

500 Consumers Road
North York, Ontario
M2J 1P8
PO Box 650
Scarborough ON M1K 5E3

Shari Lynn Spratt
Supervisor Regulatory Proceedings
Telephone: (416) 495-5499
Fax: (416) 495-6072
Email: EGDRRegulatoryProceedings@enbridge.com



October 2, 2013

VIA COURIER, EMAIL and RESS

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

**Re: Enbridge Gas Distribution Inc. ("Enbridge")
EB-2012-0451 - Greater Toronto Area ("GTA") LTC Project
Undertaking Responses**

Enclosed please find Enbridge's responses to Undertakings J6.1, J6.3 to J6.14 and J7.1 from the hearing held on September 26, 2013 and September 27, 2013. The confidential version of the response to Undertaking J6.12 will be provided to the parties who have signed the Declaration and Undertaking.

On Hearing Day 2 (September 13, 2013) and Hearing Day 3 (September 16, 2013), the Joint Panel committed to provide an indicative impact of the Settlement Term Sheet with TransCanada. On Hearing Day 4 (September 17, 2013) Union committed to provide the impact through Undertaking J4.5 and Enbridge committed to respond to the same request on Hearing Day 6 (September 26, 2013), however no separate undertaking number was assigned. Included in the package is an additional undertaking response marked as J6.X.

This evidence is being filed through the Ontario Energy Board's Regulatory Electronic Submission System and all of the GTA evidence can be found on Enbridge's website at www.enbridgegas.com/gtaproject.

Please contact me if you have any questions.

Yours truly,

[original signed]

Shari Lynn Spratt
Supervisor Regulatory Proceedings

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

UNDERTAKING J6.1

UNDERTAKING

TR 6, page 13

EGD to update Exhibit I.A4.EGD.ED.29, GTA project assumed earnings impacts table.

RESPONSE

Please see the attached table.

Witnesses: K. Culbert
S. Murray

Enbridge Gas Distribution GTA Project assumed earnings impacts

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Rate Base (A)	135,515,487	639,261,010	619,936,080	600,611,042	581,285,897	561,960,646	543,137,348	524,296,267	504,935,340	485,574,317	466,213,210
Common Equity (B)	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%	36.00%
Allowed Return on Equity (C)	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%	8.93%
Earnings (A x B x C)	4,356,552	20,550,963	19,929,705	19,308,444	18,687,179	18,065,911	17,460,779	16,855,076	16,232,661	15,610,243	14,987,822

Notes: 1) Using data which assumes Segment A's Parkway West to Albion is a 42" pipeline.
2) Using the 2013 OEB approved ROE% for approximating purposes.

UNDERTAKING J6.3

UNDERTAKING

TR 6, page 43

EGD to provide BOMA with evidence references regarding pipe size and capacity .

RESPONSE

Please see the responses to Board Staff Interrogatory #4 found at Exhibit IA3.EGD(update).Staff.4 and TCPL Interrogatory #24 (part c) found at Exhibit I.A3.EGD(update).TCPL.24 (part c).

Witness: C. Fernandes

UNDERTAKING J6.4

UNDERTAKING

TR 6, page 45

EGD to provide Open Season bid volumes for both 2015 and 2016 separately.

RESPONSE

Total bids received by Enbridge Gas Distribution pursuant to the Segment A Open Season were approximately 770 GJ/d. Total bids for service commencing on November 1, 2015 are approximately 385 GJ/d. Total bids for service commencing on November 1, 2016 are approximately 385 GJ/d.

Witnesses: J. Denomy
M. Giridhar

UNDERTAKING J6.5

UNDERTAKING

TR 6, page 83

EGD to provide model simulation related to the pressures at Station B in response to GEC scenarios.

RESPONSE

It should be noted that Enbridge does not agree with the assumptions in this analysis.

Portlands Energy Centre ("PEC") has a 20 year Gas Delivery Agreement for firm service with Enbridge, and further paid a contribution in aid of construction to receive such service. As mentioned on Hearing Day 6 at transcript page 88, lines 17 to 20, "Portlands is systemically important to the electric system, and they also stated that they have run every single peak winter day since being in operation". Enbridge considers peak weather conditions as foreseeable and would therefore not consider interrupting PEC or using terms within its contract (i.e., force majeure) to shed its firm load under cold weather conditions. It does not view failing to meet firm commitments as a reasonable alternative to prudent system planning and would not consider potentially jeopardizing the reliability of the electric system to increase the reliability of the natural gas system when the proposed facilities increase the reliability of both systems.

Simulations were completed as requested for 2015 using steady state modeling with PEC and all large interruptible loads removed in downtown core of Toronto. The NPS 26 and the Don Valley line are running at 30% of SMYS.

- With No reinforcements: model out of pressure at Station B
- With Segment A only: model out of pressure at Station B
- Segment A and East-West portion of Segment B: 262 psi at Station B

Witness: E. Naczynski

UNDERTAKING J6.6

UNDERTAKING

TR 6, page 87

EGD to confirm GEC's calculation of TJ to $10^3 \text{ m}^3/\text{hr}$

RESPONSE

Using a 20 hour day and 37.69 MJ/m^3 , 165 TJ/day converts to $219 \cdot 10^3 \text{ m}^3/\text{hr}$.

Witness: E. Naczynski

UNDERTAKING J6.7

UNDERTAKING

TR 6, page 94

EGD to provide model simulation to show if it can reduce SMYS to 30 percent or below today if it interrupted PEC and/or its 4 industrial customers; to include scenarios Segment A, east-west, portion of Segment B.

RESPONSE

It should be noted that Enbridge does not agree with the assumptions in this analysis.

Portlands Energy Centre ("PEC") has a 20 year Gas Delivery Agreement for firm service with Enbridge, and further paid a contribution in aid of construction to receive such service. As mentioned on Hearing Day 6 at transcript page 88, lines 17 to 20, "Portlands is systemically important to the electric system, and they also stated that they have run every single peak winter day since being in operation". Enbridge considers peak weather conditions as foreseeable and would therefore not consider interrupting PEC or using terms within its contract (i.e., force majeure) to shed its firm load under cold weather conditions. It does not view failing to meet firm commitments as a reasonable alternative to prudent system planning and would not consider potentially jeopardizing the reliability of the electric system to increase the reliability of the natural gas system when the proposed facilities increase the reliability of both systems.

Simulations were completed as requested for 2015 using steady state modeling with PEC and all large interruptible loads removed in downtown core of Toronto. The NPS 26 and the Don Valley line are running at 30% of SMYS.

- No reinforcements: Station B pressure is at approximately 225 psi at 33 DDC
- Segment A only: Station B pressure is at approximately 225 psi at a 33 DDC
- Segment A and East-West Segment B: Station B pressure is at approximately 262 psi at 41 DDC

Enbridge cannot predict the number of hours in a given year of when pressure above 375 psi would be required as it is dependent upon the prevailing weather. In the first and second scenarios, Station B will have inadequate pressure at anything more than 33 DDC (-15 C) which typically happens multiple times every winter.

Witness: E. Naczynski

UNDERTAKING J6.8

UNDERTAKING

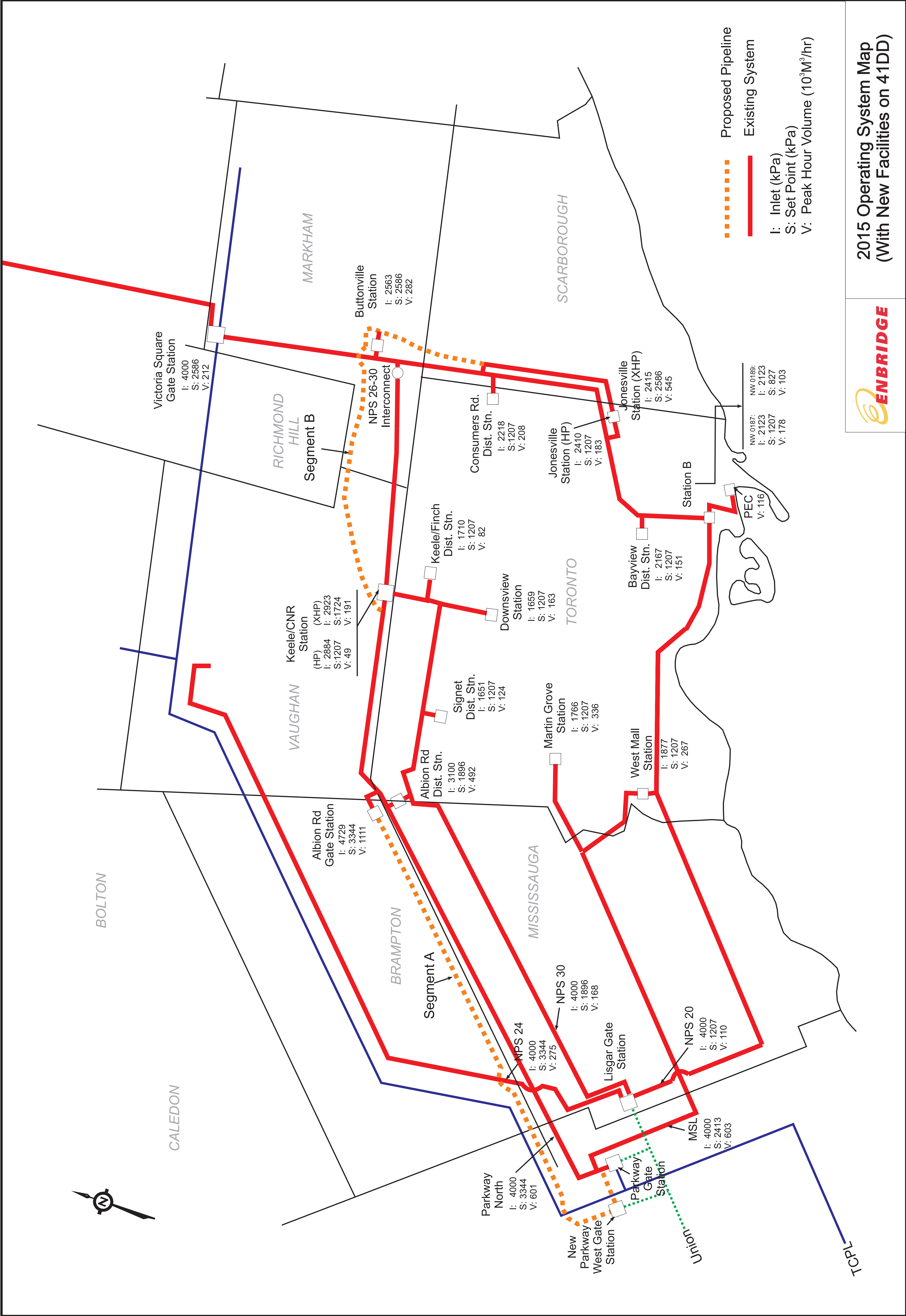
TR 6, page 119

EGD to update map of 2015 Operating System With New Facilities, with reference to Exhibit I.AI.EGD.BOMA.25, Attachment 2.

RESPONSE

Please see the attached map that reflects the NPS 42 Segment A interconnecting at Parkway West.

Witness: E. Naczynski



2015 Operating System Map
(With New Facilities on 41DD)

UNDERTAKING J6.9

UNDERTAKING

TR 6, page 120

EGD to make corrections and comments on Energy Probe Table K6.2.

RESPONSE

The tables on the following page are the original summary table provided by Energy Probe and the corrections/comments of Enbridge Gas Distribution.

Witness: C. Fernandes

EP Summary Table Segment A Albion Pipeline Transmission, Distribution Reinforcement line 2015/16

Proposed Pipeline	Size	PW Inlet pressure	Capacity GJ/d	EGD Need 2016	Shippers (OS) 2016	Capital Cost \$m	2016 Revenue Requirement	Allocation of cost	2016 Transmission Revenue
Distribution	NPS36	935 psig	800TJ/D	600TJ/D	0	\$615	\$28.6 m	100% D	\$0
Distribution +Transmission	NPS42	935 psig	2000 TJ/D	600TJ/D 170TJ/D	760 TJ/D (+170 EGD)	\$687	\$33.7 m	\$13.5 m D \$20.2 m T	\$20.2 m (incl. EGD)

Note: Correction made from GJ to TJ as per oral hearing.

The following are the corrections made by Enbridge to Energy Probe's original summary table:

Proposed Pipeline	Size	PW Inlet pressure	Capacity GJ/d	EGD Need 2016	Shippers (OS) 2016	Capital Cost \$m	2016 Revenue Requirement	Allocation of cost	2016 Transmission Revenue
Distribution	NPS36	935 psig	800TJ/D	800TJ/D ¹	0	\$632 ²	\$28.6 m ³	100% D	\$0
Distribution +Transmission	NPS42	935 psig	2000 TJ/D	800TJ/D 170TJ/D	760 TJ/D (+170 EGD)	\$687	\$33.7 m ³	\$13.5 m D \$20.2 m T	\$20.2 m (incl. EGD)

Note: These figures have some approximations; please refer to the notes below.

The Energy Probe table, with the minor corrections above, demonstrates the economies of scale that distribution ratepayers receive based on the sharing of the pipeline compared to a NPS 36 distribution only alternative for Segment A. The reduction in revenue requirement is the difference of \$28.6MM (NPS 36 distribution only) and \$13.5MM (NPS 42 shared usage), which is a 2016 annualized savings of approximately \$15.1MM. Similarly, transportation shippers also have economies of scale on this portion of the path.

On the same basis, if the facilities downstream of Albion (TransCanada's Kings North project) were delayed by a year, the realized risk to distribution ratepayers would be \$5.1MM (\$33.7MM - \$28.6MM), which is less than the \$15.1MM benefit to distribution ratepayers after the facilities are in-service.

Notes:

1 – The Segment A 800 TJ/d for distribution is required for the in-service date in November 2015. The 200 TJ/d over and above the 600 TJ/d is a shift from the suction side to the discharge side of existing flows that travel from Albion to Keele, and due to system dynamics, these volumes must be sourced through Albion with the proposed facilities in place at peak conditions.

2 – This utilizes a \$55MM difference for the NPS 42 over NPS 36 as explained in the response to Undertaking J6.14.

3 – Reference Enbridge's response to TransCanada's Interrogatory #23 found at Exhibit I.A3.EGD(update).TCPL.23 Attachment

UNDERTAKING J6.10

UNDERTAKING

TR 6, page 123

EGD to provide summary schedule of breakdown on Segment A of peak requirements for distribution and transmission from 2015-16 to 2019-20 by year.

RESPONSE

The table below provides a breakdown of peak day requirements for distribution and transmission for the 2015/2016 gas year through to and including the 2019/2020 gas year.

GJ/d	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Enbridge Distribution Requirement - CDA	800,000	800,000	800,000	800,000	800,000
Enbridge Transmission Requirement - EDA	170,000	170,000	170,000	170,000	170,000
Transmission Requirement – Enbridge Segment A Open Season	385,283	769,769	769,769	769,769	769,769
Total	1,355,283	1,739,769	1,739,769	1,739,769	1,739,769
Incremental Requirement Pursuant to TCPL Open Season	Unknown	Unknown	Unknown	Unknown	Unknown

Witnesses: J. Denomy
M. Giridhar
E. Naczynski

Enbridge would note that as per the Settlement Term Sheet TransCanada will be conducting an open season to determine additional requirements for the Parkway to Maple path. Depending on the response to this open season there could be additional transmission requirements over and above the requirement indicated in the response to Enbridge's open season for Segment A.

Witnesses: J. Denomy
M. Giridhar
E. Naczynski

UNDERTAKING J6.11

UNDERTAKING

TR 6, page 128

EGD to provide impacts and amounts of LCU on M12 rates on an annual basis.

RESPONSE

According to the toll impact information filed by Union Gas at EB-2013-0074, Schedule 10-6, page 1, the impact of Parkway West (the LCU) on the annual cost of Enbridge's existing contracts on the Union system equates to an increase of approximately \$8.5 million per year.

With the GTA Project facilities in place Enbridge will contract for an additional 400,000 GJ/d of M12 service. Based on the toll impact information referenced above the annual cost of this new contract on the Union system would increase by approximately \$1.5 million per year.

The total annual impact on Enbridge's contracts with Union resulting from Parkway West is approximately \$9.9 million per year with the GTA Project facilities in service.

Enbridge has included the impact of Parkway West, Parkway D and Brantford to Kirkwall in the calculation of the expected gas supply benefits attributable to the GTA Project. However, Enbridge has not included the impact of Union's proposed facilities on the entirety of its portfolio of contracts with Union. Enbridge notes that while the economic feasibility of the project is positive, the primary benefits of flexibility, reliability and diversity have not been monetized in the feasibility calculations for the GTA Project. While the \$8.5 million impact on existing contracts from the protection offered by Parkway West has not been included, nor have the potential consequences of the loss of the existing Parkway Station in the form of loss of supply.

Witness: J. Denomy

UNDERTAKING J6.12

UNDERTAKING

TR 6, page 134

EGD to provide rate impacts on Rate 332 transmission customers of different scenarios outlined by FRPO related to Brampton west start point of Segment A.

RESPONSE

This answer has been provided to respond to the undertaking. However, the Company does not support this scenario as it believes the scenario is inconsistent with the regulatory principle of cost causality. In the scenario requested, the distribution ratepayer is receiving service along the entire path from Parkway to Albion, but only being allocated the cost from Bram West to Albion – and receiving free service from Parkway to Bram West despite utilizing 40% of the capacity. This would come at the expense of the shippers on the path, as they would be forced to pay 100% of the cost of service for a portion of the path, Parkway to Bram West, in which they are only able to utilize 60% of the capacity. Additionally, while the application did have a Bram West initiation point previously, and the distribution ratepayer was allocated costs for Bram West to Albion, there were the additional toll charges on the TransCanada Mainline that were incurred for the Parkway to Bram West portion of the path under this scenario.

While the Company does not support the scenario case requested by this undertaking, the table below lays out the difference in the recovery of 2016 revenue requirement from Rate 332 transportation service customers between the undertaking scenario case and the base case (July 22, 2013 update evidence) for Segment A NPS 42 transmission pipeline.

The undertaking scenario case assumes that Rate 332 customers be allocated 100% of the difference in revenue requirement for NPS 42 Parkway to Albion versus NPS 42 Bram West to Albion and 60% of the revenue requirement for NPS 42 West Bram to Albion. The undertaking scenario case results in \$22.6M being recovered from Rate 332 transportation service customers.

The base case (July 22, 2013 update evidence) proposes that 60% of the revenue requirement for NPS 42 Parkway to Albion be recovered from Rate 332 customers. The base case results in \$20.2M being recovered from Rate 332 transportation service customers.

Witnesses: A. Kacicnik
S. Murray

Therefore, the difference in recovery of 2016 revenue requirement from Rate 332 transportation service between the undertaking scenario case and the base case is approximately \$2.4 M.

(A) Undertaking Scenario:

Item:	Capital	Revenue Requirement
	\$M	2016 \$M
1 Parkway to Albion (NPS 42)_Update No.6 (7/22/13)		33.7
2 Bram West to Albion (NPS 42)_Update No.2 (4/15/13)		27.8
3 Parkway to Bram West (1 - 2)		5.9
<u>Recovery from Rate 332 Transportation Service Customers:</u>		
Bram West to Albion - 60% of Revenue Requirement for Item 2		16.7
Parkway to Bram West - 100% of Revenue Requirement for Item 3		5.9
Total		22.6

(B) July 22, 2013 Update Evidence:

Item:	Capital	Revenue Requirement
	\$M	2016 \$M
1 Parkway to Albion (NPS 42)_Update No.6 (7/22/13)		33.7
<u>Recovery from Rate 332 Transportation Service Customers:</u>		
Parkway to Albion - 60% of Revenue Requirement for Item 1		20.2
(A) - (B): Difference in Recovery from Rate 332 Transportation Service Customers		2.4

The estimated annual rate impacts for 2016 based on the undertaking scenario case for the GTA project, as well as, the GTA project inclusive of gas cost savings by customer rate class are presented in the tables below:

Witnesses: A. Kacicnik
S. Murray

<u>Rate Class</u>	<u>BUNDLED RATES</u>
	<u>Sales Service</u>
1	1.6%
6	1.6%
9	0.5%
100	1.1%
110	1.1%
115	1.0%
135	0.6%
145	0.9%
170	0.7%
200	1.7%
	<u>UNBUNDLED RATES</u>
125	23.5%
300	8.6%

Estimated impacts for GTA project inclusive of gas cost savings:

<u>Rate Class</u>	<u>BUNDLED RATES</u>
	<u>Sales Service</u>
1	-2.2%
6	-3.3%
9	-4.3%
100	-5.8%
110	-5.8%
115	-6.4%
135	-6.9%
145	-6.2%
170	-7.3%
200	-4.7%
	<u>UNBUNDLED RATES</u>
125	23.5%
300	8.6%

Witnesses: A. Kacicnik
S. Murray

UNDERTAKING J6.13

UNDERTAKING

TR 6, page 138

EGD to provide system regulation alternatives and associated costs.

RESPONSE

Enbridge maintains that the Company will design its network systems to operate at a level below the MOP of the network, even in design day conditions. At our regulating facilities, Enbridge must also maintain a first level of operating regulators and a level of over pressure protection, in the event that the first level of pressure control fails. Enbridge has chosen as a design philosophy to use operator and monitor configuration, as opposed to full capacity relief, for reasons as previously stated in Undertaking JT1.8.

Directionally Enbridge is looking to lower (not raise) operating stresses on lines operating over 30% of SMYS. Enbridge is not looking to raise the operating pressure on this line from the current 3103 kPa (450 psi) maximum setpoint that the Company has been operating at for many years.

The difference between the station pressure and monitor setting is dependent on the pressure category, type of regulator, and the over-pressure protection design. The regulators used at Victoria Square Gate Station are gas actuated ball valves. An alternative approach that would slightly reduce the pressure fluctuation above and below the operating pressure would be using "electrolic" actuators. These would cost approximately \$300,000 plus design and installation changes and costs. In addition, if finer control of the setpoint pressure is set, then the regulator may continuously throttle to find that setpoint, causing early deterioration of the equipment.

In order to control the operator regulators properly, while having the monitor regulators maintain a protection level, the Company must have a pressure separation between the operator and monitors. Otherwise each of the regulators tries to manage the control of the downstream pressure, causing a "conflict". Additionally, SCADA alarm limits are set to ensure that there is sufficient notice and time to respond to upset conditions and prevent pressures from exceeding the MOP. Having slightly less pressure differential on the regulator settings and alarms, while perhaps technically possible, would provide less flexibility to respond to upset conditions safely and effectively.

Witness: N. Thalassinos

UNDERTAKING J6.14

UNDERTAKING

TR 6, page 142

EGD to provide cost amounts associated with increasing segment a pipe size from 36-inch to 42-inch.

RESPONSE

Enbridge did not complete a detailed assessment of the cost for a NPS 36 pipe size along the Parkway to Bram West portion of the route. Enbridge's response to TransCanada Interrogatory #23 found at Exhibit I.A3.EGD(Update).TCPL.23 quoted an approximate factored cost estimate to the new Parkway West site of \$615 to 655M. Exhibit A, Tab 3, Schedule 9, paragraph 6 cited "approximately \$55MM" as the cost difference between NPS 42 and NPS 36 pipe.

The previously filed estimates with Segment A as NPS 42 and NPS 36 from Bram West were \$623.7MM and \$580.9MM, respectively. The difference is \$42.8MM over 20.9 km, or approximately \$2MM/km for the increased size. Assuming the same \$2MM/km for the 27.4 km from Parkway West to Albion yields a difference of \$54.8MM, or an approximate project cost of \$632MM (\$686.5MM - \$54.8MM) for the NPS 36 pipe size. However, the portion of the path from Bram West to Albion is known to have a greater portion of high cost construction, specifically Horizontal Directional Drilling ("HDD"), and therefore it is possible that a detailed estimate would result in a cost difference that is slightly less than the \$54.8MM.

Cost estimates for NPS 42 can be referenced at CCC Interrogatory #30 found at Exhibit I.A3.EGD(Update).CCC.30 (Confidential).

Witness: T. Horton

UNDERTAKING J6.X

UNDERTAKING

On Hearing Day 2 (September 13, 2013)¹ and Hearing Day 3 (September 16, 2013)², the Joint Panel committed to provide an indicative impact of the Settlement Term Sheet with TransCanada. On Hearing Day 4 (September 17, 2013)³, Union committed to provide the impact through Undertaking J4.5 and Enbridge committed to respond to the same request on Hearing Day 6 (September 26, 2013)⁴, however no separate undertaking number was assigned. The following response is provided on behalf of Enbridge.

RESPONSE

This response provides an indicative impact of the Settlement Term Sheet with TransCanada. Impacts of the Settlement Term Sheet include an increase in transportation costs as a result of higher TransCanada tolls and a decrease in transportation costs as a result of access to short haul transport to the Enbridge EDA, made possible as a result of the settlement.

The estimated range of toll impacts provided by TransCanada is a 45% to 55% increase in short haul tolls and a 13% to 20% increase in long haul tolls to the Enbridge Franchise.

Based on the range of toll impacts provided by TransCanada the impact on tolls for transportation service utilized by Enbridge are as follows:

¹ Refer to Hearing Day 2 (September 13, 2013) transcript at page 120, line 28 to page 121, line 7.

² Refer to Hearing Day 3 (September 16, 2013) transcript at page 127, lines 4 to 16.

³ Refer to Hearing Day 4 (September 17, 2013) transcript at page 54, line 22 to page 55, line 21.

⁴ Refer to Hearing Day 6 (September 26, 2013) transcript at page 63, lines 10 to 17.

Witnesses: J. Denomy
M. Giridhar

\$/GJ	Compliance Filing Toll	13% Increase in Long Haul & 45% Increase in Short Haul	20% Increase in Long Haul & 55% Increase in Short Haul
Empress to Enbridge CDA	1.57	1.77	1.88
Empress to Enbridge EDA	1.62	1.83	1.94
Dawn to Enbridge CDA	0.24	0.34	0.37
Dawn to Enbridge EDA	0.44	0.63	0.68
Dawn to Iroquois	0.42	0.61	0.65
Parkway to Enbridge CDA	0.12	0.18	0.19
STS to Enbridge CDA	0.12	0.18	0.19
STS to Enbridge EDA	0.32	0.47	0.50
Parkway to Enbridge CDA SN	0.13	0.19	0.20

The annual increase in gas costs from the range of tolls provided above relative to the compliance tolls and using the October 2013 QRAM gas supply portfolio is shown below and ranges from \$50M to \$68M. The bridging contribution accounts for approximately 1/3rd of the impact on gas costs with the remaining impact accounting for cost recovery of the Eastern Ontario Triangle.

\$ Millions	Total TCPL Transportation Costs October 2013 QRAM	13% Increase in Long Haul Tolls, 45% Increase in Short Haul Tolls	20% Increase in Long Haul Tolls, 55% Increase in Short Haul Tolls
	234.7	284.1	302.3
Difference Relative to October 2013 QRAM		49.5	67.7

The average annual decrease in gas supply costs resulting from the ability to displace 170,000 TJ/d of long haul transport to the Enbridge EDA with short haul transport in 2016 is estimated to be approximately \$49 million per year. This expected benefit was calculated using TCPL Compliance Filing Tolls, an average Empress to Dawn basis differential of \$0.51 /GJ and 100% utilization of long haul capacity.

The table below shows the annual average expected gas supply benefits for Enbridge's ratepayers arising from the GTA Project over the 2015 to 2025 timeframe for a range of basis and utilization scenarios.

Witnesses: J. Denomy
M. Giridhar

Annual Average GTA Project Benefits Calculations for Current Base Case - Basis and Utilization Scenarios @ Compliance Filing Tolls - 2015-2025				
\$ Millions		Average Empress- Dawn Basis = 0.51 \$/GJ	Average Empress- Dawn Basis = 0.92 \$/GJ	Average Empress- Dawn Basis = 1.50 \$/GJ
Enbridge CDA				
Long Haul Load Factor = 100% (January to December)	System Gas	109	62	(2)
	Direct Purchase	64	39	5
	Total	173	101	3
Long Haul Load Factor = 42% (November to March)	System Gas	138	119	92
	Direct Purchase	64	39	5
	Total	202	158	96
Long Haul Load Factor = 25% (December to February)	System Gas	145	134	118
	Direct Purchase	64	39	5
	Total	210	173	122
Enbridge EDA				
Long Haul Load Factor = 100% (January to December)	System Gas	49	21	(15)
Long Haul Load Factor = 42% (November to March)	System Gas	65	53	38
Long Haul Load Factor = 25% (December to February)	System Gas	69	62	53
Grand Total				
Long Haul Load Factor = 100% (January to December)		222	122	(12)
Long Haul Load Factor = 42% (November to March)		267	211	134
Long Haul Load Factor = 25% (December to February)		279	235	175

Enbridge has not updated the benefits resulting from the GTA Project using the range of indicative tolls provided by TransCanada. While the unit increase in long haul tolls underpinning this range is higher than the unit increase in short haul tolls, these increases are based on a six year surcharge recovery for long haul vs. a fifteen year surcharge recovery for short haul. Over the term of the settlement the differential in tolls is expected to be approximately the same as the differential in compliance tolls.

The combined benefits of the GTA Project and the term sheet are substantial and far exceed the increase in short haul and long haul tolls resulting from the term sheet under all but the scenario where Enbridge uses all its contracts at a 100% load factor and the basis differential between Alberta and Dawn is \$1.50 or more.

As noted in evidence, 100% utilization is an unrealistic assumption given that Enbridge operates its distribution system at approximately 30% utilization factor. In addition, Enbridge has not included upstream arrangements necessary to meet growth in peak demand. The absence of short haul supply will result in ever decreasing utilization of long haul transport increments resulting in a transfer of wealth from Enbridge rate payers to other shippers on the TransCanada system. Enbridge has or is in the process of firming up approximately 260 TJ/d of long haul transport in lieu of previously contracted STFT for 2014. Enbridge would note that while the determination of final Mainline tolls were based on an average throughput from Alberta they did not explicitly incorporate firming up of Enbridge's 2013 peak day demand or growth in Enbridge's peak day demand over time.

Witnesses: J. Denomy
M. Giridhar

Finally, the basis differentials reflected in the table do not reflect changes in Marcellus basis relative to Alberta. Enbridge notes that at TGP Zone 4 Marcellus, a trading point in the Marcellus formation, gas is currently trading at approximately \$2.00 /GJ, a discount of \$0.55 relative to AECO in Alberta. Enbridge's analysis has assumed that Marcellus basis would trade above Alberta basis.

Witnesses: J. Denomy
M. Giridhar

UNDERTAKING J7.1

UNDERTAKING

TR 7, page 23

EGD to provide an update to JT2.25, page 3 of 8, Table 1-FRPO 5 to include flows from Victoria Square and through the 26- inch pipe in each scenario of current table.

RESPONSE

Please see the tables below for the addition of Victoria Square and NPS 26 flows to the information provided in the response to Undertaking JT2.25.

Enbridge has completed this analysis using the transient model. However, it must be reiterated that the steady state model is used for design purposes; transient modeling is used for upset conditions and for gas supply planning.

It should also be noted that none of the scenarios shown meet all of the project objectives.

Table 1: FRPO 5 Response with Reduced Operating Pressures (Interruptibles On)

Unsteady State Model Results		A1 FRPO 5 a)			A1 FRPO 5 b)			A1 FRPO 5 c)			A1 FRPO 5 d)			A1 FRPO 5 e)			A1 FRPO 5 f)		
	Current	2014/2015		Current	2015/2016		Segment A Only	2015/2016		Segment B Only	2015/2016		N-S of Segment B Only	2015/2016		NPS 16 from Markham	2015/2016		
	Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure		
	10 ³ m ³ /hr	psi		10 ³ m ³ /hr	psi		10 ³ m ³ /hr	psi		10 ³ m ³ /hr	psi		10 ³ m ³ /hr	psi		10 ³ m ³ /hr	psi		
		IN	OUT		IN	OUT		IN	OUT		IN	OUT		IN	OUT		IN	OUT	
Victoria Square	930		450	878		375	878		375	672		375	971		375	835		375	
NPS 26	34		375	0		275	0		275	0		275	0		275	0		275	
Albion Rd. District Station	330	383	275	339	385	275	339	485	275	331	339	275	332	389	275	334	388	275	
Albion Rd Gate Station	na	na	na	na	na	na	832	892	485	na	na	na	na	na	na	na	na	na	
Keele/CNR Station	224/46	368	275/175	280	371	275	280	474	275	269	303	275	269	376	275	272	376	275	
Downsview Station	135	267	175	149	266	175	149	266	175	136	267	175	136	267	175	140	267	175	
Martin Grove Station	305	278	175	352	255	175	352	255	175	308	278	175	308	263	175	321	271	175	
Buttonville Station (from West inlet)	na	na	na	na	na	na	na	na	na	276	na	na	na	na	na	na	na	na	
Buttonville Station (from North inlet)	na	na	na	na	na	na	na	na	na	276	na	na	526	na	na	na	na	na	
South of Alden Road, on DV line	886	na	na	798	na	na	798	n/a	n/a	613	na	na	367	na	na	754	na	na	
Jonesville Station	155	291	175	167	198	175	167	198	175	156	280	175	156	250	175	157	220	175	
Station B	157/147	244	175/120	243	148	148/120	243	148	148/120	301	231	175/120	302	193	175/120	269	162	162/120	
West Mall	237	292	175	269	275	175	269	275	175	239	292	175	239	292	175	254	286	175	
Bayview	142	254	175	104	161	161	104	161	161	142	241	175	143	206	175	147	173	175	
Peak time	8.07			8:00			8:00			8:13			8:08			8:03			

Witness: E. Naczynski

Table 2: FRPO 5 Response with Reduced Operating Pressures (Interruptibles Off)

Unsteady State Model Results	A1 FRPO 5 a)			A1 FRPO 5 b)			A1 FRPO 5 c)			A1 FRPO 5 d)			A1 FRPO 5 e)			A1 FRPO 5 f)		
	Current	2014/2015		Current	2015/2016		Segment A Only	2015/2016		Segment B Only	2015/2016		N-S of Segment B Only	2015/2016		NPS 16 from Markham	2015/2016	
		Flow 10 ³ m ³ /hr	Pressure psi		Flow 10 ³ m ³ /hr	Pressure psi		Flow 10 ³ m ³ /hr	Pressure psi		Flow 10 ³ m ³ /hr	Pressure psi		Flow 10 ³ m ³ /hr	Pressure psi		Flow 10 ³ m ³ /hr	Pressure psi
		IN	OUT		IN	OUT		IN	OUT		IN	OUT		IN	OUT		IN	OUT
Victoria Square	903		450	871		375	647		375		375	928		375	815		375	
NPS 26	18		375	0		275	0		275		275	0		275	0		275	
Albion Rd. District Station	329.5	386	275	336	387	275	336	460	275	281	275	332	389	275	331.1	389	275	
Albion Rd Gate Station	na	na	na	na	na	na	486.3	920	485	na	na	na	na	na	na	na	na	
Keele/CNR Station	220.5/45.7	373	275	228.6/46.5	374	275/175	228.6/46.5	475	275/175	303	275/175	223/46.3	376	275	222.3/46.2	376	275	
Downsview Station	134.4	268	175	143.3	266	175	143.2	266	175	267	175	135.6	267	175	135.1	267	175	
Martin Grove Station	301.6	281	175	331	266	175	331	266	175	281	175	304.3	280	175	303.4	280	175	
Buttonville Station (from West inlet)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	
Buttonville Station (from North inlet)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	
South of Alden Road, on DV line	843	na	na	790.5	na	na	790.5	na	na	na	na	349	na	na	736.9	na	na	
Jonesville Station	154.9	305	175	162.1	203	175	162.1	203	175	285	175	156	264	175	155.6	229	175	
Station B	126.5/146.2	268	175/120	147.4/79.8	156	156/120	147.4/79.8	156	156/120	245	175/120	146.6/129.2	219	175/120	146/128.7	176	175/120	
West Mall	231.3	295	175	256.2	283	175	256.2	283	175	294	175	234	294	175	233.3	294	175	
Bayview	124.9	276	175	112.4	167	175	112.4	167	175	254	175	126.3	229	175	125.9	188	175	
Peak time	8.10			8.00			8.00			8.13		8.07			8.12			

Witness: E. Naczynski

Table 3: FRPO 5 Response with Original Operating Pressures (Interruptibles On)

Unsteady State Model Results	A1 FRPO 5 a)			A1 FRPO 5 b)			A1 FRPO 5 c)			A1 FRPO 5 d)			A1 FRPO 5 e)			A1 FRPO 5 f)		
	Current	2014/2015		Current	2015/2016		Segment A Only	2015/2016		Segment B Only	2015/2016		N-S of Segment B Only	2015/2016		NPS 16 from Markham	2015/2016	
		Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure		Flow	Pressure
	10 ³ m ³ /hr		psi	IN	OUT		10 ³ m ³ /hr		psi	IN	OUT		10 ³ m ³ /hr		psi	10 ³ m ³ /hr	IN	OUT
Victoria Square	930		450				936		450				975		450	889		
NPS 26	34		375				33		375				3		375	6		
Albion Rd. District Station	330		275				331.5		275				333.1		275	332.9		
Albion Rd Gate Station	na		na	383	na	382	na	539.1	460	917	485	na	na	365	na	na	388	275
Keele/CNR Station	224/46	368	275/175	267	175	367	222.9/46.2	223.8/46.3	472	275/175	275/175	222.7/46.2	224.1/46.4	340	275/175	224/46.3	375	275
Downsview Station	135	267	175	267	175	267	136	136.6	267	175	175	136.1	136.9	267	175	136.8	267	175
Martin Grove Station	305	278	175	278	175	278	307.6	308.8	277	175	175	307.9	309.2	277	175	309	277	175
Buttonville Station (from West inlet)	na	na	na	na	na	na	na	na	na	na	na	180.4	na	na	na	na	na	na
Buttonville Station (from North inlet)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
South of Alden Road, on DV line	886	na	na	na	na	na	891.6	895.8	na	na	na	708.3	369.3	na	na	815.8	na	na
Jonesville Station	155	291	175	288	175	288	155.6	156.2	293	175	175	155.5	156.4	301	175	156.4	312	175
Station B	157/147	244	175/120	244	175/120	240	146/142.7	156.4/146.8	246	175/120	175/120	155.4/145.8	147.2/156.7	288	175/120	147/156.5	267	175/120
West Mall	237	292	175	292	175	292	238.8	239.7	291	175	175	238.4	240	292	175	239.8	291	175
Bayview	142	254	175	250	175	250	142.7	143.3	256	175	175	142.3	143.5	301	175	143.4	277	175
Peak time	8.12						8.12	8.05				8.13	8.02			8.03		

Witness: E. Naczynski