EB-2015-0166 / EB-2015-0175

Ontario Energy Board

Union Gas Limited / Enbridge Gas Distribution

Pre-Approval of the Cost Consequences of Long-Term Transportation Contracts with NEXUS Gas Transmission

OEB STAFF COMPENDIUM

Enbridge Panel

November 16, 2015

Tab 1

ENBRIDGE

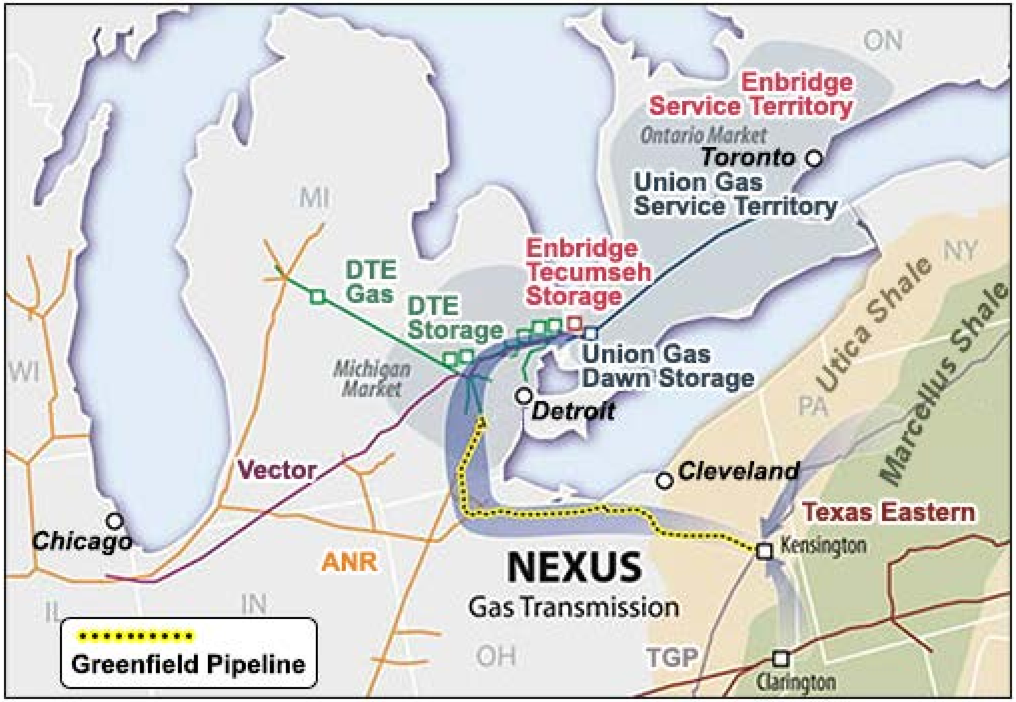
union gas
A Spectra Energy Company

NEXUS Pipeline Overview
EB-2015-0166
EB-2015-0175

Chris Shorts and Jamie LeBlanc
November 13, 2015

The NEXUS Pipeline Project

Bringing Marcellus & Utica gas to LDCs, power generators & industrial users in Ohio, Michigan, and Ontario



Project Scope:

- Spectra Energy and DTE Energy are lead developers
- Capacity: 1.5 Bcf/d
- Estimated CapEx: $2.019 B
- In-Service: November 1, 2017
- New meter & regulation stations, including:
  - Kensington Processing Plant
  - Tennessee Gas Pipeline
  - Texas Eastern Ohio Line
  - DTE Gas Transportation System at Willow Run, MI
  - LDC in Ohio

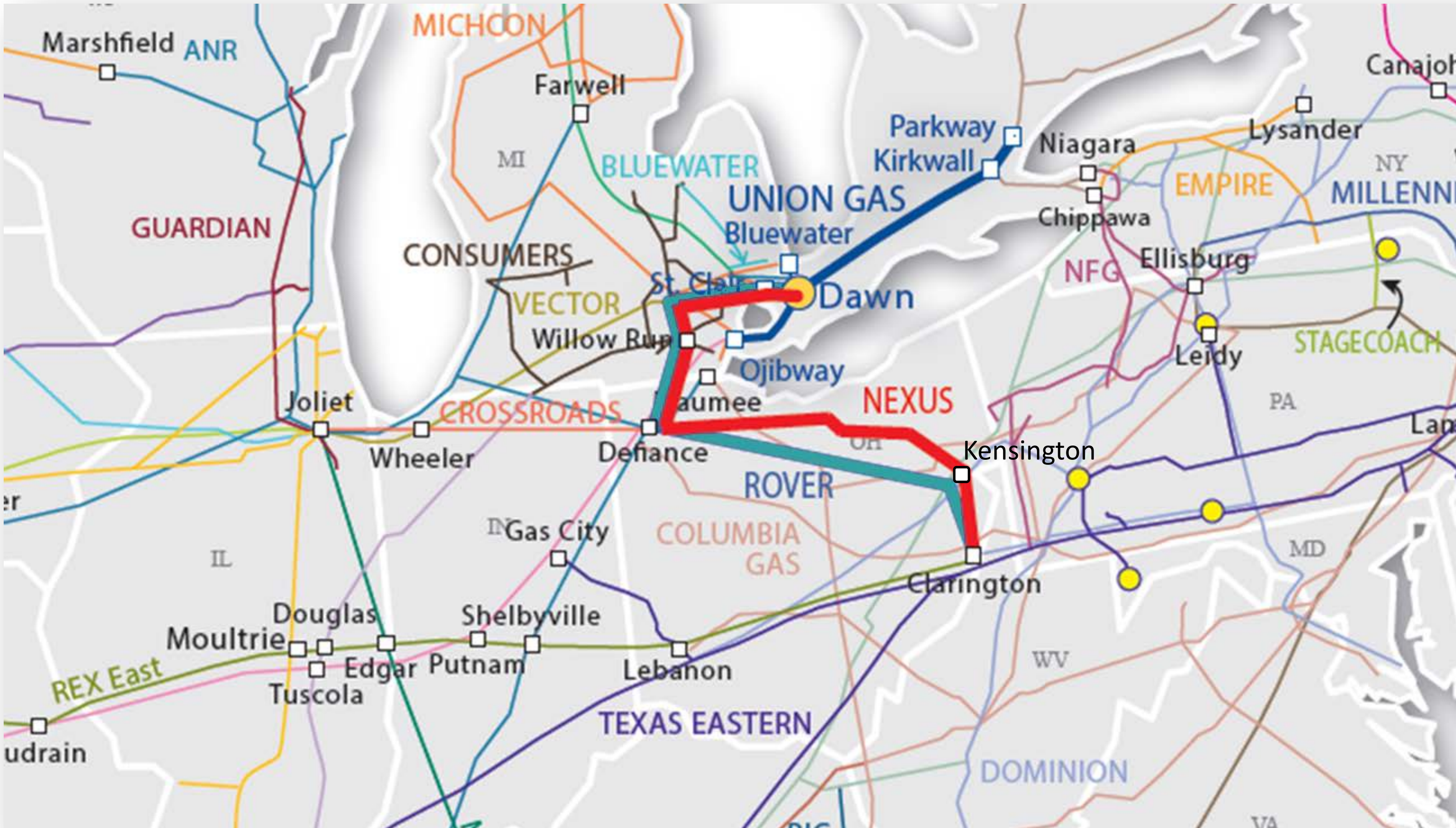
Customers:

- LDCs and Marcellus & Utica producers such as CNX, Noble and Chesapeake
- Multiple taps with various Ohio LDCs and end-users

Facilities:

- 400 km (250 miles), 36-inch greenfield pipeline
- 4 compressor stations
- 5 meter stations
- Will use existing Vector and DTE Gas facilities to deliver gas to Dawn

NEXUS and Rover Routes



NEXUS Routes to Dawn

Union – Nexus contract includes transport on the NEXUS greenfield pipeline from Kensington to Willow Run then on existing DTE facilities delivered to St Clair. The delivery to Dawn is then on Union existing St Clair to Dawn facilities

Enbridge – Nexus contract includes transport on Nexus greenfield pipeline from Kensington to Willow Run then on existing DTE facilities delivered to Vector at Milford. The delivery to Dawn is then on existing Vector facilities contracted separately with Enbridge to Dawn

Other NEXUS Shippers – On Nexus greenfield pipeline from Kensington to Willow Run then delivered to Dawn on existing DTE and Vector facilities contracted by NEXUS

Precedent Agreement Parameters

Parameter	EGD	Union
Transportation Provider	NEXUS Gas Transmission	NEXUS Gas Transmission
Service	Firm Transportation	Firm Transportation
Primary Term	Nov. 1, 2017 – Oct. 31, 2032 (15 years)	Nov. 1, 2017 – Oct. 31, 2032 (15 years)
Volume	110,000 Dth/d [1]	150,000 Dth/d
Receipt Point	Kensington, Ohio	Kensington, Ohio
Delivery Point	Vector Pipeline, Milford Junction	Union St. Clair
Reservation Rate	$0.70 US/Dth [1, 2, 3]	$0.77 US/Dth [2, 3]
Fuel Ratio	2% to 3%	2% to 3%
Renewal Rights	Right of First Refusal	Right of First Refusal

Footnotes

1) Option for 150,000 Dth/d at a reservation rate of $0.685 US/Dth
2) Subject to capital cost tracker adjustment
3) For comparison purposes, to get gas to Dawn requires adding Enbridge Vector capacity at a cost of $.16 US/Dth for a total of $.86 US/Dth and for Union it requires adding Union C-1, St Clair to Dawn, of $.035 CDN ($.028 US/Dth) for a total of $.798 US/Dth

The NEXUS Timeline

Past Milestones

November, 2012	• Union and EGD Bid into NEXUS Open Season
June, 2014	• EGD Executed Initial NEXUS Precedent Agreement
June, 2014	• Rover Project Announced
August, 2014	• Union Executed Initial NEXUS Precedent Agreement
December, 2014	• EGD Executed Restated NEXUS Precedent Agreement
January, 2015	• NEXUS Received FERC Pre-File Approval
May, 2015	• Union Executed Restated NEXUS PA & OEB Filing
June, 2015	• EGD Executed First Amendment to Restated NEXUS PA & OEB Filing
September, 2015	• Union and EGD Requested 90-day Extension of Regulatory Approval CP

Future Milestones

November, 2015	• Anticipated NEXUS FERC Filing
December 29, 2015	• Deadline for Union and EGD's Regulatory Approval CP
November, 2017	• NEXUS Pipeline In-Service

Tab 2

EXECUTION VERSION

RESTATED PRECEDENT AGREEMENT

This RESTATED PRECEDENT AGREEMENT ("Restated Precedent Agreement") is made and entered into this __ day of December, 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 Enbridge Gas Distribution Inc., an Ontario corporation ("Customer"). Pipeline and Customer are sometimes referred to individually as a "Party" and collectively as the "Parties."

W I T N E S S E T H:

WHEREAS, Pipeline is proposing a ~~two-phased~~ project that will ultimately provide up to approximately one and one half (~~1~~1.5) billion cubic feet per day ~~or more~~ 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:

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 in respect of ~~Phase II service~~Project service; provided that, for clarity, the Rate Agreement shall not be revised by Pipeline other than for the sole purpose of conforming the terms of the same with the terms of the NEXUS FERC Gas Tariff (when approved by FERC) and, to the extent not materially adverse to Customer within the context of its participation as a shipper in the Project, with the terms agreed to in rate agreements of other anchor shippers for the Project. 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.

c) Status of ~~Phase II~~ Service Commencement Date. Commencing on January 1, 2015, and continuing on a quarterly basis thereafter, Pipeline will notify Customer regarding Pipeline's progress regarding ~~Phase II~~the Project, and whether the ~~Phase II~~ Service Commencement Date (as determined in accordance with Section 4 of this Restated 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, Customer shall have no further obligation in respect of contracting for Customer's ~~Phase II~~ Service and Customer shall have the right to terminate this Restated Precedent Agreement in respect of Customer's ~~Phase II~~ Service without liability between the Parties including in respect of the Customer being required to pay any Pre-Service Costs.

d) Rates.

i) *Intentionally left blank.*

ii) The rates that will apply to the ~~Phase II~~ Service Agreement shall be as set forth in the rate agreement to be executed in accordance with this Section 3(d), for service under the ~~Phase II~~ Service Agreement. Pipeline and Customer have agreed to the following with regard to the rates for service under the ~~Phase II~~ Service Agreement:

(1) Subject to the terms and conditions set forth herein and in the ~~Phase II~~ Service Agreement and in the ~~Phase II~~ Rate Agreement (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 Agreement commencing on the ~~Phase II~~ Service Commencement Date and continuing to the end of the primary term (as set forth in the ~~Phase II~~ Service Agreement) thereof.

(2) ~~Pipeline and Customer acknowledge that the scope of the facilities necessary for Pipeline to provide Customer's Phase II Service and for all other customers subscribing for 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~~The estimated Reservation Rates and fuel rates for ~~Customer's Phase II Service~~service under the ~~Phase II~~ Service Agreement ~~will~~shall be set

applicable, and each such Party being ready, able and authorized to place such facilities into service.

c) <u>Customer's Conditions Precedent.</u>

i) *Intentionally left blank.*

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;~~*<u>Intentionally left blank.</u>*

iii) Customer's confirmation to Pipeline, no later than 90 days following receipt of the Estimated~~ Phase II~~ Commencement Date, 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 II~~ Service Agreement, respectively; and

iv) ~~If, pursuant Section 3(d)(ii), the Final Reservation Rate exceeds the Estimated Reservation Rate, then Customer's receipt, no later than 60 days following receipt of the requisite internal corporate approvals of such Final Reservation Rate for Phase II;~~*<u>Intentionally left blank.</u>*

v) <u>Subject to Section 7(d), </u>Customer's receipt and acceptance of the approvals from the OEB for its application related to the ~~Customer's Phase II Service~~<u>Project</u> no later than October 1, 2015; 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(a) of this Restated Precedent Agreement

vii) Subject to the other terms of this Restated Precedent Agreement, Customer acknowledges that it has received, prior to the Effective Date, the requisite internal corporate approvals for the performance of Customer's obligations under this Restated Precedent Agreement and other agreements related to the service contemplated hereunder.

d) Temporary Waiver of Conditions Precedent – Governmental Authorizations. Notwithstanding Sections 7(b)(ii), 7(b)(iv), 7(c)(iii), 7(c)(v) and 7(c)(~~iv~~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 it 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 Restated Precedent Agreement on thirty (30) days' written notice and no Pre-Service Costs will be payable by Customer.

Tab 3

Table 3: Enbridge Gas Supply Acquisition Absent NEXUS (PJ)

Source	2017	2018	2019	2020	2021	2022	…	2032
WCSB	132.4	96.7	96.7	97.0	96.7	96.7		97.0
Chicago	67.4	67.4	67.4	67.6	67.4	67.4		67.6
Niagara	73.0	73.0	73.0	73.2	73.0	73.0		73.2
Dawn	149.4	187.5	189.4	191.5	192.6	195.4		217.9
Franchise	11.0	11.0	11.0	11.0	11.0	11.0		11.0
Total	433.2	435.6	437.5	440.3	440.7	443.5		466.7

79. Under current contracting arrangements, reliance on Dawn Hub supplies will increase in 2017. The increase is primarily due to decisions to contract for incremental transportation capacity from the Dawn Hub that has been made available through the GTA Project and the TransCanada Mainline Settlement Agreement, and decisions not to renew Enbridge's Alliance contracts and a portion of Enbridge's Vector contracts. These decisions were made, in part, to provide the flexibility to access new supply from basins proximate to the markets served by Enbridge. Subsequent increases in Dawn Hub supply acquisitions are forecasted to account for future increases in demand.

80. Absent NEXUS, Enbridge's only natural gas supply from the Appalachian basin will be procured at Niagara. This supply source is expected to make up approximately 15% of the total gas supply portfolio over the duration of the NEXUS contract.

81. Table 4 is similar to Table 3, except that the forecast of Enbridge's expected gas supply acquisition assumes NEXUS is incorporated into Enbridge's gas supply plan.

Table 4: Enbridge Gas Supply Acquisition including NEXUS (PJ)

Source	2017	2018	2019	2020	2021	2022	…	2032
WCSB	132.4	96.7	96.7	97.0	96.7	96.7		97.0
Chicago	67.4	25.0	25.0	25.1	25.0	25.0		25.1
Niagara	73.0	73.0	73.0	73.2	73.0	73.0		73.2
Dawn	149.4	187.5	189.4	191.5	192.6	195.4		217.9
NEXUS		42.4	42.4	42.5	42.4	42.4		42.5
Franchise	11.0	11.0	11.0	11.0	11.0	11.0		11.0
Total	433.2	435.6	437.5	440.3	440.7	443.5		466.7

82. The acquisition of gas supply from NEXUS equates to approximately 9% of the portfolio from 2018 to the end of the contract term and will be offset by an equivalent decrease in supplies procured from the Chicago hub from 15% to 6% over the same period.

83. This shift in procurement will diversify the supply being transported to the Dawn Hub along Vector. To facilitate this change, Enbridge expects to restructure its existing Vector capacity that transports 175,000 Dth per day between Joliet, Illinois and Dawn, Ontario. The restructuring will include the segmentation of 110,000 Dth per day by changing the receipt point to the Milford Junction connection with NEXUS. This shorter Vector path will be tolled at a rate of $0.16 US per Dth with a contract term that coincides with Enbridge's NEXUS capacity. The remaining 65,000 Dth per day on Vector will flow between Joliet, Illinois and Dawn, Ontario at a rate of $0.18 US per Dth for a 3 year term that can be renewed for subsequent 3 year increments with 1 year notice.

Tab 4

STAFF INTERROGATORY #7

INTERROGATORY

Ref: A/3/1 page 24 / para 61 / Table 2

In the May 2015 Landed Cost Analysis Summary table, listed are 3 options that are more financially attractive from a landed cost standpoint than the NEXUS Base Case - 15%. These are Dawn, Vector, and TransCanada from Niagara.

For each of the 3 options, please explain why they were rejected in favour of NEXUS.

RESPONSE

As indicated at Exhibit A, Tab 3, Schedule 1, page 6, Enbridge relies on four principles when establishing its gas supply plan. An estimate of landed costs based on an estimate of future market conditions is but one of these principles which must be balanced against the other principles. NEXUS provides benefits that cannot be achieved by procuring supply directly at Dawn or contracting on Vector and/or TransCanada for supply from Chicago and/or Niagara respectively.

NEXUS will enhance the diversity of Enbridge's gas supply portfolio and in turn will improve supply portfolio reliability and flexibility at comparable costs. To more fully understand the impact that each of the paths will have on Enbridge's gas supply portfolio, and in particular to the natural gas supply that is acquired by Enbridge on behalf of system supply customers, Enbridge has recast the Gas Supply Acquisition table provided at Exhibit A, Tab 3, Schedule 1, page 31, Table 3 as a schematic. This schematic, which is provided as Attachment 1 to this response, shows average daily supply with direct purchase supply netted out. It also illustrates the diversity of natural gas supplies that are acquired on behalf of system supply customers effective November 1, 2017. The annual supply information provided in Table 3 has been converted to a daily averages to differentiate between the acquisition of supply throughout the year (which is relatively consistent under normal weather conditions) vs. load balancing supply for demand requirements which is accomplished predominately through the use of storage injections and withdrawals. The natural gas supplies received on behalf of customers who have elected to procure their own natural gas supply through Ontario Transportation Service ("OTS"), Western Transportation Service ("WTS"), and Dawn Transportation Service ("DTS") arrangements have been netted out to better understand the diversity of supply procurement that Enbridge is responsible for on behalf of its system gas customers.

Witnesses: J. LeBlanc
A. Welburn

When considering the schematic, it is important to note that Enbridge's natural gas portfolio is relatively balanced. Each of the WCSB, Niagara, Dawn, and Chicago supply hubs contribute between 20%-30% of the total supply portfolio. When restricting this view to the specific paths that are referenced in this interrogatory, the range reduces to 20%-26% of the total supply portfolio. Making significant increases to supply purchases at Dawn, Chicago (via Vector), or Niagara (via TransCanada) would not provide any significant benefits to supply diversity for system gas customers. In fact, procuring supply at the three options which are currently more economic could have the opposite effect. For example, if the TransCanada through Niagara path were increased it would erode diversity since that path already constitutes the largest percentage of the three referenced options. On the other hand, NEXUS increases diversity of path by transporting Appalachian basin gas to Ontario on a new path. Enbridge agrees with the Board's assessment of the importance of supply diversity that was set out in the GTA Project decision, and is quoted in Exhibit A, Tab 3, Schedule 1, page 29 and 30.

A second schematic has also been included in Attachment 1 of this response and shows what the daily average supply acquisition will look like when the NEXUS path forms part of the Enbridge system gas supply portfolio.

With the addition of NEXUS to Enbridge's gas supply portfolio, the supply being transported to Dawn is significantly more diversified. This diversification leads to the benefits that are discussed in Enbridge's application.

Direct procurement at Dawn, procurement at Chicago for transport via Vector and procurement at Niagara for transport via TransCanada paths were also not selected because none of these paths provided the benefits of direct access to the Appalachian basin as discussed in the application beginning on page 26 of Exhibit A, Tab 3, Schedule 1.

Additionally, it was not feasible to contract for further procurement at Niagara at the time the NEXUS opportunity was being considered. This is because there was insufficient available capacity to transport a similar volume of gas from that point. Although the path from Niagara via TransCanada could achieve direct access to the Appalachian basin through contracting for additional transportation capacity on pipelines in the United States that connect with TransCanada at Niagara or Chippawa. However, at the time when the NEXUS PA was being negotiated, TransCanada would not commit to construct any incremental transportation capacity from Niagara or Chippawa which made this option infeasible. This situation was not remedied until recently when the Mainline Settlement Agreement was reached. The National Energy Board approved the

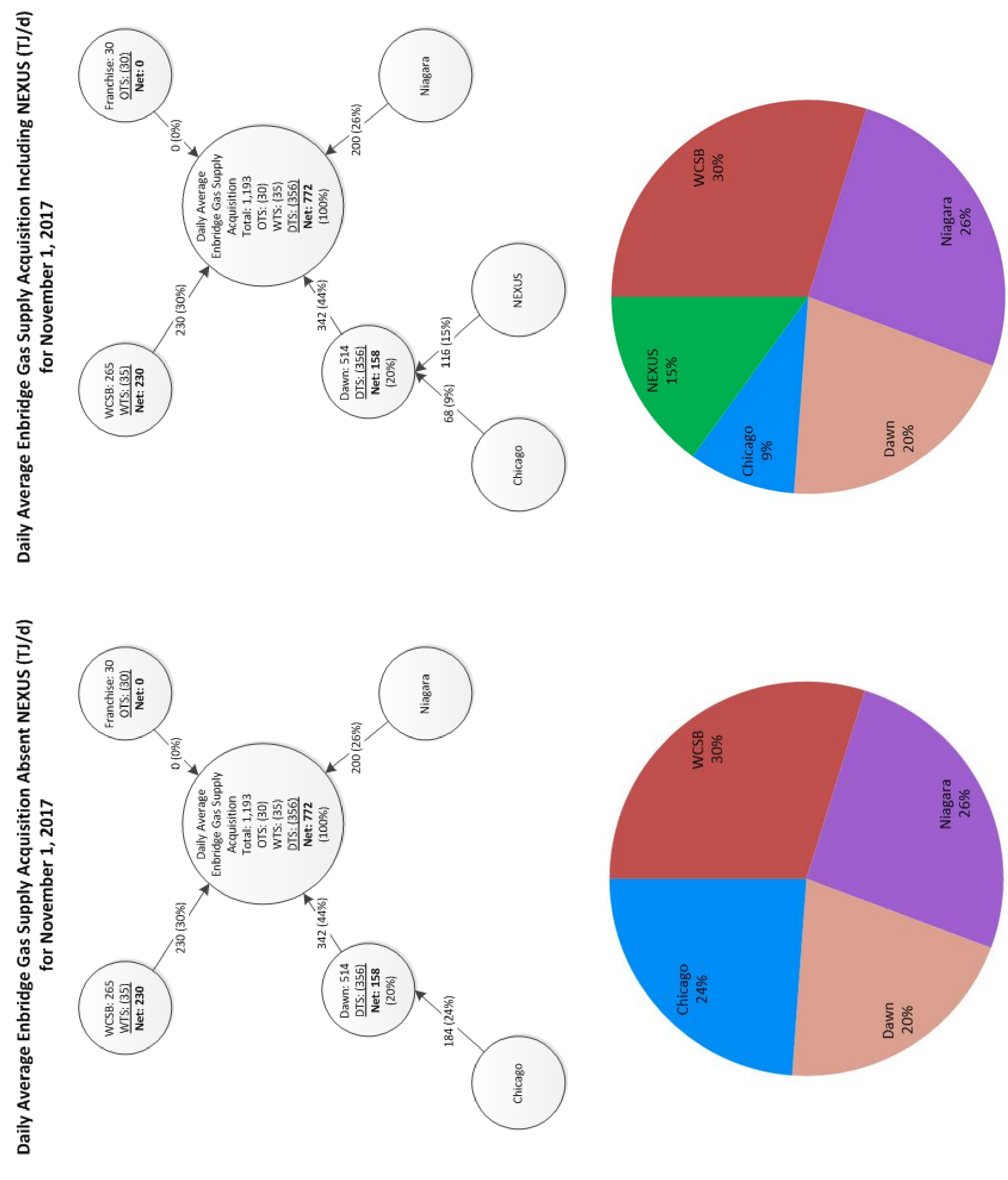
2015-2030 Toll and Tariff application[1] in November 2014, which included the Mainline Settlement Agreement.

Further discussion of the limitations of procuring additional transportation or supply at or through Niagara/Chippawa is found in response to Board Staff Interrogatory #9 at Exhibit I.T1.EGDI.STAFF.9. See also the response to TransCanada Interrogatories #5 and 7 at Exhibit I.T2.EGDI.TransCanada.5 and Exhibit I.T4.EGDI.TransCanada.7.

[1] National Energy Board letter re: TransCanada PipeLines Limited (TransCanada) Application for Approval of 2015 to 2030 Tolls (application) RH-001-2014 Decision with Reasons to Follow dated November 28, 2014.

Witnesses: J. LeBlanc
A. Welburn

Attachment 1



Witnesses: J. LeBlanc
A. Welburn

Tab 5

APPrO INTERROGATORY #2

INTERROGATORY

Reference: i) Exhibit A paragraph 73

Preamble: Enbridge notes that as a result of increased demand at Dawn, liquidity and cost competiveness could be impacted without new infrastructure.

a) Please provide Enbridge's understanding of the amount of net increase in capacity into the Dawn Hub that will result from:

   a) The proposed NEXUS Pipeline as of November 1, 2017
   b) The proposed Rover Pipeline.

RESPONSE

a) Enbridge understands that approximately 500,000 Dth/day is contracted on the NEXUS pipeline for delivery to Dawn. That arrangement includes contracting by NEXUS on DTE and Vector for delivery from the end of the NEXUS pipeline to Dawn.

   Additional supplies of 260,000 Dth/day transported on NEXUS will reach Dawn using transportation capacity from Michigan that is already held by Enbridge and Union on Vector and St. Clair pipeline.

   Enbridge notes that the initial long term contracts on Vector are at or around their expiry dates. Enbridge understands that Vector capacity will be utilized by both NEXUS and Rover to facilitate flows into Dawn. Absent NEXUS and Rover, it may have been that parties would not renew Vector capacity and the net volume into the Dawn hub would reduce. After NEXUS and Rover are in service, Enbridge understands that the pipelines that connect NEXUS to Dawn, including Vector, will be able to increase their transportation capacity to Dawn as a result of the NEXUS and Rover flows.

Witnesses: J. LeBlanc
A. Welburn

b) Enbridge understands, based on publicly available information, that up to 1,100,000 Dth/d of capacity has been contracted to the Market Zone North on Rover. Enbridge understands that Market Zone North refers to a delivery point on Rover which encompasses the delivery points of Dawn, PEPL North and Vector. Therefore a portion of this contracted capacity may not be contracted on a path that can flow all the way to Dawn.

Witnesses: J. LeBlanc
A. Welburn

Tab 6

TRANSCANADA INTERROGATORY #3

INTERROGATORY

Reference:

i) Application, Exhibit A, Tab 3, Schedule 1, Appendix C, Page 1 of 1

Preamble:

Enbridge's most recently filed (May 2015) Landed Cost Analysis assumed an average foreign exchange rate of $1 US = $1.248 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.

Request:

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

The updated Landed Cost Analysis is included in the tables below. Relative to the May 2015 Landed Cost Analysis Enbridge has updated the following assumptions to reflect current information as of August 2015:

- Commodity prices
- Foreign exchange rate
- TransCanada tolls
- Fuel ratios

Witnesses: J. LeBlanc
A. Welburn

August 2015 - NEXUS Landed Cost Analysis for Updated Information ($CAD/GJ)

Pipeline	Pricing Point	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average (August 2015 Update)
TCPL from Niagara	Niagara	3.98	3.72	3.80	3.97	4.28	4.46	4.66	4.87	5.05	5.22	5.41	5.64	5.88	6.12	6.36	6.56	5.00
Dawn	Dawn	4.16	3.91	3.98	4.16	4.32	4.51	4.71	4.91	5.09	5.28	5.47	5.70	5.94	6.18	6.42	6.61	5.08
Vector	Chicago	4.41	4.25	4.30	4.40	4.57	4.76	4.96	5.17	5.35	5.52	5.72	5.96	6.20	6.44	6.68	6.88	5.35
NEXUS (-15%)	Dominion South	4.32	4.16	4.37	4.49	4.68	4.87	5.07	5.26	5.47	5.64	5.84	6.08	6.32	6.57	6.81	7.01	5.43
Rover	Dominion South	4.36	4.20	4.40	4.52	4.70	4.89	5.10	5.28	5.49	5.66	5.86	6.10	6.34	6.59	6.83	7.02	5.46
NEXUS (Anchor)	Dominion South	4.42	4.26	4.47	4.59	4.77	4.97	5.17	5.36	5.56	5.74	5.94	6.18	6.42	6.67	6.91	7.11	5.53
NEXUS (Base Case)	Dominion South	4.44	4.28	4.48	4.61	4.79	4.98	5.19	5.37	5.58	5.76	5.96	6.20	6.44	6.69	6.93	7.13	5.55
NEXUS (+15%)	Dominion South	4.56	4.40	4.60	4.72	4.91	5.10	5.30	5.49	5.70	5.87	6.07	6.32	6.56	6.81	7.05	7.25	5.67
ANR East	Dominion South	4.83	4.66	4.86	4.98	5.16	5.35	5.56	5.75	5.96	6.13	6.33	6.57	6.82	7.07	7.31	7.51	5.93
Alliance	CREC	4.78	4.83	4.95	5.22	5.40	5.60	5.81	6.03	6.23	6.41	6.62	6.87	7.13	7.39	7.64	7.86	6.17
TCPL	Empress	5.34	5.38	5.50	5.77	5.94	6.14	6.35	6.56	6.75	6.92	7.12	7.36	7.61	7.86	8.11	8.31	6.69

August 2015 - Average Commodity Prices ($CAD/GJ)

Pricing Point	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Dawn	4.16	3.91	3.98	4.16	4.32	4.51	4.71	4.91	5.09	5.28	5.47	5.71	5.94	6.18	6.42	6.50	5.12
Chicago	4.16	3.99	4.04	4.14	4.31	4.50	4.70	4.90	5.08	5.25	5.44	5.68	5.91	6.15	6.39	6.47	5.11
Dominion South	3.30	3.15	3.36	3.48	3.67	3.86	4.06	4.24	4.44	4.61	4.80	5.03	5.26	5.50	5.74	5.83	4.45
CREC	3.26	3.29	3.41	3.66	3.83	4.02	4.22	4.42	4.60	4.77	4.96	5.19	5.43	5.67	5.91	5.99	4.60
Empress	3.41	3.45	3.57	3.82	3.99	4.18	4.37	4.58	4.76	4.93	5.12	5.35	5.58	5.82	6.06	6.14	4.76
Niagara	3.70	3.45	3.52	3.69	3.99	4.18	4.38	4.58	4.76	4.93	5.12	5.36	5.59	5.83	6.07	6.20	4.75

August 2015 - Average Foreign Exchange

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
CAD/USD	1.291	1.285	1.276	1.268	1.262	1.258	1.258	1.260	1.263	1.266	1.270	1.274	1.278	1.282	1.282	1.281	1.271

August 2015 - Fuel Ratio

Pipeline	Path	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
ANR East	Leesville-to-Dawn	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%
Rover	Leesville-to-Dawn	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%
Vector	Milford-to-Dawn	0.27%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.45%	0.41%
Vector	Chicago-to-Dawn	0.57%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.18%	1.05%
NEXUS (-15%)	Kensington-to-Milford	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
NEXUS (Base Case)	Kensington-to-Milford	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
NEXUS (+15%)	Kensington-to-Milford	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
NEXUS (Anchor)	Kensington-to-Milford	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
Alliance	CREC-to-Border	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
Alliance	Border-to-Chicago	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
TCPL	Empress-to-Enbridge SWDA	3.99%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.22%	4.27%	4.21%
TCPL	Niagara-to-Kirkwall	0.05%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.23%	0.26%	0.22%
Union	Kirkwall-to-Dawn (C1)	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%

August 2015 - Transportation Toll ($CAD/GJ)

Pipeline	Path	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
ANR East	Leesville-to-Dawn	1.432	1.425	1.415	1.406	1.399	1.395	1.395	1.397	1.400	1.404	1.409	1.413	1.417	1.421	1.421	1.420	1.411
Rover	Leesville-to-Dawn	0.979	0.975	0.967	0.961	0.957	0.954	0.954	0.955	0.957	0.960	0.963	0.966	0.969	0.972	0.972	0.971	0.965
Vector	Milford-to-Dawn	0.196	0.195	0.193	0.192	0.191	0.191	0.191	0.191	0.191	0.192	0.193	0.193	0.194	0.194	0.194	0.194	0.193
Vector	Chicago-to-Dawn	0.220	0.219	0.218	0.216	0.215	0.215	0.215	0.215	0.215	0.216	0.217	0.217	0.218	0.219	0.219	0.218	0.217
NEXUS (-15%)	Kensington-to-Milford	0.737	0.734	0.729	0.724	0.720	0.718	0.719	0.720	0.721	0.723	0.725	0.728	0.730	0.732	0.732	0.731	0.726
NEXUS (Base Case)	Kensington-to-Milford	0.857	0.853	0.846	0.841	0.837	0.835	0.835	0.836	0.838	0.840	0.843	0.845	0.848	0.850	0.850	0.850	0.844
NEXUS (+15%)	Kensington-to-Milford	0.976	0.972	0.964	0.958	0.954	0.951	0.951	0.952	0.954	0.957	0.960	0.963	0.966	0.969	0.969	0.968	0.962
NEXUS (Anchor)	Kensington-to-Milford	0.838	0.834	0.828	0.823	0.819	0.817	0.817	0.818	0.820	0.822	0.825	0.827	0.830	0.832	0.832	0.831	0.826
Alliance	CREC-to-Border	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560
Alliance	Border-to-Chicago	0.478	0.476	0.472	0.469	0.467	0.466	0.466	0.466	0.467	0.469	0.470	0.472	0.473	0.474	0.474	0.474	0.471
TCPL	Empress-to-Enbridge SWDA	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656	1.656
TCPL	Niagara-to-Kirkwall	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221	0.221
Union	Kirkwall-to-Dawn (C1)	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040

August 2015 - ACA ($CAD/GJ)

Pipeline	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Rover	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
NEXUS	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
ANR East	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

August 2015 - Abandonment Surcharge ($CAD/GJ)

Pipeline	Path	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Alliance	CREC-to-Border	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211	0.0211
Vector	Michigan Border-to-Dawn	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
TCPL	Empress-to-Enbridge SWDA	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327	0.1327
TCPL	Niagara-to-Kirkwall	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068	0.0068

Witnesses: J. LeBlanc
A. Welburn

Tab 7

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

Tab 8

ENBRIDGE

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON
M2J 1P8
Canada

Memo

Date: August 18, 2014

To: Malini Giridhar

From: Joel Denomy

CC: Jamie LeBlanc

Re: NEXUS Analysis and Recommendation

Introduction

EGD signed a Precedent Agreement with the proponents of the Nexus Project on June 5, 2014. The PA has a condition precedent on internal approvals that must be waived by September 30, 2014. The purpose of this memo is to provide a recommendation on whether EGD should continue to pursue capacity on the NEXUS Gas Transmission Project ("NEXUS") based on information provided by the project developers[1] to date and an assessment of other pipeline projects seeking to bring Utica and Marcellus gas to market.

Executive Summary

Subsequent to signing the PA, significant new developments with respect to Dawn supply include two new projects proposing to bring natural gas to Dawn from the general supply area accessed by Nexus and discussions with potential suppliers at Niagara Falls and Chippawa about their willingness to bring supply to Dawn. It therefore appears that a long term commitment to the supply basin may not be necessary to meet EGD's supply needs and it is recommended that EGD not contract for capacity on the NEXUS pipeline. EGD should continue to procure natural gas at Dawn and maximize the load factor on its Niagara/Chippawa transport. EGD should continue to monitor NEXUS development as it could provide an alternative to Chicago supplies if additional connectivity to U.S. Northeast supplies is required in the future.

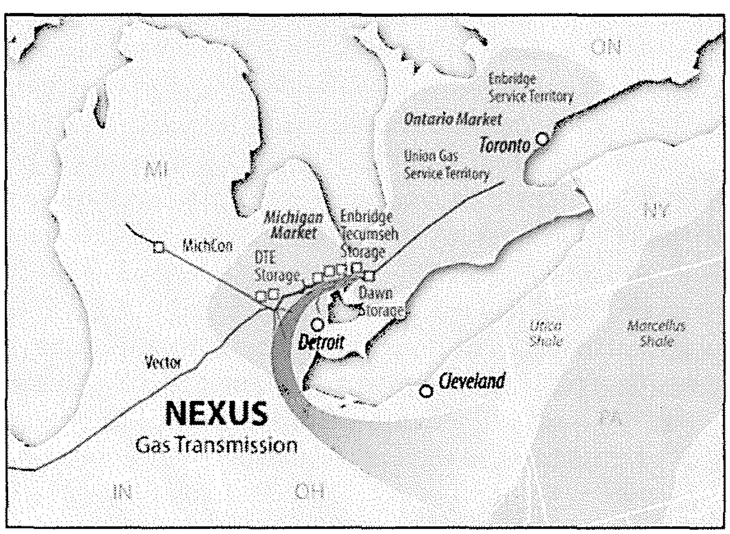
NEXUS Project & History

[1] The project developers are DTE Energy and Spectra Energy Corporation.

NEXUS is a gas transmission project designed to transport supplies of Appalachian Basin gas including Utica shale gas to customers in the U.S. Midwest, including Ohio and Michigan, and to customers in Ontario via the Dawn hub. A non-binding open season for the NEXUS project was held from October 15, 2012 to November 30, 2012. Given the changes in the natural gas market that were occurring at the time of the open season and EGD's expectation for these changes continuing into the future, it was recommended that EGD bid into the open season as an anchor shipper. EGD submitted its bid on November 30th 2012.

The open season was non-binding and the bid did not expose EGD to any financial or contractual risks. EGD's open season bid was for an MDQ of 150,000 Dth/day for a 15 year term which qualified EGD as an anchor shipper and provided for potential toll incentives. The open season bid also outlined EGD's pre-condition requirement for Management and Regulatory approval from the Ontario Energy Board ("OEB") with respect to term and capacity. By placing a bid into the open season EGD was subject to the condition that, should it be awarded capacity, it must enter into discussions which could ultimately lead to a binding Precedent Agreement (PA) for capacity on the NEXUS pipeline.

EGD executed a PA for capacity on the NEXUS project with several conditions precedent. The first of these is management approval to proceed. EGD originally sought Board approval prior to signing the PA. However management recommended that EGD conduct an analysis of supply options and alternative pipeline projects before seeking approval from the Board. As these studies were not complete at the time, and the open seasons for the two new projects not yet posted, EGD sought and was granted a condition precedent by the proponents of NEXUS to seek management approval by September 30, 2014 and therefore signed the PA on that basis.

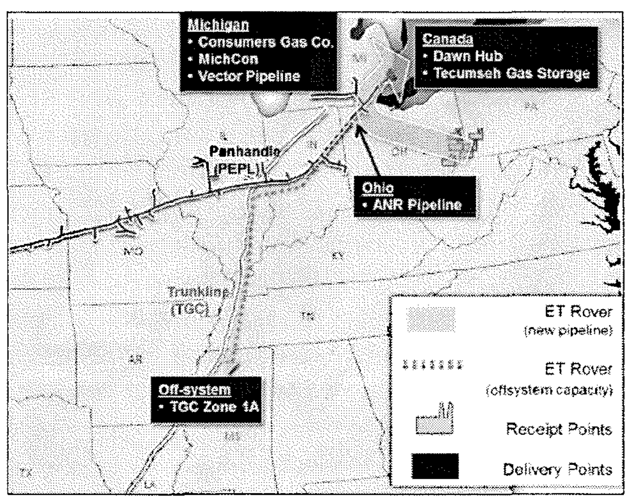


NEXUS is to be completed in two phases. In Phase 1 NEXUS will provide transportation service from Willow Run, Michigan to Dawn, Ontario by utilizing subscriptions of firm pipeline capacity on existing pipeline systems. Phase 2 will involve the construction of approximately 250 miles of greenfield pipeline extending from eastern Ohio to interconnections with existing pipelines and from there to Dawn, Ontario. Phase 2 will also utilize subscriptions of firm pipeline capacity on existing pipeline systems and/or expansions of existing capacity and/or greenfield pipeline as required. Phase 1 is expected to be in service on November 1, 2015 and Phase 2 is expected to be in service on November 1, 2017. Both phases will provide firm transportation service. Tolls will be charged for service in the U.S. from receipt points to the international boarder and in Canada from the international boarder to Dawn. The project is expected to provide up to 1 Bcf/d of gas transmission capacity. We understand that Union Gas has signed on for 150,000 Dth/d for a 15 year term and DTE has signed on for 300,000 Dth/d (comprised of two contracts for 150,000 Dth/d each) for a 15 year term. We also understand that the project has recently secured producer commitments for 500,000 Dth/d.

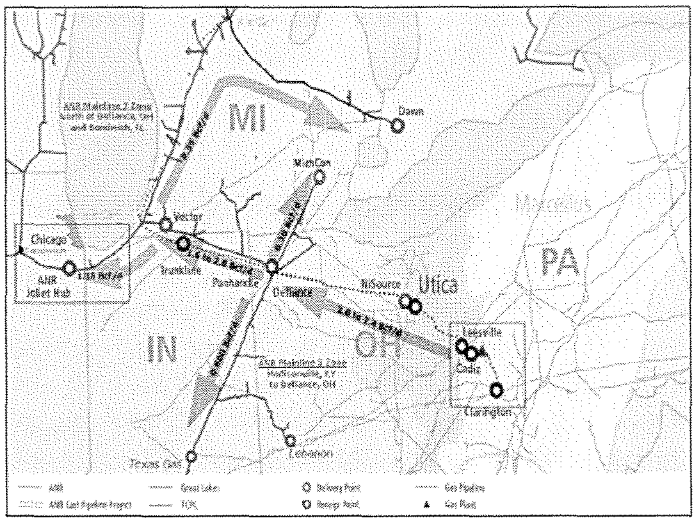
Overview of the Current Natural Gas Market Dynamics and Proposed Projects

The new dynamic for gas markets has resulted in the development of and proposals for new pipeline infrastructure, including NEXUS, in the U.S. NE to allow natural gas produced in the region to find consuming markets. The production and pipeline development started less than a decade ago in Marcellus, and is now expected to ramp up in the Utica. This has had the effect of expanding portfolio options, for both supply and transportation, for EGD and other market players.

Since executing the NEXUS PA in June of 2014, two new projects, which will bring gas to Dawn from the Utica and Marcellus shales, have held open seasons. These two projects are the Energy Transfer Rover Project (ET Rover) and the ANR Pipeline Company East Project (East Project). In addition, EGD is aware of certain producers and marketers who have contracted for capacity to the Ontario boarder and into Ontario through recent open seasons on the TransCanada and Union Gas systems.



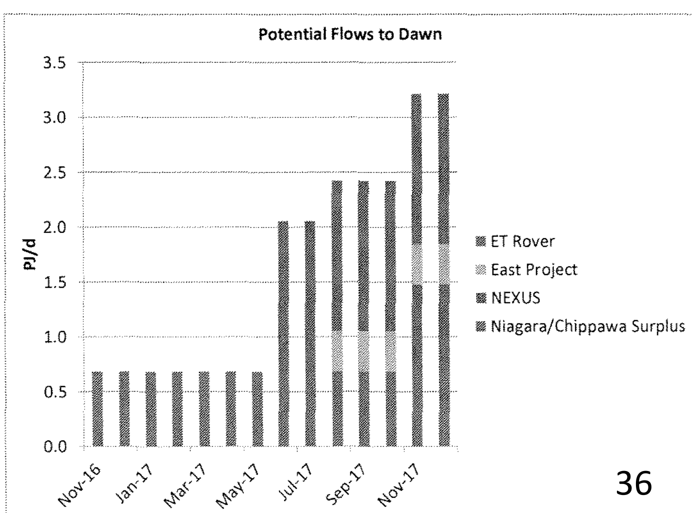
ET Rover is a new interstate gas pipeline designed to transport Marcellus and Utica shale production directly from processing plants to liquid markets. It will consist of new 42-inch pipeline capacity and deliver supplies to points of interconnection with Panhandle Eastern Pipeline Company and ANR Pipeline near Defiance Ohio, to interconnections in Michigan, to the Union Gas Dawn Hub and to points on Trunkline Zone 1A. Total capacity on ET Rover is 3.25Bcf/d of which 1.3 Bcf/d will be available to flow to Dawn. A binding Open Season for capacity on ET Rover was issued on June 30th, 2014 and closed on July 25th, 2014. Energy Transfer is taking on all cost over-run risk on the project. A recent press release from Energy Transfer indicated that approval for construction of ET Rover was granted by management in June of 2014. ET Rover has secured 2.95 Bcf/d of binding, fee-based commitments under predominantly 20 year agreements and additional bids received in the open season are being evaluated. ET Rover capacity to Dawn is fully subscribed. In service dates are expected to be December 2016 and July 2017 for Midwest markets and Dawn respectively.



The East Project will provide Marcellus and Utica gas supplies with export capacity to the Midwest, Gulf Coast and Dawn. It will consist of a new, large diameter 1,440 psig pipeline from Clarington, Ohio to an interconnection with ANR's existing system at Defiance. Through arrangements with Great Lakes Gas Transmission and TransCanada Pipeline the East Project will also be able to provide transportation service to Dawn. Total capacity on the East Project is 2.0 to 2.4 Dth/d of which up to 0.35 Dth/d can accommodate flows into Dawn. A non-binding open season for capacity on the East Project was issued on July 3rd, 2014 and closed on July 28, 2014. The expected in service date is the 3rd quarter of 2017. Shippers who bid for 250,000 Dth/d or greater with a term of 20 years will be granted "foundation shipper" status and qualify for toll discounts. Foundation shippers will not have capacity pro-rated if capacity allocation is necessary. We have not found any information on the open season results for this project.

EGD has contacted several markers and producers to determine quantities available at the Niagara Falls and Chippawa border points that could be utilized to fill recently acquired TransCanada short haul capacity to Parkway. Through these discussions EGD has become aware that there is the potential for oversupply at these boarder points. If this is the case, gas arriving at the Ontario boarder will have to seek a liquid market(s) which could include Dawn.

The table below provides a summary of the incremental supply that could flow to Dawn should all of the above noted projects be approved. A potential supply surplus at Niagara Falls/Chippawa is also included.



ET Rover and East Project supplies are the total amounts that could potentially flow to Dawn pursuant to each respective open season. NEXUS supply is comprised of Union Gas and Producer commitments (i.e. EGD and DTE commitments are netted off the total NEXUS capacity commitments to date).

Niagara/Chippawa Surplus is supply showing up at the border with uncertain (at this point in time) downstream commitments. Results of recent TransCanada and Union Gas open seasons have not been made public and capacity commitments currently flowing to Chippawa are serving U.S. markets. As a result the supply surplus at Niagara/Chippawa could be lower than presented. However, it is possible that some parties have contracted for transportation capacity to Dawn. At a recent Union Gas customer meeting it was indicated that approximately 560 TJ/d of new contracts from Kirkwall to Dawn could begin flowing in 2015-2016.

NEXUS Evaluation

In the current environment access to new markets and supply sources generally involves long term commitments on the part of shippers in order for the associated infrastructure to be built. Knowing this, and having concern about sufficient supply coming to Dawn to which EGD has significant dependence, EGD has worked with NEXUS in order to support infrastructure development. With the advent of the aforementioned projects EGD's commitment to NEXUS has been re-evaluated based on the following considerations:

EGD's commitment on NEXUS can range from approximately $4.1 million to $12.3[2] million for Phase 1 and approximately $602.0 million to $753.9 million for Phase 2 for a total of approximately $606.0 million to $766.2 million over the term of the entire contract[3][4]. This represents a significant financial commitment for EGD and its ratepayers. If EGD is able to source gas directly at Dawn or another established hub this long term commitment is not necessary.

A long term commitment to NEXUS capacity precludes EGD from accessing competitive alternatives for a significant period of time. The PA also contains a clause which allows for NEXUS to extend the commencement date which in turn extends the termination date of the PA. Effectively, EGD could remain party to the PA for a pipe that never gets built and therefore precluded from exploring competitive alternatives to a date as late as November 1, 2019.

With three projects attempting to connect to Dawn there is the likelihood that not all of the projects will ultimately be built. At this stage it appears as though ET Rover has a significant advantage over the other two projects. Commitments have been made on ET Rover[5] greater than those on NEXUS, for a longer term and for less risk to the shipper. There is a risk that supply could flow to one of these other projects and not to NEXUS or bypass these projects completely and flow to other markets. These uncertainties make it unpalatable for EGD to commit ratepayers to such a significant financial obligation.

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[2] The low end of this range assumes a Phase 1 contract demand of 40,000 Dth/d. The high end of this range assumes a Phase 1 contract demand of 75,000 Dth/d.
[3] All calculations assumes an exchange rate of 1USD=1.10CAD.
[4] Ranges calculated based on tolls provided by NEXUS. The range is actually wider on both the low and high ends due to the ±15% capital tracker.
[5] Anchor shippers are American Energy Partners, Antero Resources Corporation and Range Resources Corporation.

The current circumstances indicate that there will be incremental supplies flowing into Dawn even if only one of the aforementioned projects is ultimately placed in service. Additional supplies could arrive at Dawn from Niagara/Chippawa depending on other contracting arrangements. EGD already has significant access to Dawn and this access will increase once the GTA Project facilities are in service. Absent NEXUS, EGD's Dawn requirement will increase however, the incremental supply expected to flow into Dawn will provide for additional diversity and liquidity at Dawn. The table below provides an estimate of spot & other requirements with and without NEXUS.

Supply With and Without NEXUS (PJ/d)

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Average Day Demand	1.23	1.23	1.24	1.25	1.25	1.26	1.26	1.27
Supply Without NEXUS								
WCSB	0.45	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Ontario-T Direct Purchase								
Dawn	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Delivered	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Total	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Chicago	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Niagara (200K Baseload)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total	1.14	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Difference (Spot Requirement & Other Supply)	0.09	0.27	0.28	0.28	0.29	0.29	0.30	0.31
Supply With NEXUS								
WCSB	0.45	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Ontario-T Direct Purchase								
Dawn	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Delivered	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Total	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Chicago	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Niagara (100K Baseload, 100K Winter Seasonal)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
NEXUS	0.04	0.04	0.16	0.16	0.16	0.16	0.16	0.16
Total	1.12	0.95	1.06	1.06	1.06	1.06	1.06	1.06
Difference (Spot Requirement & Other Supply)	0.11	0.29	0.18	0.18	0.19	0.19	0.20	0.21

EGD has contracted with TransCanada for capacity that provides access to 200,000 Gj/d of U.S. NE supplies at Chippawa and/or Niagara Falls. These supplies will begin flowing in November of 2015. This capacity provides additional diversity to EGD's supply portfolio and access to lower cost U.S. NE supply. With a NEXUS commitment it was expected that these supplies would be seasonal. In addition, EGD has recently been offered incremental capacity on Vector Pipeline at a discounted rate for a 12 year term. This offer contemplates the possibility of NEXUS connecting into Vector. Should this option become viable, EGD could supplement Chicago purchases with U.S. NE gas while maintaining a higher load factor on the short haul contract from Niagara Falls or increase Chicago purchases.

Additional supply from NEXUS will reduce supply flexibility by increasing exposure to U.S. NE markets beyond that contemplated in the GTA Project and limiting the ability to access supply from Chicago. The NEXUS Kensington receipt point is not currently an established hub. Unlike Dawn, and to a lesser extent Niagara Falls/Chippawa, there are currently no known supply options at Kensington. In order for EGD to secure supply at Kensington it is expected that a long-term supply arrangement would be required, further adding to the financial commitment and risk associated with NEXUS capacity. When there was greater uncertainty that infrastructure would be built to ensure sufficient new gas would show up at Dawn to the meet increasing demand these were drawbacks which seemed reasonable to ensure the liquidity at Dawn. With the continued development of new projects that bring gas to Dawn it is no longer necessary to accept these drawbacks.

Absent NEXUS it is expected that utilization of the Niagara Falls/Chippawa capacity will increase. This will enhance EGD's ability to secure supply at this point as most counterparties prefer annual to seasonal deals. The table below provides an estimate of the percentage of supply from different sources with and without NEXUS.

Supply Percentages With & Without NEXUS

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Without NEXUS								
WCSB	37%	22%	22%	22%	22%	22%	22%	22%
Ontario-T Direct Purchase	25%	25%	25%	24%	24%	24%	24%	24%
Chicago	15%	15%	15%	15%	15%	15%	15%	15%
U.S. Northeast								
Niagara (Baseload)	16%	16%	16%	16%	16%	16%	16%	16%
Spot Requirement & Other Supply	7%	22%	22%	23%	23%	23%	24%	24%
With NEXUS								
WCSB	37%	22%	22%	22%	22%	22%	22%	22%
Ontario-T Direct Purchase	25%	25%	25%	24%	24%	24%	24%	24%
Chicago	15%	15%	15%	15%	15%	15%	15%	15%
U.S. Northeast								
Niagara (Baseload & Seasonal)	12%	11%	11%	11%	11%	11%	11%	11%
NEXUS	3%	3%	13%	13%	13%	13%	13%	12%
Total	15%	15%	24%	24%	24%	24%	24%	24%
Spot Requirement & Other Supply	9%	23%	14%	15%	15%	15%	16%	16%

The likelihood of OEB pre-approval of the NEXUS contract is low. Given the multitude of projects that have been or will be developed in the U.S. NE, the Board will more than likely view the NEXUS project as a standard build and not one, for example, that is accessing "frontier gas". Pre-approval would also require the Board to satisfy itself that absent NEXUS incremental supplies would not be able to access Dawn. This is unlikely given the number of new projects seeking to connect to Dawn and the possibility of future expansions of existing facilities allowing access to Dawn.

Risks

The PA obligates EGD to pay pre-service costs only in the event of a material breach of its obligations under the PA. EGD has fulfilled our obligations under the PA to date. The ES&P team has reviewed the CP for internal approvals specifically with internal legal counsel to ensure it was broad enough to include internal management's decision not to approve moving forward and it was confirmed that the language is sufficiently broad. We therefore do see any significant risk that the project proponents would be successful arguing that a material breech has occurred. Were they to succeed, it is estimated that EGD's liability for said breech would be less than $5 million U.S. dollars[6].

Recommendation

Based on the foregoing it is recommended that EGD not contract for capacity on the NEXUS pipeline. Continuing to procure supply at Dawn provides access to a liquid hub which will continue to maintain and increase its connectivity with various producing basins. Chippawa and/or Niagara supplies will provide added diversity to EGD's gas supply portfolio. It is further recommended that EGD continue discussions with NEXUS in order to keep abreast of the project as it evolves. The Vector offer provides for the possibility of increasing Chicago supplies. NEXUS could be utilized, at perhaps lower contracted levels than contemplated in the current PA, as an alternative to Chicago supplies should further connectivity to U.S. NE supplies be required in the future.

[6] Estimate based on a phone conversation between Jamie LeBlanc and David Slater in which Mr. Slater indicated that EGD's estimated share of pre-service costs would be $5 million as at May 2015.

Tab 9

ENBRIDGE

November 26, 2014

CONFIDENTIAL

ENBRIDGE GAS DISTRIBUTION INC.
BOARD OF DIRECTORS

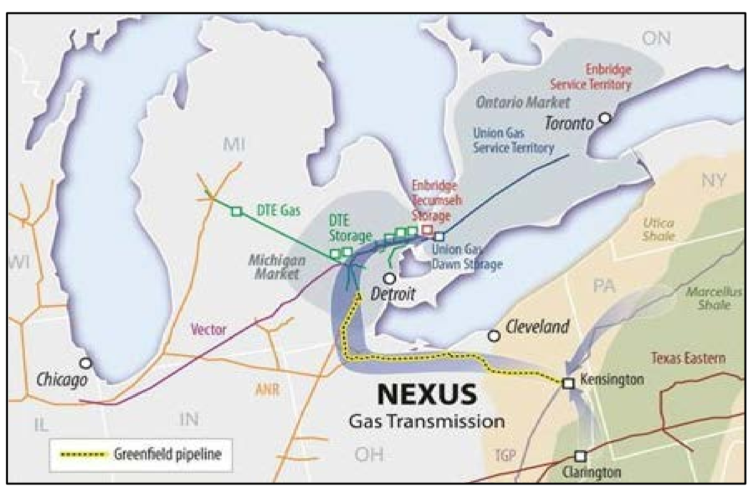
Re: Binding Precedent Agreement Leading to Gas Transportation Agreements – Estimated up to $612 Million Over 15 Years

As has been previously discussed with the Board, Enbridge Gas Distribution ("EGD") is in the process of reassessing its gas supply portfolio and related transportation solutions in light of changing market dynamics driven by the development of the Marcellus and Utica shale basins located in the Northeast U.S. EGD has traditionally relied heavily on Western Canadian Sedimentary Basin ("WCSB") supply however the development of cost effective and prolific natural gas supply closer to the franchise compels EGD to look at rebalancing its portfolio. These new supplies currently follow two paths into the franchise, either through the Niagara area or through Southwestern Ontario (near the Dawn trading hub and to where EGD owns and operates its storage assets). These paths are being further developed to bring more of these developing natural gas supplies to Eastern Canadian markets.

Effective June 5, 2014, EGD entered into a non-binding Precedent Agreement ("PA") for long term natural gas transportation capacity on the NEXUS Gas Transmission Project ("NEXUS") with the project Proponents (DTE Pipeline Company and Spectra Energy Transmission LLC) for EGD to become an "anchor shipper". Further market developments and EGD commitments already made to supply through Niagara subsequently led EGD to renegotiate its commitment for a more conservative transportation arrangement on NEXUS. Management is therefore recommending and seeking approval to enter into a binding restated PA for NEXUS capacity ("RPA").

Proposed NEXUS Transportation Service

NEXUS will be completed in two phases. Phase 1 will provide transportation service from Willow Run, Michigan to Dawn, Ontario by utilizing firm capacity on existing pipeline systems. Phase 2, in which EGD would be contracting for transportation capacity, involves the construction of approximately 250 miles of greenfield pipeline extending from Kensington, Ohio to existing interconnections at or near Willow



Run and from there to Dawn. Phase 2 will also make use of firm capacity on existing pipeline systems, including the downstream portion of Vector pipeline, and/or expansions of existing capacity and greenfield pipeline as required.

EGD's requested capacity in the RPA would lead to a firm transportation service agreement ("TSA") for 110,000 Dth/d commencing as early as November 1, 2017 for fifteen years from Kensington, Ohio to Vector's Milford Junction meter station near Highland, Michigan. EGD would have an option to increase its capacity up to 150,000 Dth/d effective November 1, 2020 which would effectively reinstate EGD as an anchor shipper from a tolling perspective and result in a toll discount of approximately $0.02/Dth/d. The table below outlines the range of estimated EGD demand charge payments[1] on NEXUS under the RPA based on indicative tolls provided by the Proponents.

EGD would use its existing transportation capacity on Vector to move gas to Dawn. EGD may seek to extend the term of some or all of its existing Vector capacity to partially or entirely match the term of the TSA.

Demand Charge Payments ($ Millions (CAD))	1st Year (2 Months)	Next 14 Years	16th Year (10 Months)	Total
110,000 Dth/d (15 yrs)	$5.3	$450.3	$27.1	$482.7
110,000 Dth/d - (first 3 yrs), 150,000 Dth/d (remaining 12 yrs)	$5.3	$570.6	$36.1	$612.0

Strategic Rational

EGD's gas supply plan considers four fundamental elements: reliability, diversity, flexibility and cost. Nexus capacity would represent approximately 10% of total EGD supply and favourably addresses all four elements, adding benefits to EGD's portfolio particularly in diversity and flexibility. The attached Sussex Economic Advisors ("Sussex") report discusses huge current and planned infrastructure investment and production forecasts which predict annual production in the Marcellus/Utica region of up to 25 Bcf/day by 2020 with continuing growth thereafter. EGD's traditional heavy reliance on WCSB supply (due to the historical lack of reasonable alternatives) must change to reflect the development of these prolific and cost effective supplies located closer to the franchise in the Northeast U.S. EGD has already taken steps to gain access to some new supply through the Niagara region (commitments for which were approved by the Board in February of this year). The NEXUS transportation capacity would constitute a further element of EGD's evolving gas supply strategy by enabling direct access to supplies from the Utica and Marcellus shale production areas.

The table below provides a landed cost ranking for NEXUS versus alternative paths into Dawn. Based on indicative tolls provided by the Proponents and forward natural gas prices,

[1] Assumes an average exchange rate of 1 USD = 1.14 CAD over the 15 year term of the TSA. A capital tracker of ±15% also applies to the final reservation toll. The capital tracker has not been included in the calculations presented in the table.

the NEXUS path is cost effective relative to available alternative paths into Dawn. NEXUS provides the benefits of increased supply diversity through direct access to natural gas supplies from the Northeast U.S. and increased supply flexibility through the option to increase capacity and displace higher cost elements of EGD's supply portfolio. EGD's commitment will support a project that will bring additional volumes to Dawn and will assist the markets served by EGD which have expressed a desire to source gas at Dawn. The ET Rover project (the closest alternative greenfield build), which will also bring Utica supply into Dawn, is fully subscribed. Timing and parameters of that project led EGD to not bid on Rover capacity.

NEXUS Landed Cost Analysis ($CAD/GJ)

Pipeline	Pricing Point	Path	Average Annual Landed Cost 2017-2032
Dawn	Dawn	Dawn	4.93
Vector	Chicago	Vector - Chicago to Dawn	5.21
ET Rover	Dominion South	Rover - Leesville to Dawn	5.30
NEXUS	Dominion South	NEXUS - Kensington to Highland / Vector - Highland to Dawn	5.51
ANR East	Dominion South	ANR - Leesville to Dawn	5.73
Alliance	CREC	Alliance - Zone 1 to Chicago / Vector - Chicago to Dawn	5.84
TCPL	Empress	TCPL - Empress to Enbridge SWDA	6.24

Risks and Mitigants

Supply Risk

There is a risk that the transportation capacity may not be utilized if insufficient supply exists to meet the demand placed on the region through the build out of pipeline takeaway capacity. EGD has mitigated this risk to some extent through a condition precedent in the RPA which permits EGD to terminate without liability if EGD does not expect the availability of regional supply to support the TSA within 90 days of receiving the estimated Phase 2 in-service date. EGD, along with Union Gas, has also hired Sussex to conduct a market study on NEXUS. As part of that engagement EGD requested that Sussex develop a memorandum for the purpose of reviewing the expected availability of natural gas supplies to support a potential long-term firm transportation agreement on NEXUS. The Sussex memorandum concludes that there is sufficient support that Marcellus and Utica natural gas supplies are expected to be available to support long-term capacity commitments on NEXUS.

Regulatory Risk

There is a risk that the Ontario Energy Board ("OEB") will disallow the cost of transportation capacity. This risk has been eliminated as the RPA permits EGD to terminate the RPA in the event that EGD does not obtain acceptable pre-approval from the OEB. EGD intends to file its OEB application in early 2015 under the OEB's *Filing Guidelines for Pre-Approval of Long-Term Natural Gas Supply and/or Upstream Transportation Contracts*. EGD will have no liability for NEXUS pre-service costs (projected to be up to $10 million USD by the time of an OEB Decision) provided that EGD proceeds with due diligence to seek such approval.

Capital Cost Risk

EGD is exposed to higher tolls if the cost of constructing NEXUS is higher than forecast. Under the RPA, final reservation rates for Phase 2 must be provided by November 30, 2014 and will be subject to a ±15% capital cost tracking adjustment. If the final reservation rates for Phase 2 service are uneconomic, as determined by EGD in its sole discretion, EGD is not obligated to sign the TSA and will incur no liabilities under the RPA. The actual cost of transportation will be passed through to customers through gas costs. EGD expects supply sourced from the Appalachian basin to be priced relative to Dawn or another liquid pricing point in the Northeast U.S. Current forward pricing indicates a significant discount for Appalachian gas relative to Dawn.

Schedule and/or Cancellation Risk

As with any similar project numerous issues including loss of adequate commercial support, constructability, right-of-way access, social acceptance, regulatory process, political acceptance and others could delay the in-service date or cause the project to be cancelled outright. EGD has mitigated this risk by negotiating certain conditions within the RPA. If the in-service date is delayed beyond November 1, 2018 (assuming a planned in service date of November 1, 2017), EGD has no obligation to contract for service and no liability for pre-service costs (except in the event of a material breach by EGD). Once November 1, 2018 has passed EGD can continue to source supply at Chicago via its Vector capacity or look for other sources. For a delay between November 1, 2017 to November 1, 2018, supply risk is mitigated as EGD can continue to source gas at Chicago. Also, the Proponents must provide 90 days prior notice of the Phase 2 in-service date to provide time for EGD to seek alternative supply for any period of delay.

Volume Risk

Based on current demand forecasts NEXUS will provide approximately 10% of total annual supply. Annual demand and therefore required volume can shift over long periods such as is contemplated in EGD's proposed commitment to NEXUS. EGD's gas supply portfolio will retain sufficient flexibility elsewhere to mitigate volume risk by having the ability to de-contract capacity on the TransCanada and/or Vector pipeline over the term of the contract commitment, or reducing other supplies from the U.S. Northeast.

Recommendation

Management recommends that the Board of Directors authorize the Corporation to enter into the RPA and related TSA on terms substantially consistent with those described above.

Tab 10

STAFF INTERROGATORY #13

INTERROGATORY

Ref: A/3/1 page 32 / para 83

Enbridge states that it intends to restructure its existing Vector contract to segment the 110,000 Dth/d of 175,000 Dth/d transportation capacity by changing the receipt point to Milford Junction.

When will Enbridge complete the restructuring?

What provisions, if any, have been made for the restructuring of the Vector contract should there be a delay in the start-up of the NEXUS project?

RESPONSE

The restructuring of Enbridge's existing Vector contract must be completed no later than November 30, 2015. If this does not occur, then the current offer provided by Vector Pipeline will expire. Enbridge does not plan to move forward with the restructuring until after a decision has been released by the Ontario Energy Board with respect to this pre-approval application.

The restructuring of the Vector contract includes provisions that permit the start date of the restructuring to coincide with the later of November 1, 2017 or the in-service date of NEXUS, but in any case no later than November 1, 2019. If NEXUS is delayed beyond November 1, 2019 then Enbridge has the right to terminate the NEXUS contract and will maintain the full capacity on Vector from Joliet to Union-Dawn.

Witnesses: J. LeBlanc
A. Welburn