets are not sufficient to meet design day and seasonal requirements, Union will build additional assets or purchase services to meet this shortfall.

Design days do not occur every year, however, the assets must be available should the design day occur. The resources available to meet Union's design day in Union South are shown below in Figure 7.

Although the design degree day of 43.1 has not changed in Union South, the customers' demands on a peak day have increased. The design day requirements in Union South have increased from 2,743 TJ/d to 2,868 TJ/d.

Figure 7

Winter 2014/2015 Design Day
Union South Design Day Demand and Resources (TJ/day)

Demand	
Union South*	2,868
Supply	
Storage at Dawn	1,381
Non-obligated (e.g. Power Plants)	188
TCPL Empress to Union CDA	67
Trunkline	21
Panhandle	39
TCPL Niagara	21
Ontario Parkway	359
Alliance/Vector	84
Vector	112
MichCon	11
Ontario Dawn	539
Customer Supplied Fuel	45
Total Supply	2,868

* includes Sales Service, Bundled Direct Purchase, T-service, Unbundled

5.1.2 Union North Design Day

Union North design day demand is the total firm requirement of the in-franchise sales service and bundled DP customers in each of Union's six Northern delivery areas. Union does not include demand for customers with transportation service contracts as these customers are required to provide their own transportation services on TransCanada to Union to provide Union sufficient supply to meet their design day requirements.

The design day weather condition is based on the coldest observed degree day experienced in each of the six delivery areas. The design degree day for the Northern Delivery areas is as follows:

WDA	56.1	Thunder Bay
MDA	54.7	Fort Frances
SSMDA	48.2	Sault Ste Marie
NCDA	49.0	Muskoka / Gravenhurst
NDA	51.9	Sudbury
EDA	47.1	Kingston

Even though the winter of 2013/2014 was extremely cold, there were no new heating degree records set to adjust the ones used from the previous plan.

For Union North, the firm design day demand is a direct input into the Gas Supply Plan. Union is required to purchase transportation services to move the firm design day demand from either Parkway (in some cases from Dawn) or Empress to the delivery areas where the gas is consumed.

Union's Northern delivery areas are connected to TransCanada's Mainline and are physically separated from Union's Dawn storage and transmission pipeline assets. Therefore, Union requires upstream transportation services to connect each of the six Northern delivery areas to a supply source (currently at Empress). From Dawn, additional transportation services (primarily STS) are required to move gas from storage to the Northern delivery areas.

The Union North gas supply portfolio ensures there is sufficient, but not excess, firm transportation services available to meet the firm design day demand requirements in each delivery area. The full suite of assets is only used in each delivery area when a design or peak day occurs. Since Union is required to contract for transportation services to meet design day demand, there are days when the pipe is not fully utilized. Union currently uses a portfolio of firm services and assets including TransCanada firm transportation, TransCanada STS firm and other TransCanada services to meet its design day demand requirement.

Design day shortfalls in this Gas Supply Plan were identified in Union North (4,810 GJ for the winter of 2014/2015). The design day demands for the 2014/2015 Gas Supply Plan are based on a trend line using the daily firm customer consumption from the 2013/2014 winter and the associated daily degree day data and the forecast anticipated in the 2014/2015 demand forecast. The shortfall identified was largely due to lower forecast declines in demand (higher demand than the 2013/2014 Gas Supply Plan). Firm TransCanada long-haul transportation capacity from Empress to Union NDA has been acquired to address this design day shortfall.

Figure 8 illustrates what services and assets are relied on in the Gas Supply Plan to meet design day demand. The design day requirements in UnionNorth have increased from 474 TJ/d to 479 TJ/d.

Figure 8

Winter 2014/2015 Northern Firm Design Day Demand in TJ/day							
	Delivery Area						
	MDA	WDA	SSMDA	NDA	NCDA	EDA	Total
Design Day - Heating Degree Day (HDD)	**54.7**	**51.6**	**48.2**	**51.9**	**49.0**	**47.1**	
Design Day Demand by Delivery Area	***6***	***99***	***121***	***290***	***40***	***245***	***800***
Composed of:							
T-Service Firm Contract Demand	-	*18*	*83*	*128*	*3*	*89*	***321***
Union Responsible:							
Bundled Firm General Service Demand	6	81	37	150	37	155	466
T-Service Storage Redelivery Demand	-	-		13	-	-	13
Firm Demand - Union Responsible	*6*	*81*	*37*	*162*	*37*	*155*	*479*
Capacity & Supply to meet Firm Demand - Union Responsible							
Upstream Transportation - Capacity							
TCPL Long Haul from Empress	5	37	8	63	9	59	**180**
Supply - Upstream Transportation							
Union	4	30	5	52	6	42	**139**
Direct Purchase	1	7	3	11	3	17	**41**
	5	37	8	63	9	59	**180**
Redelivery from Storage							
TCPL STS Withdrawals - contracted	-	31	35	48	14	69	**197**
TCPL STS Withdrawals - pooled in/(out)	-	-	(6)	(2)	15	(7)	**-**
TCPL STS Withdrawals - flowed	-	31	29	46	28	62	**197**
TCPL S/H from Parkway	-	-	-	-	-	35	**35**
	-	-	-	-	-	35	**35**
Supply from Upstream Transport & Storage	***5***	***68***	***37***	***109***	***37***	***155***	***412***
Firm Demand - Union Responsible	***6***	***81***	***37***	***162***	***37***	***155***	***479***
Supply from Upstream Transport & Storage	***5***	***68***	***37***	***109***	***37***	***155***	***412***
Excess/(shortfall) by Delivery Area	***(1)***	***(13)***		***(53)***			***(67)***
Excess/(shortfall) by delivery area	***(1)***	***(13)***		***(53)***			***(67)***
Supply from Other Sources							
Diversions - from Union South transport portfolio							
TCPL Empress - Union CDA	1	13	-	53	-	-	**67**
Excess/(shortfall) by Delivery Area							

Gas supply flows on the TransCanada long-haul firm transportation to meet Union North customers' seasonal and annual average weather normalized demand requirements. As in Union South, the target is to fill Union North in-franchise storage at November 1 and provide sufficient inventory at February 28 to meet the design day withdrawal requirement.

5.2 Demand forecast

The Gas Supply Plan for 2014/2015 is based upon the 2015 weather normalized demand forecast for general service customers and contract rate classes as prepared by Union's demand forecasting team. Total bundled customer forecast volumes, including general service unbundled customers, have increased by approximately 13.5 PJ or 5.5% in Union's 2014/2015 Gas Supply Plan from what was reflected in the 2013/2014 Gas Supply Plan. Union's sales service demands have increased by 13.9 PJ (Figure 9, lines 1, 6, 10, and 14).

The general service forecast has increased by 5.5% in Union South and 3.9% in Union North for a total increase of 10.0 PJ. This is primarily due to:

- Price elasticity of demand (residential and commercial);
- Commercial customer building operation / energy management; and,
- Commercial building characteristics – new and renovations.

The contract market has increased by 9.3% in Union South and decreased by 9.1% in Union North for a total increase of 3.6 PJ primarily due to the global economic forces and production activity at a number of industrial establishments. A comparison of the demand forecast included in the 2014/2015 Gas Supply Plan relative to the 2013/2014 Gas Supply Plan is provided in Figure 9.

Figure 9

Union Bundled Customer Forecast Demand

Line No.	Particulars (TJ)	2013/14 Gas Supply Plan	2014/15 Gas Supply Plan	Variance	% change
		(a)	(b)	(c) = (b-a)	(d) = (c/a)
	UNION SOUTH				
1	General Service - Sales Service	112,137	122,984	10,847	
2	General Service - BT	10,485	10,223	(262)	
3	General Service - unbundled	3,391	2,586	(805)	
4	General Service - ABC	22,959	21,339	(1,620)	
5	Sub-total	148,972	157,132	8,160	5.5%
6	Contract - Sales Service	2,359	3,554	1,196	
7	Contract - BT & ABC	42,354	45,328	2,974	
8	Subtotal	44,712	48,882	4,170	9.3%
9	**Total Union South**	193,684	206,014	12,330	6.4%
	UNION NORTH				
10	General Service - Sales Service	34,664	37,340	2,676	
11	General Service - BT	3,876	3,982	106	
12	General Service - ABC	7,987	7,002	(985)	
13	Sub-total	46,527	48,323	1,796	3.9%
14	Contract - Sales Service	2,151	1,344	(807)	
15	Contract - BT	3,662	3,939	277	
16	Subtotal	5,813	5,283	(530)	-9.1%
17	**Total Union North**	52,340	53,606	1,266	2.4%
18	Total Union Forecast Demand	246,024	259,620	13,596	5.5%

As noted above on lines 1 and 10, sales service demands for the general service market have increased by 10.8 PJ in Union South and 2.7 PJ in Union North driven, in part, by estimated customer attachments in 2015 of 12,989 and 6,103 in Union South and Union North, respectively, as all growth in the general service forecast is assumed to be sales service. In addition, in Union South, approximately 20,000 bundled DP customers returned to sales service supply relative to what was included in the 2013/2014 Gas Supply Plan. A comparison of the number of sales service and DP customers in the 2014/2015 Gas Supply Plan relative to the 2013/2014 Gas Supply Plan is provided in Figure 10.

Figure 10

Number of Customers by Service classification - Union South

	2013/14 Forecast	**2014/15 Forecast**	**Variance**
Sales Service	928,199	962,746	34,547
Bundled DP	142,241	120,527	(21,714)
Total	**1,070,440**	**1,083,273**	**(12,833)**

For the sales service forecast (the group that Union purchases supply for), the increase in demand due to return to sales service impacts the total supply that Union must purchase for both Union North and Union South. For Union North, Union plans for upstream pipeline transportation capacity for sales service and bundled DP customers so there is no impact to Union's contracted capacity in the north as a result of return to sales service.

For Union South, Union requires additional supply and transportation capacity to meet increased demand as a result of return to sales service supply. The incremental supply requirement is reflected in Union's 2014/2015 Gas Supply Plan.

The gas supply/demand balance for sales service customers for the 2014/2015 Gas Supply Plan is provided at Appendix B.

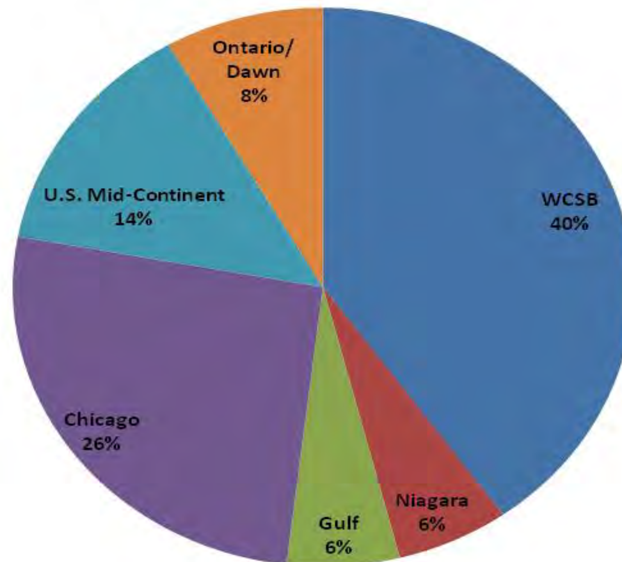
5.3 Transportation Portfolio

Union holds a combination of firm transportation contracts, Dawn sourced supply and storage capacity to meet the full forecasted annual demand. Firm transportation arrangements provide direct and secure access to a diverse group of supply basins and hubs in North America.

i) Union South

For Union South, Union holds firm transportation contracts and sources supply at Dawn to meet average annual demand requirements. Union utilizes capacity on many upstream pipelines to access several supply basins or market hubs. These pipelines provide access to supplies in Western Canada, Gulf of Mexico, Chicago, the U.S. mid-continent and Marcellus. The Gas Supply Plan also includes Dawn purchases as part of the Union South supply portfolio. Figure 11 demonstrates the sources of supply underpinned by Union's transportation portfolio for Union South sales service customers. (A complete list of the upstream transportation contracts is included as Appendix D)

Figure 11



ii) Union North

In Union North, Union's plan utilizes various services and transportation capacity to meet sales service and bundled DP customer annual and design day demands. The transportation capacity necessary to meet peak day demands on a firm basis exceeds that required to meet the annual demand requirements.

A detailed listing of the contracts in place to serve Union North annual, seasonal and design day demands for the 2014/2015 gas year are provided in Appendix C.

The Gas Supply Plan reflects the effective management of TransCanada capacity by:

- Using TransCanada STS injection. STS injection is a service that allows Union to move excess volumes from the North to Parkway and ultimately to Dawn storage in the summer;
- Using TransCanada STS withdrawals in the winter months to serve weather-driven demands. Gas is withdrawn from Dawn storage throughout the winter and is transported back to Union North via STS withdrawals without the need for contracting additional TransCanada FT capacity to that delivery area; and,
- Using contractual STS pooling rights to group all of Union's STS rights serving the various Union North delivery areas. This provides Union with the flexibility to serve the individual delivery areas in Union North with gas service in excess of that delivery area's specific STS rights.

In addition, Union completes the Gas Supply Plan on an integrated basis in order to manage costs for all ratepayers. For example, today, Union uses the Union South TransCanada Empress to Union CDA contract to serve two purposes. In addition to meeting average day (annual) requirements for Union South as described above, the Empress to Union CDA contract is also used to meet Union North design day requirements through upstream

diversions that are interruptible in nature but have historically been very reliable. Given the significant changes to TransCanada's system operations driven by changing market dynamics, TransCanada was unable to accommodate certain interruptible upstream diversions that have previously and consistently been accepted. Therefore, Union is working to replace its reliance of upstream diversions to meet Union North requirements. This is discussed in more detail later in this memorandum at Section 6.2.

5.4 UDC in the Gas Supply Plan

In Union North, the upstream transportation capacity (long-haul, short-haul and STS) is first sized to meet the winter design day demand requirement. The long-haul capacity is also used to deliver, on each day, the average annual volume to each delivery area. The amount of supply transported on the upstream long-haul capacity needed to meet average annual demand requirements is less than the capacity to meet peak day requirements, and therefore, a portion of Union's contract capacity is planned to be unutilized during the year. The difference between total contracted capacity and total demand for both Union North sales service and bundled DP customers results in unutilized capacity or UDC. The total forecast UDC is 12.1 PJ in the 2014/2015 Gas Supply Plan. If weather is colder than normal and annual consumption is greater, and if it is economical to do so, Union will use this capacity to meet incremental supply requirements in either Union North or Union South subject to TransCanada's authorization of downstream diversions.

Figure 12 shows the total contracted capacity sourcing supply at Empress relative to the annual demand and the resulting UDC in the 2014/2015 Gas Supply Plan.

Figure 12

North Transportation Capacity vs Demand
2014/15 Gas Supply Plan

	PJ
Total Contracted Capacity (174.9)	63.9
Incremental NDA capacity (4.8 TJ/day)	1.8
Withdrawal from Storage	0.3
less:	
Total Annual System Sales demand	38.9
Total Annual Bundled DP demand	14.9
Total UDC	**12.1**

In Union South, capacity on multiple different upstream pipelines is utilized to provide service to meet sales service average and seasonal demands. The Gas Supply Plan reflects the effective management of these capacities as there is no unutilized transportation capacity forecast for the 2014/2015 gas year as the Plan forecasts a 100% load factor on all the Union South upstream transportation.

5.5 Changes in Upstream Transportation Portfolio

The Gas Supply Plan assumes that all capacity currently contracted with renewal rights will continue to be available in the future. The Plan also excludes the following contracts that have expired:

- Panhandle Eastern Pipeline – 10,551 GJ/d (one-year term)
- GLGT / Michcon / TransCanada to SSMDA – 6,143 GJ/d
- Union CDA market-based contracts – 53,000 GJ/d (five-month term)

All of these contract expiries were replaced with a similar transportation service. The 2014/2015 Gas Supply Plan identified the following requirements:

- Approximately 75,000 GJ/d of supply is to balance Union South sales service supply and demands. To meet the Union South sales service supply requirements, Union contracted for the following capacity:

Capacity	GJ/d
Panhandle Eastern Pipeline	10,551
Michcon Pipeline	10,551
Vector Pipeline	26,376
Dawn	27,522
Total	75,000

  This represents an incremental 35,000 GJ/d of supply (13 PJ annually) relative to the 2013/2014 gas supply plan. This incremental supply is required due to DP customers returning to sales service and increased demand as discussed in Section 5.2. Union includes Dawn supplies in the gas supply portfolio to provide additional diversity and flexibility. Dawn delivered supplies provide Union access to a robust and liquid Dawn market hub.

- To meet increased design day requirements in Union North, 4,800 GJ/d of firm TransCanada long-haul transportation capacity from Empress to Union NDA has been acquired. In addition, Union has contracted for TransCanada capacity from Empress to SSMDA replacing the GLGT/Michcon/ TransCanada capacity.
- The total transportation requirement from Parkway to Union CDA identified in the Gas Supply Plan is 84,000 GJ/d, however, the Gas Supply Plan assumes that Union would renew an existing TransCanada FT contract for 16,000 GJ/d (contract has automatic renewal rights), leaving an outstanding requirement of 68,000 GJ/d. Union has taken a permanent assignment of 8,000 GJ/d of Dawn to Union CDA transportation capacity for the November 2014 to October 2016 time period. The remaining 60,000 GJ/d continues to be met with a firm exchange from Parkway to Union CDA for the winter period. The total requirement is a slight increase from the level of 69,000 GJ/d in last year's plan reflecting short-term operational conditions. The need for Parkway to Union CDA firm transportation capacity was identified in early 2011 when TransCanada indicated that Union would need to contract and pay specifically to transport volumes from Parkway to Union CDA in order to meet consumption requirements. Historically, TransCanada had not charged for this service and Union had not had to contract for it. Union described this new requirement in EB-2013-0109, Exhibit J2.6.

A complete listing of the transportation capacity contracted for Union North and Union South for the 2014/2015 gas year is provided at Appendix C and D.

In addition to the portfolio changes noted above, Union has reflected the Parkway Delivery Obligation proposal as filed and approved in EB-2013-0365 and the Vertical Slice changes as contemplated in EB-2014-0145 in the 2014/2015 Gas Supply Plan.

5.6 Cost of Gas

The Gas Supply Plan for the gas year 2014/2015 was finalized in the third quarter of 2014. The transportation tolls and gas prices utilized in the development of the Gas Supply Plan are consistent with those used to set the April 2014 Quarterly Rate Adjustment Mechanism ("QRAM") commodity price. Union then established specific prices for each supply location taking into account the various basis differentials and the foreign exchange rate.

As part of Union's Incentive Rate Mechanism ("IRM") Settlement Agreement (EB-2013-0202), Union indicated in Section 4.7.1, that the cost of gas supply, upstream transportation and gas supply balancing would continue to be passed through to customers through the Quarterly Rate Adjustment Mechanism ("QRAM"). Union reflects updated transportation tolls and forecast gas commodity in rates through the QRAM process. Variances in actual gas supply costs and transportation tolls relative to forecast gas supply costs and transportation tolls reflected in rates are captured in Union's gas supply deferral accounts. Union includes the prospective disposition of gas supply related deferral accounts in the QRAM process.

5.7 Bundled DP Customer Assumptions

The Gas Supply Plan includes all bundled DP demand and contracted Daily Contract Quantities ("DCQ"), and assumes that the number of bundled DP customers remains constant as of January 1, 2014. Union is unable to predict customer migration between sales service and bundled DP. Therefore, for the term of the Gas Supply Plan, customers are assumed to remain with the service they had received effective January 1, 2014.

On an ongoing basis throughout the year, Union continues to monitor the migration between bundled DP and sales service supply. As customers return to sales service supply, Union proactively manages the expected supply requirements by filling any pipe that is returned to Union when the customer returns to sales service supply. In addition, each month, Union purchases incremental supply for demand that is returned without underlying pipe based on forecast activity for the balance of the gas year.

Conversely, for customers that migrate to bundled DP, Union facilitates this movement by displacing planned commodity purchases and allocating upstream transportation capacity, as per the vertical slice allocation methodology approved in the RP-1999-0017 proceeding. As per EB-2014-0145, the vertical slice program will be suspended as of November 1, 2014. As discussed earlier in this memorandum, on a net basis, Union has experienced greater return to sales service supply.

5.8 Storage

Union owns 166 PJ of storage. Consistent with the NGEIR decision, the allotment of storage space to in-franchise customers is 100 PJ. For the 2014/2015 Gas Supply Plan, the in-franchise space requirement is 93.6 PJ. This leaves 6.4 PJ of excess in-franchise space which is

available for S&T short-term sales. This is an increase of 2.2 PJ in the space required for in-franchise needs when compared to 91.4 PJ in the 2013/2014 Gas Supply Plan. The increase in in-franchise storage is due primarily to increased demand for Union's bundled customers.

The in-franchise space of 93.6 PJ is provided to in-franchise customers to meet the storage requirements of sales service, bundled DP, unbundled and T-service customers. The amount available to in-franchise customers is based on the storage allocation methodologies approved by the Board as part of the Natural Gas Storage Allocation Policies Decision (EB-2007-0724/0725).

The storage space available to sales service and bundled DP customers in Union South and Union North is determined using the Board-approved aggregate excess methodology. This method is defined as the calculation of the difference between total winter demand (November 1 through March 31) and the average annual demand for a 151 day period. This method determines the allocation of storage space based on the following formula:

Aggregate Excess = Total Winter Consumption – [(151/365)*(Total Annual Consumption)]

5.9 Conclusion

Union continues to establish a Gas Supply Plan that is right sized to meet firm sales service and bundled customer demands with a diverse, flexible and cost effective portfolio of firm services and assets. Union's integrated supply planning process incorporates demand related items such as customer growth, normalized weather, design day requirements, customer consumption patterns and economic outlooks. Union plans and contracts for services and assets to provide an efficient combination of upstream transportation, supply purchases, and storage assets to serve sales service and bundled DP customers' annual, seasonal and design day gas delivery requirements. Union adheres to the gas supply guiding principles to ensure the assets procured on behalf of customers are robust, secure, diverse and reliable to meet firm customer demands.

As supply and transportation market options change, so does Union's supply mix and how it is transported to Ontario. Union continues to proactively evaluate new supply and transportation options for Union North and Union South customers. Unchanged, however, is Union's application of the gas supply planning principles and the requirement to ensure secure, reliable supplies to serve its customers at prudently incurred costs.

6 FUTURE TRENDS THAT MAY IMPACT THE GAS SUPPLY PLAN

Union monitors the North American natural gas industry and identifies how trends may impact Union's future gas supply portfolio. The market context which Union operates is described above and includes the emergence of shale gas, the reduction in available WCSB supplies flowing eastward, and the trend to move from long-haul transportation to short-haul. In addition to these trends, Union also considers recent industry experience particularly that of the extraordinary winter of 2013/2014.

6.1 Natural Gas Market Review - EB-2014-0289

Union provided its view of the extremely cold and unprecedented weather conditions experienced during the 2013/2014 winter causing record demand and record draws on storage over wide areas of North America. Similar views were shared by others as it related to the severity of the weather and the drivers for the increased demand and resulting prices. To the extent that the winter of 2013/2014 was one of the coldest on record, the winter of 2011/2012 was one of the warmest. The ongoing gas supply plan has to be able to meet annual, seasonal and peak day needs and be flexible enough to be able to manage variances in demand caused by either colder or warmer than normal weather.

There were suggestions during the Stakeholder Conference that a more mechanistic approach could be employed across each utility, including increased storage, triggers, what if scenarios and algorithms. Union relies on internal control points to manage the level of storage required to meet the needs of bundled customers as well as contractual balancing checkpoints for Union South bundled direct purchase customers to ensure their storage levels also meet the control point requirements. These control points and checkpoints ensure the overall system is physically protected throughout the year. It is an engineering, fact based process that does not need to change.

Every utility has a different mix of storage and pipeline assets. Trying to employ a common formulaic algorithm or mechanistic approach is unreasonable and unnecessary. The current process and procedures have worked very well in both a very warm and a very cold winter. The plan is a guideline and the utilities always have to manage the variances to the plan. In a colder than normal winter, Union will always buy more supply than was in the original plan to supplement the increased demand. The volume and timing will depend on the variance to the control points and the market operating conditions at the time.

The utilities' primary function is to ensure the physical reliability of their systems and it is important for utilities to be able to exercise the judgment and knowledge that they have in managing their portfolio.

6.2 Access to Dawn for Union North

The Settlement Agreement between TransCanada and Enbridge, Gaz Metro and Union results in access to Dawn for shippers downstream of Union's system. For Union, this means customers in the NDA and the EDA. In order to affect this access, Union entered into the 2015 and 2016 open seasons conducted by TransCanada to provide service from Parkway to the EDA and Parkway to the NDA. Union's bids in the open seasons were accepted. Capacity was also reserved in Union's own Dawn-Parkway open seasons for 2015 and 2016 on behalf of sales service and bundled DP customers.

The capacity required in 2015 to serve these contracts includes expansion of Union's Dawn to Parkway system (including the Parkway Projects), the Enbridge GTA project, and TransCanada's King's North project. Union's Parkway Projects and the Enbridge GTA project were approved by the Board in January, 2014. Additional Dawn to Parkway capacity will be required for the 2016 volumes of Union and other market participants. In addition, Union expects that additional facilities will be required on the TransCanada system in 2016. In tandem with the acquisition of short-haul contract capacity from Dawn, long-haul contract capacity will be de-contracted; said another way, Union is transitioning existing long-haul

contracts and associated services to short-haul contracts. Quantities being transitioned for the sales service and bundled DP markets for the Union EDA and Union NDA are as follows:

Figure 14

TransCanada Contract Transitions
TJ/d

	2015	2016
Union EDA	100	0
Union NDA	10	100

For 2015, the Union EDA transition includes the reduction of long-haul Empress to Union EDA transportation of approximately 58 TJ/d and a reduction of STS withdrawals to the EDA of approximately 42 TJ/d. The total reduction of 100 TJ/d is replaced by 75 TJ/d of short-haul Parkway to Union EDA transportation and 25 TJ/d of TransCanada's new Enhanced Market Balancing ("EMB") Service. The EMB service, which was introduced as part of the Settlement Agreement, offers Union a short-haul service with extra nomination windows similar to the ones included as part of the STS service. It provides flexibility to manage market fluctuations by including eight nomination windows and is not linked to TransCanada-long-haul transportation. The Union NDA transition is a reduction of long-haul Empress to Union NDA transportation of 10 TJ/d, replaced by 10 TJ/d of Parkway to Union NDA transportation.

For 2016, the only transition of long-haul contracts to short-haul contracts for the sales service/bundled direct purchase portfolio is in the Union NDA. A further 33 TJ/d of Empress to Union NDA transportation is being replaced by 33 TJ/d of Parkway to Union NDA transportation.

Also in 2016, Union submitted another bid for 67 TJ/d of Parkway to Union NDA transportation. This is to eliminate Union's reliance on upstream diversions on design day to serve Union North, and is described in the next section.

Union also submitted bids for 2016 service on behalf of North T-Service customers electing for Union's North T-Service to Dawn service. These bids were for a total of 29 TJ/d of Dawn service to Union NDA, NCDA, and EDA.

A summary of Union's 2015 and 2016 TransCanada bids can be found in Appendix E. Union will be filing evidence with the Board in the near future requesting approval of rates resulting from these changes in the gas supply portfolio.

6.3 The Impacts of a Dawn Based Reference Price

As Union and others continue to respond to changing North American natural gas market dynamics the source of the majority of gas supply serving Ontario is changing. As recent as 1999, Union was sourcing over 80% of its gas supply from the WCSB. By 2018 this number is expected to be below 20%. In its place, new supplies purchased at Dawn or upstream of Dawn will find their way to customers, providing benefits to all of Ontario.

As Union's portfolio changes and more gas is sourced from Dawn rather than Alberta, the Alberta Border Reference Price currently used for setting Union North commodity may no longer be an appropriate market price indicator for customers in Union North delivery areas.

For these areas, Union will look at making a Dawn price the reference price. The Alberta border reference price may still be an appropriate market price indicator for customers in some northern delivery areas where gas is still expected to be sourced predominantly from Empress over the near future. In addition, with less gas being sourced from Alberta for Union South in the future, the Dawn reference price may also be a more appropriate market price indicator for Union South customers.

In response to the Board's request for comments in EB-2014-0199, several intervenors, including IGUA, Energy Probe, City of Kitchener, and FRPO, suggested that reviewing the implications of adopting a Dawn reference price for QRAM purposes, would be timely. This was also reiterated by intervenors in the Natural Gas Market Review. Union agrees.

Union is evaluating a change to the reference price to be Dawn-based for those customers where it is most appropriate and Empress-based for the remaining customers. Union will be filing evidence with the Board in the near future requesting approval of changes in the reference price as appropriate.

6.4 Changing Reliance on Interruptible Diversions / Discretionary Services

Given the significant changes to TransCanada's system operations and experience from the winter 2013/2014, Union found TransCanada unable to accommodate certain interruptible upstream diversions they have previously and consistently accepted.

Historically, the use of interruptible upstream diversions on TransCanada, although a discretionary service, has been reliable. Since the firm capacity had been reserved for the full path from Empress to Union CDA, gas flowing only a portion of this distance on the same contracted path was highly reliable. Union has planned for, and utilized, these diversions in its Union North portfolio for many years without issue. However, in 2013, TransCanada long-haul transportation contracting and system operations changed such that upstream diversions were no longer as reliable. Union experienced interruptions of these upstream diversions in December 2013. Union was able to work with TransCanada on a temporary solution for the 2014/2015 winter, but this solution is at the sole discretion of TransCanada and not guaranteed to be available on an annual basis.

Going forward, the interruption risk of this discretionary service is too great for Union North customers. Union cannot plan on upstream diversions as a reliable option for meeting design day requirements in Union North. Therefore, in order to ensure a reliable, sustainable, and secure source of supply to Union North markets on design day, Union needs to purchase incremental firm, renewable transportation capacity to Union North. This includes the elimination of interruptible upstream diversions by securing November 1, 2015 capacity in TransCanada existing capacity open seasons for Empress to Union MDA (1 TJ/d) and Union WDA (11.5 TJ/d) capacity. This increase in the Empress to MDA and WDA capacity will be offset by an equal reduction in Empress to NDA capacity. In addition, Union has committed to 67 TJ/d of firm, renewable TransCanada Parkway Belt to Union NDA capacity to meet this requirement, effective November 1, 2016 as described above and reflected in Appendix E.

6.5 Changing TransCanada Renewal Notice

In summer 2013, TransCanada applied to the NEB for a number of changes to their tariff (RH-001-2013). Among the changes contemplated were amendments to the notice period for

renewals. In the Decision, the NEB increased the current six month notice period to a two-year notice period. A transition plan was also implemented for shippers with contracts expiring within the two-year window. Per the transition plan, Union elected renewals for 2015 expiries at the end of January, 2014; October, 2016 contract expiries were elected in October, 2014. Contracts will roll forward on a one-year basis, while maintaining the two-year notice requirement. This is consistent with Union's own contracting practice.

6.6 Dawn to Parkway Expansion

As described previously, eastern markets, including Union, are seeking to source more supplies from Dawn. This growth at Dawn will need to be supported by increased capacity on the Dawn to Parkway System, as well as east of Parkway (as described above). In order to identify and serve this requirement, Union held an open season in May, 2012 to solicit customer interest in this path commencing November, 2015. This expansion is part of the Parkway Projects that were approved by the Board in January, 2014 as part of EB-2012-0433 and EB-2013-0074.

Union held a second open season in December 2013/January 2014 for incremental interest on the Dawn to Parkway System commencing November, 2016. Union's application for these facilities was filed with the Board on September 30, 2014 under docket EB-2014-0261.

On behalf of the Union sales service, bundled DP customers and T-service, Union has reserved incremental Dawn to Parkway capacity in both the 2015 and 2016 open seasons; the amount of capacity reserved was approximately 70 TJ/d and 169 TJ/d respectively. These transportation capacities, in combination with the incremental TransCanada capacity from Parkway to Union EDA, Union NDA, and Union NCDA will allow Union's northern customers to shift supplies previously sourced from the WCSB to Dawn. Union has executed PA's with TransCanada for the 2015 and 2016 TransCanada Parkway to delivery area capacity requirements.

6.7 Burlington-Oakville Project

On the TransCanada system, Union CDA is a TransCanada delivery area that is located at the eastern end of Union's Dawn-Parkway System. It is located entirely within the Union South operating area and is comprised of four city gate stations: Bronte, Burlington, Hamilton Gate, and Nanticoke. TransCanada supplies a portion of this area while the Union transmission and distribution system supplies the remainder. Today, Burlington, Oakville, and surrounding areas are served from Union's Dawn-Parkway system, deliveries from TransCanada's Domestic line, and third-party contracts Union has secured to the Union CDA within the upstream transportation portfolio.

The method of serving the market today is not sustainable. The availability of Union CDA capacity (Dawn or Parkway receipts) is limited, as are market-based options. In addition, market-based contracts do not offer renewal rights, which compromises the reliability and security of supply and the existing capacity into the Union CDA will not be sufficient to serve market growth in the Milton, Burlington, and Oakville areas.

Union proposes to meet the growth and address the security of supply needs of the Burlington Oakville System by constructing new pipeline facilities from the Dawn Parkway System to the existing NPS 20 Burlington to Oakville Pipeline at the Bronte Gate Station for November 1, 2016 in-service. The estimated cost of capital is approximately $119.50 million. As a result of this project, Union will no longer require certain TransCanada and market-based contracts it

currently requires to serve the Union CDA. The facilities application for Burlington Oakville Pipeline Project was filed with the Board on December 12, 2014 under docket EB-2014-0182.

The TransCanada Settlement Agreement also provides clarity on how the Union CDA gate stations will be served based on the capabilities of the TransCanada system. TransCanada also recognizes the Burlington Oakville project and the resulting impact on TransCanada delivery points. Coincident with the implementation of the Burlington Oakville project, Union recognized the need to contract and pay for TransCanada services to transport volumes from Kirkwall to the amended Union CDA As such, Union will contract with TransCanada to provide service from Kirkwall to Hamilton and Nanticoke (collectively referred to as the Amended Union CDA in the Settlement Agreement) Gate Stations. Union was awarded this capacity (135 TJ/d) in TransCanada's 2016 open season. This capacity is reflected in Appendix E.

6.8 Nexus Pipeline Project

The North American natural gas market continues to undergo significant changes. These changes have, and will continue to have, far-reaching implications on the Ontario natural gas market. In recent years, the Ontario natural gas market has experienced decreased reliance on Western Canadian Sedimentary Basin ("WCSB") supplies (including near term changes to reduce reliance on Empress-based supply and long-haul transportation in favour of Dawn-based supply and short-haul transportation), the emergence of new alternative supply sources and, changes in the physical flow of gas across and around the province of Ontario. These continuing changes represent both a challenge and an opportunity for the Ontario natural gas market.

The Appalachian Basin (Marcellus and Utica supplies) has experienced the most prolific natural gas production growth in North America. This abundant supply is located within the Great Lakes region in close proximity to Ontario and other eastern North American consuming markets. The U.S. Energy Information Administration in its 2014 Annual Energy Outlook forecasted that shale gas production will represent 50% of total U.S. natural gas production by 2035.

Based on the current ICF forecast, Marcellus and Utica natural gas production will exceed demand projected for the New England and Mid-Atlantic markets as early as 2016. This is the primary driver for Marcellus and Utica natural gas producers continuing to aggressively seek access to other North American markets, including Dawn. With competition for Marcellus and Utica supply from the U.S. Northeast, Gulf Coast, the U.S. Midwest and the U.S. Southeast, timing will be critical for the Dawn Hub and Ontario consuming markets to access the prolific Appalachian shale plays. The opportunity to achieve this connectivity is presenting itself now as Marcellus and Utica producers are actively looking for new long term markets in which to sell their production.

A number of projects have been proposed to bring Marcellus and Utica natural gas to Dawn through Michigan, including NEXUS, ETP Rover and ANR East, and through Niagara, including expansion of the Tennessee Gas Pipeline system in upstate New York. Connecting new supply to Dawn of the magnitude required to support major Greenfield pipeline projects, such as NEXUS and ETP Rover, will require eastern LDCs to contract for capacity as an anchor shipper. Union has committed to 158 TJ/d of transportation capacity on NEXUS as an anchor shipper to Dawn. Without the commitment of eastern LDCs, projects of this magnitude would have to rely heavily on producers to contract for long term capacity or, in some cases,

they may not get built. In the case of NEXUS, eastern LDC commitment provides some balance between market pull and supply push drivers, providing a greater chance of subscribing the necessary capacity to support the project and bring benefits to the market at Dawn. Union will be filing for pre-approval of the NEXUS contracts in the second quarter, 2015.

Ultimately, the combination of new take away capacity and new pipeline connectivity to Dawn will increase the depth and liquidity of the Dawn Hub, benefiting all Ontario natural gas consumers through diversity of supply, increased security of supply and access to more cost competitive supply.

7 APPENDICES

Appendix A - Gas Supply Planning Process

Appendix B - Sales Service Gas Supply Demand Balance

Appendix C - Union North Detailed List of Transportation Contracts

Appendix D - Union South Detailed List of Transportation Contracts

Appendix E - Summary of Union’s 2015 and 2016 TransCanada New Capacity Open Season Bids

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, S3, p. 12

a) Please explain the relevance of the Texas Easter Appalachian Lease (TEAL) to the supply options available for a NEXUS pipeline.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

a) As discussed at Exhibit A, Schedule 3, page 12, the lease by NEXUS on the Texas Eastern Appalachian Lease ("TEAL") project will provide NEXUS shippers with additional access to Marcellus and Utica supply options delivered by natural gas producers in Ohio, West Virginia, and Pennsylvania via a new interconnection between NEXUS and the Texas Eastern Transmission, LP ("Texas Eastern") system at Kensington, Ohio. Specifically, as stated in the Draft Resource Report filed by Texas Eastern with the FERC in June 2015:

"The TEAL Project will create additional firm pipeline capacity necessary to deliver 950,000 dekatherms per day ("Dth/d") of natural gas production from receipt points in the Appalachian Basin in Texas Eastern's Market Zone 2 between Berne, Ohio, and Braden Run, Pennsylvania, to a new connection with the NEXUS Project near Kensington in Columbiana County, Ohio…The capacity created by the TEAL Project will be contracted to NEXUS for use as part of the NEXUS Project and will provide NEXUS shippers with seamless transportation service from the portion of Texas Eastern's system extending from Berne, Ohio to Braden Run, Pennsylvania to growing markets along the NEXUS Project in northern Ohio, southeastern Michigan, and the Dawn Hub in Ontario."

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, S3

a) Based on EIA estimates what is the relationship between proven reserves of the Utica/Marcellus basin and capacity of the proposed NEXUS pipelines (e.g. how many years of operation would be required of the line to move proven reserves or equivalent).

b) Please provide the same for the proven/probable reserves.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

a) Sussex assumes the question refers to EIA's estimate of "proved reserves". As stated on Exhibit A, Schedule 3, page 25, the EIA's aggregate 2013 proved reserves estimate for Ohio, Pennsylvania, and West Virginia was approximately 64,700 Bcf. Assuming a NEXUS daily pipeline capacity of 1.5 Bcf/day or approximately 550 Bcf/year and dividing that annual amount (i.e. 550 Bcf/year) into the proved reserve estimate (i.e. 64,700 Bcf) results in 118 years.

b) Sussex assumes the question refers to the PGC's estimate of probable resources in the Atlantic Shale region. As stated on Exhibit A, Schedule 3, page 29, the PGC's probable resource in the Atlantic Shale is approximately 328,000 Bcf. Assuming a NEXUS daily pipeline capacity of 1.5 Bcf/day or approximately 550 Bcf/year and dividing that annual amount (i.e., 550 Bcf/year) into the probable resources estimate (i.e. 328,000 Bcf) results in approximately 600 years.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, S5

a) What is the effect (directionally) on the basis differential if there is an increase in liquidity at Dawn due to the NEXUS pipeline?

b) Please recalculate the landed costs analysis for the "TCPL Niagara to Kirkwall" route using the same basis differential as for the NEXUS routes.

Response:

The following response to a) was prepared by Sussex Economic Advisors, LLC, and the response to b) was prepared by Union.

a) A locational basis differential as is discussed in Exhibit A, Schedule 3 is a function of the difference in natural gas prices between two points. Liquidity and associated metrics are calculated for a particular point. Therefore, although increased liquidity may provide a more efficient and transparent price at a particular point, it (i.e. increased liquidity) may not impact the basis differentials to that point. However, the introduction of incremental pipeline capacity between two locations will likely impact the basis differential between points (i.e., the supply and delivery locations of the new pipeline). In the case of NEXUS, which is connecting a "supply-long" region to a market region (e.g. Dawn Hub), the introduction of pipeline capacity is likely to exert downward pressure on the basis differential between the supply points and the Dawn Hub, all else being equal.

b) Please see Attachment 1 for the recalculation of the landed cost analysis for the "TCPL Niagara to Kirkwall" route using the same basis differential as for the NEXUS routes recalculated by Union. Sussex did not complete the landed cost analysis.

Recalculated Landed Cost Analysis - "TCPL Niagara to Kirkwall" (using same basis differential as NEXUS)

Nov 2017 to Oct 2032 Transportation Contracting Analysis

	Route	Point of Supply	Basis Differential $US/mmBtu	Supply Cost $US/mmBtu	Unitized Demand Charge $US/mmBtu(1)(7)	Commodity Charge $US/mmBtu (1)	Fuel Charge $US/mmBtu (1)	100% LF Transportation Inclusive of Fuel $US/mmBtu	Landed Cost $US/mmBtu	Landed Cost $Cdn/GJ	Point of Delivery	Comment
	(A)	(B)	(C)	(D) = Nymex + C	(E)	(F)	(G)	(I) = E + F + G	(J) = D + I	(K)	(L)	
(6	**TCPL Niagara to Kirkwall**	Southwest PA	-0.954	6.5455	0.2008	0.0000	0.0096	0.2104	$6.76	**$7.53**	Kirkwall	
(3	**Rover****	Southwest PA	-0.954	6.5455	0.8000	0.0000	0.1577	0.9577	$7.50	**$8.36**	Dawn	
*	**NEXUS / St. Clair**	Southwest PA	-0.954	6.5455	0.8030	0.0000	0.1728	0.9758	$7.52	**$8.38**	Dawn	Includes St. Clair to Dawn costs
(5	**NEXUS/St. Clair (Increase Upper end of toll by 15%)**	Southwest PA	-0.954	6.5455	0.8984	0.0000	0.1728	1.0712	$7.62	**$8.49**	Dawn	Toll is $ 0.77+ $ 0.635*15%. Includes St. Clair to Dawn costs
(6	**Vector (2014 - 2017)**	Chicago	-0.103	7.3972	0.1893	0.0018	0.0732	0.2643	$7.66	**$8.54**	Dawn	
(2	**Dawn**	Dawn	0.177	7.6769	0.0000	0.0000	0.0000	0.0000	$7.68	**$8.56**	Dawn	
(6	**Michcon (2014-2015)**	Michcon Generic	0.023	7.5229	0.0663	0.0000	0.1398	0.2061	$7.73	**$8.62**	Dawn	Includes St. Clair to Dawn costs
(6	**Vector (2012 - 2016)**	Chicago	-0.103	7.3972	0.2500	0.0990	0.0732	0.4222	$7.82	**$8.72**	Dawn	
(6	**Trunkline / Panhandle**	Trunkline Field Zone 1A	-0.092	7.4075	0.2245	0.0268	0.2995	0.5508	$7.96	**$8.87**	Dawn	Includes Ojibway to Dawn costs
(6	**Panhandle (2012-2017)**	Panhandle Field Zone	-0.377	7.1230	0.3524	0.0439	0.4687	0.8650	$7.99	**$8.91**	Dawn	Includes Ojibway to Dawn costs
(6	**Alliance / Vector**	CREC	-1.067	6.4335	1.6460	-0.3643	0.3593	1.6409	$8.07	**$9.00**	Dawn	
(6	**Panhandle (2014-2015)**	Panhandle Field Zone	-0.377	7.1230	0.4579	0.0439	0.4687	0.9705	$8.09	**$9.02**	Dawn	Includes Ojibway to Dawn costs
(6	**Panhandle (2010-2017)**	Panhandle Field Zone	-0.377	7.1230	0.4579	0.0439	0.4687	0.9705	$8.09	**$9.02**	Dawn	Includes Ojibway to Dawn costs
(2	**TCPL Empress to Dawn**	Empress	-0.722	6.7782	1.6246	0.0000	0.2745	1.8992	$8.68	**$9.67**	Dawn	
(6	**TCPL Empress to Union CDA**	Empress	-0.722	6.7782	1.7631	0.0000	0.2793	2.0423	$8.82	**$9.83**	Union CDA	

(1) Unitized Demand Charges, Commodity Charges and Fuel Charges per Maximum Applicable Tariff and include capacity required to flow fuel for downstream pipeline segments
(2) For Reference Only
(3) Toll Estimates used in lieu of official toll for portion of path
(5) Sensitivity Analysis
(6) Existing Union Contract

* indicates path referenced in evidence for this analysis
** The analysis is based on an indicative rate for Rover of $0.80 USD/mmbtu. The analysis does not contemplate potential toll increases arising from factors such as capital cost overruns or pipeline undersubscription.

Assumptions used in Developing Transportation Contracting Analysis:

Annual Gas Supply & Fuel Ratio Forecasts	Point of Supply Col (B) above	Nov 2017 - Oct 2018	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2020 - Oct 2021	Nov 2021 - Oct 2022	Nov 2022 - Oct 2023	Nov 2023 - Oct 2024	Nov 2024 - Oct 2025	Nov 2025 - Oct 2026	Nov 2026 - Oct 2027	Nov 2027 - Oct 2028	Nov 2028 - Oct 2029	Nov 2029 - Oct 2030	Nov 2030 - Oct 2031	Nov 2031 - Oct 2032	Average Annual Gas Supply Cost $US/mmBtu Col (D) above	Fuel Ratio Forecasts Col (G) above
Henry Hub (NYMEX)	Henry Hub	$4.62	$5.43	$6.12	$6.59	$6.81	$6.89	$7.06	$7.23	$7.56	$8.03	$8.44	$8.90	$9.26	$9.62	$9.96	$7.50	
TCPL Niagara to Kirkwall	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	0.15%
Rover	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.41%
NEXUS / St. Clair	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
NEXUS/St. Clair (Increase Upper end of toll by 15%)	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
Vector (2014 - 2017)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Dawn	Dawn	$4.82	$5.62	$6.29	$6.76	$6.98	$7.07	$7.24	$7.42	$7.75	$8.21	$8.63	$9.08	$9.43	$9.77	$10.09	$7.68	0.00%
Michcon (2014-2015)	Michcon Generic	$4.70	$5.49	$6.16	$6.62	$6.84	$6.92	$7.09	$7.26	$7.59	$8.05	$8.46	$8.91	$9.25	$9.59	$9.90	$7.52	1.86%
Vector (2012 - 2016)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Trunkline / Panhandle	Trunkline Field Zone 1A	$4.56	$5.37	$6.05	$6.51	$6.72	$6.80	$6.97	$7.14	$7.46	$7.93	$8.33	$8.79	$9.14	$9.49	$9.83	$7.41	4.04%
Panhandle (2012-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Alliance / Vector	CREC	$3.69	$4.44	$5.08	$5.54	$5.77	$5.87	$6.04	$6.23	$6.55	$6.99	$7.36	$7.78	$8.09	$8.39	$8.67	$6.43	5.58%
Panhandle (2014-2015)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Panhandle (2010-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
TCPL Empress to Dawn	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.05%
TCPL Empress to Union CDA	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.12%

Sources for Assumptions:

Gas Supply Prices (Col D):	ICF Base Case Jan 2015			
Fuel Ratios (Col G):	Average ratio over the previous 12 months or Pipeline Forecast			
Transportation Tolls (Cols E & F):	Union Tolls in Effect Jan 2015			
Foreign Exchange (Col K)	$1 US =	1.1762	CDN	Source: Jan 2, 2015 Bank of Canada Closing
Energy Conversions (Col K)	1 dth = 1 mmBtu =	1.055056		
Union's Analysis Completed:	Updated August 2015 for assumed Niagara basis differentials at Southwest PA for Exhibit B.T1.Union.VECC.12 a)			

* indicates path referenced in evidence for this analysis

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: Exhibit A, p. 40; EGDI Exhibit A, T3, S1, p. 24

a) Please explain why the landed cost analysis summary of Union as compared to EGDI is significantly different.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

Please see Exhibit A, Schedule 3, pages 42-47 for a detailed discussion of the landed cost approach developed by Union and Enbridge, including the similarities and differences of each approach.

Since there are different assumptions used by Union and Enbridge (e.g. the source and timing of the natural gas price forecasts), the results reflect the differences in assumptions.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Reference: EGDI Exhibit A, T3, S1, p. 32; Union Exhibit A, pp. 15-18

a) The evidence is unclear as to whether the pathway chosen from NEXUS to Dawn is different as between Union and EGDI. Please provide a single detailed map showing the delivery point of the NEXUS pipeline (Willow Run) and the Dawn delivery point for each of the two utilities.

b) If there are differences in the route chosen between Willow Run and Dawn please provide a table which shows each toll segment between the receipt point of the NEXUS pipeline and the receipt point of Dawn.

c) If there are differences in the route, please explain and contrast why each utility has chosen its respective route.

Response:

a) Exhibit A, page 16, Figure 3-2 illustrates the unique paths that Union and Enbridge have each negotiated. The greenfield portion of the NEXUS Pipeline from Kensington to Willow Run is common between both companies. Union's path then goes from Willow Run to St. Clair (on DTE pipelines), at which point the gas enters the Union system for transport to Dawn. Enbridge's path goes from Willow Run to Milford (on DTE pipelines but a different path than Union on DTE) at which point Enbridge will then use Vector capacity from Milford to Dawn.

b) For more information on NEXUS shipper tolls, please see the responses at Exhibit B.T1.Union.LPMA.5 c).

c) Please see the response at Exhibit B.T1.Union.LPMA.5 b).

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 11 / Lines 1-13

Union explains that the NEXUS capacity will allow it to displace Western Canadian Sedimentary Basin (WCSB) supplies that are becoming less economic over time. Union further indicates that the NEXUS capacity will replace an Alliance Pipelines contract and TransCanada long-haul transportation contracts serving Union North and South.

a) In its assessment of the landed costs for the NEXUS alternative, has Union included the cost impact of any capacity turnback related to TransCanada's Mainline and Alliance Pipelines tolls?

b) If there are capacity turnback costs related to the discontinued pipeline capacity, has the corresponding cost impact on Union's ratepayers been assessed? If not, please quantify these costs and update the landed cost assessment to include these costs. Please include all assumptions used.

Response:

a) The financial impact of various parties de-contracting TransCanada long-haul transportation has already been contemplated in the NEB RH-001-2014 Settlement Agreement. The Settlement Agreement allowed for the conversion from long haul (supply from Empress) to short haul (supply from Dawn), driven by a desire to gain more access to Dawn. The toll impact on TransCanada takes the transportation charges into account, including Union's shift from Empress to Dawn. The decision to contract upstream of Dawn does not impact TransCanada's rates.

b) There are no capacity turnback costs as a result of the discontinued pipeline capacity. For more detail, please see the response to a) above.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 11 / Lines 1-13

Union states that once conversion of TransCanada long-haul transportation from Empress to short-haul transportation from Dawn has been completed customers in Union North will have access to supplies at Dawn including supplies from NEXUS.

Will all areas in Union North have access to NEXUS supply, for example, Union MDA and Union WDA?

Can Union diversify the Union North portfolio without having to contract for NEXUS capacity?

Response:

When looking at supplying the North from Dawn, it is only economic to supply the recently proposed Northeast Zone (NDA, NCDA and EDA) from Dawn. All other Northern delivery areas are currently more economical to serve from Empress. Therefore, NEXUS supply is only being secured for the Union NDA, Union NCDA and Union EDA sales service customers in Union North.

Union can diversify the Union North portfolio without contracting for NEXUS capacity. This would result in incremental purchases at Dawn to meet the need. Should Union not contract with NEXUS this could result in the NEXUS project not moving to completion. This would add incremental demand without additional supply to Dawn and would reduce liquidity and negatively impact all Ontario consumers. Please see the responses at Exhibit B.T1.Union.Staff.5 and Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 28 / Lines 1-12

Union states that it chose to bid for 150,000 Dth/d of NEXUS capacity which was the minimum volume required to qualify as an "anchor" shipper.

a) Did Union bid the 150,000 Dth/d in order to meet its projected demand or was it because it wanted to be an "anchor" shipper?

b) Can Union explain how Enbridge was able to achieve "anchor" shipper status when it only contracted for 110,000 Dth/d?

Response:

a) In order to benefit from the rate and rate-related incentives offered to anchor shippers, Union bid 150,000 Dth/d (158,258 GJ/d) to meet this minimum requirement. The quantity also fits well within the gas supply plan given the termination of the Alliance contract and other changes. This capacity will be used to meet sales service customer demands.

b) Enbridge does not have anchor shipper status on the NEXUS project as their contracted volume of 110,000 Dth/d did not meet the minimum threshold of 150,000 Dth/d.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 31 / Figure 5-2

The figure shows the Union South Portfolio as of January 2015 and November 2017 (assuming that the OEB approves the present application).

Please provide a table that shows all upstream transportation capacity that Union has contracted to Dawn as of November 1, 2015 and November 1, 2017 (assuming they receive pre-approval of the gas consequences associated with the NEXUS transportation agreement).

Response:

The upstream transportation capacity that Union has contracted is attached (please see Attachment 1). The capacity contracted to or through Dawn as of November 1, 2015 and November 1, 2017 is summarized on line 39.

Assumptions applicable to the table provided:

- TransCanada and Union 2015, 2016 and 2017 Parkway to Maple and Dawn Parkway System builds, respectively, are in service as planned.
- NEXUS is in service November 1, 2017 and the NEXUS contract cost consequences are approved.
- Union Gas will renew 21,101 GJ/day of Panhandle, 21,101 GJ/day of Trunkline, and 84,405 GJ/day Vector contracts currently expiring in 2017

The final portfolio will deviate from this projection as Union will evaluate transportation alternatives when making renewal decisions as contracts expire. Also, the portfolio may change as a result of switching to/from sales service, customer elected turn-back of upstream capacity, or changes in forecasted demands.

UNION GAS LIMITED
Summary of Upstream Transportation Contracts
At November 1 of Each Year

Line No.	Upstream Pipeline	Primary Receipt Point	Primary Delivery Point	Daily Units	Forecasted Quantity 2015	2016	2017
	Northern and Eastern Operations Ar	(a)	(b)	(c)	(d)	(e)	(f)
	TransCanada Pipeline						
1	Empress to Union NCDA FT	Empress	Union NCDA	GJ	10,756	10,095	9,208
2	Empress to Union EDA FT	Empress	Union EDA	GJ	1,270	1,089	1,089
3	Empress to Union NDA FT	Empress	Union NDA	GJ	53,445	10,044	10,044
4	Empress to Union WDA FT	Empress	Union WDA	GJ	51,407	51,407	51,407
5	Empress to Union SSMDA FT	Empress	Union SSMDA	GJ	8,843	8,843	8,843
6	Empress to Union MDA FT	Empress	Union MDA	GJ	5,565	5,565	5,565
7	Parkway To Union NCDA *	Parkway	Union NCDA	GJ	0	0	2,000
8	Parkway To Union EDA *	Parkway	Union EDA	GJ	57,831	57,831	57,831
9	Parkway To Union NDA *	Parkway	Union NDA	GJ	10,000	43,000	43,000
10	**Total North**			GJ	199,117	187,874	188,987
	NEXUS						
11	NEXUS	Kensington	St. Clair (Union)	Dth	-	-	50,000
12	***NEXUS - Total** (uses Parkway Shorthaul in lines 7-9 to deliver supply to EDA/NDA/NCDA)			GJ	-	-	52,753
	Southern Operations Areas						
	TransCanada Pipeline						
13	Empress to Union CDA FT	Empress	Union (Parkway) - Union CDA	GJ	67,327	12,500	11,000
14	Niagara to Kirkwall FT	Niagara	Kirkwall (Union)	GJ	21,101	21,101	21,101
15	**TCPL FT - Total**			GJ	88,428	33,601	32,101
	Alliance Pipelines/Vector Pipelines						
16	Alliance	Northern Alberta	Cdn/US Interconnect	10^3m^3	2,266.2	-	-
17	Alliance (L.P.)	Cdn/US Interconnect	Vector	MCF	80,000	-	-
18	Vector (L.P.) FT1	Chicago	Cdn/US Interconnect	DTH	80,000	-	-
19	Vector Canada FT1	Cdn/US Interconnect	Dawn (Union)	GJ	84,405	-	-
20	**Alliance/Vector - Total**			GJ	84,405	0	0
	Panhandle Eastern Pipe Line Field Zone						
21	PEPL FT	Panhandle Field Zone	Ojibway (Union)	DTH	27,000	27,000	27,000
22	PEPL FT	Panhandle Field Zone	Ojibway (Union)	DTH	10,000	0	0
23	**PEPL - Total**			GJ	39,037	28,487	28,487
	Trunkline Gas Company/Panhandle Eastern Pipe Line						
24	Trunkline FT	East Louisiana	Bourbon	DTH	20,467	20,467	20,467
25	PEPL EFT	Bourbon	Ojibway (Union)	DTH	20,000	20,000	20,000
26	**TGC/PEPL FT - Total**			GJ	21,101	21,101	21,101
	Vector Pipelines						
27	Vector (L.P.) FT1	Chicago	Cdn/US Interconnect	DTH	106,000	105,000	80,000
28	Vector Canada FT1	Cdn/US Interconnect	Dawn (Union)	GJ	111,836	110,781	84,404
29	**Vector - Total**			GJ	111,836	110,781	84,404
	Market Based Transportation						
30	Dominion South Point to Dawn	Dominion South Point	Dawn (Union)	Dth	20,000	-	-
31	**Market Based Transportation - Total**			GJ	21,101	-	-
	DTE						
32	Michcon to St. Clair	Michcon Generic	St. Clair (Union)	Dth	10,000	60,000	-
33	**DTE - Total**			GJ	10,551	63,303	-
	NEXUS						
34	Nexus	Kensington	St. Clair (Union)	Dth	-	-	100,000
35	**Nexus - Total**			GJ	-	-	105,506
	Uncommitted						
36	Uncommitted Pipe - To Be Determined	TBD	TBD	GJ	25,500	120,998	111,536
37	**Uncommitted - Total**			GJ	25,500	120,998	111,536
38	**Total South**			GJ	401,959	378,271	383,135
	South Upstream Transportation Capacity to or through Dawn System						
39	Dawn - Lines 20, 23, 26, 29, 31, 33, 35			GJ	288,031	223,672	239,498

Note: Capacity reported includes capacity temporarily assigned to Union customers, excludes North T-Service from Dawn capacity and redelivery assets

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: A/3/1 page 20 / line 10

Please explain the role played by the NEB-approved TransCanada Mainline Settlement Agreement in the Union's decision to sign the Precedent Agreement with NEXUS?

Response:

Without the TransCanada Settlement Agreement allowing for the conversion of long-haul transportation (from Empress) to short haul transportation (from Dawn), Union would not have been able to transport Dawn-based supplies to points north and east of Parkway. Union may have been able to commit to part of the 150,000 Dth/d of capacity to serve Union South customers only. However, Union North customers would not have been able to receive the benefit of Dawn-based supplies.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 31 / Figure 5-2

The figure shows the Union South Portfolio as of January 2015 and November 2017 (assuming that the Board approves the present application).

a) How much transportation capacity will Union continue to hold on Vector pipeline as of November 1, 2015?

b) Does Union plan to displace any Vector capacity for capacity on NEXUS?

Response:

a) As of November 1, 2015 Union will hold 196,241 GJ/d of Vector capacity from Chicago to Dawn. When the Alliance capacity (and corresponding Vector capacity to transport Alliance gas to Dawn) expires on November 30, 2015, Union will have 110,781 GJ/d of Vector capacity post November 30, 2015.

b) A portion of the NEXUS capacity will replace the 84,404 GJ/d Alliance/Vector capacity that expires on November 30, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 40 / Figure 5-5

The figure shows the landed cost analysis for various alternatives to NEXUS. One alternative is simply to purchase gas supply at Dawn (option 6).

What assumptions did Union make for this option in terms of incremental supply to Dawn? For example, did it assume that the Rover project was constructed or did it assume that NEXUS was built, but Union didn't contract for capacity - or did it assume the status quo? Please explain the option of purchasing at Dawn fully.

Response:

The landed cost analysis summarized in Exhibit A, Figure 5-5, page 40, uses forecasted commodity prices from ICF's January 2015 Base Case. Union itself does not make assumptions in the landed cost regarding forecasted gas commodity prices, but rather relies on ICF to provide the forecasts. ICF makes assumptions within its models based on the best available information at the time, including announced or potential infrastructure projects. It is Union's understanding that the ICF model assumes that incremental capacity is built from the Marcellus/Utica to Michigan and Dawn but is not necessarily identified with a specific project.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 15 / lines 8-12

Union states that instead of supplies flowing on DTE to Vector, they will flow on the DTE system to the International Border and then using the St. Clair to Dawn facilities.

Are there currently any volumes flowing to Dawn using on the St. Clair to Dawn facilities? If yes, what are the volumes and what upstream transportation capacity is being used to deliver gas at St. Clair?

Response:

Starting November 1, 2014 Union holds 10,000 Dth/d (10,551 GJ/d) of DTE transportation capacity to flow sales service supply purchased at Willow Run/Michcon Generic (the supply acquisition point) to the international border at St. Clair and then into Ontario.

In addition, Union sells transportation capacity on the Canadian side of the border for other shippers that want to get gas to Dawn using this path. Sales of transportation are very dependent on the market conditions and contracts are typically for the day, month or season.

As can be seen in Exhibit B.T1.Union.APPrO.2 b), the January 1, 2014 to March 31, 2014 St. Clair to Dawn actual flows averaged 210,600 GJ/d, while the April 1, 2014 to December 1, 2014 averaged 9,100 GJ/d. Further, from January 1, 2015 to March 31, 2015 flows averaged 186,600 GJ/d.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Page 14 / Lines 3-6

Union has indicated that the NEXUS project will transport Marcellus and Utica shale gas to customers in Ontario. Union plans to transport the gas to Dawn through St. Clair Pipelines.

As an alternative to NEXUS, could Union import Marcellus and Utica shale gas volumes into Ontario through any existing infrastructure? If yes, please provide the details.

Response:

Existing infrastructure that could move Marcellus and Utica natural gas supply into Ontario would be Panhandle Eastern Pipeline. Without incremental infrastructure the amount of supply available to be transported through existing infrastructure is very limited (35 TJ/d or less). Any incremental supply to Ontario from the Marcellus and Utica production zones through the Dawn Hub or Niagara will require additional pipeline facilities to be constructed as described in more detail below.

With respect to Niagara, it is important to understand how the volumes that now flow into Ontario from the Marcellus evolved. TransCanada, Union and the U.S. upstream pipelines (Tennessee Gas Pipeline, Dominion Transmission and National Fuel Gas) had various open seasons throughout 2009 and 2010 (please see the response at Exhibit B.T4.Union.TCPL.8 for further open season detail) that would allow for the reversal of flow that traditionally TransCanada had moved through Niagara into the U.S. (i.e. exports to the United States). These open seasons were completed during the early stages of Marcellus development and forecasts of its growth and potential were not nearly as robust as they have become over time.

These 2009 and 2010 open seasons resulted in commitments from the Marcellus producing zone to Niagara largely by producers as well as commitments on the Union and TransCanada systems to move gas to Kirkwall and beyond (including Union's contract on the TransCanada system for 21,101 GJ/d from Niagara to Kirkwall). Those commitments supported infrastructure projects in Canada and the United States and the development of new services (such as Union's M12-X transportation service). The facilities at Niagara were able to import and deliver about 0.4 PJ/d from Niagara to Kirkwall starting on November 1, 2012. Union Gas was the first consumer based shipper to purchase gas and ship it from Niagara to Dawn starting in 2012 – and will be the only consumer based purchaser until additional volumes start to flow in 2015.

This capacity stayed steady until further open seasons in 2013 and 2014 (after Union had already entered the NEXUS open season) that would ultimately lead to expansions into Niagara and Chippawa of a further 1 PJ/d (for a total of approximately 1.4 PJ/d) in the 2015/2016 time period (also refer to Exhibit B.T1.Union.FRPO.1). These open seasons on the U.S. pipeline systems to feed Niagara and Chippawa were supported predominantly by producers. A large portion of the TransCanada Niagara to Kirkwall capacity is also supported by producers (including through arrangements with marketers).

The initial capacity provided by the U.S. pipelines to transport gas from the Marcellus to Niagara required modifications to the existing system to reverse flow and relatively limited new facilities. However, as more capacity is added to access Niagara in 2015 and 2016, the facilities required become more complex (including construction from some of the U.S. pipeline systems into the producing areas). TransCanada and Union were in a similar position. In fact, Union was able to repurpose Dawn to Kirkwall turnback and resell Dawn to Parkway capacity through C1 Kirkwall to Parkway transportation services and M12-X transportation services with only modifications to the Kirkwall Custody Transfer Station required.

It is Union's understanding that with the current commitments, the upstream pipelines that provide supply to Niagara are largely sold out and significant incremental infrastructure would be required to import any substantial additional Marcellus and Utica natural gas into Ontario (beyond 2015/2016) at Niagara or Chippawa. Union expects that significant incremental infrastructure would also be required on the TransCanada system to move natural gas from Niagara further into Ontario (beyond the current 2015/2016 volume of 1.4TJ/d).

With respect to Dawn, Union and others entered the November 2012 NEXUS open season to support large scale infrastructure that would diversify the access to Marcellus and Utica production by bringing significant new supply to Dawn from the Utica production zone, which was not readily accessible from Niagara. Like all significant greenfield infrastructure projects, the lead development time can be well in excess of 3 years. Due to this, commitments must be made early by signing firm precedent agreements that will allow project proponents to start to develop the project fully and commit to significant expenditures for the necessary planning, routing, engineering and environmental analyses. Union continued working towards a binding precedent agreement with NEXUS throughout 2013 and into early 2014. A binding Precedent Agreement was executed at a point in time when Union had firm knowledge of its Alliance/Vector de-contracting and the Settlement Agreement between TransCanada and Eastern LDCs was approved. This allowed Union, with a high degree of confidence, to commit the ultimate level of volume it could make on behalf of its Union South and Union North customers on NEXUS. Without the Settlement Agreement specifically, Union could not have been confident on TransCanada being able and willing to build the infrastructure necessary for incremental volumes to flow through Parkway into points east and north, whether from Dawn or points upstream of Dawn.

The construction of the NEXUS pipeline would dramatically increase the accessible paths to Ontario from the Utica and Marcellus production zones. The Kensington processing plant at the commencement of the NEXUS greenfield pipeline provides a different and diverse supply source which is predominantly Utica gas but could have access to other major pipelines in the area (including natural gas from the Marcellus and other producing basins). Given the location of the NEXUS pipeline, the intermediate connections at Kensington and access to other pipelines that are directly connected at the extension of NEXUS at Clarington provide tremendous diversity and security of supply. In addition, the NEXUS pipeline can access multiple supply points between Kensington and Dawn, including those on the DTE system (such as Willow Run).

The NEXUS project has committed capacity to Dawn of approximately 0.8 PJ/d. This is comprised of the Union and Enbridge volumes (273 TJ/d) as well as about 523 TJ/d committed by other shippers (mostly producers). When considering the transportation capacity committed to Niagara, of up to 1.4 PJ/d by 2016, as well as the commitment of approximately 0.8 PJ/d on the Nexus pipeline, over 2 PJ/d of transportation capacity is available to access Marcellus/Utica supply. Rover pipeline transportation capacity into Dawn will increase the level of access to Marcellus and Utica production. This shows that both Marcellus volumes through Niagara and Marcellus/Utica volumes through Dawn (Rover and NEXUS) are being supported and that there is a balance in volumes in both paths. This will help offset the decreased volumes from Western Canada via TransCanada and Alliance/Vector.

While much of the NEXUS project involves greenfield pipeline construction, NEXUS is making efficient use of existing infrastructure to transport natural gas through Michigan and into Dawn. Union has contracted for a transportation service from Kensington, Ohio to the Union St. Clair point at the international border and interconnection between the DTE and Union systems. Nexus has contracted with DTE to utilize existing infrastructure to provide its transportation services from Willow Run, Michigan to Union St. Clair. Union will then use its existing St. Clair to Dawn pipeline to transport gas to the Dawn Hub. NEXUS has also contracted with DTE to utilize existing infrastructure to provide transportation from Willow Run to Vector at Milford, Michigan and has contracted with Vector to provide transportation from Milford to the Dawn Hub. Enbridge has contracted for its transportation service from Kensington, Ohio to Milford and then will use existing Vector capacity to transport gas into Dawn.

As discussed further in Exhibit B.T1.Union.LPMA.8, the NEXUS pipeline is expected to enhance the liquidity of the Dawn Hub. New pipelines connecting new production areas to Dawn increase security of supply and reliability, and create more competition at the Dawn Hub. Facilitated by the Settlement Agreement between TransCanada and the Eastern LDCs, Ontario and Québec customers have supported a significant amount of infrastructure development within Ontario from 2015 through 2017 on the Enbridge, Union and TransCanada systems in order to increase access to the Dawn Hub and to the Niagara/Chippawa receipt points. On Union's system alone over 1.3 PJ/d of incremental pipeline capacity is proposed to be placed into service

on the Dawn Parkway System by November 2017. In addition, Union, through a settlement agreement, has made a commitment to move the Parkway Delivery Obligation for its in-franchise customers (once over 600 TJ/d) to Dawn. Maintaining and growing the liquidity of the Dawn Hub should remain a focus for Ontario customers (and others).

Recently, the importance and value of diversity of supply has been highlighted by an unplanned shutdown of the Alliance Pipeline in August 2015 due to high levels of hydrogen sulfide gas in the natural gas stream (hydrogen sulfide is very poisonous). Alliance Pipeline reduced flows from Western Canada to Chicago from approximately 1.4 Bcf/d to zero from August 7 to August 13, 2015. Having multiple pipeline connections to a variety of production areas and liquid markets, access to approximately 1 Tcf of regional storage, a deep market of over one hundred buyers and sellers of natural gas and price transparency, allows Dawn to continue to provide natural gas supply to Ontario, Québec and northeastern U.S. markets when upstream transportation and supply is disrupted.

Interestingly, by 2017, Enbridge and Union will have contracted for approximately 273 TJ/d of Nexus pipeline capacity into Dawn and will combine to bring over 221 TJ/d from Niagara into Ontario. This will provide further diversity for Ontario and have some balance in its access to Marcellus and Utica production. The opportunity that the NEXUS pipeline provides should not be viewed as development of NEXUS instead of Niagara but development of **NEXUS and Niagara for the benefit of the Ontario market.**

Finally, without pre-approval and the assurance that the NEXUS project will move forward, the Dawn Hub and Ontario consumers would miss an opportunity to gain significant access to Marcellus and Utica production as well as the accompanying benefits of increased choice, market liquidity at Dawn, and diversity and security of supply.

UNION GAS LIMITED

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

Question on Comparison with Niagara

Please provide a comparison of the costs to ratepayers of Union making a similar fifteen year contract for the same annual volume with TCPL from Niagara via Kirkwall, and purchase the gas at Niagara/Chippawa, or at some point farther upstream in the Marcellus field with a transportation contract with one of the pipeline projects which will transport Marcellus gas to the border.

Response:

Please see the response at Exhibit B.T1.Union.Staff.7.

UNION GAS LIMITED

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

Please confirm that Union can access Marcellus basin shale gas at either Kirkwall, Niagara/Chippawa as well as at Dawn. Please explain why Union has not sought to increase its purchases of Appalachian basin gas at Niagara. Does it intend to do so in the next few years? Will it provide a mechanism for direct purchasers to do so?

Response:

Please see the response at Exhibit B.T2.Union.BOMA.29 and Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

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

a) Please provide an extension of the graph to July 31, 2015.

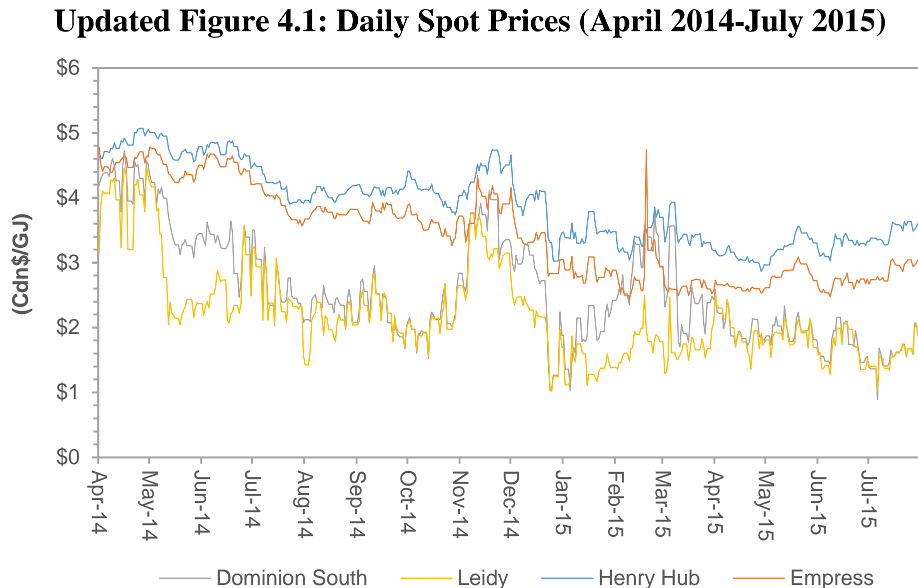
b) Please confirm that the graph uses daily Canada/US exchange rates for the three US supply basins, exchange rates. If not, please discuss what exchange rate is being used over the period covered by the graph.

Response:

The following response was prepared by Sussex Economic Advisors, LLC.

a) Please see the updated Figure 4.1 below. Please note that the original Figure 4.1 is located in Exhibit A, Schedule 3, page 35.

Updated Figure 4.1: Daily Spot Prices (April 2014-July 2015)



b) Confirmed. The three U.S. natural gas price indices in Figure 4.1 (i.e. Dominion South, Leidy, and Henry Hub) were converted from U.S. dollars per MMBtu to Canadian dollars per GJ using daily currency exchange rates obtained from SNL Financial.

UNION GAS LIMITED

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

Please confirm that Marcellus gas accessed by Union at Niagara via Kirkwall is closer to Union's Central, Northern, and Eastern Delivery Area than gas that enters Union's system at Dawn.

Response:

The pipeline distance from Niagara to Union's Central, Northern and Eastern Delivery area is shorter than the distance from Dawn to those same areas.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 20

a) Please provide a table that shows a breakdown of Union's natural gas supply portfolio by gas supplier, contract length, volume purchased, services, supply source, price, effective date and expiration date for each supply contract.

b) Over the 15 year term what is the percentage of natural gas supply coming from the NEXUS project to serve Union's North and South customers?

c) Over the 15 year term what is the percentage of natural gas supply coming from WCSB supplies to serve Union's North and South customers?

d) Please provide a map that shows the delivery points and the areas that will have direct access to the new supplies.

Response:

a) Union is unable to provide this level of detail in relation to its supply arrangements due to confidentiality restrictions within the NAESB (North American Energy Standards Board) contract with each supplier. Union buys all its gas through an RFP process and does so, on a monthly, seasonal and annual basis, over multiple purchases each month, all year round. Union has NAESB agreements with nearly 100 suppliers.

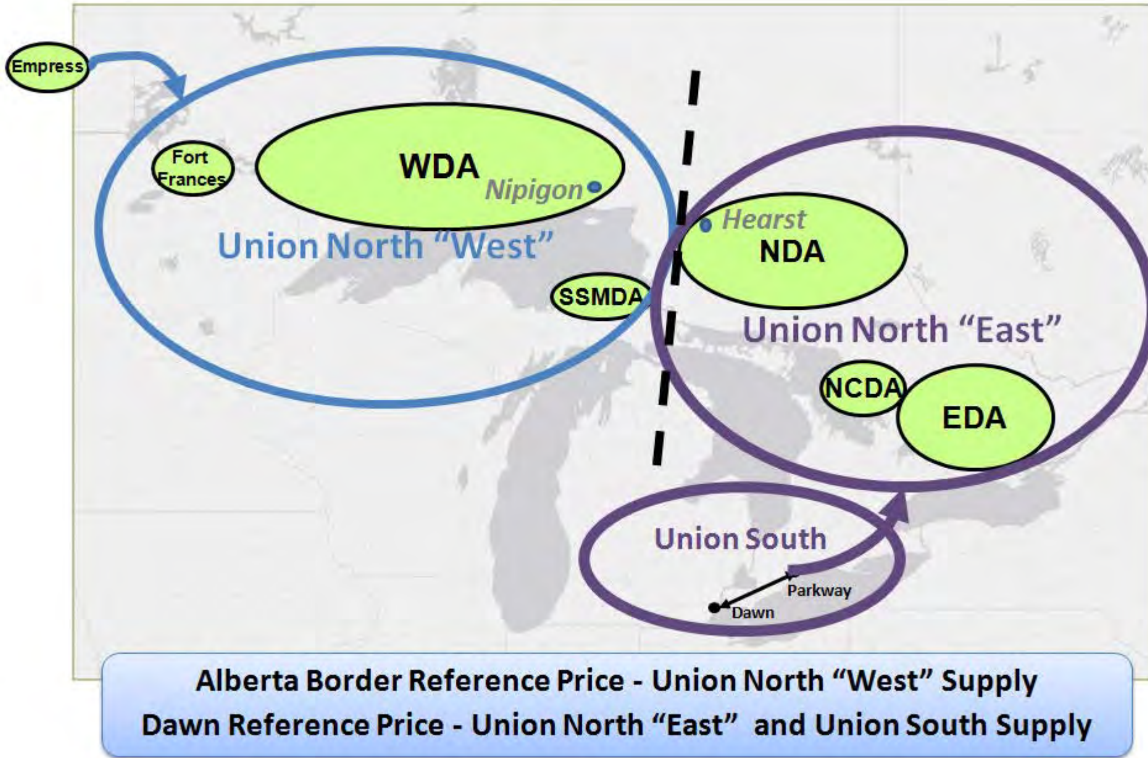
b) Please see Exhibit A, Figure 5-1 and Figure 5-2, pages 29-31, for projected portfolios once NEXUS is incorporated into Union's upstream transportation portfolio. These are forecasted portfolios only, but it has been assumed that they remain the same for the 15 year term. Although no changes are contemplated today, it is likely that over any 15 year period some change will occur.

c) Please see the response to b) above.

d) Supply transported via NEXUS will be purchased to serve Union's sales service customers in Union South, Union EDA, Union NCDA, and Union NDA. All of the NEXUS gas will be delivered to Dawn initially and then to Union's markets using the traditional pipeline paths on Union and TransCanada. Please see the Union Gas System map that was filed in EB-2015-

0181, Dawn Reference Price and North T-Service, Exhibit A, Tab 1, page 19 below. Note that the map includes both Union's existing and proposed system zones.

Union Gas Systems Map



UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

How much capacity was Union awarded in the non-binding open season of late 2012?

Response:

Union bid for, and was subsequently awarded, 150,000 Dth/d in the 2012 NEXUS open season.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

How much capacity was committed to in the August 11, 2014 PA?

Response:

In the August 11, 2014 PA, Union committed to 75,000 Dth/d of Phase 1 capacity and 150,000 Dth/d of Phase 2 capacity. For more information on the Phase 1 capacity and its subsequent removal from the May 28, 2015 PA please see the response at Exhibit B.T2.Union.FRPO.14.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

Please provide a copy of the August 11, 2014 PA.

Response:

Please see Attachment 1.

PRECEDENT AGREEMENT

This PRECEDENT AGREEMENT ("Precedent Agreement") is made and entered into this 11 day of August, 2014 ("Effective Date"), by and between DTE Pipeline Company, a Michigan corporation ("DTE"), and Spectra Energy Transmission, LLC, a Delaware limited liability company ("Spectra") (DTE and Spectra are collectively referred to herein as "Pipeline"), and Union Gas Limited, an Ontario corporation ("Customer"). Pipeline and Customer are sometimes referred to individually as a "Party" and collectively as the "Parties."

WITNESSETH:

WHEREAS, Pipeline is proposing a two-phased project that will ultimately provide up to approximately one (1) billion cubic feet per day of firm transportation service for natural gas production from the Appalachian production areas, including but not limited to the Utica Shale and Marcellus Shale production areas in Ohio and Pennsylvania, to the international border between the United States and Canada near St. Clair, Michigan (the "International Border") and continuing from the International Border to Dawn, Ontario ("Dawn"). In Phase I, Pipeline will provide firm transportation service from Willow Run, Michigan ("Willow Run") to Dawn utilizing subscriptions of firm pipeline capacity on existing pipeline systems ("Phase I"). In Phase II, Pipeline will construct an approximately 250-mile greenfield pipeline extending from points expected to be located at or near Kensington, Ohio to various interconnections in the State of Michigan, utilizing subscriptions of firm pipeline capacity on existing U.S. pipeline systems to transport to the International Border, and thereafter from the International Border to point(s) of delivery in or near Dawn, utilizing one or more of: subscriptions of firm pipeline capacity on existing Canadian pipeline systems, an expansion of the existing Vector Canada and/or Union

Canadian pipeline systems, and/or construction of greenfield pipeline facilities ("Phase II") (the services and subscriptions contemplated herein and the facilities that Pipeline intends to construct (or use reasonable efforts to cause others to construct) and/or subscribe to provide such services are collectively referred to herein as the "Project");

WHEREAS, Pipeline is proposing to commence service for the Project in phases, with Phase I to commence on or about November 1, 2015 and Phase II targeted to commence on or about November 1, 2017;

WHEREAS, Customer desires firm natural gas transportation service as part of both Phase I and Phase II of the Project;

WHEREAS Customer, based on its qualifying bid submitted in the Open Season conducted by Pipeline from October 15, 2012 through November 30, 2012 ("Open Season"), qualifies as an Anchor Shipper (as that term is used in the Open Season notice) for the Project, thereby entitling Customer to certain rate and other incentives regarding Customer's transportation service on the Project facilities;

WHEREAS, Pipeline has secured commercial support for the Project evidenced by executed precedent agreements, including this Precedent Agreement with Customer**;**

WHEREAS, DTE and Spectra contemplate that pipeline companies in the name of NEXUS Gas Transmission, LLC and NEXUS Gas Transmission Canada will be formed and owned by each of DTE and Spectra or by affiliates of each of them to fulfill the responsibilities of Pipeline hereunder and upon such formation, NEXUS Gas Transmission, LLC and NEXUS Gas Transmission Canada will take assignment of the rights and obligations of and be novated as the Pipeline for all purposes of this Precedent Agreement;

WHEREAS, subject to the terms and conditions of this Precedent Agreement, Pipeline is willing to undertake the steps necessary to provide Phase I and Phase II services for Customer and other customers subscribing for capacity as part of the Project, to construct the Project facilities or subscribe for firm pipeline capacity that will extend from eastern Ohio to Dawn in order to provide such services, and, if necessary, to construct, or to use reasonable efforts to cause the construction of facilities on existing pipeline systems to provide service on the Project;

WHEREAS, subject to the terms and conditions of this Precedent Agreement, Pipeline is willing to provide such services to Customer and Customer is willing to pay Pipeline for such services;

NOW, THEREFORE, in consideration of the mutual covenants herein assumed, and intending to be legally bound, Pipeline and Customer agree as follows:

1) Pipeline Obligations.

a) Subject to the terms and conditions of this Precedent Agreement, Pipeline shall proceed with due diligence to file applications for and to obtain from all governmental and regulatory authorities having competent jurisdiction over the Project, including, but not limited to, the Federal Energy Regulatory Commission ("FERC") and the National Energy Board of Canada ("NEB"), the authorizations, approvals, certificates, permits, notices and/or exemptions (collectively, the "Governmental Authorizations") Pipeline determines are necessary: (i) for Pipeline, without the necessity to construct any facilities, to provide firm transportation service (hereafter all references to "firm transportation service", whether in respect of Phase I or Phase II, refers to the firm transportation services for each of Phase I or Phase II as such services are described herein and set forth in the applicable Pipeline tariffs approved by the FERC and NEB,

respectively), as part of Phase I of the Project by the Phase I Service Commencement Date (as determined in accordance with Section 4 of this Precedent Agreement); (ii) for Pipeline to construct, own, operate, and maintain (and, if necessary, to use reasonable efforts to cause others to construct, own, operate, and maintain) the Project facilities necessary to provide the firm transportation service contemplated herein commencing on the Phase II Service Commencement Date (as determined in accordance with Section 4 of this Precedent Agreement); and (iii) for Pipeline to otherwise perform its obligations as contemplated in this Precedent Agreement. Pipeline retains full control and discretion in the filing and prosecution of any and all applications for such Governmental Authorizations and/or any supplements or amendments thereto, and, if necessary, any court review, provided it does so in a manner that is consistent with the terms of this Precedent Agreement and designed to implement the firm transportation service contemplated herein in a timely manner. Pipeline agrees to promptly notify Customer in writing when each of the Governmental Authorizations are received, obtained, rejected or denied. Pipeline shall also promptly notify Customer in writing as to whether each of the Governmental Authorizations received or obtained are acceptable to Pipeline.

b) During the term of this Precedent Agreement, and provided it would be reasonable and prudent for Pipeline to do so, Pipeline agrees to use reasonable efforts to support and cooperate with the efforts of Customer to obtain all Customer's Authorizations and supplements and amendments thereto, to better understand and analyze the markets for the supply of gas at the proposed initial receipt points for the Project and to otherwise perform its obligations as contemplated by this Precedent Agreement.

c) Pipeline shall, no later than October 1, 2014, provide Customer with confirmation of the initial receipt points for Phase II transportation service (collectively, the "Initial Receipt Point Information").

d) The reservation rates payable by Customer for transportation Service for Phase I and for Phase II (as set forth in the applicable Pipeline tariffs approved by the FERC and NEB, respectively the "Reservation Rates") will be set and applied for on a commercially reasonable basis.

2) <u>Customer Obligations.</u>

a) No later than 60 days from the execution of this Precedent Agreement for Phase I and no later than November 1, 2014 for Phase II, Customer will advise Pipeline in writing of: (i) any facilities which Customer must construct, or cause to be constructed, in order for Customer to utilize the firm transportation service contemplated in this Precedent Agreement; and (ii) any necessary or desirable contractual and/or governmental or regulatory authorizations having jurisdiction over the Customer which Customer determines are necessary or desirable for Customer in order to execute and deliver the Phase I Service Agreement and Phase II Service Agreement (as those terms are defined in Section 3 below) and to fulfill its obligations thereunder and to otherwise perform its obligations under this Precedent Agreement ("Customer's Authorizations").

b) Subject to the terms and conditions of this Precedent Agreement, Customer shall proceed with due diligence to obtain the Customer's Authorizations. Customer retains full control and discretion in the filing and prosecution of any and all applications for such Customer's Authorizations and/or any supplements or amendments thereto, and, if necessary, any court review, provided it does so in a manner that is consistent with the

terms of this Precedent Agreement and in a manner designed to implement the firm transportation service contemplated herein in a timely manner. Customer agrees to promptly notify Pipeline in writing when each of the Customer's Authorizations, are received, obtained, rejected or denied. Customer shall also promptly notify Pipeline in writing as to whether each of the Customer's Authorizations received or obtained are acceptable to Customer.

c) During the term of this Precedent Agreement, and provided it would be reasonable and prudent for Customer to do so, Customer agrees to use reasonable efforts to support and cooperate with the efforts of Pipeline to obtain all Governmental Authorizations and supplements and amendments thereto necessary for Pipeline to provide the Phase I and Phase II services contemplated hereunder and to construct, own, operate, and maintain (or, if necessary, to use reasonable efforts to cause others to construct, own, operate and maintain) the Project facilities for the Phase II service and to otherwise perform its obligations as contemplated by this Precedent Agreement.

d) As of the Effective Date, Customer agrees that its proposed quantity of firm transportation service that it wishes to contract for in respect of Phase I service as its Maximum Daily Quantity ("MDQ") for the purpose of the Phase I Service Agreements is 40,000 Dth/d ("Customer's Contracted MDQ"). No later than December 1, 2014, Customer shall notify Pipeline in writing of any desired change to such MDQ, which shall be no less than 40,000 Dth/d and no greater than 75,000 Dth/d, and Pipeline shall use reasonable efforts to accommodate any requested increase in Customer's Contracted MDQ up to 75,000 Dth/d. Pipeline shall notify Customer within ten (10) days of receiving written notice from Customer whether Pipeline can accommodate any or all of

Customer's requested increase in MDQ. To the extent Pipeline can accommodate all of Customer's requested increase in MDQ, Customer's requested MDQ shall become Customer's Contracted MDQ; to the extent Pipeline cannot accommodate all of Customer's requested increase in MDQ, the Parties will meet promptly to discuss the matter further and mutually agree upon any changes, provided that, if Pipeline and Customer are unable to reach mutual agreement within ten (10) days after commencing discussions, then Customer's Contracted MDQ shall remain 40,000 Dth/d.

3) Service Agreements.

a) Phase I Firm Service Agreements. To effectuate the firm transportation service contemplated herein for Phase I service, Customer and Pipeline agree that (i) no later than thirty (30) days following the date on which Pipeline provides written notice to Customer that FERC has issued an order granting Pipeline a certificate of public convenience and necessity to provide firm transportation service from Willow Run to the International Border, Pipeline and Customer will execute a firm transportation service agreement for Phase I service covering such transportation path ("Phase I Service Agreement – U.S.") and (ii) no later than thirty (30) days following the date on which Pipeline provides written notice to Customer that the NEB has issued any necessary authorization for Pipeline to provide Phase I firm transportation service from the International Border to Dawn, Pipeline and Customer will execute a firm transportation service agreement for Phase I service covering such transportation path ("Phase I Service Agreement – Canada") (the Phase I Service Agreement – U.S. and the Phase I Service Agreement – Canada shall collectively be referred to herein as the "Phase I Service Agreements"). The Parties agree to consider in good faith executing the Phase I Service

Agreements at a time earlier than contemplated in the first sentence above if required to allow Pipeline to provide service by the Phase I Service Commencement Date. The Phase I Service Agreement – U.S. will specify: (i) a Maximum Daily Quantity ("MDQ") equal to Customer's Contracted MDQ (as determined pursuant to Section 2(d) above), exclusive of fuel requirements, effective on the Phase I Service Commencement Date; (ii) a primary term commencing on the Phase I Service Commencement Date and ending on the earlier of three (3) years thereafter (unless extended by mutual consent of the Parties) or the Phase II Service Commencement Date (as determined in accordance with Section 4 of this Precedent Agreement); (iii) a Primary Point(s) of Receipt (as such term will be defined in the Phase I Service Agreement – U.S.) at Willow Run in Wayne County, Michigan, and access to any other 'MichCon generic point' as that term is commonly understood (Maximum Daily Receipt Obligation ("MDRO") equal to Customer's Contracted MDQ); (iv) a Primary Point of Delivery (as such term will be defined in the Phase I Service Agreement – U.S.) at the International Border (Maximum Daily Delivery Obligation ("MDDO") equal to Customer's Contracted MDQ); and (v) security requirements consistent with the provisions set forth in Section 13 below. The Phase I Service Agreement - Canada will specify (i) an MDQ equal to Customer's Contracted MDQ, exclusive of fuel requirements, effective on the Phase I Service Commencement Date; (ii) a primary term commencing on the Phase I Service Commencement Date and ending on the earlier of three (3) years thereafter (unless extended by mutual consent of the Parties) or the Phase II Service Commencement Date (as determined in accordance with Section 4 of this Precedent Agreement); (iii) a Primary Point of Receipt (as such term will be defined in the Phase I Service Agreement - Canada) at the International

Border with an MDRO equal to Customer's Contracted MDQ); (iv) a Primary Point of Delivery (as such term will be defined in the Phase I Service Agreement - Canada) at Dawn with an MDDO equal to Customer's Contracted MDQ); and (v) security requirements consistent with the provisions set forth in Section 13 below. To the extent Pipeline is authorized to offer access to secondary receipt and delivery points as part of the Phase I service, Customer shall have the right under the Phase I Service Agreement(s) to access secondary receipt and delivery points in accordance with such authorization(s). Notwithstanding the foregoing, neither of the Phase I Service Agreements and the rights and obligations arising thereunder become effective until both Phase I Service Agreements have been executed in accordance with the terms of this Section 3(a). If the Governmental Authorizations for Phase I service are not issued as contemplated by Section 7(f), Pipeline and Customer will negotiate in good faith to develop an acceptable alternative for Phase I service, provided, however, that nothing in this Section 3(a) will restrict or affect the rights of the Parties to terminate this Precedent Agreement in accordance with Section 9.

b) Phase II Firm Service Agreements. To effectuate the firm transportation service contemplated herein for Phase II service, Customer and Pipeline agree that (i) no later than thirty (30) days following the date on which Pipeline provides written notice to Customer that the FERC, the Michigan Public Service Commission, and any other governmental agencies or authorities having jurisdiction over the U.S. portion of the Phase II service have all issued the necessary authorizations to Pipeline or other pipelines to construct the greenfield and expansion facilities necessary to provide the U.S. portion of the Phase II service, Pipeline and Customer will execute a firm transportation service

agreement governing the United States portion of the Phase II service ("Phase II Service Agreement – U.S.") and (ii) no later than thirty (30) days following the date on which Pipeline provides written notice to Customer that the NEB, Ontario Energy Board ("OEB") and any other governmental agencies or authorities having jurisdiction over the Canadian portion of the Phase II service have all issued the necessary authorizations to Pipeline or other pipelines for the construction of any facilities necessary to provide the Canadian portion of the Phase II service, Pipeline and Customer will execute a firm transportation service agreement governing the Canadian portion of the Phase II service ("Phase II Service Agreement – Canada") (the Phase II Service Agreement – U.S. and the Phase II Service Agreement – Canada shall collectively be referred to herein as the "Phase II Service Agreements"). The Parties agree to consider in good faith executing the Phase II Service Agreements at a time earlier than contemplated in the first sentence above if required to allow Pipeline to obtain the requisite notice to proceed with Project construction from any governmental agency or authority having jurisdiction. The Phase II Service Agreement – U.S. will specify: (i) an MDQ of 150,000 Dth/d, exclusive of fuel requirements, effective on the Phase II Service Commencement Date; (ii) a primary term of fifteen (15) years commencing on the Phase II Service Commencement Date and continuing from year to year thereafter unless terminated in accordance with the provisions thereof; (iii) a Primary Point of Receipt (as such term will be defined in the Phase II Service Agreement – U.S.) at the head of the Phase II facilities in Ohio (such point to be designated by Pipeline at such time as Pipeline provides notice to Customer in accordance with Section 3(c) below) (MDRO of 150,000 Dth/d); (iv) a Primary Point of Delivery (as such term will be defined in the Phase II Service Agreement – U.S.) at the

International Border (MDDO of 150,000 Dth/d); and (v) security requirements consistent with the provisions set forth in Section 13 below. The Phase II Service Agreement – Canada will specify: (i) an MDQ of 150,000 Dth/d, exclusive of fuel requirements, effective on the Phase II Service Commencement Date; (ii) a primary term of fifteen (15) years commencing on the Phase II Service Commencement Date and continuing from year to year thereafter unless terminated in accordance with the provisions thereof; (iii) a Primary Point of Receipt (as such term will be defined in the Phase II Service Agreement – Canada) at the International Border (an MDRO of 150,000 Dth/d); (iv) a Primary Point of Delivery (as such term will be defined in the Phase II Service Agreement – Canada) at Dawn (an MDDO of 150,000 Dth/d); and (v) security requirements consistent with the provisions set forth in Section 13 below. To the extent Pipeline is authorized to offer access to secondary receipt and delivery points as part of the Phase II service, Customer shall have the right under the Phase II Service Agreement(s) to access secondary receipt and delivery points in accordance with such authorization(s). Notwithstanding the foregoing, neither of the Phase II Service Agreements and the rights and obligations arising thereunder become effective until both Phase II Service Agreements have been executed in accordance with the terms of this Section 3(b). Attached hereto as Exhibits A and B are illustrative forms of transportation service agreements for the Phase I services and the Phase II services, respectively. On or before October 1, 2014, Pipeline will provide to Customer copies of the rate agreements and a summary of the general terms and conditions that will be incorporated by reference into the transportation service agreements to form the applicable FERC and NEB gas tariffs, as well as any changes to the illustrative forms of transportation service agreements in Exhibits A and B

(collectively, the "Forms of Commercial Agreements"). Pipeline will seek Customer's review of the Forms of Commercial Agreements and will consider in good faith any comments provided by Customer. Pipeline shall keep Customer informed of any revisions to the Forms of Commercial Agreements including revisions resulting from comments received from other Customers. Pipeline shall apply for and seek the Governmental Authorizations in a manner consistent with the Forms of Commercial Agreements. The Parties acknowledge and agree that these Forms of Commercial Agreements may change, as required, as a result of the terms and conditions of approvals from the FERC and/or NEB, as applicable.

c) Status of Phase II Service Commencement Date. Commencing on September 1, 2014, and continuing on a quarterly basis thereafter, Pipeline will notify Customer regarding Pipeline's progress regarding Phase II, and whether the Phase II Service Commencement Date (as determined in accordance with Section 4 of this Precedent Agreement) is expected to occur on November 1, 2017, or some later date. No later than November 1, 2015, Pipeline shall in good faith have notified Customer of its *bona fide* estimate of the Phase II Service Commencement Date (the "Estimated Phase II Commencement Date"). In the event that Pipeline's *bona fide* estimate of the Estimated Phase II Commencement Date is a date that is after November 1, 2018, then, unless such deadline(s) are extended by mutual consent: (i) Customer shall have no further obligation in respect of contracting for Phase II service and Customer shall have the right to terminate this Precedent Agreement in respect of Phase II service without liability between the Parties including in respect of the Customer being required to pay any Pre-Service Costs; and (ii) the Parties shall work together in good faith and with due diligence to execute or obtain, as

applicable, all of the firm transportation agreements, contract terminations and regulatory authorizations necessary to transition the Phase I service provided by Pipeline to Customer to similar service that Customer could receive directly from other pipeline companies pursuant to rates, terms and conditions of service commensurate with the rates, terms and conditions of service contemplated hereunder for Phase I service and, if and when such contractual arrangements and Governmental Authorizations are completed in a manner that both Pipeline and Customer, acting reasonably, agree is satisfactory, then each Phase I Service Agreement shall promptly terminate, unless such agreement has terminated already pursuant to its terms. Notwithstanding the foregoing, in no event shall Customer be obligated to continue Phase I service beyond November 1, 2018 unless Pipeline and Customer mutually agree to do so.

d) <u>Rates.</u>

i) The rates that will apply to the Phase I Service Agreements shall be as set forth in the separate rate agreements to be provided by Pipeline to Customer no later than October 1, 2014, and the Parties agree to execute such rate agreements contemporaneously with the execution of the Phase I Service Agreements ("Phase I Rate Agreements"). Pipeline currently estimates that the Reservation Rates to be payable by Customer for Phase I service in the Phase I Rate Agreements will be in the range of $0.09 - $0.14 US per Dth/d for the U.S. service, and in the range of $0.04 - $0.07 CAN per Dth/d for the Canadian service, plus the applicable U.S. and Canadian fuel rates with the total of such fuel rates in the range of 1.0% - 2.0% (the Reservation Rates and applicable fuel rates being hereinafter collectively referred to as the "Estimated Phase I Rate Ranges"). On or before October 1, 2014, Pipeline will

provide final Reservation Rates, and fuel rates, for the Phase I Rate Agreements. If the final Reservation Rates and fuel rates for the Phase I Rate Agreements exceed the total Estimated Phase I Rate Ranges then the Parties shall promptly meet and work in good faith in an attempt to agree upon final Reservation Rates and fuel rates that are commercially acceptable to both Parties, each Party in its sole discretion. If, after thirty (30) days, the Parties are unable to agree upon mutually acceptable final Reservation Rates and fuel rates for the Phase I Rate Agreements, either Party shall have the right to terminate this Precedent Agreement and, if executed, the Phase I Service Agreements. Any termination of this Precedent Agreement by a Party pursuant to this Section will be without liability between the Parties including in respect of the Customer being required to pay any Pre-Service Costs.

ii) The rates that will apply to the Phase II Service Agreements shall be as set forth in the rate agreements to be executed in accordance with this Section 3(d), for service under the Phase II Service Agreements. Pipeline and Customer have agreed to the following with regard to the rates for service under the Phase II Service Agreements:

(1) Subject to the terms and conditions set forth herein and in the Phase II Service Agreements and in the Phase II Rate Agreements (as defined below), upon execution of such service and rate agreements, Customer shall be obligated to pay Pipeline the rates specified for service under the Phase II Service Agreements commencing on the Phase II Service Commencement Date and continuing to the end of the primary term (as set forth in the applicable Phase II Service Agreement) thereof.

(2) Pipeline and Customer acknowledge that the scope of the facilities necessary for Pipeline to provide Phase II service for Customer and all other customers subscribing Phase II service (such facilities are collectively referred to herein as the "Phase II Facilities") is not known with precision at this time. For this reason, the estimated capital costs associated with construction of the Phase II Facilities and the estimated Reservation Rates and fuel rates for service under the Phase II Service Agreements will be set forth in the Phase II Rate Agreements provided in accordance with Section 3(d)(ii)(3) below. Pipeline currently estimates that the Reservation Rates for service under the Phase II Service Agreements will be in the range of $0.63 - $0.78 US per Dth/d for the U.S. service, and in the range of $0.04 - $0.06 CAN per Dth/d for the Canadian service (hereinafter collectively referred to as the "Estimated Phase II Rate Ranges"), plus the applicable U.S. and Canadian fuel rates, with the total of such fuel rates in the range of 2.0% - 3.0%. The Estimated Phase II Rate Ranges may be adjusted as more fully set forth in Section 3(d)(ii)(3) and subject to the terms of Section 3(d)(ii)(4) below.

(3) No later than October 1, 2014 Pipeline shall provide Customer with a draft estimate of the capital costs associated with construction of the New Phase II Facilities (as defined below) in each of the U.S. and Canada, the revised Reservation Rates (collectively, the "Revised Phase II Rates"), subject to a fifteen percent (+/- 15%) capital cost tracking adjustment (as more particularly described in Exhibit C (the "Capital Cost Tracking Adjustment") around the revised estimate, and the revised fuel rate estimates, to be set forth in the rate agreements for the Phase II Service Agreements. The capital cost estimate will be provided

substantially in the same form as an Exhibit K - Cost of Facilities (as defined in the Federal Energy Regulatory Commission's Code of Federal Regulations) for the New Phase II Facilities located in the U.S., and substantially in the same form as a "Class III Estimate" (defined as a Class III estimate of the costs of constructing the Phase II Facilities prepared by Pipeline in accordance with the applicable guidelines of the Association for the Advancement of Cost Engineering, having an accuracy level within the range of plus twenty-five (25%) percent and minus fifteen (15%) percent) after the application of a risk dependent contingency for the New Phase II Facilities located in Canada. At such time as Pipeline provides Customer with the Revised Phase II Rates, Pipeline will provide information which sets forth a more detailed breakdown of how the Pipeline has derived such Revised Phase II Rates ("Rate Breakdown"), including a breakdown of such portion of the Reservation Rates for Phase II that are derived from the capital costs associated with the construction of the Phase II Facilities that will be required to be constructed and owned by Pipeline or constructed and owned by a third party on third party owned existing pipeline systems for the provision of transportation service for Phase II in each of the U.S. and Canada (collectively, the "New Phase II Facilities"). No later than sixty (60) days following receipt by Customer of the Revised Phase II Rates, Pipeline shall deliver to Customer a final estimate of capital costs for the New Phase II Facilities for each of the U.S. and Canada, final Reservation Rates (subject to the Capital Cost Tracking Adjustment) (collectively, the "Final Reservation Rates") and final estimated fuel rates to be set forth in the rate agreements for the Phase II Service Agreements

and any final revisions to the Rate Breakdown as well as the final rate agreements for the Phase II Service Agreements (the "Phase II Rate Agreements"). After Pipeline has made the deliveries identified in the immediately preceding sentence to Customer, Pipeline and Customer shall promptly execute the Phase II Rate Agreements; provided that, if the Final Reservation Rates set forth in the Phase II Rate Agreements are higher than the upper limit of the Estimated Phase II Rate Ranges set forth in Section 3(d)(ii)(2) above, and such higher Reservation Rates have caused the value of the commercial transaction with respect to the natural gas to be transported under the Phase II Service Agreements to be uneconomical to Customer, as determined by Customer in its sole and absolute discretion, Customer shall not be obligated to execute the Phase II Rate Agreements.

(4) In the event that Customer has elected not to execute the Phase II Rate Agreements in accordance with the proviso in the last sentence of Section 3(d)(ii)(3), Pipeline and Customer shall promptly meet and work in good faith in an attempt to agree upon Reservation Rates that are commercially acceptable to both Parties, each Party in its sole discretion. If, after thirty (30) days, the Parties are unable to agree upon mutually acceptable Reservation Rates, either Party shall have the right to terminate this Precedent Agreement and, if executed, the Phase II Service Agreements. Any termination of this Precedent Agreement pursuant to this Section will be without liability to either Party including in respect of the Customer being required to pay any Pre-Service Costs.

e) Most Favored Nations.

i) Except as provided in Section 3(e)(ii) below, in the event that Pipeline enters into firm transportation service and/or recourse, negotiated or discount rate agreements with other similarly situated customers (as to transportation path, quantity and length of term) in respect of this Project containing any rate provisions and other terms of service that are more favorable to such other customers than the negotiated rate provisions set forth in the Phase I Rate Agreements or the Phase II Rate Agreements, Pipeline shall offer Customer, within ten (10) business days of entering into the rate agreements with such other customer, those same rate provisions and other terms of service. If Customer is willing to accept the offer on the same terms and conditions as such other customer(s), including provisions regarding transportation path, volume and length of term, then Customer will so notify Pipeline within thirty (30) days of its acceptance, and Pipeline will make the necessary amendments to either the Phase I Rate Agreements or the Phase II Rate Agreements, or both, and to the Phase I Service Agreements and the Phase II Service Agreements, if applicable, and the Parties will enter into amended agreements at the more favorable rate for the remainder of the term of the applicable agreement(s). This section will apply only to contracts Pipeline enters into for service utilizing Project capacity on or before the Phase I Service Commencement Date, or the Phase II Service Commencement Date, as applicable.

ii) *Exclusions.* Pipeline is not required to offer to Customer and Customer is not entitled to, any rate provisions provided to other customers if such rate provisions are

contained in long-term firm service agreements for capacity that becomes available as a result of the breach, default or unauthorized termination of a precedent agreement or associated service agreement by a Project customer or the bankruptcy, insolvency, liquidation or other similar action affecting a Project customer. In addition, the most favored nation right set forth in this Section 3(e) will not be available to Customer in respect of any short term (i.e., less than one year) service. Further, the most favored nation right set forth in this section 3 will not apply to credit provisions.

(f) Right of First Refusal. Customer will, in respect of each of the Phase II Service Agreements, be granted a contractual Right of First Refusal ("ROFR") in accordance with the applicable Pipeline tariffs approved by the FERC and NEB. Further, the Phase II Service Agreements will be considered ROFR Agreements in accordance with, and as that term is used in, the applicable tariffs.

4) Commencement of Service.

(a) Phase I. With respect to Phase I transportation service, upon satisfaction or waiver of all the conditions precedent set forth in Sections 7(a) and 7(c) of this Precedent Agreement, Pipeline shall promptly notify Customer of such fact, and that service under the Phase I Service Agreements will commence on a date certain, which date will be the later of: (i) November 1, 2015, or (ii) the date that all of the conditions precedent set forth in Sections 7(a) and 7(c) of this Precedent Agreement are satisfied or waived ("Phase I Service Commencement Date"). On and after the Phase I Service Commencement Date, Pipeline shall provide firm transportation service for Customer pursuant to the terms of the Phase I Service Agreements and Customer will pay Pipeline for all applicable charges required by the Phase I Service Agreements and the Phase I Rate Agreements.

(b) Phase II. With respect to Phase II transportation service, Pipeline shall provide at least ninety (90) days' prior notice (the "In-Service Date Notice") to Customer of the projected service commencement date for service under the Phase II Service Agreements, which date shall be the beginning of a calendar month and cannot be earlier than the date upon which all of the conditions precedent set out in Section 7 have been satisfied, or waived by the Party having such waiver right, provided that the actual service commencement date for purposes of the Phase II Service Agreements (the "Phase II Service Commencement Date") shall be the date that is the later of: (i) November 1, 2017; (ii) the date provided in the In-Service Date Notice; (iii) the date that is the first day of the first calendar month following the date on which the Pipeline places the Phase II Facilities into service; or (iv) if, pursuant to Section 7(f), the Pipeline has filed an appeal or is pursuing a rehearing, reconsideration or clarification by the applicable regulatory authority of the Governmental Authorization, then 90 days from the date of receipt of a positive decision addressing Customer's concerns unless such period is waived by Customer. On and after the Phase II Service Commencement Date, Pipeline shall provide firm transportation service for Customer pursuant to the terms of the Phase II Service Agreements and Customer will pay Pipeline for all applicable charges required by the Phase II Service Agreements and the Phase II Rate Agreements.

5) Design and Permitting of Project Facilities. Pipeline will undertake with due diligence, or use reasonable efforts to cause others to undertake, the design of the Phase II Facilities and any other preparatory actions necessary for Pipeline, or Pipeline's designee(s), to complete and file application(s) related to the Phase II Facilities with the FERC, NEB and/or other governmental authorities as appropriate. Prior to satisfaction of the conditions precedent set

forth in Section 7(b)(i) through 7(b)(vii) of this Precedent Agreement, Pipeline, or Pipeline's designee(s), shall have the right, but not the obligation, to proceed with the necessary design of facilities, acquisition of materials, supplies, properties, rights-of-way and any other necessary preparations to implement the firm transportation service under the Phase II Service Agreements as contemplated in this Precedent Agreement. Additionally, Pipeline will use commercially reasonable efforts to keep Customer informed on a regular basis and respond to any of Customer's requests for information concerning Project schedule changes, status of Governmental Authorizations, service commencement dates, and/or changes to any of the rates described herein.

6) Construction of Project. Upon satisfaction of the conditions precedent set forth in Sections 7(a), 7(b)(i) through 7(b)(vii), inclusive and 7(c) of this Precedent Agreement, or waiver of the same by Pipeline or Customer, as applicable, Pipeline shall proceed with due diligence to construct, or to use reasonable efforts to cause others to construct, the authorized Phase II Facilities and to implement the firm transportation service contemplated in this Precedent Agreement for Phase II service on or about November 1, 2017, or such later date as may be designated by Pipeline in accordance with Section 3(c) above. If, notwithstanding Pipeline's due diligence, Pipeline, or Pipeline's designee(s), is unable to commence the Phase II service for Customer on November 1, 2017, or such later date as may be designated by Pipeline in accordance with Section 3(c) above, Pipeline will continue to proceed with due diligence to complete arrangements for such firm transportation service, and commence such service for Customer at the earliest practicable date thereafter. Subject to Section 9(a), Pipeline will neither be liable nor will this Precedent Agreement or the Phase II Service Agreements be subject to cancellation if Pipeline, or Pipeline's designee(s), is unable to complete the

construction of such authorized Project facilities and commence the Phase II service for Customer by November 1, 2017 or such later date as may be designated by Pipeline in accordance with Section 3(c) above.

7) Conditions Precedent. Commencement of service under the Phase I Service Agreements and the Phase II Service Agreements, as applicable, and Pipeline's and Customer's rights and obligations thereunder are expressly made subject to satisfaction or waiver, as applicable, of the following conditions precedent in Sections 7(a) and 7(c), with respect to the Phase I Service Agreements, and Sections 7(a), 7(b) and 7(c), with respect to the Phase II Service Agreements (only Pipeline shall have the right to waive the conditions precedent set forth in Sections 7(a) and 7(b) and only Customer shall have the right to waive the conditions precedent set forth in Section 7(c)):

a) Pipeline's Conditions Precedent for Phase I Service.

i) Pipeline filing by September 1, 2014 the necessary requests with the FERC and/or NEB for approval to provide Phase I service as contemplated herein and in the Phase I Service Agreements;

ii) Subject to Section 7(d), Pipeline's receipt and acceptance in accordance with Section 7(f) below by May 1, 2015, of all necessary Governmental Authorizations for Pipeline to provide the Phase I service as contemplated herein and in the Phase I Service Agreements;

iii) Other pipelines having received and accepted in accordance with Section 7(f) by May 1, 2015, all necessary Governmental Authorizations to provide the subscriptions needed by Pipeline to provide the Phase I service contemplated herein and in the Phase I Service Agreements;

iv) Pipeline having received approval, no later than thirty (30) days after its acceptance of the certificates and authorizations specified in Section 7(a)(ii), from its Management Committee, or similar governing body, to proceed with taking the steps necessary to commence and provide the Phase I service contemplated herein and in the Phase I Service Agreements, including, without limitation, proceeding with the Project-related firm pipeline transportation arrangements with other pipelines; and

v) Pipeline's receipt, no later than thirty (30) days after its acceptance of the certificates and authorizations specified in Section 7(a)(ii) of all necessary authorizations, other than those specified in Section 7(a)(ii), required to provide Phase I service.

b) Pipeline's Conditions Precedent for Phase II Service.

i) Pipeline filing by April 1, 2015 the necessary requests with the FERC and/or NEB for approval to provide Phase II service as contemplated herein and in the Phase II Service Agreements;

ii) Subject to Section 7(d), Pipeline's receipt and acceptance in accordance with Section 7(f) by May 1, 2017, of all necessary Governmental Authorizations to construct, own, operate and maintain the Project facilities, all as described in Pipeline's applications as they may be amended from time to time, necessary to provide the Phase II service contemplated herein and in the Phase II Service Agreements;

iii) Pipeline (or Pipeline's owners or their respective affiliates) having received on or before May 1, 2017, a binding commitment from a financial institution(s) to provide the necessary financing of the construction of the Phase II facilities;

iv) Other pipelines having received and accepted in accordance with Section 7(f) by May 1, 2017, all necessary Governmental Authorizations to construct, own, operate and

maintain the Project facilities, all as described in their applications as they may be amended from time to time, necessary to provide the Phase II service contemplated herein and in the Phase II Service Agreements;

v) Pipeline receiving approval, no later than thirty (30) days after its acceptance of the certificates and authorizations specified in Section 7(b)(i), from its Management Committee, or similar governing body, to expend the capital necessary to construct the Project facilities and to proceed with the Project-related firm pipeline transportation arrangements with other pipelines for service on the Project facilities;

vi) Pipeline's receipt no later than four (4) months prior to the Phase II Service Commencement Date of all necessary authorizations required to construct the Project facilities necessary to provide the Phase II firm transportation service contemplated herein and in the Phase II Service Agreements, other than those specified in Section 7(b)(ii);

vii) Pipeline's procurement, no later than four (4) months prior to the Phase II Service Commencement Date, of all rights-of-way, easements or permits (in form and substance acceptable to Pipeline, acting reasonably) necessary for the construction and operation of the Project facilities;

viii) Pipeline's completion of construction of the Project facilities and all other facilities required to render the Phase II service for Customer and for other customers subscribing Phase II service pursuant to the Phase II Service Agreements and Pipeline being ready, able and authorized to place such facilities into gas service; and

ix) The completion of the construction of the facilities necessary to create the pipeline capacity subscribed to Pipeline as part of Phase II of the Project by other pipelines, as

applicable, and each such Party being ready, able and authorized to place such facilities into service.

c) Customer's Conditions Precedent.

i) Customer's receipt, no later than October 31, 2014, of the requisite internal corporate approvals for the performance of Customer's obligations under this Precedent Agreement and other agreements related to the service contemplated hereunder;

ii) Customer's acceptance, no later than 30 days following receipt of Initial Receipt Point Information in accordance with Section 1(c), of the initial receipt points proposed by the Pipeline for Phase II transportation service;

iii) Customer's confirmation to Pipeline, no later than November 1, 2014 for Phase I and no later than 90 days following receipt of the Estimated Phase II Commencement Date for Phase II, that it has completed its review and approval of regional supply necessary to support natural gas supply arrangements associated with Customer's service under the Phase I Service Agreements and the Phase II Service Agreements, respectively;

iv) If, pursuant Section 3(d)(ii), the Final Reservation Rates exceed the upper limit of the Estimated Reservation Rates Ranges, then Customer's receipt, no later than 60 days following receipt of the requisite internal corporate approvals of such Final Reservation Rates for Phase II;

v) Subject to Section 7(d), Customer's receipt and acceptance of the approvals from the OEB for its application related to Phase II no later than 240 days following receipt of the revised Reservation Rates for Phase II delivered pursuant to Section 3(d)(ii)(3); and

vi) Subject to Section 7(d), Customer's receipt and acceptance no later than 30 days following satisfaction of the condition in Section 7(c)(iii), of any necessary Customer Authorizations identified in accordance with Section 2 of this Precedent Agreement.

d) Temporary Waiver of Conditions Precedent – Governmental Authorizations. Notwithstanding Sections 7(a)(ii), 7(a)(iii), 7(b)(ii), 7(b)(iv), 7(c)(v) and 7(c)(vi) and subject to Section 24, either Party may, in its sole discretion, temporarily waive satisfaction of its conditions precedent listed above for a period of 90 days. During such a delay, upon reasonable request by the other Party, the Party waiving its condition precedent shall use commercially reasonable efforts to provide timely notices to the other Party in writing regarding the filing of any applications for such Governmental Authorizations or Customer Authorization, as the context requires, and will provide periodic updates regarding the status of such applications, including notice when each of the authorizations are received, obtained, rejected or denied. The Party temporarily waiving its condition precedent shall also promptly notify the other Party in writing as to whether each of the Governmental Authorizations or Customer Authorizations, as the context requires, received or obtained are acceptable to such Party. If the Party temporarily waiving its condition precedent has not satisfied the conditions precedent associated with the receipt of all Governmental Authorizations or Customer Authorizations, as the context requires, within ninety (90) days' time, either Party may terminate this Precedent Agreement on thirty (30) days' written notice and no Pre-Service Costs will be payable by Customer.

e) With respect to each condition precedent set forth in Sections 7(a) and 7(b) of this Precedent Agreement, with the exception of the conditions precedent set forth in clauses

(vii) and (viii) of Section 7(b), Pipeline shall provide notice to Customer within five (5) days of the satisfaction of such condition precedent that the condition precedent has been satisfied. With respect to each condition precedent set forth in Section 7(c) of this Precedent Agreement, Customer shall provide notice to Pipeline within five (5) days of the satisfaction of each such condition precedent that the condition precedent has been satisfied.

f) Unless otherwise provided for herein, the Governmental Authorization(s) contemplated in Section 1 of this Precedent Agreement must be issued in form and substance satisfactory to both Parties, acting reasonably. For purposes of this Precedent Agreement, such Governmental Authorization(s) shall be deemed satisfactory if issued or granted with terms and conditions which are: (i) consistent with this Precedent Agreement and all ancillary agreements and documents to be delivered pursuant to this Precedent Agreement for the applicable service; and (ii) to the extent not contemplated by this Precedent Agreement or any of the ancillary agreements and documents, not materially onerous on Pipeline, as determined by Pipeline, acting reasonably, and will not otherwise have a material adverse effect on Customer. Customer shall notify Pipeline in writing not later than fifteen (15) days after Pipeline notifies Customer of the issuance of the FERC and/or NEB certificate(s), authorization(s) and approval(s), including any order issued as a preliminary determination on non-environmental issues, contemplated in Section 1 of this Precedent Agreement if Customer determines, acting reasonably, that such certificate(s), authorization(s) and approval(s) will have a material adverse effect on Customer. Customer cannot assert that any authorization will have a material adverse effect on Customer unless: (i) the governing provisions of such authorization differ

materially and adversely from the provisions requested by Pipeline in its application, unless the provisions requested by Pipeline were inconsistent with the terms of this Precedent Agreement; and (ii) such differences materially and adversely affect the rate to be charged pursuant to the rate agreements contemplated herein, or the terms and conditions of service pursuant to the service agreements contemplated herein, and the Parties cannot mutually agree upon a modification or alternative to such provision which preserves the relative economic positions of the Parties under the operative agreement(s). All other Governmental Authorizations that Pipeline must obtain must be issued in form and substance acceptable to Pipeline, acting reasonably. All Governmental Authorizations that Pipeline is required by this Precedent Agreement to obtain must be duly granted by the FERC, NEB, or other governmental agency or authority having jurisdiction, and must be final and no longer subject to rehearing or appeal; provided, however, Pipeline may waive the requirement that such Governmental Authorizations be final and no longer subject to rehearing or appeal. If any of the Governmental Authorizations are issued on material terms not acceptable to either Party, subject to the foregoing provisions of this Section 7(f), then the non-accepting Party, acting reasonably, shall give notice to the other Party, and the Parties shall promptly meet and work in good faith in an attempt to agree upon a commercially acceptable resolution for both Parties, each Party in its sole discretion, to continue forward with respect to the Project. If, after thirty (30) days, the Parties are unable to agree upon a mutually acceptable resolution, either Party shall have the right to terminate this Precedent Agreement and, if executed, the applicable service agreements and rate agreements. Any termination of this Precedent Agreement by a Party pursuant to this Section will be without liability between

the Parties including in respect of the Customer being required to pay any Pre-Service Costs. Notwithstanding the foregoing, if the Parties cannot agree on a modification or alternate provision, Pipeline may, in its sole discretion, appeal or otherwise pursue rehearing, reconsideration or clarification by the applicable regulatory authority of any such provision(s) which Customer alleges will have a material adverse effect on it, and Customer may not terminate this Precedent Agreement until a final order or decision is rendered by such regulatory authority which does not grant relief that is satisfactory to Customer, acting reasonably, to address such material adverse effect, or 180 days from the date that Pipeline makes its application for rehearing, reconsideration or clarification, whichever occurs first.

g) The Customer Authorization(s) contemplated in Section 2 of this Precedent Agreement shall be deemed satisfactory if issued or granted in form and substance substantially as requested, or if issued in a manner acceptable to Customer and such Customer Authorization(s), as issued, will not otherwise have a material adverse effect on Pipeline. Pipeline cannot assert that any authorization will have a material adverse effect on Pipeline unless: (i) the governing provisions of such authorization differ materially and adversely from the provisions requested by Customer in its application, unless the provisions requested by Customer were inconsistent with the terms of this Precedent Agreement; and (ii) such differences materially and adversely affect the rate to be charged pursuant to the rate agreements contemplated herein, or the terms and conditions of service pursuant to the service agreements contemplated herein, and the Parties cannot mutually agree upon a modification or alternative to such provision which preserves the relative economic positions of the Parties under the operative agreement(s). If any of the

Customer Authorizations are issued on terms not acceptable to either Party, subject to the foregoing provisions of this Section 7(g), then the non-accepting Party shall give notice to the other Party, and the Parties shall promptly meet and work in good faith in an attempt to agree upon a commercially acceptable resolution for both Parties, each Party in its sole discretion, to continue forward with respect to the Project. If, after thirty (30) days, the Parties are unable to agree upon a mutually acceptable resolution, either Party shall have the right to terminate this Precedent Agreement and, if executed, the applicable service agreements and rate agreements. Any termination of this Precedent Agreement by a Party pursuant to this Section will be without liability between the Parties including in respect of the Customer being required to pay any Pre-Service Costs.

h) In the event the Estimated Phase II Commencement Date is changed to a date later than November 1, 2017 in accordance with Section 3(c), the Parties agree that each of the dates in Sections 3(d)(i)(ii), 7(b)(i) through 7(b)(iii), Sections 7(c)(ii) through 7(c)(iv), and Section 10 will be changed to a later date by the same amount of time as such change to the Estimated Phase II Commencement Date.

8) Pre-Service Costs. If: (a) Customer is in material breach of any of its material obligations arising pursuant to this Precedent Agreement; and (b) such material breach is not cured within 30 days of notice to Customer by Pipeline of such material breach, or if such material breach is not capable of being cured within 30 days; and (c) Customer is not continuing thereafter in good faith and with diligence to cure such breach; and (d) as a direct result of the occurrence and continuation of Sections 8(a), 8(b) and (8c) taken collectively, either or both of the Phase I Service Commencement Date or Phase II Service Commencement Date do not occur; then Customer shall, at the option and election of Pipeline, reimburse Pipeline

within thirty (30) days of Pipeline's invoice, for its pro-rata share, based on Customer's MDQ for Phase II service to total contracted MDQ for Phase II service by all customers with executed Precedent Agreements, for the Pre-Service Costs incurred or otherwise committed to by Pipeline up to the date of the occurrence of the material breach which resulted in the Phase I Service Commencement Date or Phase II Service Commencement Date, as applicable, to not occur. If it is only the Phase II Service Commencement Date which is impacted by Customer's material breach, then Customer shall only be liable for the Pre-Service Costs that were incurred by Pipeline in respect of matters which relate only to Phase II Service. In no event shall Customer's exposure to Pre-Service Costs exceed $219 million U.S. dollars. Customer's liability for its share of the Pre-Service Costs in accordance with this Section 8 constitutes a genuine pre-estimation of Pipeline's liquidated damages and not as a penalty, and the payment by Customer of such amount, if such payment is required to be made in accordance with this Section 8 shall constitute Pipeline's sole remedy in such instance, with no right to claim further damages or other remedies from Customer. If this Precedent Agreement is terminated for any reason other than a material breach by Customer, then such termination shall be without any liability on the part of Customer to Pipeline, including in respect of the Customer being required to pay any Pre-Service Costs. The term, "Pre-Service Costs" for all purposes in this Precedent Agreement means only those expenditures and/or costs reasonably and prudently incurred, accrued, allocated to, or for which Pipeline is contractually obligated to pay in furtherance of Pipeline's efforts to develop and construct the Project and to satisfy its obligations under this Precedent Agreement and all other precedent agreements for service on the Project facilities, including such expenditures associated with design, testing, engineering, construction, commissioning,

materials and equipment, environmental, regulatory, and/or legal activities, allowance for funds used during construction, negative salvage, internal overhead and administration and any other costs reasonably incurred in furtherance of Pipeline's efforts to develop and construct the Project and to satisfy its obligations under this Precedent Agreement and all other precedent agreements for service on the Project facilities. In the event Customer incurs liability for Pre-Service Costs, Pipeline shall use commercially reasonable efforts to mitigate the amount of Pre-Service Costs. NOTWITHSTANDING THE FOREGOING, 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 FOR 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.

9) Termination of Precedent Agreement for Failure of Conditions Precedent.

a) If the conditions precedent set forth in Section 7 of this Precedent Agreement have not been fully satisfied or waived by Pipeline or Customer, as applicable, by the earlier of the applicable dates specified therein, or for Phase I service, by November 1, 2016, or for Phase II service, within one year after the Estimate Phase II Service Commencement Date, and this Precedent Agreement has not otherwise been terminated pursuant to the other terms of this Precedent Agreement, including in respect of Sections 10 or 11 hereof, then this Precedent Agreement (and any Phase I Service Agreement or Phase II Service Agreement, as applicable) shall terminate effective 30 days after the date such condition precedent was to be satisfied or waived by the applicable Party and such termination shall be without liability including in respect of Customer being required to pay any Pre-Service Costs, except to the extent the failure is as a direct result of a material breach by a Party of its other obligations set forth in this Precedent Agreement.

b) For any termination in accordance with Section 9(a) above, the Parties agree to promptly meet and work diligently and in good faith for a period of 30 days following the date such condition precedent was to be satisfied or waived to attempt to agree upon changes to this Precedent Agreement that would allow the Precedent Agreement to continue, which may include a waiver of and/or change in the deadline for any of the conditions precedent that are the subject of such termination notice, provided that if the Parties are unable to come to an agreement upon changes that would allow the Precedent Agreement to continue, then this Precedent Agreement (and any Phase I Service Agreement or Phase II Service Agreement, as applicable) shall nonetheless terminate effective on the expiry of such 30 day period.

c) Any delay or failure in the performance by either Party hereunder shall be excused if and to the extent caused by the occurrence of a Force Majeure, provided that such Party claiming Force Majeure shall give written notice of the suspension of such performance for this reason as soon as reasonably possible to the other Party and stating the date and extent of such suspension and the cause thereof. The Party whose obligations have been suspended as aforesaid shall resume the performance of such obligations as soon as reasonably possible after the removal of the cause and shall so notify, in writing, the other Party that the suspension has terminated. Notwithstanding the foregoing, if any condition precedent set forth in Section 7 hereof has not been satisfied as a result of an occurrence of Force Majeure, the deadline for satisfying the condition precedent shall be extended for each day that the occurrence of Force Majeure continues up to a maximum of ninety (90) days or as mutually agreed to by the Parties. For purposes of this Precedent Agreement, "Force Majeure" as employed herein shall mean any cause, whether of the kind enumerated herein or otherwise, not within the reasonable control of the Party claiming suspension, and which by the exercise of due diligence, such Party has been unable to prevent or overcome, including without limitations acts of God, the government, or a public enemy; strikes, lockouts, or other industrial disturbances; wars, terrorism, blockades, or civil disturbances of any kind; epidemics, landslides, hurricanes, washouts, tornadoes, storms, fires, explosions, arrests, and restraints of governments or people, freezing of, breakage or accident to, or the necessity for making repairs to machinery or lines of pipe, and the inability of either the claiming Party to acquire, or the delays on the part of either of the claiming Party in acquiring, at reasonable cost and after the exercise of reasonable diligence: (a) any servitudes, rights of way, grants, permits or

licenses; (b) any materials or supplies for the construction or maintenance of facilities; or (c) any Governmental Authorizations, permits or permissions form any governmental agency; if such are required to enable the claiming Party to fulfill its obligations hereunder.

d) Notwithstanding any other provision of this Precedent Agreement, in the event that the Phase I Service Commencement Date has occurred and the Phase I firm transportation service can be provided, this Precedent Agreement provides no right for either Party to terminate the Phase I Service Agreements. Any right to terminate the Phase I Service Agreements following the occurrence of the Phase I Service Commencement Date shall be governed solely by the Phase I Service Agreements.

10) Termination for Default. The occurrence and continuation of a material breach by a Party of any of its obligations under this Precedent Agreement, unless caused by a breach by the other Party of its obligations under this Precedent Agreement is referred to herein as a “Default". Upon the occurrence of a Default by a Party hereto, the non-defaulting Party may provide written notice to the defaulting Party, describing the Default in reasonable detail and requiring the defaulting Party to remedy the Default (the "Default Notice"). If the Default is not cured within 30 days of receipt by the defaulting Party of the Default Notice, or if such breach is not capable of being cured within 30 days, and the defaulting Party is not continuing thereafter in good faith and with diligence to cure such Default, the non-defaulting Party may, by termination notice to the defaulting Party, terminate this Precedent Agreement effective on the tenth (10th) day following receipt of the termination notice by the defaulting Party; provided, however, that if during such ten (10) day period the defaulting Party has commenced to remedy the Default and is continuing in good faith its efforts to

remedy such Default, the entitlement of the non-defaulting Party to terminate this Precedent Agreement will be suspended until the earlier of the cessation by the defaulting Party of such efforts and the date which is ninety (90) days after the date of the Default Notice.

11) Other Pipeline Termination Rights. In addition to the provisions of Section 9 hereof, Pipeline may terminate this Precedent Agreement at any time upon fifteen (15) days' prior written notice to Customer, if: (i) Pipeline, in its sole and reasonable discretion, determines for any reason on or before October 1, 2016, that the Project contemplated herein is no longer economically viable, (ii) Pipeline incurs or will incur costs which are twenty-five percent (25%) or more than the cost estimate submitted as part of Pipeline's application to the FERC for the certificate of public convenience and necessity for the Project related to the Project construction, or (iii) on or before October 1, 2016, substantially all of the other precedent agreements, service agreements or other contractual arrangements for the firm transportation service to be made available by the Project are terminated, other than by reason of commencement of service. In the event Pipeline terminates this Precedent Agreement in accordance with this Section 11, Customer shall not be liable pursuant to Section 8 above for Pre-Service Costs.

12) Termination Upon Service Commencement Date; Survival. If this Precedent Agreement is not terminated pursuant to Sections 9, 10 or 11 hereof, or otherwise in accordance with the terms of this Precedent Agreement, then, except for those provisions herein that are stated to survive any termination of this Precedent Agreement, this Precedent Agreement will terminate by its express terms on the Phase I Service Commencement Date, with respect to Phase I transportation service, or the Phase II Service Commencement Date, with respect to Phase II transportation service, and thereafter Pipeline's and Customer's rights and

obligations related to the transportation service contemplated herein shall be determined pursuant to the terms and conditions of such Phase I Service Agreements and Phase I Rate Agreements and/or Phase II Service Agreements and Phase II Rate Agreements, as applicable, and Pipeline's FERC gas tariff and/or NEB gas tariff, as effective from time to time. Notwithstanding any termination of this Precedent Agreement, each Party shall remain liable to the other Party for all losses or damages suffered, sustained or incurred by the other Party as a result of a breach of any obligations of a Party which breach arose prior to termination of this Precedent Agreement, provided that Customer's liability shall only apply if and to the extent it is to be liable in accordance with Section 8 and, such liability, if any, shall not exceed its share of Pre-Service Costs determined in accordance with Section 8. Notwithstanding any termination of this Precedent Agreement pursuant to terms of this Precedent Agreement, to the extent that a provision of this Precedent Agreement contemplates that one or both Parties may have further rights and/or obligations hereunder following such termination, the provision shall survive such termination as necessary to give full effect to such rights and/or obligations.

13) Creditworthiness. At all times during the effectiveness of this Precedent Agreement and the related Service Agreement(s), Customer, pursuant to the criteria and terms set forth in this Section 13, shall either maintain a Creditworthy status, as defined below, or furnish sufficient credit support to Pipeline.

a) Creditworthiness Standard. Customer shall at all times during the effectiveness of this Precedent Agreement and the Service Agreement(s) be Creditworthy or provide the Guaranty or the Letter of Credit contemplated herein. For purposes herein, "Creditworthy" means, in respect of the applicable entity, such entity has and maintains:

(i) a long-term senior unsecured debt rating from (a) Moody's Investors Service, Inc. ("Moody's") of Baa3 or higher, and (b) Standard & Poor's ("S&P") of BBB- or higher and, with respect to each rating, not on negative credit watch or outlook, and (ii) a sufficient open line of credit as of the Effective Date. Pipeline acknowledges and agrees that, as of the effective date of this Precedent Agreement, Customer has a sufficient open line of credit with Pipeline and Customer shall not at any time hereafter be required to establish any line of credit in connection with this Precedent Agreement. If Customer is rated by only one of the foregoing credit rating agencies, Customer shall be creditworthy if it has the rating described in the foregoing sentence from the agency by which it is rated. If Customer is rated by both of the rating agencies described above but one such agency's rating is lower than the other agency's rating, then Customer's creditworthiness shall be determined based on the lower of the Moody's or S&P rating. Alternatively, Customer may be accepted as Creditworthy by Pipeline if Pipeline determines that, notwithstanding the absence of the rating requirements in this Section 13(a), the financial position of Customer (or an entity that guarantees all of Customer's payment obligations) is and remains acceptable to Pipeline during the term of the Precedent Agreement, the Phase I Service Agreements and the Phase II Service Agreements.

b) Failure to Meet Creditworthiness Standard. In the event Customer fails at any time or from time to time during the term of this Precedent Agreement or the applicable service agreements to meet the Creditworthy standard set forth in Section 13(a) (including if its Guarantor, if applicable is no longer Creditworthy), Customer shall provide credit support to Pipeline in the form of one of the following methods set forth in this Section 13(b):

i) Guaranty. Customer will provide, or cause to be provided, a guaranty (a "Guaranty") from Customer's parent company or from an affiliate (a "Guarantor"), provided the Guaranty shall serve to satisfy Customer's obligations under this Section 13 only if such Guarantor is Creditworthy, and only for so long as the Guarantor remains Creditworthy and for so long as it guarantees Customer's payment obligations and the Guaranty otherwise satisfies the requirements of this clause (i). The Guaranty shall: (a) guarantee all payment obligations of Customer under this Precedent Agreement, the Phase I Service Agreements and the Phase II Service Agreements, (b) remain in effect until all payment obligations under this Precedent Agreement, the Phase I Service Agreements and the Phase II Service Agreements have been satisfied in full, and (c) be in a form and content substantially similar to Exhibit D hereto. Pipeline may require, at any time and from time to time, Customer to provide, or cause to be provided, an additional guaranty from a Creditworthy guarantor if the original Guarantor is, at any time, no longer Creditworthy. If Customer becomes Creditworthy after providing a Guaranty, Customer may request a discharge and return of such Guaranty, and following such request Pipeline shall promptly provide such discharge and return.

ii) Letter of Credit. If, at any time and from time to time, during the effectiveness of this Precedent Agreement, the Phase I Service Agreements and/or the Phase II Service Agreements Customer fails to meet the requirements of Sections 13(a) and 13(b)(i) above, Customer shall provide, or cause to be provided, at its sole cost, a standby irrevocable letter of credit (a "Letter of Credit") from a Qualified Institution. For purposes herein, a "Qualified Institution" shall mean a major U.S. or Canadian

commercial bank, or the U.S. branch offices of a foreign bank, which is not the Customer or Customer's Guarantor (or a subsidiary or affiliate of the Customer or Customer's Guarantor) and which has assets of at least $10 billion dollars and a credit rating of at least "A-" by S&P, or "A3" by Moody's. Pipeline may require Customer at Customer's cost to substitute a Qualified Institution if the Letter of Credit provided is, at any time, from a financial institution which is no longer a Qualified Institution. The Letter of Credit shall: (i) remain in effect until all payment obligations under this Precedent Agreement, the Phase I Service Agreements and the Phase II Service Agreements have been satisfied in full, (ii) be in a form acceptable to Pipeline, which for purposes herein shall mean in form and content substantially similar to Exhibit E hereto, and (iii) be in the amount equal to twenty-four (24) months of reservation charges based on the MDQ and reservation rates under the Service Agreement(s). If Customer becomes Creditworthy after providing a Letter of Credit, Customer may request a discharge and return of such Letter of Credit, and following such request Pipeline shall promptly provide such discharge and return.

c) Demand for Assurances. At any time and from time to time, Pipeline shall have the right to require that Customer demonstrate Customer's, or its Guarantor's, continuing satisfaction of the creditworthiness and credit support requirements in this Section 13. Customer will have a period of five (5) business days to make such demonstration or to furnish credit support acceptable to Pipeline in accordance with this Section 13.

d) Failure to Comply. The failure of Customer to timely satisfy or maintain the requirements set forth in this Section 13 shall in no way relieve Customer of its other obligations under this Precedent Agreement, the Phase I Service Agreements and/or the

Phase II Service Agreements, nor shall it affect Pipeline's right to seek damages or performance under this Precedent Agreement and/or the Service Agreement(s). Further, if, prior to the earlier of the Phase I Service Commencement Date or the Phase II Service Commencement Date, Customer fails to timely satisfy or maintain the requirements set forth in this Section 13, then Pipeline may give written notice to Customer of such failure, and, if such failure is has not been cured within five (5) business days following the receipt by Customer of such notice, then Pipeline may elect to suspend or terminate performance under this Precedent Agreement, or to terminate this Precedent Agreement and, if applicable, the Phase I Service Agreements and/or the Phase II Service Agreements.

e) Term of Credit Provisions and Survival. This Section 13 shall survive the termination of this Precedent Agreement and shall remain in effect until all payment obligations under this Precedent Agreement, the Phase I Service Agreements and the Phase II Service Agreements, if applicable, have been satisfied in full.

f) Replacement Customer Creditworthiness. In the event Customer assigns this Precedent Agreement, the Phase I Service Agreements and/or the Phase II Service Agreements in accordance with the applicable assignment provision(s), or in the event Customer permanently releases all or a portion of Customer's capacity under the Phase I Service Agreements and/or Phase II Service Agreements in accordance with Pipeline's FERC Gas tariff and/or NEB Gas tariff, then the assignee and/or the permanent replacement customer, as applicable, shall be required to satisfy the requirements of this Section 13 with respect to all such assigned or replacement agreements, and upon satisfaction of the

requirements of this Section 13, Pipeline shall return to Customer any Guaranty or Letter of Credit which had been furnished by Customer pursuant to this Section 13.

14) Amendments. This Precedent Agreement may not be modified or amended unless the Parties execute written agreements to that effect.

15) Successors; Assignments. Any company which succeeds by purchase, merger, or consolidation of title to all or substantially all of the assets of a Party will be entitled to the rights and will be subject to the obligations of such Party in title under this Precedent Agreement, and in such respect, no consent to such an assignment shall be required from the other Party. In addition, this Precedent Agreement is assignable in whole or in part without the prior written consent of the Customer: (a) by Pipeline or either DTE or Spectra to either or both of: (i) NEXUS Gas Transmission, LLC; and (ii) NEXUS Gas Transmission Canada; (b) by Pipeline to any joint venture or similar collaborative entity created between DTE and Spectra, provided such entity is created for the sole purpose of advancing the Project (it being understood that it is the intention of DTE and Spectra to establish pipeline companies in the name of NEXUS Gas Transmission, LLC and NEXUS Gas Transmission Canada, or another joint venture or similar collaborative, to advance the Project); or (c) between DTE and Spectra, in respect of each Party's interests in the Project. Otherwise, neither Customer nor Pipeline may assign any of its rights or obligations under this Precedent Agreement without the prior written consent of the other Party hereto, such consent not to be unreasonably withheld. Notwithstanding the foregoing, Pipeline shall have the right, without obtaining Customer's consent, to pledge or assign its rights under this Precedent Agreement, the Phase I Service Agreements, the Phase II Service Agreements, the Phase I Rate Agreements and/or

the Phase II Rate Agreements as collateral security for indebtedness incurred by Pipeline (or by an affiliate of Pipeline) for the Project.

16) No Third-Party Rights. Except as expressly provided for in this Precedent Agreement, nothing herein expressed or implied is intended or shall be construed to confer upon or give to any person not a Party hereto any rights, remedies or obligations under or by reason of this Precedent Agreement.

17) Joint Efforts: No Presumptions. Each and every provision of this Precedent Agreement shall be considered as prepared through the joint efforts of the Parties and shall not be construed against either Party as a result of the preparation or drafting thereof. It is expressly agreed that no consideration shall be given or presumption made on the basis of who drafted this Precedent Agreement or any specific provision hereof.

18) Recitals and Representations. The recitals and representations appearing first above are hereby incorporated in and made a part of this Precedent Agreement.

19) Choice of Law. This Precedent Agreement shall be governed by, construed, interpreted, and performed in accordance with the laws of the State of Ohio, without recourse to any laws governing the conflict of laws.

20) Notices. Except as herein otherwise provided, any notice, request, demand, statement, or bill provided for in this Precedent Agreement, or any notice which either Party desires to give to the other, must be in writing and will be considered duly delivered when mailed by registered or certified mail or overnight courier or when provided by personal delivery or electronic mail to the other Party's address set forth below:

Pipeline: Vice President, Business Development
5400 Westheimer Court
Houston, TX 77056
brmckerlie@spectraenergy.com
Phone – (713) 627-4582
Fax – (713) 627-4727

Customer: Manager Transportation Acquisition
50 Keil Dr N, Chatham, Ontario, Canada
thodgson@uniongas.com
Phone - (519) 436-4606
Fax - (519) 436-4643

or at such other address as either Party designates by written notice. Routine communications, including monthly statements, will be considered duly delivered when mailed by registered mail, certified mail, ordinary mail, or overnight courier or when provided by electronic mail to the person and at the addresses noted above or as otherwise designated pursuant to this Section 20.

21) Waivers. The waiver by either Party of a breach or violation of any provision of this Precedent Agreement will not operate as or be construed to be a waiver of any subsequent breach or violation hereof.

22) Counterparts. This Precedent Agreement may be executed in any number of counterparts, each of which will be an original, but such counterparts together will constitute one and the same instrument.

23) Headings. The headings contained in this Precedent Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Precedent Agreement.

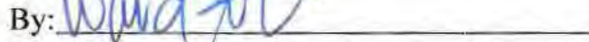
24) Governmental Authorizations. Notwithstanding any provision to the contrary, each provision of this Precedent Agreement shall be subject to all applicable laws, statutes, ordinances, regulations, rules, court decisions and Governmental Authorizations.

25) Definitions. Capitalized terms used herein have the meanings ascribed to them in the body of this Precedent Agreement, and for the purposes of reference only are listed in Exhibit F attached hereto.

[signature page follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Precedent Agreement to be duly executed by their duly authorized officers as of the day and year first above written.

DTE PIPELINE COMPANY



By: ______________________

Title: EVP

UNION GAS LIMITED

By: ______________________

Title: Mark J. Isherwood
Vice-President, Business Development, Storage & Transmission

By: ______________________

Title: ______________________

SPECTRA ENERGY TRANSMISSION, LLC

By: ______________________

Title: President

EXHIBIT A

Form of Service Agreement – U.S.

See Attached.

FORM OF FIRM TRANSPORTATION AGREEMENT
TRANSPORTATION AGREEMENT
FOR FIRM TRANSPORTATION (FT-1) OF NATURAL GAS

Firm Transportation Agreement No. __________

This TRANSPORTATION AGREEMENT FOR FIRM TRANSPORTATION OF NATURAL GAS ("Firm Transportation Agreement" or "Agreement") is made and entered into this ___ day of __________, _____, between:

("Transporter"),

and

__________, ("Shipper")

WITNESSETH: That in consideration of the mutual covenants contained herein the parties agree as follows:

Section 1. <u>Service to be Rendered</u>

Transporter shall perform and Shipper shall receive service in accordance with the provisions of Transporter's effective Rate Schedule FT-1 and the applicable General Terms and Conditions of Transporter's FERC Gas Tariff on file with the Federal Energy Regulatory Commission ("Commission") as the same may be amended or superseded in accordance with the Rules and Regulations of the Commission.

Section 2. <u>Representations and Warranties</u>

2.1 Representations and Warranties of Transporter. Transporter represents and warrants that: (i) it is duly organized and validly existing under the laws of the State of Delaware and has all requisite legal power and authority to execute this Agreement and carry out the terms, conditions and provisions thereof; (ii) this Agreement constitutes the valid, legal and binding obligation of Transporter, enforceable in accordance with the terms hereof; (iii) there are no actions, suits or proceedings pending or, to Transporter's knowledge, threatened against or affecting Transporter before any court of authorities that might materially adversely affect the ability of Transporter to meet and carry out its obligations under this Agreement; and (iv) the execution and delivery by Transporter of this Agreement has been duly authorized by all requisite partnership action.

2.2 Representations and Warranties of Shipper: Shipper represents and warrants that: (i) it is duly organized and validly existing under the laws of the State/Province of ____________ and has all requisite legal power and authority to execute this Agreement and carry out the terms, conditions and provisions hereof; (ii) there are no actions, suits or proceedings pending, or to Shipper's knowledge, threatened against or affecting Shipper before any court or authorities that might materially adversely affect the ability of Shipper to meet and carry out its obligations under this Agreement; and (iii) the execution and delivery by Shipper of this Agreement has been duly authorized by all requisite corporate action.

Section 3. Term

3.1 This Agreement shall be effective from the date hereof (the "Effective Date"). Transporter's obligation to provide Transportation Services and Shipper's obligation to accept and pay for such services, shall commence on ____________ for a term of ____________, unless otherwise agreed to by mutual agreement of the parties.

3.2 Shippers paying Negotiated Rates may extend the term of this Agreement under terms acceptable to Transporter.

Section 4. Rates

4.1 [Shipper shall pay the Recourse Rates in accordance with Transporter's currently effective Rate Schedule FT-1.]

OR

[Shipper shall pay Negotiated Rates in accordance with Transporter's currently effective Rate Schedule FT-1.]

Section 5. <u>Notices</u>

Unless herein provided to the contrary, any notice called for in this Agreement shall be in writing and shall be considered as having been given if delivered by certified mail or fax with all postage or charges prepaid, to either Transporter or Shipper, at the location designated herein. Written communications shall be considered as duly delivered when received by ordinary mail. Unless otherwise notified in writing, the addresses of the parties are as set forth herein.

Notices to Transporter under this Agreement shall be addressed to:

Notices to Shipper under this Agreement shall be addressed to:

____
____
____
____
____

Wire transfer payments to Transporter shall be accompanied with the instructions "to credit the account of "   " and shall be sent to the following bank and account number:

c/o:______________________________________
____
____
____

Remittance detail supporting wire transfer payments to Transporter, and any notice, request or demand regarding statements, bills, or payments shall be mailed to the following address:

Section 6. Superseded Agreements

This Agreement supersedes and cancels as of the effective date hereof the following agreements: _____________, _____________.

Section 7. Miscellaneous

7.1 This Agreement shall be interpreted according to the laws of the State of

7.2 Performance of this Agreement shall be subject to all valid laws, orders, decisions, rules and regulations of duly constituted governmental authorities having jurisdiction or control of any matter related hereto. Should either of the parties, by force of any such law, order, decision, rule or regulation, at any time during the term of this Agreement be ordered or required to do any act inconsistent with the provisions hereof, then for the period during which the requirements of such law, order, decision, rule or regulation are applicable, this Agreement shall be deemed modified to conform with the requirement of such law, order, decision, rule or regulation; provided, however, nothing in this section 7.2 shall alter, modify or otherwise affect the respective rights of the parties to cancel or terminate this Agreement under the terms and conditions hereof.

7.3 A waiver by either party of any one or more defaults by the other hereunder shall not operate as a waiver of any future default or defaults, whether of a like or of a different character.

7.4 This Agreement may only be amended by an instrument in writing executed by both parties hereto.

7.5 Nothing in this Agreement shall be deemed to create any rights or obligations between the parties hereto after the expiration of the term set forth herein, except that termination of this Agreement shall not relieve either party of the obligation to correct any quantity imbalances or Shipper of the obligation to pay any amounts due hereunder to Transporter.

7.6 Exhibit A attached hereto is incorporated herein by reference and made a part hereof for all purposes.

7.7 The parties hereby agree, subject to the primary jurisdiction of the Commission, that any dispute arising out of or relating to this Agreement, or any breach thereof shall be submitted to final and binding arbitration in _______________, in accordance with the Rules of Commercial Arbitration of the American Arbitration Association (AAA) then in effect. The dispute shall be decided by a panel of three neutral arbitrators, qualified by education, training, and experience to hear the dispute, chosen as follows. The party initiating the arbitration proceeding shall name one arbitrator at the time it notifies the other party of its intention to arbitrate their dispute, and the responding party shall name an arbitrator within fifteen (15) days of receiving the above notification. Within twenty (20) days of the appointment of the second arbitrator, the two arbitrators shall select a third arbitrator to act as chairman of the tribunal. If either party fails to appoint an arbitrator within the allotted time or the two party-appointed, neutral arbitrators fail to appoint a third arbitrator as provided above, the AAA shall appoint the arbitrator(s). Any vacancies will be filled in accordance with the above procedure. The parties expressly agree to the consolidation of separate arbitral proceedings for the resolution in a single proceeding of all disputes that arise from the same factual situation, and the parties further expressly agree that any issue of arbitrability or the existence, validity, and scope of the agreement to arbitrate shall be decided by the arbitrators. The parties further agree that either party may apply to a court of competent jurisdiction, pending arbitration, for injunctive relief to preserve the status quo, to preserve assets, or to protect documents from loss or destruction, and such application will not be deemed inconsistent with or operate as a waiver of the party's right to arbitration. The arbitrators shall apply as the substantive law to the dispute the laws of the State of _______________ as specified in section 7.1 of this Agreement.

Section 8. Negotiable Terms

Transporter and Shipper mutually agree to the following terms and conditions of service under this Agreement. Where blank spaces are not filled in, the parties have not reached an agreement on that matter and the referenced provision of the General Terms and Conditions (GT&C) applies.

Pursuant to GT&C section , the following rate discount(s) apply:

____

____.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement in one or more counterparts, which counterparts shall constitute one integrated agreement, by their duly authorized officers effective as of the day first above written.

Date:______________________ By:______________________________

Title:____________________________

SHIPPER:________________________

Date:______________________ By:______________________________

Title:____________________________

Exhibit A
To
Firm Transportation Agreement No. ______
Under Rate Schedule FT-1 Between
and __________________

Primary Term: ________________
Contracted Capacity: ________________ Dth/Day
Primary Receipt Points: ________________
Primary Delivery Points: ________________
Rate Election (Recourse or Negotiated): ________________

Issued On:

Effective On:

EXHIBIT B

Form of Service Agreement – Canada

See Attached.

FORM OF FT-__ FIRM TRANSPORTATION AGREEMENT

TRANSPORTATION AGREEMENT
FOR FT-__ FIRM TRANSPORTATION OF NATURAL GAS

Firm Transportation Agreement No. ___________

This TRANSPORTATION AGREEMENT FOR FT-__ FIRM TRANSPORTATION OF NATURAL GAS (**"FT-__ Firm Transportation Agreement" or "Agreement"**) is made and entered into this __ day of ____, __, between:

("Transporter"),

and

____________, ("Shipper").

Witnesseth: That in consideration of the mutual covenants contained herein the parties agree as follows:

Section 1. Service to be Rendered

Transporter shall perform and Shipper shall receive service in accordance with the provisions of Transporter's effective Toll Schedule FT-__ and the applicable General Terms and Conditions of Transporter's Gas Tariff on file with the National Energy Board ("NEB") as the same may be amended or superseded in accordance with the rules, regulations and legislation of the NEB.

Section 2. Term

2.1 This Agreement shall be effective from the date hereof (the "Effective Date"). Transporter's obligation to provide Transportation Services and Shipper's obligation to accept and pay for such services, shall commence on _____________ for a term of _____________, unless otherwise agreed to by mutual agreement of the parties.

2.2 Shippers paying negotiated tolls may extend the term of this Agreement under terms acceptable to Transporter.

Section 3. Tolls

[Shipper shall pay the maximum toll in accordance with Transporter's currently effective Toll Schedule FT-__.]

OR

[Shipper shall pay negotiated toll in accordance with Transporter's currently effective Toll Schedule FT-__.]

Section 4. Notices

Unless herein provided to the contrary, any notice called for in this Agreement shall be in writing and shall be considered as having been given if delivered by certified mail or fax with all postage or charges prepaid, to either Transporter or Shipper at the location designated herein. Written communications shall be considered as duly delivered when received by ordinary mail. Unless otherwise notified in writing, the addresses of the parties are as set forth herein.

Notices to Transporter under this Agreement shall be addressed to Transporter's Web Site (, or to:

Notices to Shipper under this Agreement shall be addressed to:

Wire transfer payments to Transporter shall be accompanied with the instructions "to credit the account of ," and shall be sent to the following bank and account number:

Remittance detail supporting wire transfer payments to Transporter, and any notice, request or demand regarding statements, bills, or payments shall be mailed to the following address:

Section 5. Superseded Agreements

This FT-__ Firm Transportation Agreement supersedes and cancels as of the effective date hereof the following agreements:

__________, __________

Section 6. Miscellaneous

6.1 This Agreement shall be interpreted according to the laws of the Province of Ontario.

6.2 Performance of this Agreement shall be subject to all valid laws, orders, decisions, rules and regulations of duly constituted governmental authorities having jurisdiction or control of any matter related hereto. Should either of the parties, by force of any such law, order decision, rule or regulation, at any time during the term of this Agreement be ordered or required to do any act inconsistent with the provisions hereof, then for the period during which the requirements of such law, order, decision, rule or regulation are applicable, this Agreement shall be deemed modified to conform with the requirement of such law, order, decision, rule or regulation; provided, however, nothing in this section 6.2 shall alter, modify or otherwise affect the respective rights of the parties to cancel or terminate this Agreement under the terms and conditions hereof.

6.3 A waiver by either party of any one or more defaults by the other hereunder shall not operate as a waiver of any future default or defaults, whether of a like or of a different character.

6.4 This Agreement may only be amended by an instrument in writing executed by both parties hereto.

6.5 Nothing in this Agreement shall be deemed to create any rights or obligations between the parties hereto after the expiration of the term set forth herein, except that termination of this Agreement shall not relieve either party of the obligation to correct any quantity imbalances or Shipper of the obligation to pay any amounts due hereunder to Transporter.

6.6 Exhibit A attached hereto is incorporated herein by reference and made a part hereof for all purposes.

6.7 The parties hereby agree, subject to the primary jurisdiction of the National Energy Board, that any dispute arising out of or relating to this Agreement or any breach thereof shall be submitted to final and binding arbitration in in accordance with the Commercial Arbitration Rules and Mediation Procedures of the American Arbitration Association (AAA) then in effect. The dispute shall be decided by a panel of three neutral arbitrators, qualified by education, training, and experience to hear the dispute, chosen as follows. The party initiating the arbitration proceeding shall name one arbitrator at the time it notifies the other party of its intention to arbitrate their dispute, and the responding party shall name an arbitrator within fifteen (15) days of receiving the above notification. Within twenty (20) days of the appointment of the second arbitrator, the two arbitrators shall select a third arbitrator to act as chairman of the tribunal. If either party fails to appoint an arbitrator within the allotted time or the two party-appointed, neutral arbitrators fail to appoint a third arbitrator as provided above, the AAA shall appoint the arbitrator(s). Any vacancies will be filled in accordance with the above procedure. The parties expressly agree to the consolidation of separate arbitral proceedings for the resolution in a single proceeding of all disputes that arise from the same factual situation, and the parties further expressly agree that any issue of arbitrability or the existence, validity, and scope of the agreement to arbitrate shall be decided by the arbitrators. The parties further agree that either party may apply to a court of competent jurisdiction, pending arbitration, for injunctive relief to preserve the status quo, to preserve assets, or to protect documents from loss or destruction, and such application will not be deemed inconsistent with or operate as a waiver of the party's right to arbitration. The arbitrators shall apply as the substantive law to the dispute the laws of , as specified in section 6.1 of this Agreement.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement in one or more counterparts, which counterparts shall constitute one integrated agreement, by their duly authorized officers effective as of the day first above written.

______________________ By: ______________________________

Date

Title: ______________________________

(Shipper)

By: ______________________________

____
Date

Title: ______________________________

Exhibit A
To
FT-__ Firm Transportation Agreement No. ____
Under Toll Schedule FT-__
Between
and ______________

Primary Term: ______________
Contracted Capacity: ______________ GJ/day
Primary Receipt Points: ______________
Primary Delivery Points: ______________
Toll Election (maximum or negotiated): ______________
Hourly Delivery Period (FT-H only): ______________ hours
Hourly Delivery Quantity (FT-H only): ______________ GJ/hour

EXHIBIT C

Capital Cost Tracking Adjustment for Statement of Negotiated Rates

New US Phase II Facilities

Capital Cost Estimate U.S. Pipeline and Customer acknowledge that the capital costs attributable to the construction of the U.S. portion of the Phase II Facilities that are required to be constructed and owned by Pipeline or constructed and owned by third parties on third party owned existing pipeline systems for the provision of transportation service in Phase II (the "**New US Phase II Facilities**"), which capital costs will underlie a portion of the Reservation Rate for firm transportation service for Phase II are reasonably estimated to be $1,625,000,000.00 (U.S.). In accordance with Section 3(d)(ii)(3) of the Precedent Agreement, Pipeline will deliver to Customer a final capital cost estimate (the "**Final U.S. Capital Cost Estimate**") for the New US Phase II Facilities, which estimate will underlie a portion of the Final Reservation Rate (as defined in Section 3(d)(ii)(3) of the Precedent Agreement) for firm transportation service for Phase II (as further described in the final revised Rate Breakdown to be provided by Pipeline to Customer in accordance with Section 3(d)(ii)(3)). The Final U.S. Capital Cost Estimate will be provided substantially in the same form as in Exhibit K – Cost of Facilities (as defined in the Federal Energy Regulatory Commission's Code of Federal Regulations) ("**Exhibit K**") and will be included with the certificate application filed by Pipeline with the Federal Energy Regulatory Commission ("**Commission**") for the Project.

Negotiated Reservation Rate Adjustment. The Final Reservation Rate will be adjusted, pursuant to the provisions set forth herein, to reflect any differences between the Final U.S. Capital Cost Estimate and the actual amount of capital costs attributable to the New US Phase II Facilities.

Pipeline will adjust the portion of the Final Reservation Rate attributable to the New US Phase II Facilities as set forth in the final revised Rate Breakdown (the "**New U.S. Facility Rate Portion**") at least thirty (30) days, but not more than sixty (60) days, prior to the Phase II Service Commencement Date. The adjustment to the New U.S. Facility Rate Portion will be based on a comparison between the Final U.S. Capital Cost Estimate and an updated cost report prepared by Pipeline and provided to Customer which updates the estimate of the capital costs for the New US Phase II Facilities, substantially in the form of an Exhibit K (the "**Updated U.S. Capital Cost**"). Pipeline will file such Updated U.S. Capital Cost report with the Commission at least thirty (30) days, but not more than sixty (60) days, prior to the Phase II Service Commencement Date.

In making the adjustment described above, Pipeline will adjust the New U.S. Facility Rate Portion to reflect the percentage increase or decrease between the Updated U.S. Capital Cost and the Final U.S. Capital Cost Estimate. In the event that the Updated U.S. Capital Cost exceeds the Final U.S. Capital Cost Estimate, the New U.S. Facility Rate Portion of the Final Reservation

Rate will be adjusted upward by multiplying it to the ratio of the Updated U.S. Capital Cost to the Final U.S. Capital Cost Estimate; provided that if the Updated U.S. Capital Cost exceeds the Final U.S. Capital Cost Estimate by more than 15%, then the multiplier to the New U.S. Facility Rate Portion will be 1.15. In the event that the Updated U.S. Capital Costs are less than the Final U.S. Capital Cost Estimate, the New U.S. Facility Rate Portion of the Final Reservation Rate will be adjusted downward by multiplying it to the ratio of the Updated U.S. Capital Cost to the Final U.S. Capital Cost Estimate; provided that if the Updated U.S. Capital Cost is less than the Final U.S. Capital Cost Estimate by more than 15%, then the multiplier to the New U.S. Facility Rate Portion will be .85.

Pipeline will make a final adjustment to the New U.S. Facility Rate Portion no later than 210 days after the Phase II Service Commencement Date. In making the final adjustment, Pipeline shall prepare and provide to Customer a final cost report which sets forth the actual capital costs for the New US Phase II Facilities, substantially in the form of an Exhibit K ("**Final U.S. Capital Costs**"). In the event the Final U.S. Capital Costs exceed the Updated U.S. Capital Costs, then the New U.S. Facility Rate Portion of the Final Reservation Rate will be adjusted upward by multiplying it to the ratio of the Final U.S. Capital Costs to the Updated U.S. Capital Costs; provided that, in any event, the maximum upward adjustment to the New U.S. Facility Rate Portion shall be capped at 1.15 of what was set forth in the Rate Breakdown for the New U.S. Facility Rate Portion provided by Pipeline at the time it delivered the Final Reservation Rate pursuant to Section 3(d)(ii)(3). In the event the Final U.S. Capital Costs are less than the Updated U.S. Capital Costs, then the New U.S. Facility Rate Portion of the Final Reservation Rate will be adjusted downward by multiplying it to the ratio of the Final U.S. Capital Costs to the Updated U.S. Capital Costs; provided that, in any event, the maximum downward adjustment to the New U.S. Facility Rate Portion shall be capped at .85 of what was set forth in the Rate Breakdown for the New U.S. Facility Rate Portion provided by Pipeline at the time it delivered the Final Reservation Rate pursuant to Section 3(d)(ii)(3).

In the event that the adjusted Reservation Rate decreases because the Final U.S. Capital Costs are less than the Updated U.S. Capital Costs, Pipeline will refund Customer an amount (including interest at the Commission's approved interest rate pursuant to 18 C.F.R. §154.501, hereafter the "**FERC Interest Rate**") equal to the difference between the revenue received from Customer for the time period that Customer paid the higher rate and the revenue that Pipeline would receive for such time period had Customer paid the adjusted rate. In the event that the adjusted Reservation Rate increases because the Final U.S. Capital Costs are more than the Final U.S. Capital Cost Estimate, Customer will pay Pipeline an amount (including interest at the FERC Interest Rate) equal to the difference between the revenue received from Customer for the time period that Customer paid the lower rate and the revenue that Pipeline would have received for the time period had Customer paid the adjusted rate.

<u>Recourse Reservation Rate Adjustment</u>. In the case of an upward adjustment to the Final Reservation Rate, Pipeline will file the Updated U.S. Capital Cost report, together with an adjusted recourse rate applicable to transportation service for Phase II, with the Commission at least thirty (30) days, but no more than sixty (60) days, prior to the Phase II Service Commencement Date. In the case of a downward adjustment to the Final Reservation Rate, Pipeline has the right, but not any obligation, to prepare and file such Updated U.S. Capital Cost

report and/or an adjustment to the recourse rate applicable to transportation service for Phase II with the Commission.

Cost Reports. Pipeline will prepare the Updated U.S. Capital Cost report in accordance with Section 157.14(a)(13) of Title 18 of the Code of Federal Regulations. Such report will reflect Pipeline's reasonable good faith estimate at the time of the total capital costs attributable to New US Phase II Facilities as constructed. Pipeline will prepare the Final U.S. Capital Cost report in accordance with Section 157.14(a)(13) of Title 18 of the Code of Federal Regulations. Such report will reflect Pipeline's actual capital costs attributable to the New US Phase II Facilities as constructed.

New Canadian Phase II Facilities

Capital Cost Estimate Canada. Pipeline and Customer acknowledge that the capital costs attributable to the construction of the Canadian portion of the Phase II Facilities that are required to be constructed and owned by Pipeline or constructed and owned by third parties on third party owned existing pipeline systems for the provision of transportation service in Phase II (the "**New Canadian Phase II Facilities**"), which capital costs will underlie a portion of the Reservation Rate for firm transportation service for Phase II are reasonably estimated to be $0.00 (Cdn.). In accordance with Section 3(d)(ii)(3) of the Precedent Agreement, Pipeline will deliver to Customer a final capital cost estimate (the "**Final Canada Capital Cost Estimate**") for the New Canadian Phase II Facilities, which estimate will underlie a portion of the Final Reservation Rate (as defined in Section 3(d)(ii)(3) of the Precedent Agreement) for firm transportation service for Phase II (as further described in the final revised Rate Breakdown to be provided by Pipeline to Customer in accordance with Section 3(d)(ii)(3)). The Final Canada Capital Cost Estimate will be provided substantially in the same form as a Class III Estimate and will be included with the certificate application filed by Pipeline with the National Energy Board of Canada ("**NEB**") for the Project.

Negotiated Reservation Rate Adjustment. The Final Reservation Rate will be adjusted, pursuant to the provisions set forth herein, to reflect any differences between the Final Canada Capital Cost Estimate and the actual amount of capital costs attributable to the New Canadian Phase II Facilities.

Pipeline will adjust the portion of the Final Reservation Rate attributable to the New Canada Phase II Facilities as set forth in the final revised Rate Breakdown (the "**New Canada Facility Rate Portion**") at least thirty (30) days, but not more than sixty (60) days, prior to the Phase II Service Commencement Date. The adjustment to the New Canada Facility Rate Portion will be based on a comparison between the Final Canada Capital Cost Estimate and an updated cost report prepared by Pipeline and provided to Customer which updates the estimate of the capital costs for the New Canada Phase II Facilities, substantially in the form of a Class III Estimate (the "**Updated Canada Capital Cost**"). If required, Pipeline will file such Updated Canada Capital Cost report with the NEB at least thirty (30) days, but not more than sixty (60) days, prior to the Phase II Service Commencement Date.

In making the adjustment described above, Pipeline will adjust the New Canada Facility Rate

Portion to reflect the percentage increase or decrease between the Updated Canada Capital Cost and the Final Canada Capital Cost Estimate. In the event that the Updated Canada Capital Cost exceeds the Final Canada Capital Cost Estimate, the New Canada Facility Rate Portion of the Final Reservation Rate will be adjusted upward by multiplying it to the ratio of the Updated Canada Capital Cost to the Final Canada Capital Cost Estimate; provided that if the Updated Canada Capital Cost exceeds the Final Canada Capital Cost Estimate by more than 15%, then the multiplier to the New Canada Facility Rate Portion will be 1.15. In the event that the Updated Canada Capital Costs are less than the Final Canada Capital Cost Estimate, the New Canada Facility Rate Portion of the Final Reservation Rate will be adjusted downward by multiplying it to the ratio of the Updated Canada Capital Cost to the Final Canada Capital Cost Estimate; provided that if the Updated Canada Capital Cost is less than the Final Canada Capital Cost Estimate by more than 15%, then the multiplier to the New Canada Facility Rate Portion will be .85.

Pipeline will make a final adjustment to the New Canada Facility Rate Portion no later than 210 days after the Phase II Service Commencement Date. In conducting the final adjustment, Pipeline shall prepare and provide to Customer a final cost report which sets forth the actual capital costs for the New Canada Phase II Facilities ("**Final Canada Capital Costs**"). In the event the Final Canada Capital Costs exceeds the Updated Canada Capital Costs, then the New Canada Facility Rate Portion of the Final Reservation Rate will be adjusted upward by multiplying it to the ratio of the Final Canada Capital Costs to the Updated Canada Capital Costs; provided that, in any event, the maximum upward adjustment to the New Canada Facility Rate Portion shall be capped at 1.15 of what was set forth in the Rate Breakdown for the New Canada Facility Rate Portion provided by Pipeline at the time it delivered the Final Reservation Rate pursuant to Section 3(d)(ii)(3). In the event the Final Canada Capital Costs are less than the Updated Canada Capital Costs, then the New Canada Facility Rate Portion of the Final Reservation Rate will be adjusted downward by multiplying it to the ratio of the Final Canada Capital Costs to the Updated Canada Capital Costs; provided that, in any event, the maximum downward adjustment to the New Canada Facility Rate Portion shall be capped at .85 of what was set forth in the Rate Breakdown for the New Canada Facility Rate Portion provided by Pipeline at the time it delivered the Final Reservation Rate pursuant to Section 3(d)(ii)(3).

In the event that the adjusted Reservation Rate decreases because the Final Canada Capital Costs are less than the Updated Canada Capital Costs, Pipeline will refund Customer an amount (including interest at the NEB's approved interest rate, hereafter the "**Interest Rate**") equal to the difference between the revenue received from Customer for the time period that Customer paid the higher rate and the revenue that Pipeline would have received for the time period had Customer paid the adjusted rate. In the event that the adjusted Reservation Rate increases because the Final Canada Capital Costs are more than the Final Canada Capital Cost Estimate, Customer will pay Pipeline an amount (including interest at the Interest Rate) equal to the difference between the revenue received from Customer for the time period that Customer paid the lower rate and the revenue that Pipeline would have received for the time period had Customer paid the adjusted rate.

Recourse Reservation Rate Adjustment. In the case of an upward adjustment to the Final Reservation Rate and if required, Pipeline will file the Updated Canada Capital Cost report,

together with an adjusted recourse rate applicable to transportation service for Phase II, with the NEB at least thirty (30) days, but no more than sixty (60) days, prior to the Phase II Service Commencement Date. In the case of a downward adjustment to the Final Reservation Rate and if required, Pipeline will file such Updated Canada Capital Cost report and/or an adjustment to the recourse rate applicable to transportation service for Phase II with the NEB.

Cost Report. The Updated Canada Capital Cost report will reflect Pipeline's reasonable good faith estimate at the time of the total capital costs attributable to New Canadian Phase II Facilities as constructed. Pipeline will prepare the Final Canada Capital Costs report substantially in the same form as a Class III Estimate included with the certificate application filed by Pipeline with the NEB. Such report will reflect Pipeline's actual capital costs attributable to the New Canada Phase II Facilities as constructed.

EXHIBIT D

Form of Guarantee

See Attached.

GUARANTY

This Guaranty ("Guaranty"), dated as of _____________, is made by ____________________, a [state and corporate structure] ("Guarantor"), in favor of ____________ a [state & corporate structure] ("Beneficiary").

WHEREAS, from time to time, ________________, a ________________ [state and corporate structure] ("Counterparty"), and Beneficiary may enter into one or more contracts, agreements and commitments for the storage or transportation of natural gas (referred collectively as "Agreement");

WHEREAS, Counterparty is a wholly-owned subsidiary of Guarantor; and Guarantor will directly or indirectly benefit from the Agreement to be entered into between Counterparty and Beneficiary; and

WHEREAS, as an inducement to Beneficiary to enter into the Agreement, Guarantor has agreed to provide this Guaranty; and

WHEREAS, Guarantor has agreed to execute and deliver this Guaranty with respect to Counterparty's payment obligations under the Agreement.

NOW THEREFORE, in consideration of the premises, Guarantor hereby agrees as follows:

1. Guaranty. Guarantor hereby absolutely, irrevocably and unconditionally guarantees the timely payment when due of Counterparty's payment obligations arising under any Agreement, as such Agreement may be amended or modified from time to time, together with any interest thereon and fees and costs of collection (including attorney's fees and court costs) in connection therewith ("Obligation"). In the event Counterparty defaults in the payment of any of the Obligation, within ten (10) days after receiving written notice from Beneficiary, Guarantor shall make such payment or otherwise cause same to be paid. This Guaranty may be enforced by Beneficiary at any time without the necessity of first resorting to or exhausting any other security or collateral. All amounts payable by Guarantor hereunder shall be in freely transferable funds.

2. Effectiveness. This Guaranty is effective as of the date set forth above and is a continuing guaranty which shall remain in full force and effect throughout the term of the Agreement, including any extensions or renewals thereof, until Guarantor has completely fulfilled the Obligation. If at any time during the effectiveness of this Guaranty, Guarantor no longer qualifies as Creditworthy as defined in Paragraph XX of that certain precedent agreement between Counterparty and Beneficiary dated _____ ("Precedent Agreement"), Guarantor shall, or shall cause Counterparty to, immediately provide the collateral specified in Paragraph XX(X) of the Precedent Agreement.

3. Waivers. (a) Guarantor waives any right to require as a condition to its obligations hereunder any of the following should Beneficiary seek to enforce the obligations of Guarantor:

(i) presentment, demand for payment, notice of dishonor or non-payment, protest, notice of protest, or any similar type of notice;

(ii) any suit be brought against, or any other action be brought against, or any notice of default or other similar notice be given to, or any demand be made upon Counterparty or any other person or entity;

(iii) notice of acceptance of this Guaranty, of the creation or existence of the Obligation, and/or any action by Beneficiary in reliance hereon or connection herewith;

(iv) notice of entering into any Agreement between Counterparty and Beneficiary, and/or any amendments, supplements or modifications thereto, or any waiver of consent under any Agreement, including waiver of the payment and performance of the Obligation thereunder; and/or

(v) notice of any increase, reduction or rearrangement of Counterparty's Obligation under any Agreement, or any extension of time for payment of any amounts due Beneficiary under any Agreement.

(b) Guarantor also waives the right to require, substantively or procedurally, that a judgment has been previously rendered against Counterparty or any other person or entity, or that Counterparty or any other person or entity be joined in any action against Guarantor.

4. **Assignment.** Guarantor shall not assign its duties hereunder without the prior written consent of Beneficiary. Beneficiary shall be entitled to assign its rights hereunder in its sole discretion upon prior written notice to Guarantor. Any assignment without such prior written consent or notice, as applicable, shall be null and void and of no force or effect.

5. **Notice.** All demands, notices or other communications to be given by any party to another must be in writing and shall be deemed to have been given when delivered personally or otherwise actually received or on the third (3rd) day after being deposited in the United States mail if registered or certified, postage prepaid, or one (1) day after delivery to a nationally recognized overnight courier service, fee prepaid, return receipt requested, and addressed as follows:

Guarantor's Name & Address	Beneficiary's Name & Address
____________________	____________________
____________________	____________________
____________________	____________________
____________________	____________________
____________________	____________________
	____________________

or such other addresses as they may change from time to time by giving prior written notice to the other party.

6. **Applicable Law.** THIS GUARANTY SHALL IN ALL RESPECTS BE GOVERNED BY, ENFORCED UNDER AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF ____________.

7. **Effect of Certain Events.** Guarantor agrees that its liability hereunder will not be released, reduced, impaired or affected by the occurrence of any one or more of the following events:

(i) the insolvency, bankruptcy, reorganization, or disability of Counterparty;
(ii) the renewal, consolidation, extension, modification or amendment from time to time of the Agreement;
(iii) the failure, delay, waiver, or refusal by Beneficiary to exercise any right or remedy held by Beneficiary with respect to the Agreement;
(iv) the sale, encumbrance, transfer or other modification of the ownership of Counterparty or the change in the financial condition or management of Counterparty; or
(v) the settlement or compromise of any Obligation.

8. **Representations and Warranties.** Guarantor hereby represents and warrants the following:

(i) Guarantor is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has full corporate power to execute, deliver and perform this Guaranty;
(ii) the execution, delivery and performance of this Guaranty have been and remain duly authorized by all necessary corporate action and do not contravene Guarantor's constitutional documents or any contractual restriction binding on Guarantor or its assets; and

(iii) this Guaranty constitutes the legal, valid and binding obligation of Guarantor enforceable against Guarantor in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization and other similar laws and to general principles of equity.

9. Subrogation. Until all amounts which may be or become payable under the Agreement have been irrevocably and indefeasibly paid in full, Guarantor shall not by virtue of this Guaranty be subrogated to any rights of Counterparty or claim in competition with Beneficiary against Counterparty in connection with any matter relating to or arising from the Obligation or this Guaranty. If any amount shall be paid to Guarantor on account of such subrogation rights at any time before all of the Obligation has been irrevocably paid in full, such amounts shall be held in trust for the benefit of Beneficiary and shall promptly be paid to Beneficiary to be applied to the Obligation.

10. Amendment. No term or provision of this Guaranty shall be amended, modified, altered, waived, supplemented or terminated unless first agreed to by Guarantor and Beneficiary and then set forth in a written amendment to this Guaranty.

11. Counterparts. This Guaranty may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one document.

12. Entire Agreement. This Guaranty embodies the entire agreement and understanding between Guarantor and Beneficiary regarding payment of the Obligation under the Agreement and supersedes all prior agreements and understandings relating to the subject matter hereof.

IN WITNESS WHEREOF, Guarantor has executed this Guaranty effective as of the date first herein written.

GUARANTOR' S NAME

By:______________________________

Name:____________________________

Title:____________________________

EXHIBIT E

Form of Letter of Credit

See Attached.

IRREVOCABLE STANDBY LETTER OF CREDIT

Letter of Credit No:__________ **Date:________________, 20__**

Date of Expiry: __________, 20__

Beneficiary:

Account Party:
(Complete Legal Name)
(Address)
(City, State, Zip)

Attn: Credit Director

[Name of Bank] ("Issuing Bank") hereby establishes this Irrevocable and Transferable Standby Letter of Credit No. __________ in favor of [Spectra entity name] ("Beneficiary") for the account of [Account Party Name] ("Account Party") for the aggregate amount of up to (*dollar amount*) available to Beneficiary by presenting sight draft(s) to Issuing Bank when accompanied by a signed and dated statement by an authorized representative of Beneficiary certifying one or more of the following, as applicable:

1. "The amount drawn herein is to satisfy obligations of Account Party between Beneficiary and Account Party. Wherefore, the undersigned Beneficiary does hereby demand payment of $__________. Beneficiary further certifies that supporting documents when required were presented to Account Party and that Account Party has not satisfied its obligations." And / or

2. "This Letter of Credit will expire in less than thirty (30) days and Beneficiary has not received an extension of said Letter of Credit or other acceptable replacement collateral from Account Party. Wherefore, the undersigned Beneficiary does hereby demand payment of $__________. Upon timely receipt of an amendment extending this Letter of Credit, this drawing is to be considered automatically rescinded." And / or

3. "Issuing Bank 's lowest long-term senior unsecured debt rating no longer meets or exceeds "A-" by Standard & Poor's Rating Group and "A3" by Moody's Investor Services, Inc., and Account Party has not caused a replacement Letter of Credit from an alternate financial institution acceptable to Beneficiary to be issued to Beneficiary. Wherefore, the undersigned Beneficiary does hereby demand payment of $________________."

SPECIAL TERMS AND CONDITIONS

1. Partial and multiple drawings are allowed hereunder. The amount that may be drawn by Beneficiary under this Letter of Credit shall be automatically reduced by the amount of any payments made through Issuing Bank referencing this Letter of Credit.

2. This Letter of Credit shall automatically extend without amendment for periods of one year each from the present or any future expiry date unless Issuing Bank notifies Beneficiary in writing at least sixty (60) days prior to such present or future expiry date, as applicable, that Issuing Bank elects not to further extend this Letter of Credit.

3. This Letter of Credit is transferable without charge any number of times, but only in the amount of the full unutilized balance hereof and not in part and with the approval of Account Party which consent shall not be unreasonably withheld, conditioned or delayed.

4. The term "Beneficiary" includes any successor by operation of law of the named beneficiary to this Letter of Credit, including, without limitation, any liquidator, any rehabilitator, receiver or conservator.

5. Presentations for drawing may be delivered in person, by mail, by express delivery, or by facsimile.

6. All Bank charges are for the account of Account Party.

7. Article 36 under UCP 600 is modified as follows: If the Letter of Credit expires while the place for presentation is closed due to events described in said Article, the expiry date of this Letter of Credit shall be automatically extended without amendment to a date thirty (30) calendar days after the place for presentation reopens for business.

Issuing Bank hereby agrees with Beneficiary that documents presented for drawing in compliance with the terms of this Letter of Credit will be duly honored upon presentation at Issuing Bank's counters if presented on or before the expiry date.

Unless otherwise expressly stated herein, this Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits ("UCP"), 2007 Revision, International Chamber of Commerce Publication No. 600. Matters not covered by the UCP shall be governed and construed in accordance with the laws of the state of New York.

ISSUING BANK SIGNATURE

EXHIBIT F

DEFINITIONS

1) **Definitions**

In the Precedent Agreement:

a) "**Anchor Shipper**" as such term is defined in the "Open Season notice" for the Project.

b) **"Capital Cost Tracking Adjustment**" has the meaning ascribed to that term in Section 3(d)(ii)(3).

c) "**Class III Estimate**" has the meaning ascribed to that term in Section 3(d)(ii)(3)

d) "**Creditworthy**" has the meaning ascribed to that term in Section 12(a).

e) "**Customer**" has the meaning ascribed to that term in the recitals.

f) "**Customer's Authorizations**" has the meaning ascribed to that term in Section 2(a).

g) "**Customer's Contracted MDQ**" has the meaning ascribed to that term in Section 2(d).

h) "**Dawn**" has the meaning ascribed to that term in the recitals.

i) "**Default**" has the meaning ascribed to that term in Section 10.

j) "**Default Notice**" has the meaning ascribed to that term in Section 10.

k) "**DTE**" has the meaning ascribed to that term in the recitals.

l) "**Effective Date**" has the meaning ascribed to that term in the recitals.

m) "**Union**" has the meaning ascribed to that term in the recitals.

n) "**Estimate Phase II Commencement Date**" has the meaning ascribed to that term in Section 3(c).

o) "**Estimated Phase I Rate Ranges**" has the meaning ascribed to that term in Section 3(d)(i).

p) “**Estimated Phase II Rate Ranges**” has the meaning ascribed to that term in Section 3(d)(ii)(2).

q) “**FERC**” has the meaning ascribed to that term in Section 1(a).

r) “**Final Reservation Rates**” has the meaning ascribed to that term in Section 3(d)(ii)(3).

s) “**Force Majeure**” has the meaning ascribed to that term in Section 9(c).

t) “**Forms of Commercial Agreements**” has the meaning ascribed to that term in Section 3(b).

u) “**Governmental Authorizations**” has the meaning ascribed to that term in Section 1(a).

v) “**Guarantor**” has the meaning ascribed to that term in Section 13(b)(i).

w) “**Guaranty**” has the meaning ascribed to that term in Section 13(b)(i).

x) “**In-Service Date Notice**” has the meaning ascribed to that term in Section 4(b).

y) “**Initial Receipt Point Information**” has the meaning ascribed to that term in Section 1(c).

z) “**International Border**” has the meaning ascribed to that term in the recitals.

aa) “**Letter of Credit**” has the meaning ascribed to that term in Section 13(b)(ii).

bb) “**MDDO**” has the meaning ascribed to that term in Section 3(a).

cc) “**MDRO**” has the meaning ascribed to that term in Section 3(a).

dd) “**MDQ**” has the meaning ascribed to that term in Section 3(a).

ee) “**Moody’s**” has the meaning ascribed to that term in Section 13(a).

ff) “**NEB**” has the meaning ascribed to that term in Section 1(a).

gg) “**New Phase II Facilities**” has the meaning ascribed to that term in Section 3(d)(ii)(2).

hh) “**Open Season**” has the meaning ascribed to that term in the recitals.

ii) “**OEB**” has the meaning ascribed to that term in Section 3(b).

jj) "**Party**" or "**Parties**" has the meaning ascribed to that term in the recitals.

kk) "**Phase I**" has the meaning ascribed to that term in the recitals.

ll) "**Phase I Rate Agreements**" has the meaning ascribed to that term in Section 3(d)(i).

mm) "**Phase I Service Agreement - Canada**" has the meaning ascribed to that term in Section 3(a).

nn) "**Phase I Service Agreement – U.S.**" has the meaning ascribed to that term in Section 3(a).

oo) "**Phase I Service Agreements**" has the meaning ascribed to that term in Section 3(a).

pp) "**Phase I Service Commencement Date**" has the meaning ascribed to that term in Section 4(a).

qq) "**Phase II**" has the meaning ascribed to that term in the recitals.

rr) "**Phase II Facilities**" has the meaning ascribed to that term in Section 3(d)(ii)(2)

ss) "**Phase II Rate Agreements**" has the meaning ascribed to that term in Section 3(d)(ii)(3).

tt) "**Phase II Service Agreement - Canada**" has the meaning ascribed to that term in Section 3(b).

uu) "**Phase II Service Agreement – U.S.**" has the meaning ascribed to that term in Section 3(b).

vv) "**Phase II Service Agreements**" has the meaning ascribed to that term in Section 3(b).

ww) "**Phase II Service Commencement Date**" has the meaning ascribed to that term in Section 4(b).

xx) "**Pipeline**" has the meaning ascribed to that term in the recitals.

yy) "**Precedent Agreement**" has the meaning ascribed to that term in the recitals.

zz) “**Pre-Service Costs**” has the meaning ascribed to that term in Section 8.

aaa) “**Project**” has the meaning ascribed to that term in the recitals.

bbb) “**Qualified Institution**” has the meaning ascribed to that term in Section 13(b)(ii).

ccc) “**Rate Breakdown**” has the meaning ascribed to that term in Section 3(d)(ii)(3)

ddd) “**Reservation Rates**” has the meaning ascribed to that term in Section 3(d)(i).

eee) “**Revised Phase II Rates**” has the meaning ascribed to that term in Section 3(d)(ii)(3).

fff) “**ROFR**” has the meaning ascribed to that term in Section 3(f).

ggg) “**S&P**” has the meaning ascribed to that term in Section 13(a).

hhh) “**Spectra**” has the meaning ascribed to that term in the recitals.

iii) “**Willow Run**” has the meaning ascribed to that term in the recitals.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

Prior to August 11, 2014, what would have been the commercial consequences to Union to not entering into a binding precedent agreement (deposits, bid guarantee, etc.).

Response:

Union would not have had any commercial consequences had it not entered into the NEXUS Precedent Agreement in August of 2014. However, Union was committed to the project beginning with the initial open season bid it placed in November of 2012.

Please also see the response to Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

Specifically when did Union agree to an increase in capacity from 75,000 to 150,000 Dth/d?

Response:

Union's commitment as anchor shipper has been 150,000 Dth/d since the initial bid into the 2012 Open Season and has not changed since that time. The 75,000 Dth/d of Phase 1 capacity referenced in Exhibit A, page 39, lines 4-14, was an interim transportation service using existing infrastructure that Union and NEXUS had contemplated to flow from November 1, 2015 until the in-service of the NEXUS pipeline. This Phase 1 service was later removed from the project scope.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

Prior to signing the May 28, 2015 PA, what would have been the commercial consequences to Union to:

a) Contract for 75,000 Dth/day.

b) To not contract for any capacity?

Response:

a) Union was committed to the NEXUS project when it entered into the open season in late 2012 and was bound to the 150,000 Dth/d level once it had executed the original Precedent Agreement in August of 2014. If Union had requested to reduce its initial and binding commitment to 75,000 Dth/d in May of 2015, Union would have lost anchor shipper status, been potentially subject to pre-service development costs on the portion of the capacity it had reduced by as well as potentially put the entire project in jeopardy.

b) In addition to potentially putting the project in jeopardy, depending on the cause for the termination of the Precedent Agreement, Union could have been liable for its share of the pre-service development costs.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 39-43

Preamble: We would like to have clarity on the timelines and specifics associated with the evolution of the Precedent Agreement (PA).

When did Union provide notice of non-renewal to Alliance pipeline to cease capacity on that pipe from Empress?

Response:

Union executed the "Notice of Extension" on November 16, 2010 which notified Alliance Pipeline that Union would not renew its contracted capacity beyond November 30, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A

What paths provide direct access from Utica and Marcellus share basins to Niagara instead of Dawn? Please explain why Union did not consider these options to increase its supply sourced from Utica and Marcellus share basins.

Response:

Please see the response at Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) EB-2015-0010, letter written on behalf of Consumers Council of Canada ("CCC"), Canadian Manufacturers & Exporters ("CME"), the Building Owners and Managers Association, Greater Toronto ("BOMA"), the Federation of Rental-housing Providers of Ontario ("FRPO"), Vulnerable Energy Consumers Coalition ("VECC"), London Property Management Association ("LPMA") and School Energy Coalition ("SEC"), August 5, 2015

Preamble: On August 5, 2015, several intervenors in the OEB EB-2015-0100 proceeding wrote a letter to the Board requesting that a comprehensive gas supply and transportation review for Union and Enbridge take place as soon as possible, or as part of the EB-2015-0166 / EB-2015-0175 proceeding.

a) Considering the significant impacts of NEXUS to the overall supply portfolios of both Union and Enbridge, would Union support undertaking a comprehensive gas supply and transportation review before the close of this proceeding?

Response:

a) No. Please see Attachment 1, EB-2015-0010 - Union Response to CME and IGUA Letters dated August 19, 2015.

August 19, 2015

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

RE: EB-2015-0010 – Union Gas Limited – 2014 Disposition of Deferral Account Balances and 2014 Earnings Sharing Amount – Union Response to CME and IGUA Letters

On August 5, 2015, counsel for the Canadian Manufacturers & Exporters filed a letter with the Board in the above noted proceeding (the "CME Letter") [1]. As discussed further below, the CME Letter seeks to encourage the Board to initiate a gas supply related proceeding. On August 11, counsel for the Industrial Gas Users Association ("IGUA") filed a letter in support of the CME Letter. This is Union's response to these two letters.

The CME Letter calls on the Board to "provide an appropriate forum to hear evidence and make findings of principles and criteria which the utilities respective gas acquisition strategies may be evaluated for approval to ensure they are in the public interest."

The premise on which the CME Letter rests appears to be two-fold. First, the CME Letter indicates that both Union and Enbridge Gas Distribution are "required to file their Gas Supply Plans as part of their annual applications for Disposition of Deferral Accounts and Earning Sharing Amounts." Second, the Letter indicates that parties and the Board may not have the opportunity in any particular application to undertake a "holistic" review of the North American gas supply market. Both statements are incorrect.

1. The Gas Supply Plan and Memorandum

The Board has already had before it, and parties have had an opportunity to comment on, extensive evidence and expert analysis (i) relating to Union's gas supply planning process, methodology, and plan and (ii) verifying that those aspects reflect appropriate and objective planning principles. There is no reason to initiate a new proceeding to consider what has already been done by the Board.

[1] The CME Letter indicates that, along with CME, it has been filed on behalf of the Consumers Council of Canada, the Building Owners and Managers Association of Greater Toronto, the Federation of Rental-housing Providers of Ontario, the Vulnerable Energy Consumers Coalition, the London Property Management Association and the School Energy Coalition.

Furthermore, there is no requirement in Union's Board-approved IRM Agreement, or otherwise, that Union file its Gas Supply Plan as part of its Non-commodity Deferral Account and Earnings Sharing proceeding, nor that Union seek any specific approval from the Board as part of that proceeding. For this reason, Union sought no approval from the Board in EB-2015-0010 in relation to the costs associated with its Gas Supply Plan. As noted below, Union does have obligations to file its Gas Supply Plan Memorandum for information purposes and to present the Gas Supply Plan Memorandum at its annual stakeholder meeting.

In EB-2011-0210 (Union's 2013 Cost of Service proceeding), the Board directed that Union "file with the Board an expert, independent review of its gas supply plan, its gas supply planning process, and gas supply planning methodology." This review, performed by Sussex Economic Advisers ("Sussex"), was filed in EB-2013-0109 (Union's 2012 Non-commodity Deferral Account and Earnings Sharing proceeding). The Sussex Report verified that Union's gas supply planning process, methodology, and plan reflects appropriate planning principles that are objectively applied and result in a Gas Supply Plan that is "right sized". Sussex concluded that:

- Union's guiding principles are sound and similar to other LDCs;
- Union's design day demand forecast is appropriate, consistent and aligned between Union North and Union South, and similar to other LDCs;
- Union's gas supply portfolio reflects the circumstances of each area and is right-sized;
- Union's approach to de-contracting/re-contracting is reasonable and similar to other LDCs; and,
- Union's optimization approach is reasonable and consistent with the approaches of other LDCs.

In its Report, Sussex recommended that Union prepare a Gas Supply Plan Memorandum to provide a narrative documentation of the Gas Supply Plan including the underpinning assumptions and how the Plan conforms to the planning principles. Union agreed with all of Sussex's recommendations, including the preparation and filing of a Gas Supply Plan Memorandum. In its Decision, the Board stated:

> *"The Board finds that Union responded appropriately to the EB-2011-0210 directive to file an independent review of its gas supply plan." p.8*

Union filed the first Gas Supply Plan Memorandum in EB-2014-0145 (Union's 2013 Non-commodity Deferral Account Disposition and Earnings Sharing proceeding). As part of the EB-2014-0145 Settlement Agreement, at Section 17: Scope of the Gas Supply Memorandum, the parties agreed:

> *"that Union will file with its annual rates application (in about September of each year), for information, its anticipated gas supply plan for the gas year commencing in November of that year and that this filing will take the form of Union's gas supply plan memorandum. Union will continue to present a review of the prior winter at the Spring stakeholder meeting as contemplated by the EB-2013-0202 Settlement Agreement approved by the Board."*

There were no specific criticisms or suggestions by the parties regarding the Gas Supply Plan Memorandum.

Union filed the second Gas Supply Plan Memorandum in EB-2015-0010 (Union's 2014 Non-commodity Deferral Account Disposition and Earnings Sharing proceeding). Finally, Union will file the Gas Supply Memorandum for the 2015/2016 gas year in September 2015 as part of its 2016 Rates application. Parties will, of course, be able to ask questions in that case in relation to the Memorandum.

2. A Review of Gas Supply Issues

The CME letter notes concerns that gas supply issues are raised within proceedings currently before the Board including EB-2014-0182 (Burlington Oakville Project) and EB-2015-0166 (NEXUS Pipeline Project). The CME letter states that "what is missing from such a case specific analysis is a more holistic review of Union and EGD's respective Gas Supply Plan Memoranda taking into account the rapid growth of Marcellus/Utica shale gas reserves and production". Union disagrees since, as noted above, a holistic consideration of Union's gas supply methodology and plan has occurred. And, with respect to shale gas, Union's Gas Supply Plan Memorandum specifically discuss the changing gas supply dynamics in North America, in particular the impacts of the Marcellus/Utica shale gas, stating:

> *"While natural gas reserves still exist in mature natural gas basins, the economics of natural gas production favors new emerging production basins such as Marcellus and Utica Shale. This shift in terms of where natural gas is being produced is fundamentally changing how natural gas flows in North America". (p. 7)*
>
> *"Marcellus and Utica shale gas present Ontario customers, including power, industrial, commercial and residential, with an opportunity to diversify their natural gas supply portfolio and replace declining WCSB supply. Accessing this new supply will be essential to providing diversity of supply and affordable energy prices to fuel Ontario's economic competitiveness. With new infrastructure, access to these new, proximate and abundant sources of supply can increase reliability and security for the Ontario natural gas supply portfolio" (p. 8)*
>
> *"The Appalachian Basin (Marcellus and Utica supplies) has experienced the most prolific natural gas production growth in North America." (p. 33)*

Ultimately, it is Union's position that, to the extent a particular proceeding gives rise to a gas supply related issue, that issue should be dealt with in the context of the proceeding, as has been done successfully by the Board in the past. As an economic regulator, the Board in setting rates has considered the cost associated with gas supply. The Board has likewise considered the implications of supply plans on the appropriateness of proposed facilities. In so doing, parties, subject to relevance, can fully consider the implications of gas supply issues and the Board has the jurisdiction to consider those aspects and to reach conclusions in the public interest in the context of an application that has a direct effect on ratepayers. The gas supply plan concerns noted by the CME letter are live issues in EB-2014-0182 and EB-2015-0166 and those concerns should be dealt with in those proceedings. Indeed, the assessment of "potential benefits to ratepayers of accessing gas from Marcellus/Utica at Niagara/Chippawa, compared with accessing Marcellus/Utica gas at Dawn" urged in the CME Letter is a matter which is directly in issue in EB-2014-0182. Union has done this comparison. Through its comparison, Union found that Niagara is a trans-shipment point between TransCanada and three U.S. pipelines. Despite its proximity to the Marcellus region, Niagara is not a liquid trading point. It does not possess the characteristics that would make it a liquid trading point. As a result, notwithstanding that the landed cost for Niagara may be lower than supply purchased at Dawn, it would not be prudent for Union to contract at Niagara for significant incremental volumes.

Moreover, in each of the major facilities applications brought by Union since 2012 Union has included extensive direct evidence, as well as independent expert analysis prepared by ICF which discusses the changing North American gas supply dynamics. The ICF reports alone have ranged from 36 to 78 pages

in length. In each of these facility applications, ICF's findings have been consistent. Specifically, ICF agrees that production from the mature North American natural gas basins is in decline while production from the Marcellus and Utica shale gas formations in Pennsylvania, Ohio and West Virginia continue to exceed expectations. While mature natural gas reserves still exist in western Canada, the economics of natural gas production and transportation favour shale gas and tight gas formations which are closer to the consuming markets. Further, natural gas prices at Marcellus and Utica are expected to continue to decline relative to natural gas prices in the Gulf Coast and other North American supply centers. This in turn will generate the economic incentives necessary to develop the infrastructure needed to access this source of supply. As a result, the flow of natural gas on the Canadian and U.S. pipeline grid has, and will continue to change, as shippers shift from long haul to short haul transportation.

In EB-2012-0433 (Parkway West proceeding), ICF opined:

> *"At the same time, natural gas supplies available to Ontario from western Canada, the traditional source for most of Ontario's natural gas supply, have been declining, and are expected to continue to decline. As a result, Ontario's ability to meet additional gas demand hinges on its ability to access new sources of natural gas supply such as the Utica and Marcellus shales."* Section 4-7, p.8
>
> *"The decline in gas supply from the WCSB will be offset by growth in natural gas supply from the U.S. supplies delivered into Ontario via pipeline imports from Michigan and New York. Much of this incremental natural gas supply is expected to be supplied by natural gas produced from the Utica and Marcellus shales, which are expected to comprise an increasing share of Ontario's gas supply through 2025."* Section 4-7, p.10
>
> *"ICF estimates that significant new pipeline capacity from the Marcellus and Utica shale production regions will be required to meet the growth in demand."* Section 4-7, p.11
>
> *"Potential new sources of gas supply, including Marcellus and Utica gas production, offer economic sources of gas in proximity to the Province."* Section 4-7, p.11
>
> *"In terms of impact on Ontario, Marcellus shale is cheaper than importing from Alberta, given the market prices in different regions and the transportation costs associated with moving natural gas from the production region into Ontario."* Section 4-7, p.30

In EB-2014-0261 (Union's 2016 Dawn Parkway Expansion proceeding), Union included evidence on the Marcellus/Utica supplies at Tab 7 pp. 9-17. Specifically, Union indicated:

> *"The replacement of the first two transportation capacities listed in Table 7-3 are prompted by the significant changes in market dynamics and gas supply, as described in Exhibit A, Tab 5. The overall decline in WCSB supplies available for export to eastern markets has presented long term security of supply risk to Union North customers since those customers are currently served almost exclusively from the WCSB (Empress supply), which is transported via long haul transportation capacity on the TransCanada Mainline. The emergence of abundant supplies from the Marcellus and Utica formations allows the opportunity to provide diversity to the Union North portfolio, thereby improving long term security of supply. This is facilitated through the replacement of long haul transportation from Empress with short haul transportation originating at Dawn. As discussed earlier at Exhibit A, Tab 4, the Dawn Hub provides access to diverse supplies from multiple sources, including the Marcellus and Utica formations.*

> *The replacement of capacities from long haul transportation to short haul transportation for Union North begins in 2015, and was discussed in EB-2013-0074. The Board recognized in its decision that the movement of supplies to Dawn "is justified on the grounds of enhanced security and diversity of gas supply, and ...will enhance a competitive natural gas market in Ontario through increased liquidity at Dawn".*

The need for the 2016 Dawn Parkway Expansion project was agreed to by the parties in a Settlement Agreement and approved by the Board.

As a final matter, to the extent that there are non-application specific items parties wish to discuss, it is Union's understanding that the Board intends to schedule another Natural Gas Market Review for later this year. Non-application specific issues can be discussed in that context. Any issues discussed in the Natural Gas Market Review that result in potential changes to the utilities operations and/or gas supply plan would be implemented on a prospective basis, as the Board as done in the past.

If you have any questions regarding this response please contact me at (519) 436-5476.

Yours truly,

[original signed by]

Chris Ripley
Manager, Regulatory Applications

c.c.: Crawford Smith (Torys)
Intervenors EB-2015-0010

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, p. 7 of 54, Line 9

ii) Application, Exhibit A, p. 47 of 54, Lines 10 – 12, 15 – 18

Preamble: In Reference i), Union states that "[e]xpansions planned for 2015 and 2016 will increase the Dawn Parkway system capacity by 875 TJ/d […] and further growth is planned for 2017. This incremental throughput capacity drives the need for additional supply at Dawn."

In Reference ii), Union states its ability to mitigate delays in construction by "leveraging the diverse upstream transportation and supply options that exist at Dawn." Union also states that should the NEXUS project be cancelled, Union would "replace the anticipated NEXUS transportation capacity with other upstream transportation options that are available at the time."

a) In the event that the Board denies Union's application for NEXUS contract cost recovery, and assuming the NEXUS project is built regardless, how would Union meet forecast demand no longer served by the applied-for NEXUS contract? Please provide any alternative supply plans and supporting documentation.

b) In the event that the NEXUS project does not proceed, how would Union meet forecast demand no longer served by NEXUS? Please provide any alternative supply plans for this scenario and supporting documentation.

c) In either of the scenarios above (i.e. (1) the application in this proceeding is denied but NEXUS is constructed, and (2) NEXUS is not constructed), could incremental supply from Niagara / Chippawa be used to meet forecast supply requirements?

Response:

a) Union would expect to have similar options to what it has today, which includes its default planning assumption to purchase additional supplies at Dawn (which could include delivered supply from Rover and/or NEXUS assuming either or both still get built). Union would continue to follow its gas supply planning principles and look at the upstream pipeline capacity options available at the time. Union does not have an alternate supply plan.

b) Please see the response to a) above.

c) Union would evaluate all options available at the time and if the gas supply and transport is readily available on reasonable terms and conditions from Niagara and/or Chippawa and meets the gas supply planning principles, it could be an option.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: A / 5 / page 1 / Landed Cost Analysis

The table references Foreign exchange rates.

Staff is interested in understanding the exchange rate risk should there be a prolonged period of weakness in the Canadian dollar relative to the US dollar.

Please re-run the model assuming an exchange rate of 1.40 in all years.

Please show the impact of the exchange rate analysis on the various supply paths versus the landed cost analysis as presented in the evidence.

Response:

Gas commodity prices in North America are predominantly based on the U.S. NYMEX price plus a basis differential to compensate for the cost of transport.

Since all ICF gas price forecasts are provided in $US/mmBtu, a change to the foreign exchange rate assumption only impacts Canadian pipeline tolls and the final conversion of each path to $CDN/GJ in Column K of the landed cost schedule. The relative ranking of all pipeline paths remain the same.

Please see Attachment 1 for the updated landed cost analysis as requested.

Recalculated Landed Cost Analysis - 1.4 Foreign Exchange Rate

Nov 2017 to Oct 2032 Transportation Contracting Analysis

	Route	Point of Supply	Basis Differential $US/mmBtu	Supply Cost $US/mmBtu	Unitized Demand Charge $US/mmBtu(1)(7)	Commodity Charge $US/mmBtu (1)	Fuel Charge $US/mmBtu (1)	100% LF Transportation Inclusive of Fuel $US/mmBtu	Landed Cost $US/mmBtu	**Landed Cost $Cdn/G**	Point of Delivery	Comment
	(A)	(B)	(C)	) = Nymex +	(E)	(F)	(G)	= E + F +	(J) = D + I	(K)	(L)	
(6)	**TCPL Niagara to Kirkwall**	Niagara	-0.449	7.0511	0.1687	0.0000	0.0103	0.1790	$7.23	**$9.59**	Kirkwall	
(3)	**Rover****	Southwest PA	-0.954	6.5455	0.8000	0.0000	0.1577	0.9577	$7.50	**$9.96**	Dawn	
*	**NEXUS / St. Clair**	Southwest PA	-0.954	6.5455	0.7980	0.0000	0.1728	0.9708	$7.52	**$9.97**	Dawn	Includes St. Clair to Dawn costs
(5)	**NEXUS/St. Clair (Increase Upper end of toll by 15%)**	Southwest PA	-0.954	6.5455	0.8934	0.0000	0.1728	1.0663	$7.61	**$10.10**	Dawn	Toll is $ 0.77+ $ 0.635*15%. Includes St. Clair to Dawn costs
(6)	**Vector (2014 - 2017)**	Chicago	-0.103	7.3972	0.1879	0.0017	0.0732	0.2628	$7.66	**$10.16**	Dawn	
(2)	**Dawn**	Dawn	0.177	7.6769	0.0000	0.0000	0.0000	0.0000	$7.68	**$10.19**	Dawn	
(6)	**Michcon (2014-2015)**	Michcon Generic	0.023	7.5229	0.0613	0.0000	0.1398	0.2011	$7.72	**$10.25**	Dawn	Includes St. Clair to Dawn costs
(6)	**Vector (2012 - 2016)**	Chicago	-0.103	7.3972	0.2500	0.0990	0.0732	0.4222	$7.82	**$10.38**	Dawn	
(6)	**Trunkline / Panhandle**	Trunkline Field Zone	-0.092	7.4075	0.2195	0.0268	0.2995	0.5458	$7.95	**$10.55**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2012-2017)**	Panhandle Field Zone	-0.377	7.1230	0.3474	0.0439	0.4687	0.8600	$7.98	**$10.59**	Dawn	Includes Ojibway to Dawn costs
(6)	**Alliance / Vector**	CREC	-1.067	6.4335	1.5155	-0.3279	0.3593	1.5469	$7.98	**$10.59**	Dawn	
(6)	**Panhandle (2014-2015)**	Panhandle Field Zone	-0.377	7.1230	0.4529	0.0439	0.4687	0.9655	$8.09	**$10.73**	Dawn	Includes Ojibway to Dawn costs
(6)	**Panhandle (2010-2017)**	Panhandle Field Zone	-0.377	7.1230	0.4529	0.0439	0.4687	0.9655	$8.09	**$10.73**	Dawn	Includes Ojibway to Dawn costs
(2)	**TCPL Empress to Dawn**	Empress	-0.722	6.7782	1.3649	0.0000	0.2745	1.6394	$8.42	**$11.17**	Dawn	
(6)	**TCPL Empress to Union CDA**	Empress	-0.722	6.7782	1.4812	0.0000	0.2793	1.7605	$8.54	**$11.33**	Union CDA	

(1) Unitized Demand Charges, Commodity Charges and Fuel Charges per Maximum Applicable Tariff and include capacity required to flow fuel for downstream pipeline segments
(2) For Reference Only
(3) Toll Estimates used in lieu of official toll for portion of path
(5) Sensitivity Analysis
(6) Existing Union Contract
* indicates path referenced in evidence for this analysis

** The analysis is based on an indicative rate for Rover of $0.80 USD/mmbtu. The analysis does not contemplate potential toll increases arising from factors such as capital cost overruns or pipeline undersubscription.

Assumptions used in Developing Transportation Contracting Analysis:

Annual Gas Supply & Fuel Ratio Forecasts	Point of Supply Col (B) above	Nov 2017 - Oct 2018	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2020 - Oct 2021	Nov 2021 - Oct 2022	Nov 2022 - Oct 2023	Nov 2023 - Oct 2024	Nov 2024 - Oct 2025	Nov 2025 - Oct 2026	Nov 2026 - Oct 2027	Nov 2027 - Oct 2028	Nov 2028 - Oct 2029	Nov 2029 - Oct 2030	Nov 2030 - Oct 2031	Nov 2031 - Oct 2032	Average Annual Gas Supply Cost $US/mmBtu Col (D) above	Fuel Ratio Forecasts Col (G) above
Henry Hub (NYMEX)	Henry Hub	$4.62	$5.43	$6.12	$6.59	$6.81	$6.89	$7.06	$7.23	$7.56	$8.03	$8.44	$8.90	$9.26	$9.62	$9.96	$7.50	
TCPL Niagara to Kirkwall	Niagara	$4.62	$5.35	$5.96	$6.37	$6.54	$6.59	$6.71	$6.78	$7.00	$7.33	$7.71	$8.13	$8.56	$8.86	$9.26	$7.05	0.15%
Rover	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.41%
NEXUS / St. Clair	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
NEXUS/St. Clair (Increase Upper end of toll by 15%)	Southwest PA	$4.09	$4.88	$5.50	$5.89	$6.06	$6.12	$6.25	$6.32	$6.53	$6.85	$7.19	$7.58	$7.98	$8.28	$8.66	$6.55	2.64%
Vector (2014 - 2017)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Dawn	Dawn	$4.82	$5.62	$6.29	$6.76	$6.98	$7.07	$7.24	$7.42	$7.75	$8.21	$8.63	$9.08	$9.43	$9.77	$10.09	$7.68	0.00%
Michcon (2014-2015)	Michcon Generic	$4.70	$5.49	$6.16	$6.62	$6.84	$6.92	$7.09	$7.26	$7.59	$8.05	$8.46	$8.91	$9.25	$9.59	$9.90	$7.52	1.86%
Vector (2012 - 2016)	Chicago	$4.63	$5.41	$6.07	$6.52	$6.73	$6.81	$6.97	$7.14	$7.46	$7.91	$8.31	$8.75	$9.09	$9.42	$9.73	$7.40	0.99%
Trunkline / Panhandle	Trunkline Field Zone	$4.56	$5.37	$6.05	$6.51	$6.72	$6.80	$6.97	$7.14	$7.46	$7.93	$8.33	$8.79	$9.14	$9.49	$9.83	$7.41	4.04%
Panhandle (2012-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Alliance / Vector	CREC	$3.69	$4.44	$5.08	$5.54	$5.77	$5.87	$6.04	$6.23	$6.55	$6.99	$7.36	$7.78	$8.09	$8.39	$8.67	$6.43	5.58%
Panhandle (2014-2015)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
Panhandle (2010-2017)	Panhandle Field Zone	$4.42	$5.20	$5.84	$6.29	$6.48	$6.56	$6.71	$6.88	$7.19	$7.63	$8.02	$8.44	$8.76	$9.07	$9.36	$7.12	6.58%
TCPL Empress to Dawn	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.05%
TCPL Empress to Union CDA	Empress	$4.03	$4.78	$5.42	$5.87	$6.09	$6.18	$6.36	$6.55	$6.88	$7.33	$7.72	$8.15	$8.47	$8.78	$9.07	$6.78	4.12%

Sources for Assumptions:

Gas Supply Prices (Col D):	ICF Base Case Jan 2015			
Fuel Ratios (Col G):	Average ratio over the previous 12 months or Pipeline Forecast			
Transportation Tolls (Cols E & F):	Union Tolls in Effect Jan 2015			
Foreign Exchange (Col K)	$1 US =	1.4	CDN	Updated to 1.4 exchange as per Exhibit B.T3.Staff.18
Energy Conversions (Col K)	1 dth = 1 mmBtu =	1.055056		
Union's Analysis Completed:				

* indicates path referenced in evidence for this analysis

UNION GAS LIMITED

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

Please provide what percentage of Union's system gas purchase pass through the Dawn Hub; and what percentage of Union's direct purchasers' gas passes through the Dawn Hub.

Response:

As shown at Exhibit A, page 29, Figure 5-1, for Union North, currently, 0% of system and bundled direct purchase gas supply passes through the Dawn Hub. Today, all supply for Northern customers (system and bundled direct purchase) originates at Empress. Once TransCanada 2015 and 2016 New Capacity facilities are constructed, a portion of the Union North gas will be sourced at Dawn. As shown in Figure 5-1 at January 2018, approximately 52% of system and bundled direct purchase gas supply will be sourced at Dawn or upstream of Dawn.

As shown at Exhibit A, page 31, Figure 5-2, in Union South, currently, approximately 59% of the system gas supply passes through the Dawn Hub (WCSB and Niagara supplies are not assumed to pass through Dawn). Currently, approximately 50% of bundled direct purchase gas supply passes through the Dawn Hub. As shown at Figure 5-2, at January 2018, system gas supply passing through Dawn will increase to approximately 91%.

UNION GAS LIMITED

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

Please discuss whether Union offers any direct purchase options (bundled or unbundled) to customers wishing to purchase gas at Niagara. If not, why not? Please discuss separately for bundled and unbundled direct purchase options.

Response:

Union's customers have repeatedly requested to have access to Dawn. Union has been working to allow for this added access to Dawn for all direct purchase customers through the Parkway Delivery Obligation proposal, moving certain Union North bundled direct purchase customers Delivery Contract Quantities to Dawn. As well, Union has offered Union North T-Service customers a service to access Dawn. If a direct purchase customer wishes to enlist the help of a third party and purchase supply at Niagara (or any other point) and deliver at Dawn or Parkway to meet their delivery obligation, they are able to do so today.

UNION GAS LIMITED

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

Please confirm that in the event an accident were to seriously diminish gas flow through the Dawn Hub, it would be advantageous to Union's and EGD's customers to have the ability to flow gas from Niagara directly to its consumers, without it having to pass through Dawn.

Response:

The facilities at the Dawn Hub are robustly designed (including Loss of Critical Unit, multiple headers and four different pipelines leaving Dawn heading towards Parkway) to minimize the risk of a single point of failure. Dawn also has the added benefit of being directly connected to over 260 TJ of storage that can also be used to backstop disruptions in supply. The flexibility associated with Dawn is described in the response at Exhibit B.T3.Union.BOMA.35 and reflected in the Dawn Hub consistently being Tier 1 pricing point. Please see the response at Exhibit B.T1.Union.APPrO.5.

In the unlikely event that any accident were to seriously diminish gas flow through the Dawn Hub, Union is still connected to many other pipelines across its system and Union would look to use the connections it has with all other pipeline companies (i.e. TransCanada, Panhandle Eastern, etc.) to assist in such a situation.

This is in contrast to Niagara which is connected to three pipelines (only two of which currently offer capacity to Niagara) that run through two river crossing pipelines (Niagara Spur Lines) to connect to TransCanada at Niagara. In Canada, TransCanada has two pipelines that transport natural gas to Ontario markets and the Dawn Parkway System. This is a much less robust pipeline system and market than Dawn.

UNION GAS LIMITED

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

Please provide an account of any outages at Dawn that have materially impacted flows on Union's system since its inception, and what was the impact of those accidents.

Response:

There have been no outages at Dawn that have materially impacted flows on Union's system. Facilities at Dawn are designed to minimize the risk of a single point of failure. These designs are part of Union's overall Loss of Critical Unit coverage for the Dawn facility. Please see the response at Exhibit B.T3.Union.BOMA.30.

UNION GAS LIMITED

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

Please describe the further growth in the Dawn Parkway system planned for 2015, 2017 and 2018. When will Union be seeking approval for 2017 and 2018 additions?

Response:

Please see the table below.

Dawn Parkway Expansion Projects	**Filing Date**	**Approval Date**	**OEB Reference #**	**Capacity Created (TJ/d)**
2015	April 2, 2013	January 30, 2014	EB-2013-0074	433
2016	September 30, 2014	April 30, 2015	EB-2014-0261	443
2017	June 30, 2015	Currently in the regulatory process	EB-2015-0200	457
2018	Unknown – Union is planning an open season later in the year to determine market demand and facilities required. Any associated application for approval of facilities would likely be in 2016.			

UNION GAS LIMITED

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

Please confirm that Ontario ratepayers of both companies currently have access by a direct pipeline route to the Marcellus/Utica basins through Niagara, through existing TCPL's connection with National Fuel Gas, Tennessee, Dominion North, Empire, and perhaps other pipelines.

Response:

Union currently contracts for 21,101 GJ/d on TransCanada from Niagara to Kirkwall for which it assumes is Marcellus supplies. Union understands that Enbridge has a new Niagara to Enbridge CDA contract beginning November 1, 2015, for 200 TJ/d. Combined this will amount to over 221,000 GJ/d of Marcellus/Utica gas entering Ontario through TransCanada at Niagara/Chippawa. This will be a similar amount to the total Marcellus Utica gas that will enter Ontario and be delivered to Dawn with the combined agreements of Union and Enbridge via NEXUS.

UNION GAS LIMITED

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

Reference: EB-2015-0166, Exhibit A, Page 10, Lines 1-4

Please confirm that the impact of NEXUS's project on EGD will be to further concentrate their reliance on Dawn.

Response:

Union does not intend to comment on Enbridge's gas supply portfolio.

UNION GAS LIMITED

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

Please confirm that Ontario's security of gas supply is enhanced by having material supplies of gas enter the Union/EGD city gates at different points without undue concentration at any one potential chokepoint.

Response:

Ontario's security of gas supply is enhanced by the Dawn Hub. The Dawn Hub is one of the largest market hubs on the continent and is the second most physically traded point in North America. Dawn is connected directly or indirectly to many upstream pipelines (Great Lakes Gas Transmission ("GLGT") via TransCanada, Vector Pipeline, Bluewater Gas Storage, Michigan Consolidated, Panhandle Eastern Pipeline via Union's Panhandle System, the Enbridge (Tecumseh) system, and ANR via the Niagara Gas Transmission (NiagaraLink) and Enbridge (Tecumseh) systems) which are in turn connected directly or indirectly to most of North America's major natural gas supply basins. The Dawn Hub is directly connected to approximately 265 Bcf of natural gas storage in Ontario and has direct or indirect access to approximately 675 Bcf of natural gas storage in Michigan. By 2017, takeaway capacity on the Dawn Parkway System to growing eastern markets will be approximately 7.3 Bcf/d. A large number of buyers and sellers (over 100 counterparties) transact at Dawn including many of North America's largest natural gas marketers.

Please see the response at Exhibit B.T2.Union.Staff.17 that discusses the benefit to Ontario of Utica and Marcellus supplies entering at both Niagara through TransCanada and Dawn through NEXUS.

UNION GAS LIMITED

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

Reference: Ibid, Page 19

Two of Union's Gas Supply Planning Principles are:

"(2) minimize risk by diversifying contract terms, supply basins, and upstream pipelines…

(5) deliver natural gas to various receipt points on Union's system to maintain system integrity".

Union has stated that it does not intend to materially increase its capacity to purchase Marcellus/Utica gas at Niagara, the closest Ontario receipt point to Marcellus/Utica supply. Please explain how this position is consistent with the gas supply principles (2) and (5), cited above.

Response:

The planned NEXUS contract and gas purchases are consistent with the above principles. Union currently contracts for gas supplies at Niagara and does deliver gas into its system at Kirkwall. Union's NEXUS arrangement will provide added diversity for term, supply basin and upstream pipes when compared to what Union contracts today. Union does not currently purchase gas volumes in the Utica and Marcellus and transport them directly to Dawn. Union, by delivering this gas through St. Clair, will also diversify the locations that deliver gas into its system.

Union will continue to look at all options, including Niagara, when making incremental purchase decisions and the relative limitations for gas supply at each point. Please see the response at Exhibit B.T2.Union.Staff.17.

UNION GAS LIMITED

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

Reference: Ibid, Page 22

Please confirm that alternative routes already exist to move Marcellus/Utica shale gas to Ontario via Niagara. Please discuss the status of each of the routes and compare the costs of using each of them to the NEXUS route.

Response:

Assuming that this question is in reference to Exhibit A, page 22, please see the response at Exhibit B.T2.Union.Staff.17 and at Exhibit B.T1.Union.Staff.7 for the costs.

UNION GAS LIMITED

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

Reference: Exhibit A

Please identify all of the risks which Union believes exist for both rate payers and its shareholder in proceeding with the NEXUS contract without Board pre-approval.

Response:

Union will not proceed with the NEXUS contract without Board pre-approval.

Union requires pre-approval to proceed, because, as detailed in Exhibit B.T1.Union.Staff.1, this contract requires a significant financial commitment by Union of approximately $715 million over a 15 year contract term representing 31% of Union's annual upstream portfolio. Without pre-approval, Union shareholders would be exposed to this cost for a commitment Union entered into on behalf of system supply customers. Providing new sources of supply to in-franchise customers would result in cost savings to sales service customers of greater than $700 million over the 15 year term.

Union has managed ratepayer risks associated with the NEXUS contract through a number of different means as described in Exhibit A, pages 46-52. Some measures of risk management include: implementation of a capital cost tracker mechanism to cap the toll and realize toll savings where capital costs are less than target; the ability to choose the reservation rate instead of the negotiated toll after the project has been completed; negotiating a Most Favoured Nations clause where Union can receive more favourable terms negotiated by a similar shipper (Exhibit B.T4.Union.Staff.20); securing transportation capacity that provides diversity of path and supplier in the Union gas supply portfolio; and supporting a pipeline infrastructure that when complete will increase the liquidity of the Dawn Hub to the benefit of all Ontario customers (Exhibit B.T1.Union.LPMA.8).

UNION GAS LIMITED

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

Reference: Exhibit A

Please identify all of the risks which Union believes exist for ratepayers if the Board pre-approves the NEXUS contract.

Response:

Please see Exhibit A, pages 46-52 for the risks identified and the corresponding mitigation efforts.

Union believes that the ratepayer risk if the Board pre-approves the cost consequences of the NEXUS contract are no different than any other long term transportation contract except for the fact that the tolls are known for the next 15 years. The toll for NEXUS is capped as opposed to variable rates under typical pipeline cost of service toll changes. Please see Exhibit B.T3.Union.CME.3.

UNION GAS LIMITED

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

Reference: Exhibit A

If the Board pre-approves the NEXUS contract, and Union enters into the long-term transportation contract with the NEXUS pipeline commencing November 1, 2017, and the NEXUS pipeline is subsequently underutilized, will there be any cost consequences for Union's ratepayers? If yes, please identify the cost consequences.

Response:

No, there will be no cost consequences for ratepayers of underutilization as the Union rate will be fixed for the term of the arrangement.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 48

a) Please provide Union's 15 year demand forecast and summarize the key assumptions.

b) In Union's view what are the key potential factors that could contribute to natural gas demand decline in Union's franchise area over the next 15 years.

Response:

a) Union does not produce a 15 year demand forecast.

b) It is important to note that system supply is primarily used by residential, commercial and small industrial customers. In Union's experience, natural gas demands typically track economic activity. Drivers for growth in demand for system supply would include continued conversion from direct purchase to system supply, and new additions.

   Union may experience decreases in demands in recessionary periods. Union's demand will also be reduced by conservation efforts or if system customers wish to return to direct purchase. Union notes that both ICF[1] and the IESO (in their Long Term Energy Plan) forecast growth in natural gas demands in Ontario over the next 15 years.

[1] Reference: EB-2015-0200, Dawn to Parkway Project, Exhibit A, Tab 5, Schedule 1, page 53.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Reference: Exhibit A, Page 49

a) Please discuss how each project risk identified is to be allocated between ratepayers, parties to the contract and/or the applicant's shareholder.

b) Please summarize the tolling risks resulting from the NEXUS project? Please discuss any potential implications on the project.

c) Please summarize the environmental risks resulting from the NEXUS project? Please discuss any potential implications on the project.

d) What if anticipated production does not materialize and gas flows decline? How will Union minimize risk and allocate between ratepayers and shareholder?

Response:

a) Please see Exhibit A, pages 46-52.

   Union, in following the Boards pre-approval guidelines, identified the risks and the mitigation efforts that manage the risks. Union has made significant effort to reduce the impact of the potential risks identified.

   Please see Exhibit B.T3.Union.CME.3 and 4.

b) The negotiated rate is fixed for the term of the agreement (subject to the capital cost tracker), so there is no tolling risk. Please see the response at Exhibit B.T4.Union.Staff.20.

c) Union expects that environmental risks and mitigation with respect to natural gas production (water supply, emissions, air quality, and land-use) will be addressed by federal and state agencies. In addition, Union expects that environmental risks and mitigation with respect to the proposed NEXUS infrastructure will be addressed by the Federal Energy Regulatory Commission as well as applicable federal and state agencies. Union is not aware of any infrastructure that is currently proposed by the project proponents to support NEXUS in Canada. An expansion of the Vector metering and interconnection with Union's facilities

may be required within the existing Dawn yard.

d) Please see the response to a) above.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

How will Union ensure that customers that do not benefit from the diversity of supply do not pay for these proposed transportation contracts?

Response:

The cost of the NEXUS transportation contract will be recovered from the Union sales service customers that it will supply. These customers and all Ontario consumers will benefit from the diversity of supply and increased supply competition provided by NEXUS at Dawn.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

a) What are the full implications if the Board does not approve this application?

b) Please discuss the actions Union would take if the landed costs are materially higher prior to the effective date of the Precedent Agreement.

Response:

a) As Union has stated at Exhibit A, page 4, line 9, "Without the assurance provided by Contract pre-approval, Union will not commit to a contract of this magnitude". Please also see the response at Exhibit B.T1.Union.Staff.5 where Union details that without Union's and Enbridge's support there is a higher risk that the NEXUS project will not be completed.

   The Board has recognized the disincentive that LDCs have in committing to large, long term contracts and has created a process for pre-approval to remove the disincentive from Regulated Utilities as they are in a unique position to support new infrastructure needed to provide benefits to the market. As is stated at Exhibit A, page 4, lines 4-7, the Board has acknowledged this by stating:

   "*regulated utilities whose sourcing decisions are typically and conventionally subject to ex post facto prudence review would be reluctant or unwilling to accept very significant long term commitments without assurances of costs recovery. The result would be a frustration of demonstrably needed new natural gas infrastructure.*"

   In addition, all of the benefits that have been identified will not be realized. These benefits included increased diversity and security of supply, price stability, increased Dawn liquidity, attracting new supply to Ontario, as well as estimated $700 million in gas cost savings.

b) The Precedent Agreement between Union Gas Limited and NEXUS Gas Transmission is currently in effect.

   The landed costs of all pipelines paths will change over time as a primary cost component of landed costs is gas supply commodity. Given the demand charges for the NEXUS capacity will be fixed costs for the 15 year term, the main driver of NEXUS landed cost variability will be supply cost changes.

As part of Union's ongoing gas purchasing process, many options are available to minimize costs for its customers. This could include a changed buying strategy in regards to the length of term of the gas purchases to fill this capacity, purchasing at varying points along the pipeline path, and purchasing additional transportation on interconnecting pipelines to reach more upstream supply zones, etc. In all of these cases the NEXUS pipeline contract would still be used.

UNION GAS LIMITED

Answer to Interrogatory from
Energy Probe Research Foundation ("Energy Probe")

Preamble: Union does not discuss the impact of the proposed cap and trade system in Ontario.

Has Union considered how a cap and trade system would impact the economics of the project? If yes, please provide details.

Response:

No. Union has not considered the impact of the Ontario Government's proposed cap and trade system on the Nexus contract as the specifics of the system have not been developed.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 51, lines 16-19

How does Union foresee the gas getting to Ontario in these interim arrangement?

Response:

Union has contracted for a market based service of 20,000 Dth/d (21,101 GJ/d) from Dominion South Point to Dawn for one year beginning November 1, 2015. This service will allow Union to work with suppliers to purchase gas in the Appalachian region, in order to gain additional experience and form relationships.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 51, lines 16-19

How will ratepayers be protected while Union is gaining this experience?

Response:

Union will continue to use RFP's to ensure market pricing prevails. The costs of these transactions will be included in Union's gas costs which will be evaluated at each QRAM filing.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, p. 42

Please describe all the scenarios under the Precedent Agreement in which Union is responsible for any development and/or construction costs for the NEXUS pipeline through payments other than tolls.

Response:

Should Union fail to act in good faith to continue on with the NEXUS agreement and not satisfy the conditions precedent, this would be considered a material breach. In such circumstance Union would be responsible for its share of pre-service development costs. If Union continued to act in good faith and still could not satisfy the conditions precedent, the pre-service costs would not be applicable.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, Schedule 1

Please describe the similarities and differences between the terms of the Precedent Agreement that Union signed for NEXUS and those recently signed with TCPL and Enbridge. Please explain why any material differences are reasonable.

Response:

There are no "Industry standard" Precedent Agreements (PA's). The PA will vary from pipeline to pipeline with the terms and conditions included in each, a function of the specific pipeline, and the specific project.

PA's are binding agreements that lay the foundation for the eventual service contract and allows the project to proceed by outlining the basic terms of the requested service and the obligations of the parties.

The specific terms frequently addressed in PA's include:

- Term of Agreement
- Cancellation process and associated fees
- Termination
- Rates
- Conditions Precedent (CP's)

Term

- Union – 15 years
- TransCanada – 15 years
- NEXUS – 15 years

Cancellation of Agreement and Costs

- NEXUS allows the shipper to terminate during the development process but only after the customer has exercised due diligence in meeting conditions precedent as included in the Precedent Agreement. Shippers are not subject to any cancellation costs in this case. NEXUS reserves the right to terminate the agreement at any time and should this occur the shipper would not incur any development charges.

- TransCanada agreements allow shippers to cancel their contract at any time throughout the development process, but as a result, the shipper would be responsible for their proportionate share of development costs. TransCanada also reserves the right to cancel during the development process and would then allocate the proportionate costs to shippers.
- Union does not provide the customer with the ability to terminate the contract once executed and Conditions Precedent have been satisfied. Should the customer choose to terminate the contract once executed and Conditions Precedent have been satisfied, they would be in breach of the contract and would be subject to all of the applicable development and transportation costs. Union does have the ability to cancel the project during the development/construction process (if certain Conditions Precedent are not fulfilled), should this occur the shipper would be required to pay their proportionate share of the costs to date.

Rates

- The NEXUS PA offers a fixed negotiated rate (subject to a capital cost tracker) which is fixed for the entire term and therefore also includes a separate rate agreement covering the rate, the derivation and the capital cost tracker information.
- TransCanada rates are regulated, will change over time and are posted publically.
- Union rates are regulated, will change over time and are posted publically.

Most Favoured Nations (MFN)

- The NEXUS PA contains a MFN clause for anchor shippers.
- TransCanada PA's do not offer a MFN clause, but the contract is standardized.
- Union Gas does not offer a MFN clause, but the contract is standardized.

Conditions Precedent (CP's)

Conditions Precedent are contractual provisions in favour of either the pipeline or the shipper. These provisions represent acceptable conditions that if not met allow either party to depart from participation in the project. Typical CP's in favour of the pipeline are:

- Regulatory Approval
- Internal Management Approvals
- Executed Transportation Agreements
- Expansion Facilities are in-service.

All of these are included in the PA's of NEXUS, TransCanada and Union

Significant Conditions Precedent in Favour of shipper are:
NEXUS

- OEB approval of the cost consequences of the NEXUS agreement
- Internal Management Approvals

TransCanada/Union

- Internal Management Approvals

In summary, Union was satisfied that the terms including the limited liability exposure (i.e. pre-service costs), rates and associated capital cost tracker contained in the NEXUS PA were reasonable.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition (“SEC”)

Please describe which risks of the NEXUS contract approval are borne by Union’s shareholders as opposed to ratepayers.

Response:

Please see the responses at Exhibit B.T3.Union.CME.3 and 4.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: A / 1 / Exhibit A / Restated Precedent Agreement / page 16 of 68

Please explain fully the 90 day "Temporary Waiver of Conditions Precedent – Governmental Authorizations" feature at paragraph 7) (d) of the Restated Precedent Agreement. Please specifically indicate if the waiver allows Union, in the event of a regulatory delay in receiving approval from the OEB, to extend the October 1, 2015 deadline by 90 days.

Response:

This feature allows either party to temporarily waive satisfaction of the conditions precedent related to Governmental Authorizations. This could be exercised to temporarily delay Union's Condition Precedent under paragraph 7 (c) ii for a period of up to 90 days.

Please note that any significant delay in receiving the approval could jeopardize the NEXUS November 1, 2017 in-service date.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A / Pages 45 / Lines 12-13

Union has negotiated a Most Favoured Nations (MFN) clause that is contained within the Precedent Agreement that provides Union the ability to amend the Precedent Agreement should another similar shipper negotiate more favourable terms than what Union has received.

a) Under what specific conditions can Union exercise the MFN clause?

b) What types of contract changes could be sought to the Precedent Agreement under the MFN clause?

c) If another shipper were to offer more favourable terms than what Union has received from NEXUS, explain the process of how Union would amend the Precedent Agreement.

Response:

a) Should NEXUS negotiate a more favourable term with another shipper who is transporting a similar volume on the same path for the same term then NEXUS is obligated to offer the same more favourable term to Union. It would then be up to Union to decide whether to accept the new terms.

b) Any changes would be sought through the contract rather than through the Precedent Agreement. Examples include rate agreement or receipt points as outlined at Exhibit A, Schedule 1, page 10.

c) To clarify, the terms would need to be those offered by NEXUS to another shipper, rather than the shipper to NEXUS. However, if NEXUS were to offer better terms to another party, NEXUS, within 10 business days of entering into the agreement with the other party, is required to offer these same terms to Union. Union would then have 30 days to agree to the change, or not.

UNION GAS LIMITED

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

Reference: Ibid, Page 29

Is the gas supply portfolio being referred to at pages 29-34 Union's system gas portfolio, or does it include direct purchase as well?

Response:

The South portfolio being referenced in Exhibit A, pages 29-35 is for Sales Service only. The North portfolio being referenced is Sales Service and Bundled. Since North Bundled customers will not be required to hold NEXUS capacity, the North NEXUS commitment is Sales Service only.

UNION GAS LIMITED

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

Reference: Ibid, Page 8

Please describe the process by which Union may suggest and have implemented changes to the contract, if required. Please confirm that any proposed changes must be consistent with the NEXUS FERC gas tariff, and please explain the impact of that statement, perhaps with examples.

Response:

FERC approves the standard transportation contracts that form part of the tariff for the pipelines it regulates, which includes NEXUS. Union could request changes to the proposed NEXUS transportation contract. Should NEXUS and other shippers agree to any potential changes proposed to the standard contract then these would be included in the tariff filed for approval by FERC. Union is expected to sign the standard NEXUS contract ultimately approved by FERC.

UNION GAS LIMITED

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

Reference: Exhibit A, Tab 3, Schedule 1, Appendix G, Page 3, Pro Forma Statement of Negotiated Rates

Please provide an amended version of the above document which explains each term used in sufficient detail, to allow a Canadian reader to satisfy himself or herself of the extent to which the negotiated rate may vary over the term of the proposed transmission contracts between Union, EGD and NEXUS. EGD should provide a similar explanation for its Negotiated Rate Agreement, as well as its answer to each part of the previous two questions.

Response:

The toll will not vary over the term of the contract as it is fixed, and capped as per the capital cost tracker.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 41, lines 6-8

Using the same analysis, please estimate the savings if Union were to contract for 150,000 Dth/d at Niagara from TCPL?

Response:

Please see the response at Exhibit B.T2.Union.Staff.7.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 41, lines 6-8

Using the peak day analysis for 2017/8, please provide the Dawn to Parkway capacity (in GJ/day) that would "freed up" if an additional 150,000 Dth/day (158,258 GJ/day) was received at Kirkwall on a peak day (how much additional gas could leave Dawn and arrive at Parkway keeping all parameters constant with the exception of the incremental receipts at Kirkwall).

Response:

Without the addition of incremental facilities, any capacity that is incremental to the demands in the 2017/2018 peak day analysis will increase the capacity shortfall of the Dawn Parkway System. This includes deliveries at Kirkwall (and assumed to be transported to Parkway) that are made in addition to the demands in the 2017/2018 peak day analysis. In this scenario, Dawn to Parkway transportation capacity is not "freed up".

If 158,258 GJ/d was received at Kirkwall from the TransCanada system, and transported to Parkway, in addition to the Dawn Parkway System demands in the 2017/2018 peak day analysis, the capacity shortfall of the Dawn Parkway System would increase by approximately 92,000 GJ/d.

Please see the response at Exhibit B.T1.Union.FRPO.27.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 41, lines 6-8

Was the Union Gas' SENDOUT model used to assess the pipeline alternatives?

a) If so, please provide a summary report of the results.

b) If not, why not?

Response:

a) and b) The results of Union's SENDOUT modelling can be found in the Gas Supply Memorandum provided in EB-2015-0010, 2014 Deferrals, Exhibit A, Tab 5, page 26. However, SENDOUT is only one of the tools used by Union to inform its transportation contracting decisions. When managing its transportation portfolio and analyzing potential pipeline paths and supply sources, Union does so in the context of its Gas Supply Planning Principles at Exhibit A, page 19 of this evidence.

These principles ensure customers consistently receive secure, diverse natural gas supply at a prudently incurred cost and minimal risk. They also help Union to determine whether changes are required to the current transportation and supply portfolios. As the NEXUS contract will be utilized at 100% load factor, Union uses the landed cost analysis tool to ensure that the transportation path is reasonably priced compared to alternatives.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 43, line 5

How many pipelines converge to feed the receipt point at Kensington, Ohio?

Response:

As outlined in Exhibit A, Schedule 3, p. 11, the NEXUS receipt point in Union's PA is at Kensington, Ohio and will include direct access to the Kensington Processing Plant (Access Midstream Partners, M3 Midstream, and EnerVest), Texas Eastern Transmission (TETCO), and Tennessee Gas Pipeline. NEXUS will also have direct access to other sources of gas in that area with the connection through the TETCO TEAL project which is described in Exhibit A, Schedule 3, p. 12 and in Figure 2.1, p. 10. This connection provides parties on NEXUS with the ability to access additional gas supply at Clarington where a number of major pipeline systems meet. These include TETCO's mainline as well as the pipeline systems of the Rockies Express Pipeline (REX), Columbia Gas Transmission and Dominion Transmission, which adds further reach to other upstream supply basins. As a result, Union considers the Kensington point to be a good supply point.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 45, lines 15-16

What rates did other anchor shippers receive? Please provide a range of rates (if appropriate, tied to volume commitment).

Response:

Union is only aware of three shipper rates that have been made public. Due to the unique paths of each shipper, the most accurate way to compare them is based on the negotiated greenfield rate from Kensington to Willow Run, which is the common path between shippers. This information is provided in the table below.

Union is not aware of the volume bid by the other shippers as this information is not publically available. These shippers include Chesapeake Energy Marketing Inc., CNX Gas Company LLC, and Noble Energy Inc. There may also be other anchor shippers that Union is not aware of.

Shipper	Anchor Shipper	Volume (Dth/d)	Greenfield Rate ($US/Dth)	Rate to Delivery Point ($US/Dth)	Delivery Point
Union	Yes	150,000	0.635	0.77	St. Clair
DTE Gas	Yes – DTE Energy Co.	75,000	0.695	0.695	Willow Run
DTE Electric	Yes – DTE Energy Co.	75,000			
Enbridge	No	110,000	0.650	0.70	Milford

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 45, lines 15-16

How does Union evaluate competitiveness in this context?

Response:

Union evaluates competitiveness through the Most Favoured Nations (MFN) clause and a competitive rate negotiation.

As stated in Exhibit A, page 44, "*Union has also obtained an MFN clause which provides Union the ability to amend the PA should another similar shipper negotiate more favourable terms than what Union has received. This ensures Union will be treated fairly and equitably, and that Union is guaranteed the best possible contracting terms available to similar shippers*."

Please see the response to Exhibit B.T4.Union.FRPO.21 showing that Union has negotiated a rate that is similar to, or more favourable than, other shippers on the project.

UNION GAS LIMITED

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Reference: Exhibit A, page 48, lines 14-15

How much additional pipeline capacity has Union identified for November 1, 2017?

Response:

In addition to the NEXUS commitment of 158,258 GJ/d, Union had identified requirements greater than 100,000 GJ/d that did not have a committed upstream transportation arrangement in place as of November 1, 2017.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, Page 24, Lines 16 - 17

Preamble: In Reference i), Union states that "[…] Rover offered no incentives beyond what Union had already obtained with NEXUS […]."

TransCanada seeks to understand the extent to which Union attempted to secure alternatives to the NEXUS project.

a) Did Union enter into discussions with Rover regarding possible service? Please explain.

b) Please provide all correspondence between Union and Energy Transfer Partners / Rover Pipeline since October 15, 2012.

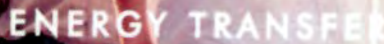
Response:

a) Union was not made aware of the Rover project until it was announced in June 2014; almost two years after Union entered the NEXUS open season and began negotiations. Union did meet representatives from Rover on a few occasions. However, because Rover did not provide any further incentives than Union had already received via NEXUS, Union did not pursue possible services from Rover.

b) Please see Attachment 1 for Rover presentation provided to Union July of 2014.

ENERGY TRANSFER

ET Rover Pipeline Project



ET ROVER OVERVIEW

ET Rover is a proposed new interstate natural gas pipeline designed to transport Marcellus and Utica Shale production directly from processing plants to liquid markets

Facilities: 572 - 680 miles of pipeline; up to 3.25 Bcf/day capacity

Supply sources:

- Multiple processing plants in Southwest Pennsylvania, West Virginia and Ohio
- Pipeline hub at Clarington, Ohio

Markets:

- *Midwest* - Panhandle Eastern and ANR Pipeline near Defiance, Ohio
- *Michigan* - MichCon, Consumers, Vector Pipeline
- *Canada* - Union Gas Dawn Hub in Ontario, Canada ("Dawn")
- *Offsystem* - Trunkline Zone 1A (via PEPL)

Projected in-service: December 2016 to Defiance; mid-2017 to Dawn

ET ROVER - CONCEPT MAP

Michigan
- Consumers
- MichCon
- Vector

Canada
- Dawn
- Tecumseh Storage

Ohio
- ANR

Off-system
- TGC Z1A

Panhandle (PEPL)

Trunkline (TGC)

MI IL IN OH PA WV MO KY TN AR MS TX LA

ET Rover (new pipeline)

ET Rover (offsystem capacity)

Receipt Points

Delivery Points

Rover Pipeline Project

Legend

- ETC Friendly Plant
- Delivery Points
- Processing Plants
- Proposed Compressors
- Canadian Market Segment
- Michigan Market Segment
- Main Line Segment
- Potential Supply Segments
- Panhandle Eastern Pipeline
- Counties Affected
- City Limits
- Interstate Hwy

Canadian Market Zone

Michigan Market Zone

Main Line Segment

Supply Segments

Michigan

Ohio

Pennsylvania

West Virginia

MichCon

Consumers

Dawn

PEPL

MIDWEST HUB

Livingston

Oakland

Macomb

St. Clair

Lambton

Washtenaw

Lenawee

Fulton

Defiance

Henry

Wood

Seneca

Hancock

Crawford

Richland

Ashland

Wayne

Stark

Columbiana

Carroll

Tuscarawas

Jefferson

Harrison

Guernsey

Belmont

Noble

Monroe

Marshall

Wetzel

Tyler

Doddridge

Washington

Butler

Beaver

Allegheny

Westmoreland

ET ROVER – RECEIPT POINT OPTIONS

Carroll
Beaver
Allegheny
Tuscarawas
Jefferson
Harrison
Ohio
Pennsylvania
Guernsey
Belmont
Clarington, OH
Marshall
Noble
Monroe
Wetzel
ETC Friendly
Washington
Tyler
West Virginia

Ohio processing plants:

- Berne
- Cadiz
- Leesville
- Seneca

Pennsylvania processing plants:

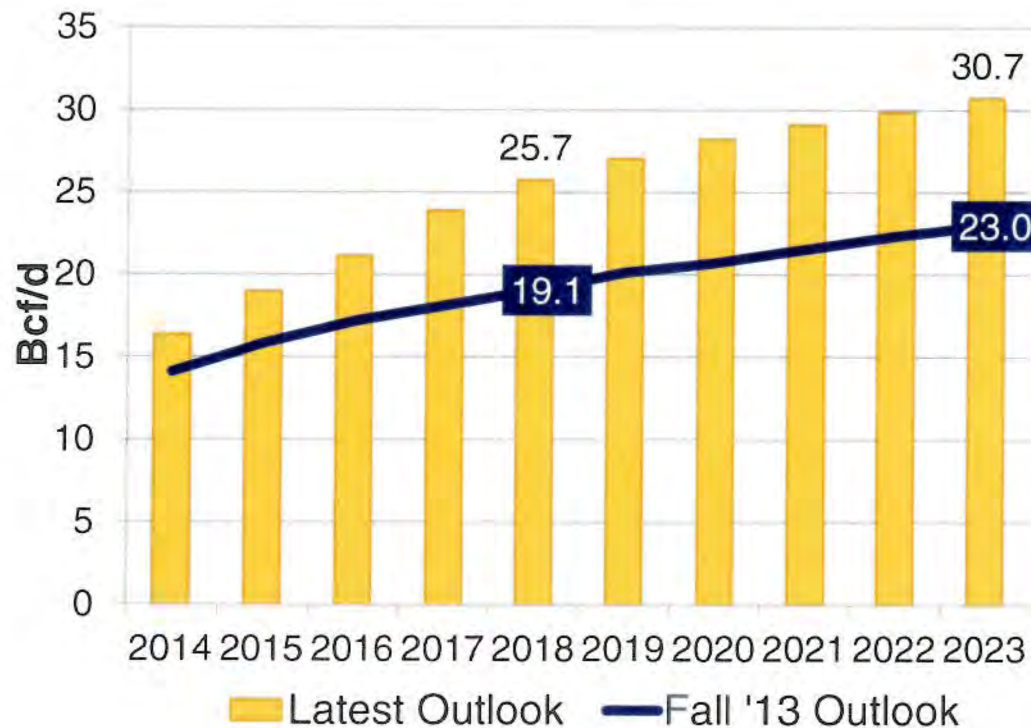
- Hillman

West Virginia processing plants:

- Majorsville
- Sherwood

Pipeline interconnections at Clarington, Ohio

NORTHEAST PRODUCTION GROWTH



Source: Wood Mackenzie

Marcellus:

- Production has grown from 0 to 10 Bcf/d in 5 years
- Currently over 12 Bcf/d
- Expected to be 14 Bcf/d by year-end
- Supply already exceeds Northeast region demand

Utica:

- Expected to be 5 Bcf/d by 2018

SW PA, WV AND OHIO LONG-TERM PRODUCTION POTENTIAL

Gas In Place (GIP) Analysis Shows Greatest Potential in SW PA

RANGE RESOURCES

SW PA, WV AND OHIO PROCESSING ADDITIONS

...14 Major projects under construction, 7 to be completed in 2014

HOPEDALE FRACTIONATOR
C3+ Fractionation I – 60,000 Bbl/d – Operational
C3+ Fractionation II – 60,000 Bbl/d – 1Q15

UTICA CONDENSATE
Stabilization Facility – 23,000 Bbl/d – 3Q14

CADIZ COMPLEX
Cadiz I & Refrig – 185 MMcf/d – Operational
Cadiz II – 200 MMcf/d – 3Q14
De-ethanization – 40,000 Bbl/d – 2Q14

SENECA COMPLEX
Seneca I – II – 400 MMcf/d – Operational
Seneca III – 200 MMcf/d – 2Q14
Seneca IV – 200 MMcf/d – 2Q15

KEYSTONE COMPLEX
Bluestone I, II & Sarsen I – 210 MMcf/d – Operational
Bluestone III – 200 MMcf/d – 4Q15
C2+ Fractionation – 20,000 Bbl/d – Operational

HOUSTON COMPLEX
Houston I – III – 355 MMcf/d – Operational
Houston IV – 200 MMcf/d – 1Q15
C3+ Fractionation – 60,000 Bbl/d – Operational
De-ethanization – 38,000 Bbl/d – Operational

MAJORSVILLE COMPLEX
Majorsville I – V – 870 MMcf/d – Operational
Majorsville VI – 200 MMcf/d – 2016
De-ethanization I – 38,000 Bbl/d – Operational

MOBLEY COMPLEX
Mobley I – III – 520 MMcf/d – Operational
Mobley IV – 200 MMcf/d – 4Q14
Mobley V – 200 MMcf/d – 2Q15
De-ethanization – 10,000 Bbl/d – 3Q15

SHERWOOD COMPLEX
Sherwood I – III – 600 MMcf/d – Operational
Sherwood IV – 200 MMcf/d – 3Q14
Sherwood V – 200 MMcf/d – 4Q14
Sherwood VI – 200 MMcf/d – 2Q15

OHIO
PENNSYLVANIA
WEST VIRGINIA
Butler
Washington
Marshall
Wetzel
Doddridge
Noble

MWE Gathering System
MWE Marcellus Complex
MWE Utica Complex
MWE NGL Pipeline
MWE Purity Ethane Pipeline
MWE NGL/Purity Ethane Pipeline Under Construction
ATEX Express Pipeline
TEPPCO Product Pipeline
Sunoco Mariner Pipeline

Source: Markwest Energy Partners, LP (Investor & Analyst Conference, June 6, 2014).

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, Schedule 5, p. 1
ii) Application, Exhibit A, p. 3 of 54, Lines 2 – 4

Preamble: Union's landed cost analysis shows that TCPL to Kirkwall is the lowest cost path.

In Reference ii), Union states: "The contract is a long-term commitment that is required to support the development of new greenfield natural gas infrastructure that will directly link Ontario and more specifically, Dawn, to new natural gas supply basins in the Appalachian region."

a) Please provide all contract information for capacity held by Union on the TransCanada Mainline with a receipt point of Niagara / Chippawa, including, delivery point, contract quantity, and contract term.

b) Please explain why Union has not contracted for more Niagara / Chippawa to Kirkwall Mainline capacity in TransCanada's 2015, 2016, or 2017 new capacity open seasons given its advantage from a landed cost perspective.

c) Did Union participate in the 2010 open season for Empire Pipeline Inc.'s Tioga County Extension Project which made available 350,000 Dth/d of incremental firm service from the Marcellus supply area to the Chippawa interconnect with the TransCanada Mainline? If not, why not?

d) Did Union participate in the 2010 open season for Tennessee Gas Pipeline's Northeast Supply Diversification (NSD) project, which made available 150,000 Dth/d of incremental firm service from the Marcellus supply area to the Niagara interconnect with the TransCanada Mainline? If not, why not?

e) Did Union participate in the 2010 open season for National Fuel Gas Supply Corporation's Northern Access Project which made available 320,000 Dth/d of incremental firm service from the Marcellus supply area to the Niagara interconnect with the TransCanada Mainline? If not, why not?

f) Did Union participate in the 2013 open season for Tennessee Gas Pipeline's Niagara Expansion Project which made available 158,000 Dth/d of incremental firm service from the Marcellus supply area to the Niagara interconnect with the TransCanada Mainline? If not, why not?

g) Did Union participate in the 2014 open season for Empire Pipeline Inc.'s (in cooperation with National Fuel Gas Supply Corporation) Northern Access 2016 Project which made available 350,000 Dth/d of incremental firm service from the Marcellus supply area to the Chippawa interconnect with the TransCanada Mainline? If not, why not?

h) Please confirm that recent open seasons for firm capacity with a delivery point of Niagara / Chippawa held by Tennessee Pipeline, National Fuel and Empire provide direct access to the Marcellus gas supply region. If not confirmed, why not?

i) Please explain why exposing Union's ratepayers to the risks associated with underpinning NEXUS is preferable to simply purchasing delivered gas supply at Dawn, Niagara / Chippawa, or Kirkwall.

j) Please provide any presentations or other marketing material provided to Union with respect to any of the projects listed in c) through g) above.

k) Please provide any presentations, meeting notes, e-mails or marketing materials from NEXUS to Union, and any internal presentations with respect to NEXUS.

l) Please provide any presentations, meeting notes, e-mails or other correspondence between Union and Enbridge regarding NEXUS.

m) Please provide any presentations, meeting notes, or e-mails to Union's Board of Directors or Senior Management regarding NEXUS.

n) Did Union pursue any delivered gas supply options at Niagara / Chippawa, or Kirkwall in lieu of NEXUS? If not, why not?

Response:

a) Union currently contracts for 21,101 GJ/d of Niagara to Kirkwall transportation capacity with an expiry date of October 31, 2022.

b) Niagara is a trans-shipment point between TransCanada and three U.S. pipelines. It does not possess the elements that would make it a liquid trading point or a market hub (i.e. direct access to storage and many buyers and sellers). Additionally, given Union needs flexibility in its upstream transportations portfolio, Union has limited room within this transportation portfolio to make major long term commitments to a pipeline project. As a result, Union needs to carefully evaluate and assess its ability to make a significant contractual commitment for new pipeline capacity in situations where support is required to ensure the new pipeline capacity gets built to connect new supplies to Dawn.

Union will continue to consider Niagara or Chippawa supplies when seeking incremental supply within its portfolio, particularly for smaller volumes consistent with Union's Niagara to Kirkwall transportation capacity today. Please see the response to a) above.

c) to e) Although a number of new capacity open seasons were announced in 2009 and 2010, Union was not in a position to make such a commitment. At that time, the Marcellus basin potential and its impacts were not known as the basin was still in its infancy. Forecasts at the time for the Marcellus region were moderate production and much slower growth than can be seen now (please see the Sussex Evidence Exhibit A, Schedule 3, pages 21-34). At that time, Union still had over 1.4 PJ/d of Dawn to Kirkwall transportation contracted with shippers and there was still significant daily volume being exported on a continual basis at Niagara (at the time, shippers contracted on Union for Dawn to Kirkwall and then on TCPL from Kirkwall to Niagara/Chippawa for export into the U.S.). It wasn't until November, 2012 when the first Marcellus gas started to flow into Canada through Niagara.

At the time of these early open seasons, Union had not yet made the decision whether to renew its Alliance contracted capacity and it wasn't until Union provided notice to Alliance on November 16, 2010 that Union would not renew the 80,000 Dth/d of capacity post December 1, 2015. Therefore, Union was not in a position at that time to make a substantial and long term election for capacity that would flow prior to December of 2015.

However, in order to support the infrastructure being proposed through the above open seasons and to gain exposure to Appalachian shale gas production and markets, Union did bid into the 2010 TransCanada new capacity open season for 21,101 GJ/d of Niagara to Kirkwall transportation capacity. This transportation capacity would move gas supply purchased at Niagara to Kirkwall to access the Dawn Parkway System and storage at the Dawn Hub. This transportation capacity commitment was a first step in Union committing to supply from the Marcellus production basin. Union did seek pre-approval of this TransCanada transportation contract but was not granted the pre-approval. Please see the response at Exhibit B.T1.Union.Staff. 2. To Union's knowledge, Union was the only end use market that had directly contracted on this path until 2014.

f) and g) Between late 2010 and into 2012, Union evaluated a number of different alternatives to provide supply, including replacing supply provided through its Alliance contract. As stated in Exhibit A, page 18 "*When the NEXUS project was announced in 2012, it was the first greenfield infrastructure project proposed to bring significant, incremental supplies to Ontario since the Alliance and Vector pipelines in 2000*." Union recognized NEXUS as an opportunity to support a project that would connect the Dawn Hub to both the Marcellus and Utica supply basins through significant greenfield pipeline infrastructure. As a result, Union bid into the NEXUS new capacity open season for 150,000 Dth/d, which granted Union anchor shipper status. By this point in time the Marcellus, and now Utica, picture had become more in focus, with consensus views on its potential.

Union did not participate in the 2013 Tennessee Gas Pipeline Niagara Expansion Project new capacity open season or the Empire Pipeline Inc.'s, (in cooperation with National Fuel Gas Supply Corporation) Northern Access 2016 Project, or other open seasons for pipeline capacity to the Dawn Hub conducted in 2013 and 2014 since: i) Union had already committed to transportation capacity on NEXUS in November of 2012; and, ii) Union could not absorb another large volume, long term commitment to an infrastructure project. Please see the response at Exhibit B.T2.Union.Staff.17.

h) Confirmed.

i) Please see the response to b) above. Please see Exhibit A, pages 46-52, for the risks identified and the corresponding mitigation efforts.

j) Please see Attachment 1 for presentations and other marketing materials provided to Union with respect to projects listed in c) through g) above.

k) Please see Attachment 2 for materials provided to Union from NEXUS.

l) Correspondence between Union and Enbridge is reflected in the final evidence and PA filed in this proceeding.

m) Please see Attachment 3 for internal presentations regarding NEXUS. Please also refer to Exhibit B.T1.Union.SEC.11 for materials related to obtaining senior management approval to bid into the NEXUS open season.

n) Union did not pursue any substantial delivered gas options at Niagara, Chippawa or Kirkwall in lieu of NEXUS. Union already had the Niagara to Kirkwall contract for 21, 101 GJ/d and experienced the limited counterparties that were willing to transact at that point. As has been stated, these points are trans-shipment points between pipelines and not hubs or liquid trading points where many buyers and sellers transact. Union committed to NEXUS in November 2012 in order to support a large, greenfield infrastructure project that would make a significant difference to the liquidity of the Dawn Hub and benefit Ontario natural gas consumers. Given the long lead times for projects of this size and magnitude, it is necessary to commit early to allow projects to be delivered on time. Union will continue to consider Niagara or Chippawa supplies when seeking incremental supply within its portfolio in the future. Please see the response at Exhibit B.T2.Union.Staff.17.

Pavli, Emily

From: Daniel Andruccioli [Daniel_Andruccioli@transcanada.com]
Sent: March-28-13 9:13 AM
Subject: ANR Lebanon Lateral Reversal

Please see a recent 3rd party blog (link provided below) regarding the Lebanon Lateral reversal project which ANR has been offering as i.) an alternative export opportunity for Utica/Marcellus producers and ii.) access to a new supply basin for the Midwest and Gulf Coast markets ANR serves. Please don't hesitate to contact me or your ANR representative should you have further questions about Lebanon Lateral Project.

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

Thanks,
Dan

Daniel Andruccioli
Manager, Business Development
ANR Pipeline Company
717 Texas Street
Houston, Texas 77002

(832) 320-5451 Office
(832) 320-6451 Fax
(713) 829-1241 Cell

daniel_andruccioli@transcanada.com

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Pavli, Emily

From: Hodgson, Tina
Sent: February-27-13 9:31 AM
To: McClacherty, Shawn
Subject: FW: Presentation for Meeting at 1pm (Eastern time)
Attachments: Niagara Presentation Union Gas Meeting 25Feb2013.pdf

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From: Lisa DeAbreu [mailto:lisa_deabreu@transcanada.com]
Sent: February 25, 2013 12:24 PM
To: Shorts, Chris; Hodgson, Tina
Cc: Tim Stringer; Lorraine Lindberg (Lorraine_Lindberg@kindermorgan.com)
Subject: Presentation for Meeting at 1pm (Eastern time)

Attached please find the presentation for our meeting this afternoon.

Regards,
Lisa

Lisa DeAbreu
Customer Account Manager
Commercial East, Canadian Pipelines
Phone: 416-869-2171
Cell: 416-571-5078

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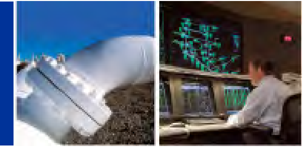
Opportunities for Marcellus and Utica Shale on the TransCanada Mainline via Tennessee Gas Pipeline

February, 2013

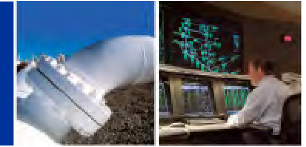
Key Messages



- TransCanada (TCPL) and Tennessee Gas Pipeline (TGP) have begun joint discussions with US producers and Canadian markets regarding opportunities to provide incremental Marcellus and Utica shale gas, which is directly attached to the TGP system, to TCPL at the Niagara/Chippawa area.

- Historically, Canadian gas has been transported into the US at Niagara, but beginning Nov. 1, 2012, expansion facilities were put into place and existing facilities were modified for TGP to flow gas into TCPL from the prolific Marcellus and Utica shale formations in Pennsylvania and Ohio.

Key Messages (Cont.)

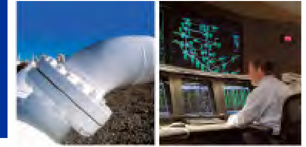


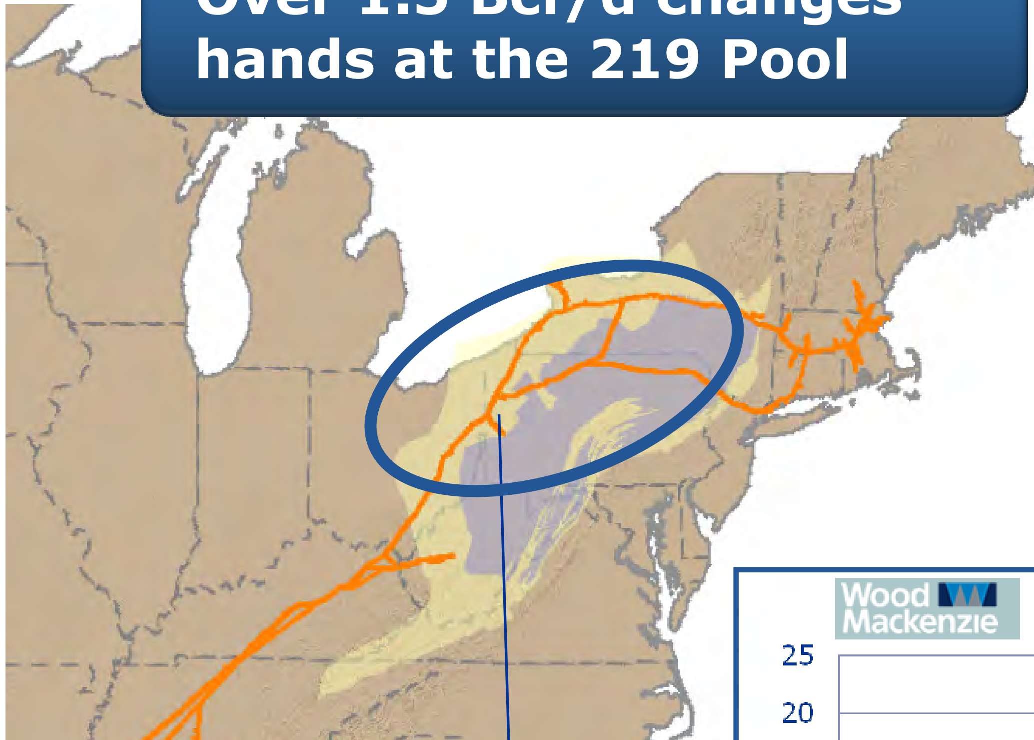
- **TCPL and TGP provide an economic link between Marcellus and Utica production and key Eastern Canadian markets**
  - TransCanada has filed for lower and more certain rates – decision expected Q1 2013
- **Significant liquidity along the path between Niagara / Chippawa and key markets**
  - Customers can access Dawn Storage, major Canadian markets including Toronto and Montreal, and growing gas-fired power plant load
  - arbitrage opportunities
- **TransCanada and TGP can add system capacity where required to ensure Marcellus supply can access key markets in a timely fashion**
  - Greater certainty of meeting in-service requirements

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

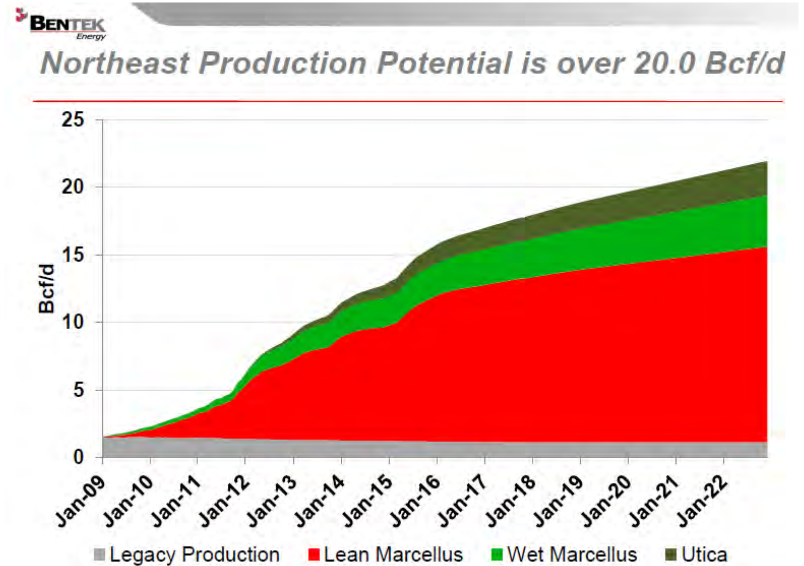
TransCanada

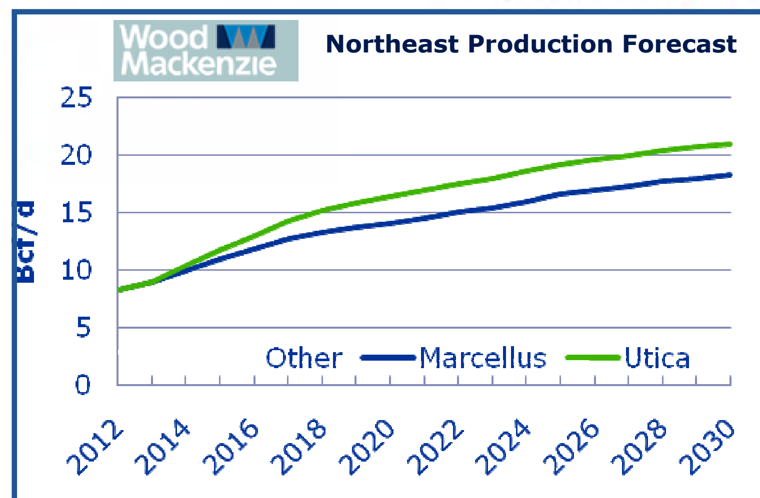
Tennessee Access to Utica & Marcellus





Over 1.5 Bcf/d changes hands at the 219 Pool

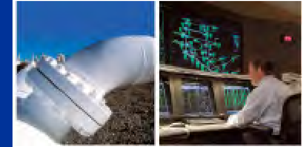




Sta. 219 Pool – Access to Utica and Marcellus

Marcellus continues to provide the bulk of NE supply with Utica following

Shale Gas Boom



L48 Production in Bcf/d

100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
-

2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022 2024 2026 2028 2030

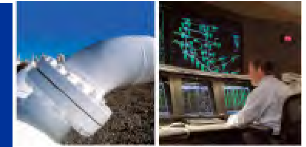
Previous Record 59.3 Bcf/d (1973)

Conventional | Tight Gas | CBM | Shale Gas

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

TransCanada

Tennessee Gas Pipeline Marcellus



TGP Marcellus Avg Day Flows (Dth) Thru November 2012

2,500,000
2,000,000
1,500,000
1,000,000
500,000
0

Colors represent major producers

Jan-09 Feb-09 Mar-09 Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09 Dec-09 Jan-10 Feb-10 Mar-10 Apr-10 May-10 Jun-10 Jul-10 Aug-10 Sep-10 Oct-10 Nov-10 Dec-10 Jan-11 Feb-11 Mar-11 Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

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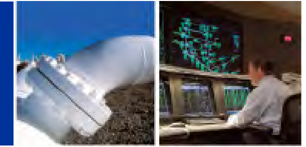
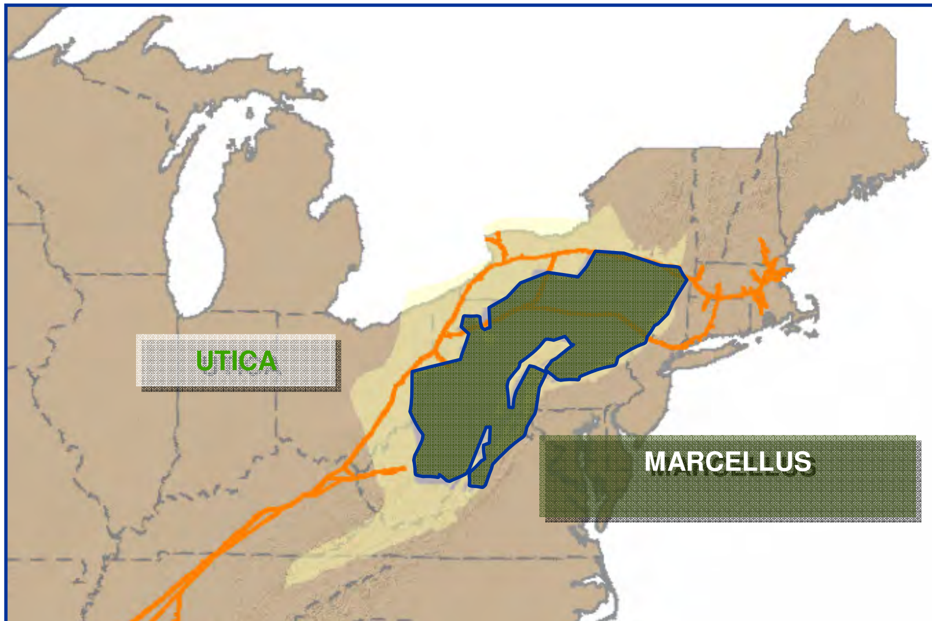
TGP Advantage: Unmatched Access to Marcellus



TGP Marcellus Access



Marcellus Shale

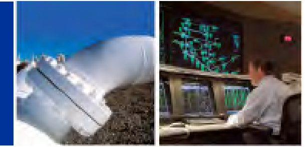
- 8.9 Bcf/d – Receipt access
- 38 Producer Interconnections
- 2.3 Bcf/d – Avg. Daily Receipts (Aug)
- ~1.0 Bcf/d receipt access added in 2012 = continued growth

Marcellus Receipts by Pipeline

Pipeline	% of Total	YTD 2012 (MDth/d)
TGP	**33%**	**2,353**
Transco	24%	1,190
Stagecoach	9%	452
TETCO	8%	432
Dominion	6%	379
Columbia Gas	6%	346
Equitrans	5%	268
National Fuel/Empire	5%	273
Millennium	2%	144
National Fuel Prod	1%	104
TOTAL	**100%**	**5,941**

Source: Bentek, Dec. 2012

TGP Unmatched Access to Marcellus Producers



- 38 Marcellus producer interconnects on TGP totaling 8.9 Bcf/d Marcellus receipt point access
- ~ 1 Bcf/d receipt access added on 2012
- Chesapeake
- Seneca Resources
- Shell
- Chevron
- Range Resources
- Magnum Hunter
- ExxonMobil
- EOG
- Hess
- Consol

Anadarko
Cabot
Total
BP
Sierra Buckeye
Enervest
Southwestern

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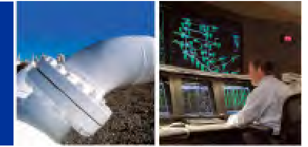
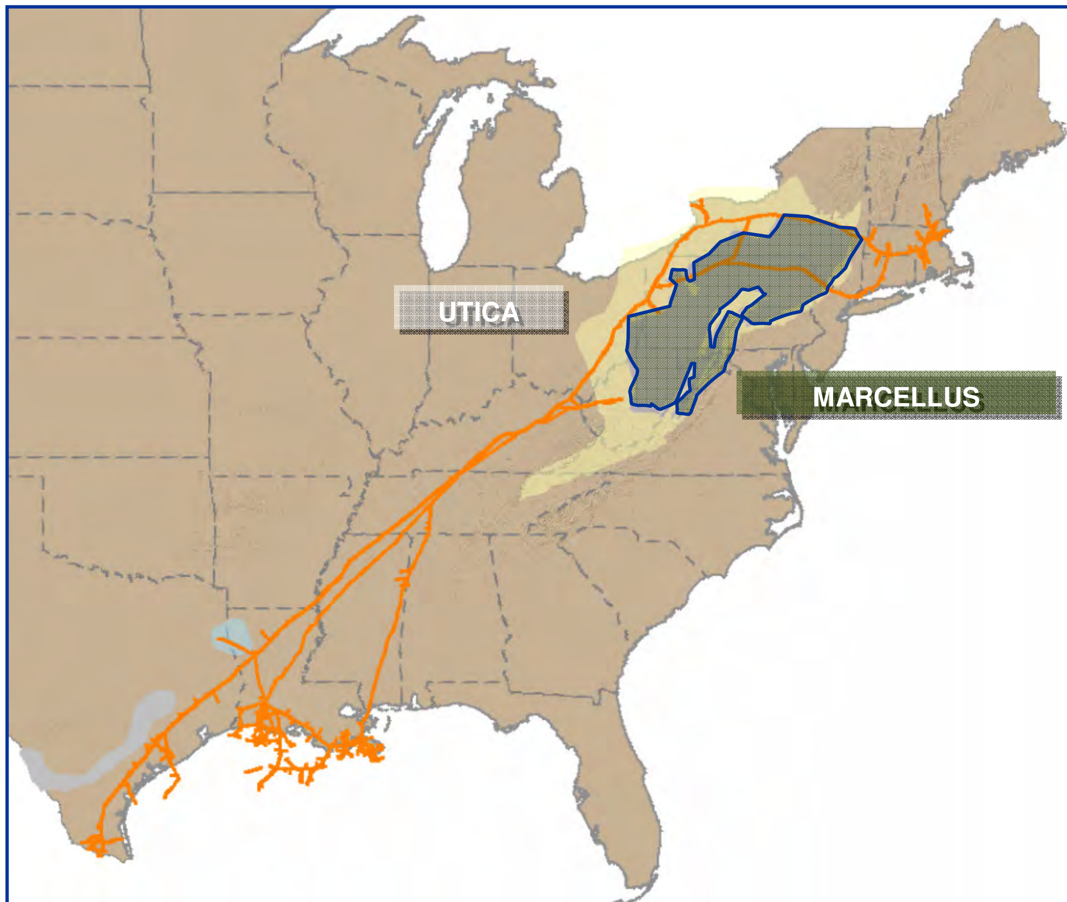
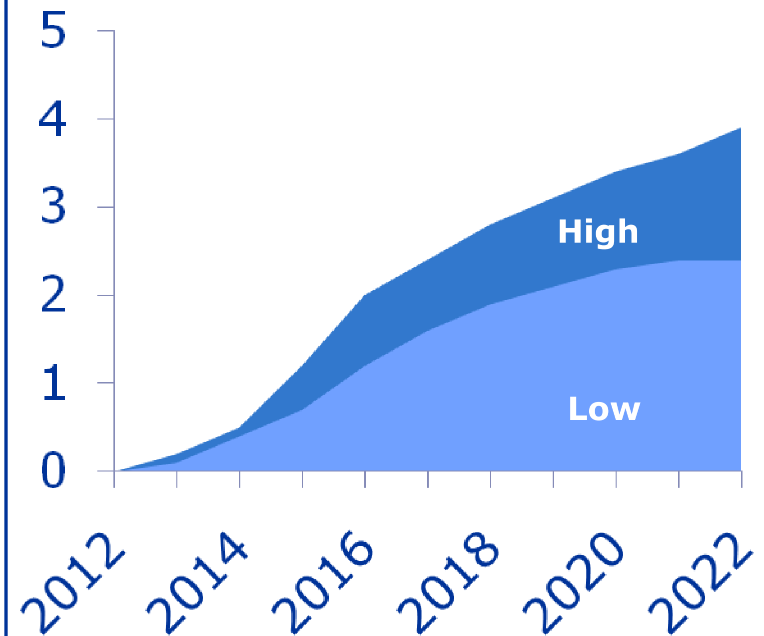
The Next Act - Utica Access



Utica projected to be 1.5 - 2.5 Bcf/d by 2017





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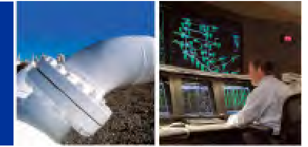
Utica Producer Activity

TGP ROW Window (Ohio)

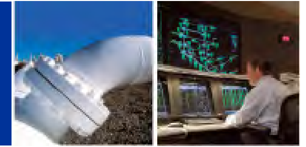
Operator	Net Acres
Chesapeake/ Total	1,300,000
Enervest	700,000
Chevron	623,000
Anadarko	390,000
Hess	200,000
Range	190,000
Halcon	140,000
Consol	100,000
Xon	90,000
BP	84,000
Rex	72,200
Gulfport	62,500
Antero	56,000
Shell	undisclosed
Hilcorp	private
Sierra	private
TOTAL	4,007,700

Canadian Mainline – Eastern Triangle



n NDA
STN 112 - MARTEN RIVER
GMi NDA
Union EDA
STN 1206 - DEUX RIVIERES
QC
GMi EDA
LACHENAIE COMPRESSOR
STN 802 - CANDIAC
ME
East Hereford
STN 148 - LES CEDRES
North Bay
STN 116 - NORTH BAY
Sudbury
STN 1211 - PEMBROKE
Philipsburg
Napierville
ON
Cornwall
STN 1217 - STITTSVILLE
STN 119 - SUNDRIDGE
Iroquois
Westbrook
VT
NH
Enbridge EDA
STN 144 - BROCKVILLE
STN 123 - BRACEBRIDGE
Enbridge EDA
Union NCDA
STN 142 - KINGSTON
KPUC EDA
STN 139 - BELLEVILLE
STN 127 - BARRIE
Dracut
NY
Enbridge CDA
STN 136 - COBOURG
Union EDA
MA
Schomberg Gate
STN 134 - BOWMANVILLE
Wright
STN 130 - MAPLE
Victoria Square 2 CDA
Lake Ontario
Goreway CDA
Parkway
STN 211 - LINCOLN
Niagara
RI
CT
Kirkwall
Union CDA
Chippawa
Brookfield
STN 209 - ANCASTER
Ramapo
St.Clair
Thorold CDA
Union SWDA
(Dawn)
Dawn
Ellisburg
Leidy
Lake St. Claire
Lake Erie
Enbridge SWDA
(Dawn)
NJ
PA

Marcellus and the Mainline



- **To date, TransCanada has executed firm transportation contracts for approximately <u>410,000 GJ/d</u> of long-term service between Niagara Falls and Eastern Canadian markets**
  - Facilities installed to move gas from Niagara effective November 1, 2012
  - TransCanada expects to be able to install additional capacity from Niagara/Chippawa to Kirkwall for November 1, 2014 and for November 1, 2016 to markets downstream of Parkway (e.g. Toronto, Montreal, Iroquois, PNGTS)

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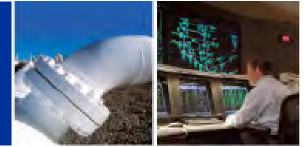
Incremental Capacity to Key Markets



- **TCPL and TGP can expand system capacity as required to enable Marcellus and Utica supply to reach Canadian markets**
  - TGP put the Niagara Spur Loop Line Bi-directional Flow Project and its NSD Project in-service 11-1-12 for delivery capacity at Niagara, operational capacity ~ 725,000 – 800,000 Mcf/d
  - Most recent TCPL expansion (Niagara to Kirkwall and Parkway to Maple) put into service November 2012 (current Niagara receipt point capacity is ~ 425 TJ
  - TCPL's Q2 2012 open season resulted in approximately 300 TJ/d of incremental service requests from Parkway for November 2015
- **Utilizing existing infrastructure, both TCPL and TGP are able to achieve the lowest cost expansion solutions by offering scalable (various range of volumes) projects to suit producer/market needs and timing of in-service dates**

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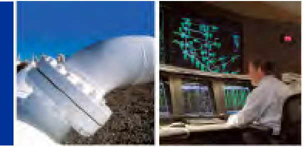
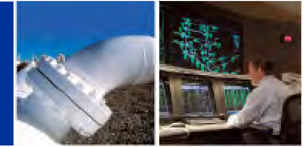
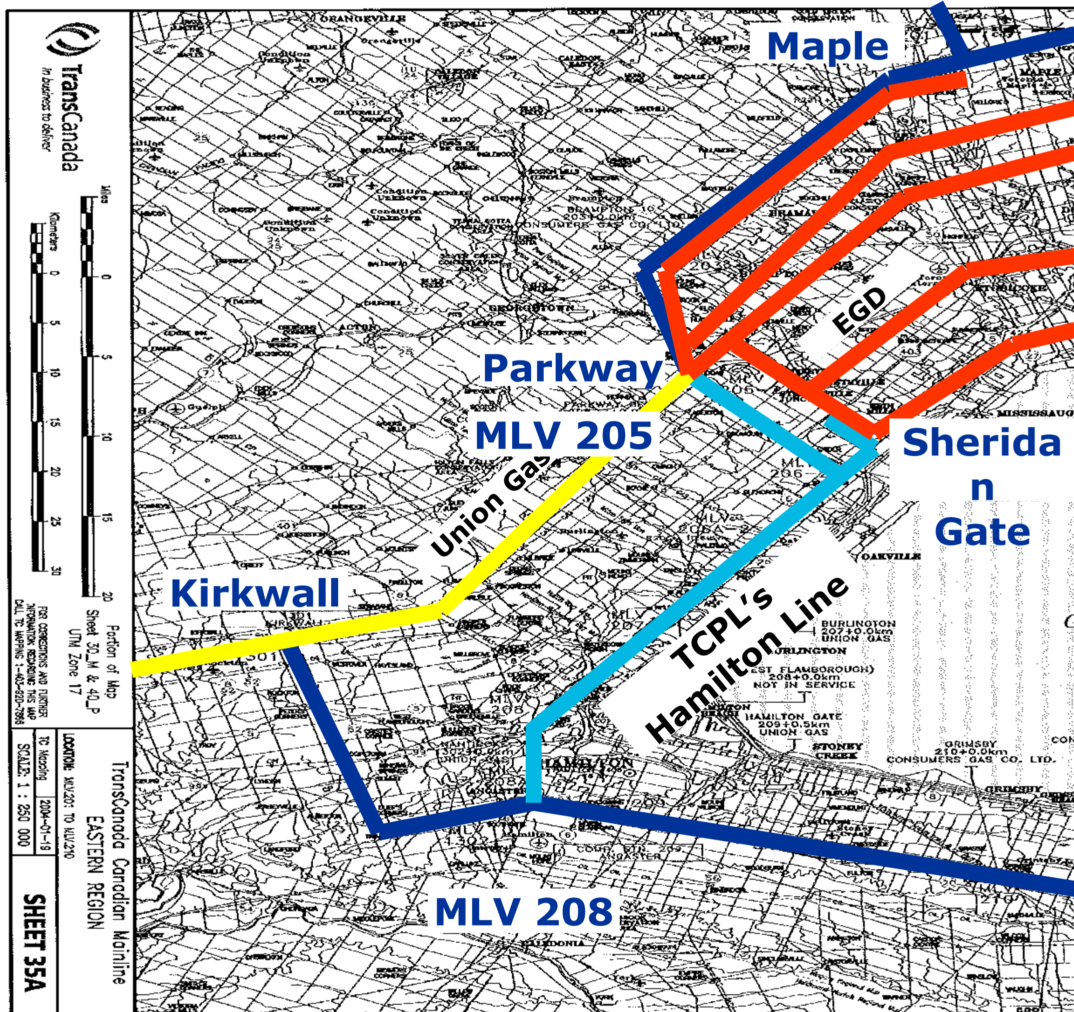
2012 Mainline Expansion Facilities



Incremental Parkway Capacity	~300 TJ/d

Niagara to Toronto via Hamilton Line





Benefits :

- **Efficient**
  - **Low capital versus capacity**
- **Flexible**
  - **Capacity ramp-up**
- **Lower toll to EGD at Pkwy if meter tolled separately from broader EGD CDA ("EGD Parkway")**
- **Estimated Niagara to EGD Parkway DDA = $0.14/GJ**

Price Comparison: Nexus vs TGP/TCPL Marcellus to Dawn

Nexus		TGP/TCPL	
Gas Price Dominion S.	$3.12	$2.98	Gas Price TGP Marcellus
Nexus rate	$0.80?	$0.50 - $0.60	TGP rate
Gathering / OPEN rate??	$??	$0.13	TCPL rate to Kirkwall*
		$0.10	Union Gas M12X rate
TOTAL DELIVERED COST	$3.92 - ??	$3.71 - $3.81	TOTAL DELIVERED COST

*** Gas prices quoted in Jan 30 edition of Gas Daily**

**** TCPL Rates are 2013 Restructuring Rates**

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Price Comparison: Nexus vs TGP/TCPL
Marcellus to Union CDA

Nexus		TGP/TCPL	
Gas Price Dominion Sth*	$3.12	$2.98	Gas Price TGP Marcellus*
Nexus rate	$0.80??	$0.50 - $0.60	TGP rate
Gathering / OPEN rate??	$??	$0.12	TCPL rate to Union CDA**
Union Gas M12X Rate	$0.10		Union Gas M12X rate
TCPL Parkway to Union CDA**	$0.09		
TOTAL DELIVERED COST	$4.11 - ??	$3.60 – $3.70	TOTAL DELIVERED COST

*** Gas prices quoted in Jan 30 edition of Gas Daily**

**** TC Rates are 2013 Restructuring Rates**

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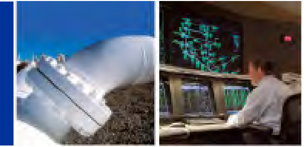
Conclusions & Next Steps



Access to Marcellus Supply

- TransCanada's Mainline connects suppliers to premium markets within Ontario and Quebec via Tennessee Gas Pipeline and other interstate pipeline connections

Competitive Option

- TransCanada's seamless service provides a competitive option to markets looking to access Marcellus and Utica supplies at Niagara

Operational Excellence (TCPL & TGP)

- Secure and reliable annual firm service
- Flexible and easy to use transactional systems
- Strong record of meeting project in-service dates

Next Steps

Meetings with Producers and Markets Jan/Feb, 2013 to assess customer interest and timing of infrastructure needs

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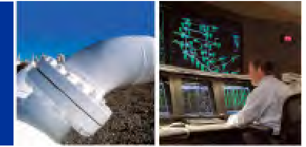
Contact Information:



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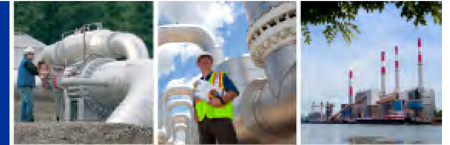
TransCanada – Bringing Northeast U.S. Shale Supplies to Ontario Markets

February 2013

Forward-Looking Information



This presentation contains certain information that is forward looking and is subject to important risks and uncertainties. The words "anticipate", "expect", "believe", "may", "will", "should", "estimate", "project", "outlook", "forecast", "intend", "target", "plan" or other similar words are used to identify such forward-looking information. Forward-looking statements in this presentation 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 plans and financial outlook. Forward-looking statements in this presentation may include, but are not limited to, statements regarding anticipated business prospects; financial performance of TransCanada and its subsidiaries and affiliates; expectations or projections about strategies and goals for growth and expansion; expected cash flows; expected costs; expected costs for projects under construction; expected schedules for planned projects (including anticipated construction and completion dates); expected regulatory processes and outcomes; expected outcomes with respect to legal proceedings, including arbitration; expected capital expenditures; expected operating and financial results; and expected impact of future commitments and contingent liabilities.

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The risks and uncertainties that could cause actual results or events to differ materially from current expectations include, but are not limited to the ability of TransCanada to successfully implement its strategic initiatives and whether such strategic initiatives will yield the expected benefits; the operating performance of the Company's pipeline and energy assets; the availability and price of energy commodities; amount of capacity payments and revenues from the Company's energy business; regulatory decisions and outcomes; outcomes with respect to legal proceedings, including arbitration; counterparty performance; changes in environmental and other laws and regulations; competitive factors in the pipeline and energy sectors; construction and completion of capital projects; labour, equipment and material costs; access to capital markets; interest and currency exchange rates; weather; technological developments; and economic conditions in North America.

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TransCanada Corporation (TSX/NYSE: TRP)

One of North America's Largest Natural Gas Pipeline Networks

- Operating 68,500 km (42,500 mi) of pipeline
- Average volume of 14 Bcf/d or 20% of continental demand

North America's 3rd Largest Natural Gas Storage Operator

- 380 Bcf of capacity

Canada's Largest Private Sector Power Generator

- 20 power plants, 10,900 MW
- Diversified portfolio, including wind, hydro, nuclear, coal, solar and natural gas

Premier North American Oil Pipeline System

- 1.4 million Bbl/d ultimate capacity*

*** Keystone Wood River/Patoka and Cushing Extension sections in operation**
Gulf Coast pipeline project in development
Keystone XL pipeline project in development
Houston Lateral pipeline project in development

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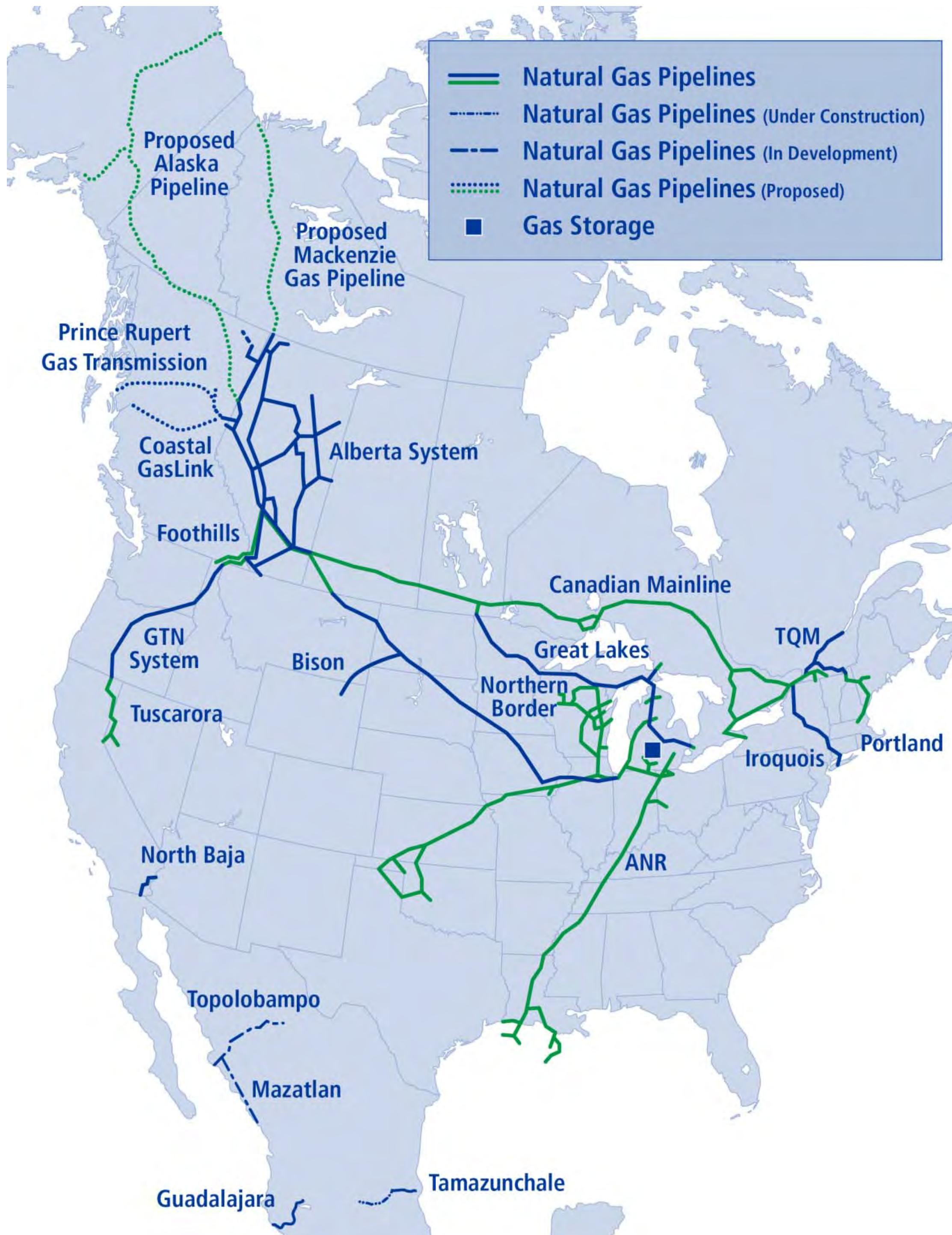

Natural Gas Pipelines

- 57,000 km (35,500 mi) of wholly owned natural gas pipeline
- Interests in an additional 11,500 km (7,000 mi) of natural gas pipeline
- 250 Bcf of regulated natural gas storage capacity
- Unparalleled connections from traditional and emerging basins to growing markets
- Average daily volume of approximately 14 Bcf, 2010 of North American demand

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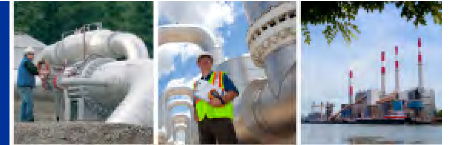
Key Takeaway Points



- **Upstream pipelines and producers are seeking opportunities to make Marcellus and Utica supply available to Canada and the Midwest U.S.**
  - Marcellus began to arrive in Ontario on November 1st 2012.
  - Various options exist for bringing additional volumes to Ontario.
  - Existing infrastructure capacity is available.
- **Utilization of existing infrastructure provides most efficient transportation solution.**
- **TransCanada can offer additional capacity from the Utica/Marcellus at competitive rates with:**
  - Minimal capital costs
  - Short lead times
  - Flexible contract terms
  - Minimal regulatory risk

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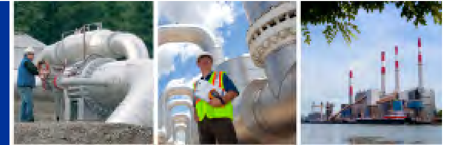
Agenda Topics



- **Pipeline Capacity**
  - Southern Ontario Market import pipeline capacity.
  - Changes in capacity utilization.
- **Supply Availability**
  - Existing supply portfolio available to Ontario shippers.
  - Adding Utica/Marcellus supply access to mix via;
    - Nexus Greenfield Project
    - Existing Infrastructure
- **Transport Costs**
  - Nexus Greenfield Project
  - Existing Infrastructure
- **Greenfield vs. Existing Infrastructure**

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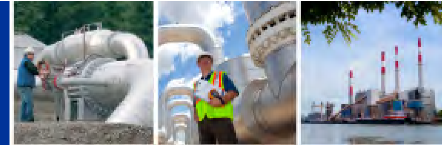
Pipeline Capacity via Existing Infrastructure



Over 9 Bcfd existing capacity into southern Ontario serving 3 Bcfd of demand

Great Lakes

WCSB

From WCSB
4 Bcfd on TransCanada Northern Ontario Line

From Michigan
5 Bcfd capacity on Great Lakes, Vector, Michcon, Panhandle, ANR, Bluewater

WCSB Bakken

From Niagara
0.4 Bcfd contracted, additional 0.35 Bcfd supply available

Utica/Marcellus

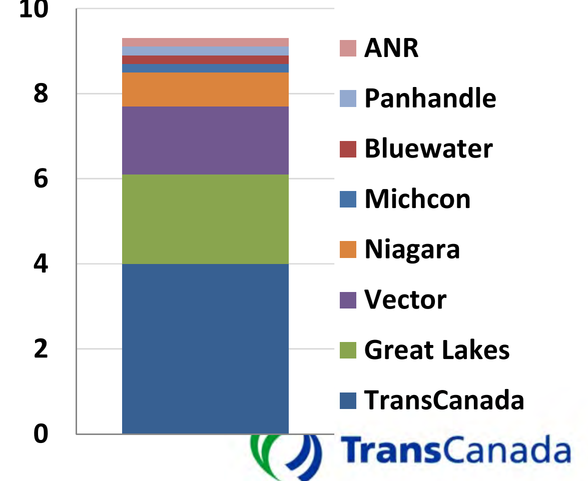
Midcontinent and Rockies

ANR

Gulf Coast Shale Gas

Diverse supply sources via existing capacity:

- WCSB via TransCanada Northern Ontario Line
- Marcellus and Utica via TransCanada, Tennessee Gas Pipeline, National Fuels
- Michigan into Ontario accesses WCSB, Gulf Coast and Midcontinent shales, Rockies, Bakken, and Utica



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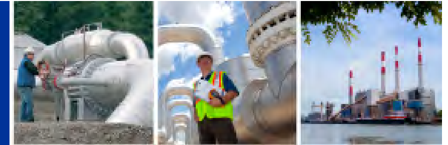
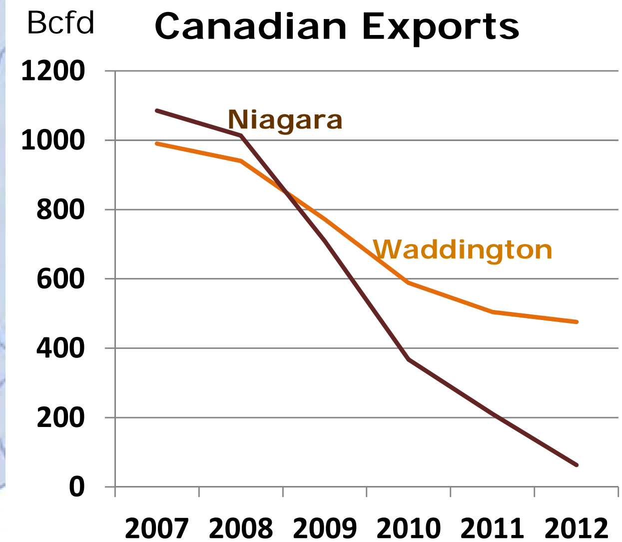
Shift in Pipeline Capacity Utilization

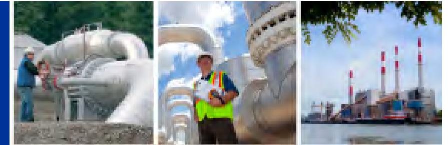


To-and-through Ontario flows have been in decline



Declining Canadian exports into Northeast has led to underutilized capacity on some pipelines

Shift in Supply Sources on GLGT



Declining Emerson receipts have resulted in an increase of capacity on Great Lakes from Farwell to St. Clair.

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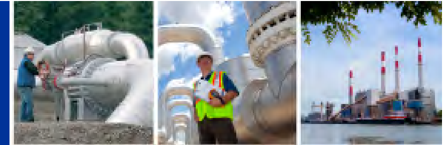
Linking Natural Gas Supply to Key Markets



- Our pipeline network taps into virtually every major North American natural gas supply basin and provides Ontario with unparalleled access to a diverse supply portfolio.

- Our vast pipeline network is also very well positioned to connect new sources of supply such as shale gas to growing Ontario markets.

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Growth in Supply Sources Accessible to the Ontario Market

Diversify supply from Utica & Marcellus, Mid-Continent, and Gulf Coast

Year	WCSB Conventional / WCSB Shale chart (Bcfd)

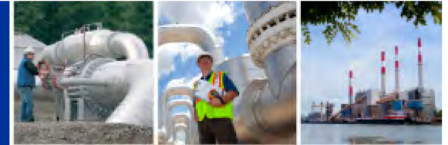
WCSB Shale
WCSB Conventional

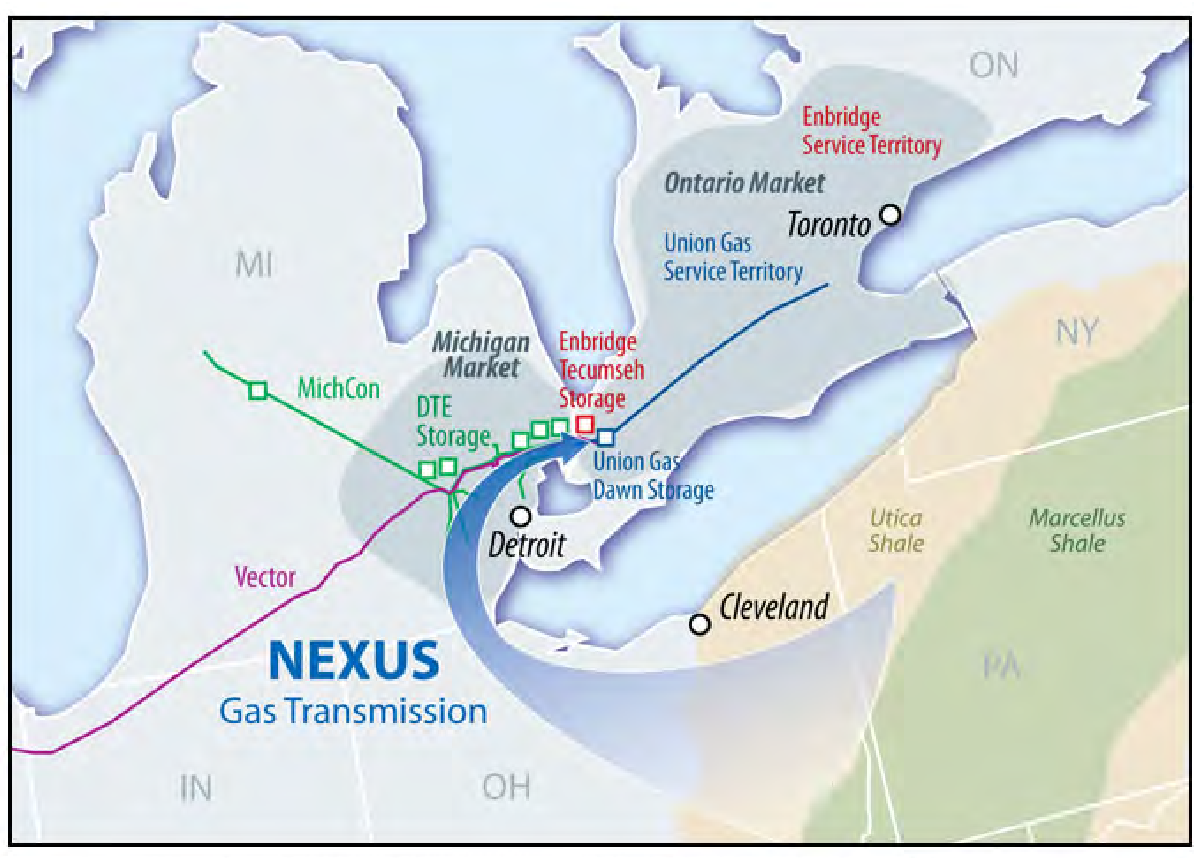
Rockies
Midcontinent & Gulf Coast Shales
Midcontinent Conventional
Gulf Coast Conventional
Gulf of Mexico

Eastern U.S. Shale
Eastern U.S. Conventional

Source: Fall 2012 TransCanada Strategic Outlook

NEXUS Project Scope





Source: Spectra Energy Website

- Location: Ohio, Michigan, Ontario
- Length: ~250 miles
- Capacity: At least 1 billion cubic feet per day
- Open Season: Fourth quarter 2012
- Partner Companies: DTE Energy, Enbridge and Spectra Energy
- Projected In-Service: November 2016

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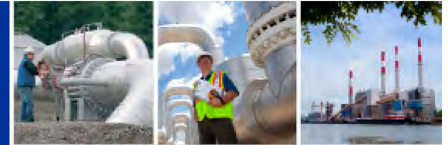
TransCanada – Bringing new supplies to market with existing infrastructure



Lebanon to Dawn

- 200 MMcfd from Lebanon receipts to Dawn with existing capacity and by reversing the Lebanon Lateral
- An additional 150 to 200 MMcfd available with minimal investment
  - 150 MMcfd w/add'l compression on Tie-Line
  - 200 MMcfd w/add'l compression on Tie-Line and Lebanon Lateral

Niagara to Kirkwall

- 400 MMcfd in-service November, 2012 with line reversal
- Working to contract additional 350 MMcfd at the border and attract additional supply

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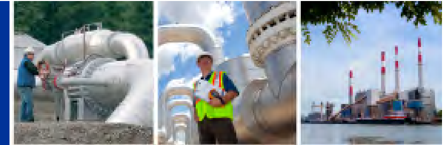
Tariff Comparisons ANR vs Nexus Solutions



Great Lakes
Dawn
Michcon
Vector
Utica Supplies
Lebanon Lateral
Dominion
Texas Eastern
Texas Eastern
ANR Pipeline

Nexus

- New build from Utica to Vector
- Utilize Vector capacity into Ontario
- Rate assumed to be $0.80/Dth

ANR via Lebanon

- Utilize existing capacity on Dominion, ANR, Great Lakes, and TransCanada
- Maximum tariff rate for full path $0.60 $/Dth

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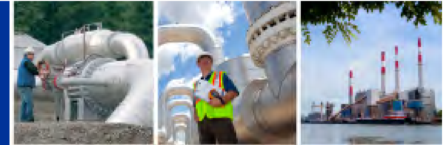
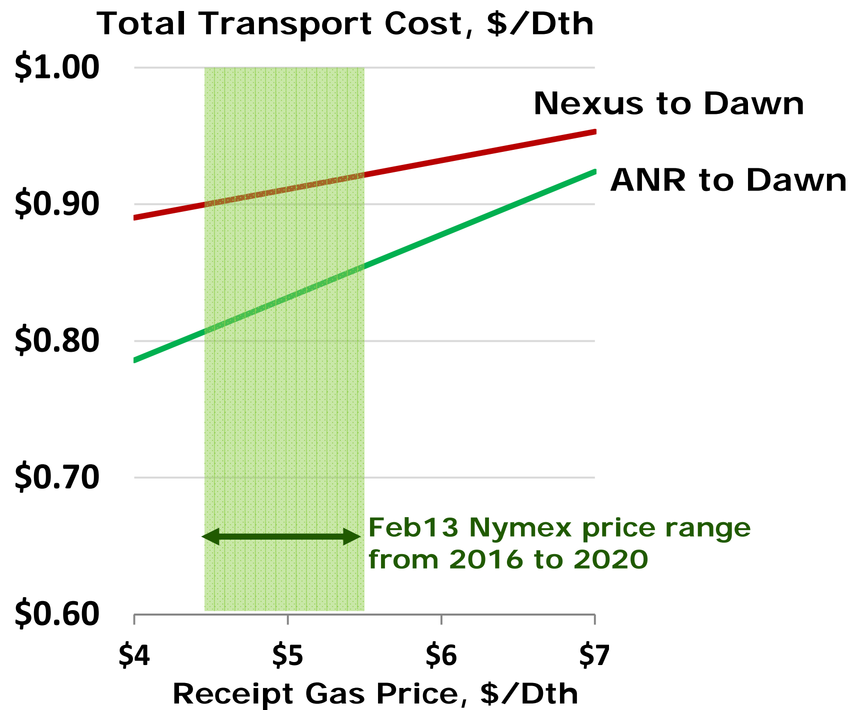
Full Transport Cost Comparison to Dawn





- Nexus rate assumed to be $0.80/Dth plus fuel
  - $0.27 for Vector capacity utilization
  - $0.53 for new build
- Maximum rate is assumed for Dominion, ANR, Great Lakes, and TransCanada

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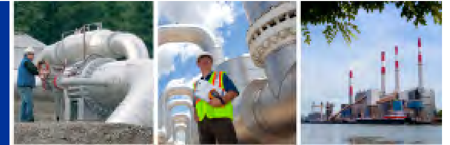
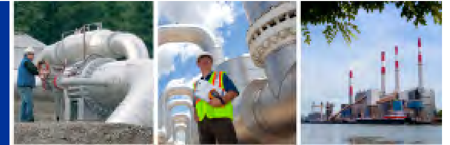
Greenfield Versus Existing Infrastructure



- **Greenfield Projects**
  - Capital Intensive
  - Significant shipper commitments required
  - Long in-service lead times
  - Regulatory, cost, and construction schedule risk
  - Financial exposure to basis degradation once in-service
- **Utilization of Existing Infrastructure**
  - Efficient solution to producer flow assurance/liquidity concerns
  - Supply diversity
  - Minimal regulatory, cost, or construction schedule risk
  - Minor capital requirements
  - No long term contract commitments

Thank You!



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TransCanada

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Union's NEXUS Arrangement

Chris Shorts April 24/2015

NEXUS Gas Transmission Project
Attracting New Supply to Dawn

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- New pipeline to connect Utica & Marcellus supplies to U.S. Midwest, and Ontario markets
- Strong development partners: DTE Energy and Spectra Energy
- 250-mile (400 km) large diameter pipeline delivering up to 1.5 PJ/d
- In-service November 2017
- Uses existing infrastructure and utility corridors as much as possible
- Firm path to Dawn Hub with interconnects to major markets – MichCon, Consumers, Vector, Tecumseh and Dawn

New pipeline infrastructure required to connect new supplies to Eastern Canadian and US Midwest markets

Detail of NEXUS Path

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Most NEXUS volumes will flow to Dawn, via DTE and Vector while Union's will flow on DTE (Michcon) to Union St Clair, to Dawn

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The Need for NEXUS

- Changing Supply Dynamics impacting Gas Flows
- Enhanced Liquidity and Security of Supply at Dawn
  - Need to ensure robust deliveries continue to land at Dawn
  - Changing Supply Dynamics are increasing demand for gas from Dawn
  - Growth in Dawn Parkway takeaway capacity will put more pressure on Dawn supplies
  - Union customers wanting and gaining more access to Dawn supplies
    - Parkway Obligation
    - Union North to Dawn (Sales Service/Bundled DP and T-Service)
- Access to Fastest Growing Supply Basin in Close Proximity to Ontario
  - Prices very low and stable in the basin
  - Competition taking these Appalachian supplies to other markets

NEXUS Precedent Agreement

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- Union entered NEXUS non-binding Open Season in 2012 for a volume of 150,000 dth/d (anchor shipper status)
- Union executed a Precedent Agreement (PA) with the NEXUS partners in 2014 and amended it in 2015
  - Volume of 158,000 GJ/d
  - Union's Volumes will travel on NEXUS to the interconnect of Union and DTE at St Clair River Crossing
  - Volumes will utilize existing Union St Clair to Dawn capacity that is already recovered from customers
  - Path is used for S&T transport today that will be used for sales service volumes in future

NEXUS Precedent Agreement cont'd

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- Rate is a negotiated fixed rate
  - Rate of $.77 US/dth plus fuel (2-3% estimate) to St Clair interconnect
  - Subject to +/- 15% capital cost adjustment (on greenfield portion only)
- Expected in service of Nov 1, 2017
  - If notified it will be after Nov 1, 2018, Union can terminate at no cost (by Nov 1, 2015)
  - NEXUS can terminate up to Oct 1, 2016 (economic viability, cost overruns, shippers cancel)
- Contains a Most Favoured Nations clause
  - Ensures Union can have same treatment as other similar shippers
- Several Conditions Precedents
  - Union main one is OEB approval by Oct 1, 2015

Union vs Enbridge

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- Both Union and Enbridge have signed Precedent Agreements

Comparison					
	Volume GJ/d	**Status**	**Delivery Point**	**NEXUS Rate***	**Rate to Dawn***
Union	158,000	Anchor	DTE/St Clair	$.77 US/dth	$.805 US/dth
Enbridge	116,000	Non Anchor	DTE/Vector	$.70 US/dth	$.845 to $.95 US/dth

* Does not include fuel

Union OEB Filing

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- Union will be filing for pre-approval of the cost consequences of the NEXUS contract
  - Meets the Board Criteria
    - *Supports significant new infrastructure to access to new supply basin ($1.5 B)*
    - *Significant long term commitment by Union (15 years, $700 M transport, >$4.3 B commodity)*
    - *Union has filed twice before but been unsuccessful*
- Outlines the benefits to Union's direct customers as well as all of Ontario and Quebec
  - Enhanced security of supply and liquidity at Dawn
  - Access to lower and stable prices for natural gas in Marcellus/Utica
  - With more suppliers comes more competition
  - Will help to keep Ontario Energy prices competitive
- Expect to file with the Board by first week of May
  - Need approval by Oct 1, 2015 (Condition Precedent)

Sussex Report

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- Hired Sussex Economic Advisors to review Union and Enbridge participation in NEXUS
- Will be filed as an appendix within Application
- Conclusions
  - The applications by the LDC's meet the Boards Criteria
  - The supply in Marcellus Utica is and will continue to be robust and available
  - There are multiple benefits to the LDC's customers and Ontario in general of the LDC's supporting NEXUS
  - The PA negotiated mitigates many of the potential risks of the project (delays, cost overruns etc.)

Supply Strategy

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- Union has been very active with Spectra and the Supplier community to promote the value of Dawn
- Continue to actively meet with Marcellus and Utica Suppliers
  - Negotiating NAESB agreements
  - Discussing possible supply and pricing alternatives
- Working on Request for Proposal (RFP) for Supply
  - Up to 50,000 GJ/d
  - Contingent on NEXUS in service (ie Nov 1, 2017)
  - Open broad request to gauge interest
    - Open to longer term, various indexes and pricing alternatives
    - Will likely be a commitment in excess of $450 M
  - Hope to issue by early May

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Benefits of NEXUS to Dawn

- Allow Ontario customers direct access to large amounts of competitively priced natural gas
- Access to new and growing supply basin in close proximity to Ontario
- Increase security and diversity of supply
- Enhances liquidity of Dawn Hub for benefit of all Ontario consumers
- Create opportunities for new suppliers to access Dawn

New sources of natural gas ensures competitive pricing and diversity of supply for all of Ontario

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, p. 4 of 54, Line 19
ii) Application, Exhibit A, p. 11 of 54, Lines 10 – 11
iii) Application, Exhibit A, p. 41 of 54, Lines 1 – 2

Preamble: In Reference i), Union states that Vector volumes are declining.

In Reference ii), Union states that NEXUS capacity will "[r]eplace an Alliance Pipelines contract that is expiring in the portfolio for Union South customers […]."

In Reference iii), Union discusses replacing TransCanada long-haul contracts with NEXUS supply.

TransCanada seeks to fully understand Union's supply situation.

a) Please provide the details of Union's contracts on the Vector system, including delivery points, volumes, and termination dates.

b) What are Union's post-2017 plans for capacity it currently holds on Vector? Please explain.

c) Please provide the details of Union's contracts on Alliance Pipeline, including volumes and expiry dates.

d) Does Union plan to de-contract all Alliance volumes? What contracts and quantities will be de-contracted before November 1, 2017, and what contracts and quantities will be de-contracted post-November 1, 2017? Please explain.

e) Please provide the details of Union's long-haul and short-haul contracts on TCPL, including delivery points, volumes, and termination dates.

Response:

a) Union currently holds the following contracts with Vector:

Vector Contracts

Receipt Point	Delivery Point	Volume (GJ/d)	Expiry Date
Chicago	Dawn	84,405	November 30, 2018
Chicago	Dawn	85,460	November 30, 2015
Chicago	Dawn	26,376	October 31, 2017

b) Union is not renewing the contract that expires November 30, 2015. Union anticipates that it will continue hold at least 84,405 GJ/d or more of Vector capacity subject to future analysis and negotiation.

c) Union currently holds a contract with Alliance Pipelines for 84,405 GJ/d that expires November 30, 2015.

d) Yes. Please see response at Exhibit B.T2.Union.FRPO.16.

e) Union's current transportation services with TransCanada include:

Long Haul & Short Haul

Receipt Point	Delivery Point	Volume (GJ/d)	Expiry Date
Dawn	Union CDA	68,000	October 31, 2017
Empress	Union CDA	59,182	October 31, 2017
Empress	Union CDA	8,145	December 31, 2017
Niagara	Kirkwall	21,101	October 31, 2022
Empress	Union NCDA	10,756	October 31, 2017
Empress	Union EDA	59,101	October 31, 2022
Empress	Union NDA	76,015	October 31, 2017
Empress	Union WDA	39,880	October 31, 2017
Empress	Union SSMDA	8,843	October 31, 2017
Empress	Centrat MDA	4,522	October 31, 2017
Parkway	Union EDA	35,000	October 31, 2022
Parkway	Union CDA	16,000	October 31, 2017

Storage and Transportation Service (STS) - Withdrawals

Receipt Point	Delivery Point	Volume (GJ/d)	Expiry Date
Parkway	Union NCDA	13,704	October 31, 2022
Parkway	Union WDA	31,420	October 31, 2022
Dawn	Union SSMDA	35,022	October 31, 2022
Parkway	Union NDA	48,375	October 31, 2022
Parkway	Union EDA	68,520	October 31, 2022

Storage and Transportation Service (STS) - Injections

Receipt Point	Delivery Point	Volume (GJ/d)	Expiry Date
Union WDA	Parkway	3,150	October 31, 2022
Union EDA	Parkway	47,571	October 31, 2022
Union NDA	Parkway	49,100	October 31, 2022

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipelines Limited ("TCPL")

Reference: i) Application, Exhibit A, p. 2 of 54, Lines 7 - 8

Preamble: TransCanada seeks to understand details associated with the NEXUS project.

a) Please confirm the initial proponents of the NEXUS project were DTE Energy, Enbridge Inc., and Spectra Energy Corp. Please provide the ownership stake of each proponent at that time. If not confirmed, please identify all of the initial proponents and their ownership stakes.

b) Please list the proponents of the NEXUS project at the time Union bid into the NEXUS Open Season. Please provide the ownership stake of each proponent at that time.

c) Who are the current proponents of the NEXUS project? Please provide the ownership stake of each proponent.

Response:

a) In the NEXUS Gas Transmission Open Season Brochure, running from October 15, 2012 to November 20, 2012 the joint developers of the NEXUS project were referenced as DTE Energy, Enbridge Inc. and Spectra Energy Corp. Each had an equal ownership interest.

b) Please see a) above.

c) As noted at Exhibit A, page 14, Spectra Energy Corp and DTE Energy are jointly developing the NEXUS project. Each has a 50% ownership stake.