

NATIONAL ENERGY BOARD

DIRECT EVIDENCE OF MR. BERNARD OTIS

(On behalf of the Industrial Gas Users Association)

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, c. N-7,
as amended, and the Regulations made thereunder;

AND IN THE MATTER OF an Application for:

1. Approvals required to implement a Restructuring Proposal that affects the businesses and services of TransCanada PipeLines Limited, NOVA Gas Transmission Ltd and Foothills Pipe Lines Ltd.; and
 2. Approval of final tolls for the TransCanada Mainline for 2012 and 2013.
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March 9, 2012

1. INTRODUCTION

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is Bernard Otis. My business address is 3149 Round Bay, Ayer's Cliff, Quebec J0B 1C0

Q2. ON WHOSE BEHALF ARE YOU SPONSORING EVIDENCE IN THIS PROCEEDING?

A2. I am sponsoring evidence on behalf of the Industrial Gas Users Association (hereinafter "IGUA").

Q3. WHEN WERE YOUR SERVICES RETAINED BY IGUA AND FOR WHAT PURPOSE?

A3. I have been representing IGUA before the Régie de l'Énergie since September 2010 through my consulting firm (Bernard Otis Consultant Inc.). IGUA retained my services, at that time, to protect the interests of its members who are customers of Gaz Metro and of Gazifere Inc.

In regards to this proceeding, I was requested by IGUA to estimate the underutilization of the capacity of certain Canadian Mainline segments during the two test years (2012 & 2013).

Q4. TO WHICH MAINLINE SEGMENTS ARE YOU REFERRING TO?

A4. I am referring to the following three (3) segments of the Canadian Mainline as described by TransCanada¹ in its evidence in this proceeding:

- i) Prairies;
- ii) Northern Ontario Line (hereinafter "NOL");
- iii) Eastern Ontario Triangle (hereinafter "EOL").

¹ In TransCanada's 2007 toll settlement, the segments are described as follows at page 6 of the Settlement Application:

Prairies line (Empress to Station 41 including the Emerson extension);
Northern Ontario line (Station 41 to Station 116 including the Sault St. Marie line); and
Eastern Triangle (east of Station 116 including the St. Clair to Dawn and Niagara to Kirkwall lines).

In this Restructuring Application, the Prairie segment remains the same but:

NOL segment extends from Station 41 to Station 112;

EOL segment extends from east of Station 112 but excludes the St Clair to Dawn and Kirwall to Niagara/Chippawa lines.

Q5. *PLEASE SUMMARIZE YOUR CONCLUSIONS*

A5. TransCanada's request covers two test years (2012 & 2013):

- Y According to TransCanada's Throughput Study, Mainline's long haul flows would be higher in these two test years under its Restructuring Proposal than under the status quo.
- Y A decision on the Restructuring Proposal will be issued, at best, late in the 2012 test year thus pushing back, by at least a year, the potential increase in long haul throughput expected from the TransCanada Restructuring Proposal.
- Y Western gas supplies available to the Mainline, segment capabilities and the market demand used to estimate the underutilized capacity by segment were drawn from information provided by TransCanada.
- Y The underutilized capacity of the Prairies segment corresponds to the capacity left after transporting 3.4 PJ per day of Western gas supplies as FT and Discretionary Services.
- Y Only 35% of the 3.4 PJ per day of available Western supplies is assumed to flow as FT service. This is consistent with the current level of contracted long haul FT service.
- Y According to TransCanada, Dawn is the major hub in Eastern Canada and thus the market where most of the incremental volumes are expected to be contracted.
- Y Almost all of the Discretionary Service destined to eastern markets flows via Great Lakes. Throughput on Great Lakes to St Clair approaches 1.3 PJ/d.
- Y The NOL segment flows are approximately 1.2 PJ/d corresponding to the sum of the market demand along the segment and the long haul FT services and Discretionary services destined to markets located at, and East of, Parkway.
- Y The NOL segment utilization is increased by the Great Lakes backhaul / NOL forward haul arrangement required to compensate for the lack of sufficient Union Gas TBO for TransCanada to meet its short haul FT obligations from Dawn to markets located downstream of Parkway.
- Y The underutilized portions of the Prairies and NOL segment capacities are 49% and 57% respectively.
- Y There is 3.35 PJ/d of underutilized capacity on the Prairies segment and 2.25 PJ/d on the NOL segment.

Y To put this in perspective, recall that the Western gas supplies assumed to be available to the Mainline is 3.4 PJ/d.

Y The Throughput study is highlighting the potential for less underutilized Mainline capacity in the future. If this potential exists, then any solution proposed at this time to deal with the impact of the underutilized capacity in the two test years (2012 and 2013) should be flexible and reversible over time.

Q6. PLEASE DESCRIBE THE INFORMATION REQUIRED TO ESTIMATE THE UNDERUTILIZATION OF MAINLINE CAPACITY

A6. The following information is required in order to estimate the level of underutilization of the capacity of certain Mainline segments:

Y Current Capability of each segment;

Y Design Criteria (peak day, seasonal or annual) applicable to each segment;

Y For the Prairies and NOL segments, demand in terms of FT Requirements and Discretionary Services sourced from the Western Canadian Sedimentary Basin (hereinafter "WCSB");

Y Flow path (NOL or Great Lakes) of WCSB supplies to the markets.

Q7. WHY DO YOU REFER TO THE CURRENT CAPABILITY OF THE SEGMENTS?

A7. TransCanada has retired and relocated a number of compressor units over the years. It has also sold its Line 1 in the Prairies segment to Keystone Pipeline. It was therefore important to obtain a more current estimate of the transportation capability of the three (3) Canadian Mainline segments in question.

TransCanada was requested² to provide Capability *versus* Requirements Tables (hereinafter "CVRT") for the three (3) segments based on TransCanada's firm requirements as of November 1, 2011.

As a reference, TransCanada was also asked to provide the CVRT included in its last major system wide facilities application approved by the National Energy Board in its Decision GH-2-97.

² IGUA Round 1 IR 1.15 c) for Prairie and NOL segments; IGUA Round 1 IR 1.16 c)

Q8. WHAT ARE THE CURRENT CAPABILITIES OF THE VARIOUS SEGMENTS?

A8. TransCanada provided the segment capability under the following conditions:

- Y Peak Winter with loss of the most critical unit; (WPD)
- Y Peak Summer with loss of the most critical unit; (SPD)
- Y Average Winter with Capability Factor; and (WAD)
- Y Average Summer with Capability Factor. (SAD)

TransCanada was asked to determine the current segment capabilities using a load profile consistent with the contracted firm requirements as of November 1, 2011.

CURRENT

Segment Capability	Quantities in PJ per day				Reference
	WPD	SPD	WAD	SAD	
Prairie	6.769	6.42	7.161	6.857	IGUA IR 1.15 p.4 of 6, Line 14
NOL	3.932	3.668	3.816	3.638	IGUA IR 1.15 p.5 of 6, Line 9
EOT ³	3.812	2.882	3.221	2.516	IGUA IR 1.16 p.5 of 5

HOW DO THE CURRENT CAPABILITIES COMPARE TO THE CAPABILITIES FOLLOWING THE EXPANSION APPROVED BY DECISION GH-2-97?

The capabilities following GH-2-97 were, on average, 110% greater than the current capabilities for the reasons explained earlier i.e. Line 1 had not yet been sold to Keystone and there was much more compression facilities (compressor units) available along the Mainline system than is currently the case.

RATIO OF GH-2-97 CAPABILITY TO CURRENT CAPABILITY

Segment Capability	in %			
	WPD	SPD	WAD	SAD
Prairie	116% ⁴	113%	111%	110%
NOL	110%	107%	113%	114%
EOT	Not available			

³ Montreal Line/North Bay Shortcut capability to Iroquois selected as opposed to EOL capability to Parkway because Iroquois export point has experienced greatest reduction in contracted demand.

⁴ Reference : Western Section winter peak day capability = 226.44 million of cubic metres per day(IGUA IR 1.15b, p. 2 of 2, line 5) Western Section reduction in cap. with the loss of most critical unit = 15.67 million cubic metres. Western Section net throughput cap. with loss of unit = 210.77 million cubic metres (7.85 PJ/d). Ratio 7.85 (GH-2-97) / 6.769 (current) = 1.16 or 116%

Q9. WHICH OF THE ABOVE SEGMENT CURRENT CAPABILITIES ARE MOST RELEVANT AT THIS TIME?

A9. In the past when the Prairies, NOL and Great Lakes segments of the Mainline system were operating at very high utilization factors, the most relevant capabilities would have been the segment capability that was consistent with the facilities design criteria used by TransCanada.

TransCanada was asked⁵ to explain the design criteria (i.e. peak day, seasonal, annual) currently applicable to each of the three (3) Mainline segments even though facilities additions on the Prairies and NOL segments are most certainly not envisaged now or in the future. TransCanada response was as follows:

“In GH-2-97 and today, TransCanada designs its system to ensure that it can meet its firm service contractual obligations on all days of the year. In order to meet the obligations, TransCanada compares the capability and requirements to ensure that service can be met under all of these four conditions:

- 1) Peak Winter with loss of the most critical unit;*
- 2) Peak Summer with loss of the most critical unit;*
- 3) Average Winter with Capability Factor; and*
- 4) Average Summer with Capability Factor.*

The condition that results in the least available capacity, while meeting the obligations is the design season.”

In GH-2-97, the least available capacity for both the Prairies and NOL segments after having met firm obligations was during the summer season. It was the winter peak day for the EOT segment.

For 2011/12, the least available capacity for:

- Y The **EOT** remains under **winter peak day** condition;
- Y The Prairies and NOL segments are on a summer peak day with loss of the most critical unit.

⁵ IGUA Round 1 IR 1.15 a)

However, the **winter peak day** condition was retained for both the **Prairies and NOL** segments because:

- i) the high level of forecasted Discretionary Services with demand for these services most likely being slightly greater in the winter⁶;
- ii) the use of the winter peak day would not significantly alter the results but would simplify the determination of the flow path for the various services; and
- iii) the mix of compression and pipe facilities on the Prairies and NOL segments is no longer necessarily optimized⁷ which skews the design criteria in favour of the summer peak day conditions.

Q9. WHAT ARE THE SEGMENT CAPABILITIES RETAINED?

A9. The following segment capabilities were retained for this exercise:

<u>Segment</u>	<u>Capability</u>
Prairies	6.769 PJ/d
NOL	3.932 PJ/d
EOT ⁸	3.812 PJ/d

The Prairie capability exceeds the NOL capability because the Prairies segment::

- i) serves the domestic market demand along this segment and the export markets at Emerson; and
- ii) delivers gas for transportation purposes to Great Lakes and to the NOL segment.

⁶ the long haul segments of the Mainline were not designed in the last major facilities application (GH-2-97) to provide winter peak day type of service. It would not be appropriate for TransCanada to provide such a service unless it could be shown that the revenues from the service could more than offset the annual owning and operating costs of the capacity required to provide such a service. This type of justification should also apply to Discretionary Services. It is assumed that the high level of Discretionary Services forecasted by TransCanada flows on a relatively uniform basis throughout the year i.e. it would not be the equivalent of a winter peak day type of service disguised as IT or STFT service.

⁷ the lower summer peak day capability is mostly due to the effect on available power of warmer ambient temperatures. Recall that TransCanada has retired and relocated a number of compressor units over the years.

⁸ Montreal Line/North Bay Shortcut capability to Iroquois selected as opposed to EOL capability to Parkway because Iroquois export point has experienced greatest reduction in contracted demand.

Q10. WHAT ARE THE POTENTIAL SOURCES OF INFORMATION AVAILABLE TO ESTIMATE THE MAINLINE FT REQUIREMENTS SOURCED FROM WESTERN CANADA FOR THE TWO TEST YEARS?

A10. Requirements are a critical element to estimating the system utilization. In its response⁹ to an information request, TransCanada notes that the CDE (Contract Demand Energy) tables are a better source of information for FT requirements than the fixed allocation units assumed for toll design purposes.

TransCanada goes on to explain that although allocation units typically match TransCanada's FT contract quantities, they do not accurately capture contracts that start or change during a calendar year. For contracting changes that occur within the calendar year, the allocation units represent an average over the year and not the true requirement at any specific time of the year.

However, TransCanada adds that FT requirements can also change over time to reflect non (or partial) renewals of existing contracts and / or new contracts.

Long haul FT requirements in the TransCanada CDE Reports have evolved as follows over the last few months:

	<u>In PJ/d</u>
As of October 31, 2011	1.554
As of November 1, 2011	1.397
As of January 1, 2012	1.334
As of February 1, 2012	1.334

In comparison, the sum of the fixed allocation units (excluding the Alberta Extension TBO) associated with long haul FT from western Canada assumed by TransCanada for 2012 is 1.224¹⁰ PJ/d. It is 1.256 PJ/d for 2013. Both of these quantities are within 10% of the corresponding quantity in the February 2012 CDE Report.

Q11. WHAT ARE THE SOURCES OF INFORMATION AVAILABLE TO ESTIMATE THE REQUIREMENT FOR DISCRETIONARY SERVICES FOR THE TWO TEST YEARS?

A11. TransCanada's forecast of Interruptible Transportation and Short Term Transportation Services for 2012 and 2013 is the best source of information available for these services and for the markets most

⁹ TransCanada's response to IGUA Round 2 IR 2.2 f) p. 3 of 4

¹⁰ TransCanada Application Attachment 12.3 Tab 2 – Toll Design Schedule 2, p. 1 of 1

likely to require these discretionary services. This forecast can be found in the Revenue Requirement section¹¹ of TransCanada's Restructuring Application.

Q12. WHAT IS TRANSCANADA'S FORECAST OF AVERAGE DAY DELIVERIES OF DISCRETIONARY SERVICES FOR THE TWO TEST YEARS?

A12. TransCanada's forecast¹² includes an average of 2.198 PJ/d of gas supply sourced from Western Canada to provide Discretionary Services during 2012. The forecast is for 2.521 PJ/d for 2013.

TransCanada does not, however, provide a breakdown of these discretionary services between Interruptible Transportation and Short Term Firm Transportation services.

Q13. BASED ON THE ABOVE, WHAT REQUIREMENTS (FT AND DISCRETIONARY SERVICES) SOURCED FROM WESTERN CANADA HAVE YOU USED TO ESTIMATE THE MAINLINE UTILIZATION?

A13. To assume a forecast of deliveries other than that reflected in the allocation units for FT requirements and in the forecast of Discretionary services in TransCanada's 2012 and 2013 toll design sections of the application would require that IGUA:

Y prepare a forecast of which markets could be served by the Western gas supplies expected to be available to the Mainline.

Y determine how much of this Western supply would flow as FT Service and as Discretionary Service.

IGUA does not have access to information and models that would allow it to make the above determinations.

IGUA therefore concluded that it would be best to use the information included in TransCanada's application in order to estimate the utilization of the various Mainline segments during 2012 and 2013.

¹¹ TransCanada Application Attachment 12.3 - Toll design, Tab 2- 2012 Toll Design Schedule 4, p.2 of 2.

¹² refer to Attachment 1 hereto for 2012 and to Attachment 4 for 2013

The FT requirements and requirement for Discretionary Services sourced from Western Canada in TransCanada's Restructuring Application are as follows:

	<u>2012</u>	<u>2013</u>
FT Requirements	1.224	1.256
Discretionary Services	<u>2.197</u>	<u>2.521</u>
Total	3.421	3.777

Q14. WHAT DO YOU CONSIDER TO BE A REASONABLE ASSUMPTION FOR THE MAXIMUM QUANTITY OF WESTERN SUPPLIES LIKELY TO FLOW INTO THE MAINLINE DURING THE 2012 AND 2013 TEST YEARS?

A14. Case 1 in TransCanada's Throughput Study evaluates the Mainline throughput with a Base Case level of WCSB supply and assumes tolls are established based on implementation of the Restructuring Proposal.

The Western supply forecasted to be available to the Mainline during the 2011/12 and 2012/13 gas years under Case 1 are 3.2 and 3.6 Bcf/d respectively (equivalent to 3.4 and 3.8 PJ/d respectively).

The NEB decision on TransCanada's Restructuring proposal will be issued, at best, late in the 2012 Test Year. TransCanada states in its Throughput Study that:

"In the event the Restructuring Proposal tolling structure is not implemented, Case 3 is TransCanada's expected case and the appropriate case to use in assessing Mainline throughput."

The Case 3 throughput for 2011/12 and 2012/13 are approximately 6 and 14% lower than those for the corresponding years in Case 1.

IGUA concludes that the potential favourable market impact expected from the TransCanada Restructuring Proposal will be pushed back by at least a year. Also, current low gas prices and the shutting in of gas production could affect availability of western gas supplies for the Mainline.

TransCanada is seeking final tolls for 2012 and for 2013. Using 3.4 PJ/d as an assumption for the maximum quantity of Western supplies likely to flow on the Mainline during this two-year period is

reasonable, if not somewhat optimistic¹³. This quantity of 3.4 PJ/d is also consistent with the Mainline receipts for 2010 and 2011¹⁴.

Q15. DO YOU CONSIDER THE PROPORTION OF FT REQUIREMENTS AND DISCRETIONARY SERVICES WHICH COMPRISE THE 3.4 PJ/d TO BE REASONABLE?

A15. Yes for the following reasons:

Y Regardless on how one may feel about the competitiveness of the transportation tolls being proposed by TransCanada, it would seem unlikely for parties to contract for new long haul FT service prior to the NEB decision on TransCanada's Restructuring proposal; and

Y The assumed FT requirement of 1.224 PJ/d for 2012 and even the 1.256 PJ/d for 2013 are certainly reasonable compared to the level of long haul FT in the TransCanada February 2012 CDE Report.

Q16. CAN ONE EASILY DETERMINE THE FLOW PATH TO MARKET OF THE FT REQUIREMENTS AND DISCRETIONARY SERVICES?

A16. TransCanada states on a number of occasions in its responses to information requests that it operates an integrated pipeline system and that it cannot track the flow of transportation services along the different segments of its integrated system.

Q17. DO YOU AGREE WITH TRANSCANADA THAT IT CANNOT TRACK THE FLOW OF TRANSPORTATION SERVICES?

A17. There is no doubt that the Integrated Mainline is a complex system and that the low level of throughput complicates matters even further - it multiplies the number of available options to flow a certain quantity of gas on any given day. So yes, operationally, TransCanada could not easily track the flow of transportation services along the different segments of its integrated system.

However, based on the level of average day throughput expected for the Test Year and the markets to be served, one can identify the

¹³ Overstating somewhat the forecasted utilization of the Mainline is not inconsistent with the objective of this analysis which is to estimate the under utilization of the Mainline segments over the two-year period.

¹⁴ TransCanada Application, Appendix C1: Throughput Study page 55 of 79.

likely path (NOL vs Great Lakes) that the Western supplies will use to reach the market.

Q18. PLEASE EXPLAIN.

A18. In its Application¹⁵, TransCanada states that:

“Until recently, TransCanada’s GLGT TBO was primarily used to meet customer requirements to move WCSB gas into Dawn area storage during the summer injection season, and to transport WCSB gas to meet winter requirements at the Niagara and Chippawa export points and at domestic delivery points in southern Ontario.”

In the February 2012 TransCanada CDE Report:

- Y There is no contracted long haul FT service to domestic delivery points in southern Ontario;
- Y The contracted long haul FT service to Chippawa and Niagara corresponds to only 1.2% of the export capability at these points; and
- Y TransCanada decides whether it will deliver at Parkway the WCSB gas destined for storage at Dawn or whether it will deliver this storage gas at Dawn via Great Lakes.

TransCanada also comments in the Application¹⁶ that Dawn would be the preferred market for incremental transportation services:

“... In particular, as Dawn is the major hub in eastern Canada and thus the market where parties expected most of the incremental volumes to be contracted ...”

And so, if there is a high demand for Discretionary Services which is the case for 2012 (the level of forecasted Discretionary volumes exceeds the forecasted long haul FT requirements) the long haul FT supplies destined to storage would be delivered at Parkway in the summer so that the Great Lakes path can be used to deliver the Discretionary Services at Dawn.

It is therefore reasonable to assume that the long haul FT services and Discretionary services destined to markets located at, and East of, Parkway will flow via the NOL segment. The other long haul FT

¹⁵ Attachment 12.1: Revenue Requirement Tab 2 – Transportation by Others p 6

¹⁶ Attachment 12.1: Revenue Requirement Tab 2 – Transportation by Others p 15

services and Discretionary services for the eastern markets will mostly flow via the Great Lakes path.

Q19. ARE THERE ANY OTHER FACTORS THAT NEED TO BE TAKEN INTO ACCOUNT TO PROPERLY REFLECT THE ESTIMATED UTILIZATION OF THE SEGMENT CAPACITIES?

A19. Yes there is one more factor.

To obtain a better representation of the total NOL segment throughput on a winter peak day, the quantities of gas backhauled on Great Lakes from St Clair to Emerson¹⁷ and transported to the eastern markets using the NOL capacity must be considered.

TransCanada indicates¹⁸ that the forward haul requirement on the NOL segment is 0.465 PJ/d under winter peak conditions for 2011/12. It is assumed that this requirement is maintained in future years.

The use of the NOL capacity in this way in the NOL requirements may appear to condone the use of system capacity to offer a winter peak day type of service. As explained at footnote 6, the revenues from this type of service should offset the annual owning and operating cost of the capacity required to provide the service.

It is assumed for the purposes of this analysis that TransCanada has satisfied itself that the Great Lakes backhaul and NOL forward haul requirement is justified cost wise. TransCanada has included some of this requirement under its winter average day CVRT for the current facilities.

Finally, including this requirement under a winter peak day also provides a cushion of approximately 10% to ensure that the level of system underutilization to be determined is not overstated.

¹⁷ TransCanada explains at p7 Revenue Requirements Tab 2- Transportation by Others that “Beginning in 2009, TransCanada also began contracting for firm capacity on the GLGT system from St. Clair to Emerson to facilitate transportation out of the Dawn area to meet contract demand in the Eastern Triangle. Shifting Mainline flows resulted in a requirement to change how existing firm contractual requirements on the Mainline were met. The use of firm St. Clair to Emerson capacity was implemented as an alternative to the construction of new facilities.”

¹⁸ At IGUA IR 1.15 p.5 of 6, Line 3

Q20. BASED ON THE ABOVE, PLEASE DESCRIBE THE EXPECTED THROUGHPUT ON THE PRAIRIES, NOL AND GREAT LAKES SEGMENTS OVER THE TWO TEST YEARS.

A20. The assumed flow path of the long haul FT requirements and Discretionary Services of 3.4 PJ per day from Western Canada is summarized below. Please refer to Attachments 1 and 2 hereto to understand the allocation of services per flow path for 2012 and, for reference purposes only to Attachments 4 and 5 for the corresponding information for 2013.

<i>In PJ/d</i>	Deliveries to:				Total Prairies Thruput
	<u>Prairies Markets</u>	<u>Great Lakes transportation</u>	<u>Export Market at Emerson</u>	<u>NOL</u>	
FT	0.126	0.021	0.021	1.056	1.224
Discretionary Service	<u>0.058</u>	<u>1.231</u>	<u>0.752</u>	<u>0.157</u>	<u>2.197</u>
	0.184	1.252	0.773	1.213	3.421
Great Lakes backhaul / NOL forward haul				<u>0.465</u>	
				1.678	

Note that:

- Y The assumed available western supplies destined to eastern markets are almost evenly split between the NOL and Great Lakes segments;
- Y Great Lakes transportation from Emerson to St Clair approaches historical levels;
- Y Great Lakes transportation is used almost exclusively by the Discretionary Services.

Q21. WHAT IS THE LEVEL OF THROUGHPUT ON THE EOL SEGMENT FOR 2012?

A21. The assumed throughput on the EOT segment for 2012 is:

	Throughput¹⁹ In PJ/d
Firm transportation ²⁰	2.995
Discretionary Services	<u>0.119</u>
	3.114 PJ/d

¹⁹ Attachment 3 hereto provides the requirements included in these throughput quantities.

²⁰ includes long haul FT, short haul FT and storage transportation

Q22. WHAT IS THE PERCENTAGE OF UNDERUTILIZED CAPACITY FOR EACH OF THE MAILINE SEGMENTS OVER THE TWO TEST YEARS?

A22. The estimated percentage of underutilized capacity after meeting FT requirements and Discretionary Services is 49% for the Prairies segment and 57% for the NOL segment as shown below:

Segment	Capability	Firm Reg'mts	Utilization Factor Firm Reg'mts	Discretionary Services	Total Demand	Overall Utilization Factor	Under Utilized Capacity
Prairies	6.769	1.224	18%	2.197	3.421	51%	49%
NOL	3.932	1.521 ²¹	39%	0.157	1.678	43%	57%
EOT ²²	3.812	2.995	79%	0.119	3.114	82%	18%

It is recommended that the underutilized capacity for the EOL segment not be considered at this time because it is incomplete for the following reasons:

Y There is significant excess capacity on the TransCanada sub segment between Kirkwall and the Niagara/Chippawa export points but there is no information available at this time to determine the amount of this excess capacity²³.

Y There is excess capacity to the East Hereford export point which is also not known at this time.

Q.23 WHAT WOULD BE THE PERCENTAGE OF UNDERUTILIZED CAPACITY FOR THE 2013 TEST YEAR BASED ON TRANSCANADA'S FORECAST?

A.23 As explained earlier, it is expected that the favourable market impact expected from the TransCanada Restructuring Proposal will be pushed back by a year. This is why the assumed throughput herein for the 2012 and 2013 test years is 3.4 PJ/d.

For informational purposes, the estimated percentage of underutilized capacity for 2013 using the TransCanada throughput forecast would be 44% for the Pairies Segment and 56% for the NOL segment.

²¹ Sum of FT requirement (1.056 PJ/d) and Great Lakes backhaul (0.465 PJ/d).

²² Montreal Line/North Bay shortcut.

²³ the sum Niagara Falls and Chippawa firm requirements at the time of the GH-2-97 decision was 40.543 million cubic metres (approx 1.5 PJ/d). These facilities also service the domestic market which complicates matters.

Q24. IS TRANSCANADA FORECASTING THROUGHPUT GREATER THAN 3.4 PJ/D FOR ITS LONG HAUL SEGMENTS IN THE FUTURE?

A24. TransCanada has included five (5) cases in its Throughput Study:

- Case 1 – Restructuring base case
- Case 2 – Status Quo with no market response
- Case 3 – Status Quo with market response
- Case 4 – Restructuring with low WCSB supply
- Case 5 – Status Quo with low WCSB supply

The available supply forecasted to be available for the Mainline in Bcf²⁴/d under these various cases over the 2012 to 2020 period is as follows:

Year	Case 1	Case 2	Case 3	Case 4	Case 5
2012	3.4	3.3	3.2	2.7	2.5
2013	3.8	3.4	3.3	2.3	1.9
2014	4.1	3.6	3.4	2.0	1.7
2015	4.3	3.8	3.4	2.0	1.7
2016	4.5	4.1	3.5	1.8	1.7
2017	4.6	4.2	3.8	1.8	1.6
2018	4.7	4.3	3.8	1.7	1.6
2019	4.8	4.3	4.0	1.8	1.6
2020	4.8	4.4	4.1	1.8	1.6

So, yes TransCanada is forecasting to eventually transport more than 3.4 PJ/d from western Canada in all cases except for the low WCSB supply cases. The forecasted 2020 supply available for the Mainline under Case 1 is 41% greater than in 2012.

Q25. WHAT IS THE EXPECTED FLOW PATH FOR THE INCREASED THROUGHPUT?

A25. In its application²⁵, TransCanada shows that its contracted TBO on Great Lakes peaked in 2004 at approximately 1.5 PJ/d.

The Great Lakes transportation requirements from Emerson to the East (by TransCanada and others) for 2013 included in Attachments 4 & 5 total 1.4 PJ/d.

²⁴ Multiply by 1.055 to obtain PJ/d

²⁵ TransCanada Application Attachment 12.1: Revenue Requirements, Tab 2 – Transportation by Others, p. 10 of 32

The breakdown in Attachment 4 shows that 0.9 PJ per day of deliveries to the Emerson market are forecasted for 2013 and is likely approaching market saturation at this location.

Also recall that TransCanada indicates in its evidence that:

“Based on shippers’ feedback, TransCanada determined that the potential markets for incremental volumes resulting from the Mainline Open Season were the Dawn hub in southwestern Ontario, the Toronto area and eastern export markets.”

Based on the above, it would be expected that possibly the first 0.1 PJ/d of throughput above 3.4 PJ/d would flow on the Prairies segment to Great Lakes for transportation and that all incremental supplies above 3.5 PJ/d would flow on the NOL segment and reduce the underutilized capacity accordingly.

Q26. WHAT WOULD BE THE PERCENTAGE OF UNDERUTILIZED CAPACITY ON THE PRAIRIES AND NOL SEGMENTS WITH THE FORECASTED CASE 1 MAINLINE LONG HAUL THROUGHPUT FOR 2020?

A26. Based on Case 1 (Restructuring) of TransCanada’s throughput study, the underutilized capacity on the Prairies and NOL segments would be reduced to 30% and 24% respectively by 2020 as shown below:

<u>Segment</u>	<u>Capability</u>	<u>Demand</u>	<u>Overall Utilization Factor</u>	<u>Under Utilized Capacity</u>
Prairies	6.769	4.800	70%	30%
NOL	3.932	2.978 ²⁶	76%	24%

Q27. SHOULD THE UNDERUTILIZED CAPACITY IDENTIFIED FOR THE TWO TEST YEARS (2012 & 2013) BE BASED ON THE LONGER TERM THROUGHPUT EXPECTATIONS?

A27. No. The TransCanada evidence explains why the Mainline is in such dire straits. Basically, the long term forecast of expected gas supply in North America, by source, has consistently been wrong. These forecasts called for the import of LNG supplies to meet demand and now North America is reacting to an oversupply situation even absent LNG imports.

²⁶ Total demand for NOL capacity per A24. (1.678 PJ/d) + (4.8-3.5 PJ/d) = 2.978 PJ/d

There also appears to be a lot of noise around the current TransCanada forecast as it relates, among other things, to:

- i) the medium and longer term impact of the current low gas prices; and
- ii) the desire of Western producers to gain access to higher priced markets outside of North America.

The Throughput study is highlighting the potential for less underutilized Mainline capacity in the future. If this potential exists, then any solution proposed at this time to deal with the impact of the underutilized capacity in the two test years (2012 and 2013) should be flexible and reversible over time.

Q28. DO YOU HAVE ANY CONCERNS WITH RESPECT TO THE FUTURE USE OF THE METHODOLOGY DESCRIBED IN THIS EVIDENCE TO ESTABLISH THE LEVEL OF UNDERUTILIZED SEGMENT CAPACITY?

A28. Yes I do but only with respect to making sure that:

- i) The capability used in determining the segment underutilization is always meaningful; and
- ii) TransCanada's annual throughput forecast for toll design purposes and for purposes of determining the segment underutilization is as accurate as possible.

Q29. PLEASE EXPLAIN THE NATURE OF THE CONCERN WITH RESPECT TO THE SYSTEM CAPABILITY?

A.29 TransCanada has already retired or relocated a number of compressor units along its system. TransCanada indicates in its evidence that some compressor facilities are forecasted to be retired in 2012 and 2013 and other compressor deactivations or retirements may take place during the Test years.

By retiring or deactivating critical compressor facilities one can reduce the pipeline or segment capability to the requirements level and thus eliminate most of the underutilized capacity. However, this is accomplished at the expense of operating efficiency because the optimum capability of the mains available for service can no longer be realized thus increasing the cost of providing transportation service.

TransCanada estimated the projected utility investment in Mains and Compressors as of December 31, 2011 to be almost

\$10 billion²⁷. Approximately 65% of the \$10 billion relates to investment in mains (pipe).

Q30. WHAT WOULD YOU SUGGEST TO ENSURE THAT THE CAPABILITY USED TO ESTIMATE THE LEVEL OF SYSTEM UNDERUTILIZATION REMAINS MEANINGFUL?

A30. I would suggest that the segment capabilities for 2012 be used as a reference for the 2012 and 2013 test years and for future years.

WHY IS IT IMPORTANT THAT TRANSCANADA'S FORECAST OF AVAILABLE WESTERN RECEIPTS FOR THE MAINLINE BE AS ACCURATE AS POSSIBLE?

An accurate forecast of the Western Receipts expected to be available to the Mainline will ensure that the segment underutilization for a given test year is not understated or overstated.

The forecast of Western Receipts will also affect the forecast of the quantities expected to flow on the Mainline as Discretionary Service which influences the level of the tolls for the year. Tolls for a given test year should be set so as to recover the annual cost of service and to avoid cost or revenue shifting from one year to another.

Q31. DOES THIS COMPLETE YOUR EVIDENCE?

A31. Yes it does.

²⁷ Attachment 12.1 Revenue Requirements, Tab 5 – Rate Base, Schedule 5.2.1, Sheet 4 of 5

APPENDIX 1 - Evidence of Bernard Otis

2012 Interruptible Transportation and Short Term Firm Transportation Service From Western Canada

(Source: TransCanada's Restructuring Application, Revenue requirements, Attachment 12.3 - Toll design,
(Tab 2- 2012 Toll Design Schedule 4, p.2 of 2)

Note: the line numbers referred to below correspond to the line number in the above TransCanada schedule

Line per TC	Market	Deliveries to:				total Prairies Thruput	
		<u>Prairies</u>	<u>Great Lakes transportation</u>	<u>Export market at Emerson</u>	<u>NOL</u>		
1	Empress to Emerson		78.926	751.657		830.583	TJ/d
2	SMB to Emerson		1082.829			1082.829	
4	SMB to Union SWDA		45.582			45.582	
5	SMB to Union CDA				41.068	41.068	
6	SMB to Iroquois				31.910	31.91	
7	SMB to Kirkwall		23.390			23.39	
8	SMB to Enbridge CDA				21.348	21.348	
9	SMB to Napierville				12.486	12.486	
10	SMB to Union NDA				13.891	13.891	
11	SMB to Tunis NDA				13.043	13.043	
12	SMB to Centram MDA	57.769				57.769	
14	SMB to GMIT NDA				11.221	11.221	
15	SMB to East Hereford				7.060	7.06	
16	SMB to Cornwall				5.287	<u>5.287</u>	
		0.058	1.231	0.752	0.157	2.197	PJ/d
Balancing w/ Deliveries in SW Ontario via Great Lakes							
4	SMB to Union SWDA		0.046				
7	SMB to Kirkwall		0.023				
3	St. Clair to Union SWDA		1.104				
13	St. Clair to Union CDA		<u>0.058</u>				
			1.231	PJ/d			

APPENDIX 2 - Evidence of Bernard Otis

2012 Firm Transportation from Western Canada

(Source: Attachment 12.3: Toll Design Tab 2 - 2012 Toll Design Schedule 2 Page 1 of 1)

Note: the line numbers referred to below correspond to the line number in the above TransCanada schedule

Line per TC	Market	Deliveries to:				total Prairies Thruput	
		<u>Prairies Markets</u>	<u>Great Lakes transportation</u>	<u>Export market at Emerson</u>	<u>NOL</u>		
6	SMB to Centram MDA	118.738				118.738	TJ/d
7	SMB to Centrat MDA	7.022				7.022	
8	SMB to Emerson 2			21.082		21.082	
9	SMB to Union WDA				39.880	39.880	
10	SMB to Union NDA				106.857	106.857	
11	SMB to Tunis NDA				7.536	7.536	
12	SMB to GMIT NDA				15.327	15.327	
13	SMB to Union SSMDA		2.700			2.700	
14	SMB to Union NCDA				10.756	10.756	
15	SMB to Enbridge CDA				63.468	63.468	
16	SMB to Union CDA				80.973	80.973	
17	SMB to Enbridge EDA				197.421	197.421	
18	SMB to Union EDA				118.659	118.659	
19	SMB to KPUC EDA				6.500	6.500	
20	SMB to GMIT TQM EDA				150.578	150.578	
21	SMB to GMIT EDA				68.967	68.967	
22	SMB to Chippawa		10.593			10.593	
23	SMB to Niagara Falls		7.967			7.967	
24	SMB to Iroquois				147.635	147.635	
25	SMB to Cornwall				19.425	19.425	
26	SMB to Philipsburg				18.500	18.500	
27	SMB to Napierville				3.805	3.805	
		0.126	0.021	0.021	1.056	1.224	PJ/d

APPENDIX 3 - Evidence of Bernard Otis

EOT Firm transportation and Discretionary Services for 2012

(Source: Attachment 12.3: Toll Design Tab 2 - 2012 Toll Design Schedule 2 Page 1 of 1)

(Source: TransCanada's Restructuring Application, Revenue requirements, Attachment 12.3 - Toll design,
Tab 2- 2012 Toll Design Schedule 4, p.2 of 2)

Note: the line numbers referred to below correspond to the line number in the above TransCanada schedule

Firm transportation			Interruptible and Short Term Firm transportation service		
Line per TC	Market	TJ/d	Line per TC	Market	TJ/d
14	SMB to Union NCDA	10.756			
15	SMB to Enbridge CDA	63.468	8	SMB to Enbridge CDA	21.348
16	SMB to Union CDA	80.973	5	SMB to Union CDA	41.068
17	SMB to Enbridge EDA	197.421			
18	SMB to Union EDA	118.659			
19	SMB to KPUC EDA	6.500			
20	SMB to GMIT TQM EDA	150.578			
21	SMB to GMIT EDA	68.967			
24	SMB to Iroquois	147.635	6	SMB to Iroquois	31.910
25	SMB to Cornwall	19.425	16	SMB to Cornwall	5.287
26	SMB to Philipsburg	18.500			
27	SMB to Napierville	3.805	9	SMB to Napierville	12.486
			15	SMB to East Hereford	7.060
	sub-total	886.687		total	119.159
					TJ/d
30	Union Dawn to Enbridge CDA	164.416			
31	Union Dawn to Enbridge EDA	114.000			
32	Union Dawn to Union CDA	147.828			
33	Union Dawn to Union EDA	1.510			
34	Union Dawn to GMIT TQM EDA	144.032			
35	Union Dawn to GMIT EDA	65.968			
36	Union Dawn to Iroquois	40.000			
38	Union Dawn to East Hereford	52.753			
	sub-total	730.507			
43	Union Parkway Belt to Union CDA	69.333			
44	Union Parkway Belt to Union EDA	37.000			
45	Union Parkway Belt to Iroquois	483.905			
46	Union Parkway Belt to Enbridge CDA	8.072			
47	Union Parkway Belt to GMIT TQM EDA	44.581			
48	Union Parkway Belt to GMIT EDA	20.419			
49	Union Parkway Belt to Philipsburg	22.000			
	sub-total	685.310			

57	STS Union EDA	68.520
58	STS KPUC EDA	13.167
59	STS GMIT TQM EDA	148.266
60	STS GMIT EDA	67.908
61	STS Enbridge CDA	283.892
62	STS Enbridge EDA	80.611
63	STS Cornwall	10.300
64	STS Philipsburg	20.279

sub-total **692.943**

total firm **2995.447** TJ/d

APPENDIX 4 - Evidence of Bernard Otis

2013 Interruptible Transportation and Short Term Firm Transportation Service From Western Canada

(Source: TransCanada's Restructuring Application, Revenue requirements, Attachment 12.3 - Toll design,
Tab 3 - 2013 Toll Design Schedule 4, p.2 of 2)

Note: the line numbers referred to below correspond to the line number in the above TransCanada schedule

Line per TC	Market	Deliveries to: _____				total Prairies Thruput	
		<u>Prairies</u>	<u>Great Lakes transportation</u>	<u>Export market at Emerson</u>	<u>NOL</u>		
1	Empress to Emerson			810.578		810.578	TJ/d
2	SMB to Emerson		1265.415	98.000		1363.415	
3	SMB to Union SWDA		97.265			97.265	
4	SMB to Union CDA				73.889	73.889	
6	SMB to Iroquois				36.633	36.633	
15	SMB to Nipigon WDA				7.338	7.338	
14	SMB to Enbridge CDA				4.386	4.386	
7	SMB to Napierville				12.863	12.863	
9	SMB to Union NDA				13.434	13.434	
11	SMB to Tunis NDA				13.120	13.12	
12	SMB to Centram MDA	58.582				58.582	
10	SMB to GMT NDA				12.338	12.338	
8	SMB to East Hereford				11.077	11.077	
13	SMB to Cornwall				6.502	<u>6.502</u>	
		0.059	1.363	0.909	0.192	2.521	PJ/d
Balancing w/ Deliveries in SW Ontario via Great Lakes							
3	SMB to Union SWDA		0.097				
5	St. Clair to Union SWDA		1.266				
			1.363	PJ/d			

APPENDIX 5 - Evidence of Bernard Otis

2013 Firm Transportation from Western Canada

(Source: Attachment 12.3: Toll Design Tab 3 - 2013 Toll Design Schedule 2 Page 1 of 1)

Note: the line numbers referred to below correspond to the line number in the above TransCanada schedule

Line per TC	Market	Deliveries to:				total Prairies Thruput	
		Prairies Markets	Great Lakes transportation	Export market at Emerson	NOL		
6	SMB to Centram MDA	118.738				118.738	TJ/d
7	SMB to Centrat MDA	7.022				7.022	
8	SMB to Emerson 2			21.082		21.082	
9	SMB to Union WDA				39.880	39.880	
10	SMB to Union NDA				106.857	106.857	
11	SMB to Tunis NDA				7.536	7.536	
12	SMB to GMIT NDA				15.327	15.327	
13	SMB to Union SSMDA		2.700			2.700	
14	SMB to Union NCDA				10.756	10.756	
15	SMB to Enbridge CDA				63.468	63.468	
16	SMB to Union CDA				80.988	80.988	
17	SMB to Enbridge EDA				197.421	197.421	
18	SMB to Union EDA				118.659	118.659	
19	SMB to KPUC EDA				6.500	6.500	
20	SMB to GMIT TQM EDA				150.578	150.578	
21	SMB to GMIT EDA				68.967	68.967	
22	SMB to Chippawa		10.593			10.593	
23	SMB to Niagara Falls		15.934			15.934	
24	SMB to Iroquois				171.709	171.709	
25	SMB to Cornwall				19.425	19.425	
26	SMB to Philipsburg				18.500	18.500	
27	SMB to Napierville				3.805	3.805	
		0.126	0.029	0.021	1.080	1.256	PJ/d