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February 8, 2016

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

Filed Electronically
Original by Courier

Attention: Ms. Kirsten Walli
Board Secretary

Dear Ms. Walli:

Subject: 2015 Natural Gas Market Review
OEB File No. EB-2015-0237
Written Comments of TransCanada PipeLines Limited (TransCanada)

Enclosed are the written comments of TransCanada PipeLines Limited for the above noted proceeding. Should you have any questions, please contact the undersigned.

Yours Truly,

TransCanada PipeLines Limited

Original signed by

Roman Karski
Regulatory Analyst, Regulatory Research & Analysis
Canadian Natural Gas Pipelines

Encl.

Ontario Energy Board

2015 Natural Gas Market Review

EB-2015-0237

Written Comments of TransCanada PipeLines Limited

February 8, 2016

1.0 INTRODUCTION

TransCanada welcomes the opportunity to provide its input as part of the Ontario Energy Board's (OEB) 2015 Natural Gas Market Review. TransCanada supports this proactive process.

The intent of this submission is to provide the OEB and its stakeholders with an understanding of several recent developments that have the potential to affect the Ontario natural gas market. Principally discussed is the integration of WCSB and Marcellus/Utica supplies into the Ontario natural gas market.

2.0 BACKGROUND

A discussion regarding the history of natural gas transmission infrastructure serving Ontario is available in the TransCanada submission in the 2014 Natural Gas Market Review.[1]

Ontario supply is sourced primarily from two key supply areas, the Western Canadian Sedimentary Basin (WCSB), and the Marcellus/Utica. There are currently three existing and one potential physical path through which gas supply can enter Ontario, respectively: long haul via the TransCanada Mainline, Dawn, Niagara/Chippawa, and Waddington. The simplified schematic below shows the principal paths through which gas from these key supply areas is transported into Ontario.

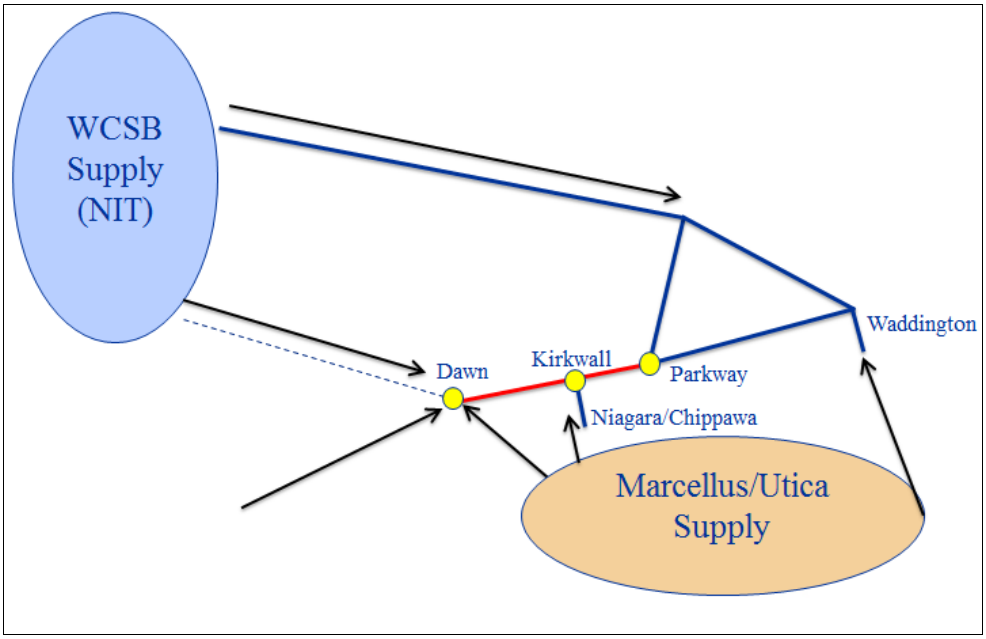


Figure 1: Basin Transportation Schematic

[1] The submission is available under OEB proceeding number EB-2014-0289.

WCSB gas flows to Ontario through its existing connection to the TransCanada system.[2] The NIT trading hub within the WCSB is well established and is highly liquid, where 50 – 70 Bcf of gas can be traded in a single day.

Marcellus/Utica supply is already flowing into Ontario through TransCanada's Niagara and Chippawa border points, and additional supply will likely be connected in the future through Dawn via NEXUS Gas Transmission and/or the Rover Pipeline project. TransCanada also forecasts Marcellus/Utica supply to flow into Ontario via Waddington, which historically has been used as an export point for Canadian gas. This flow reversal is proceeding with Waddington receipts expected in November of 2017. It is important to note that TransCanada is facilitating the reversal of flow at Waddington, and can increase the import capacity of Niagara/Chippawa at a low cost and with relatively short lead-time.

Proposed pipelines such as NEXUS and Rover will increase Ontario's access to the Marcellus/Utica area and will utilize the Dawn transportation path. The Niagara/Chippawa and Waddington points offer additional access to these important areas of low cost supply, with the added benefit of providing path diversity to Ontario consumers.

3.0 WCSB

a. WCSB Production Outlook

The WCSB continues to serve as a strong source of supply for Ontario and Canada. Although there has been a reduction in the amount of volume transported from the WCSB into Ontario, this is the result of changing market dynamics, rather than a shortage of gas supply in the WCSB.

A decade ago, the WCSB was almost exclusively a conventional basin with only a small amount of unconventional production. From 2006 to 2012, overall production levels started declining as conventional methods for bringing on new production were not replacing existing production at a fast enough rate to retain aggregate output levels. In addition, growth in the Marcellus/Utica supplies started displacing gas traditionally transported from the WCSB to Eastern Canada and the US Northeast market.

However, since 2012, emerging growth from high productivity regions such as the unconventional Montney and Horn River, as well as the conventional Deep Basin has more than offset falling conventional production in other areas. In fact, WCSB production has now grown in the past two years despite a reduction in the number of wells drilled in the region.

[2] WCSB gas can also flow to Ontario via the United States, sourced by the Great Lakes Gas Transmission and Alliance pipeline systems, amongst others.

This production growth has occurred due to the increasing deployment of horizontal well drilling and completion technology. Wells utilizing this technology are also commonly seen across the Marcellus and Utica, and are significantly more productive than traditional vertical technology wells. As of 2015, horizontal wells comprise of over 80% of annual total wells drilled in the WCSB.

The changes to production techniques are best reflected in the initial production (IP) rates of wells. The average IP rate of wells in the WCSB has increased from below 0.2 MMcf/d in 2006 when nearly all the wells drilled were vertical, to nearly 1.4 MMcf/d in 2015 when the majority of the wells drilled were horizontal.

Future growth will be dependent on the level of market demand; not on supply availability. The WCSB is an abundant resource which can be developed to achieve production levels up to 19 Bcf/d, or even higher if there is greater demand.

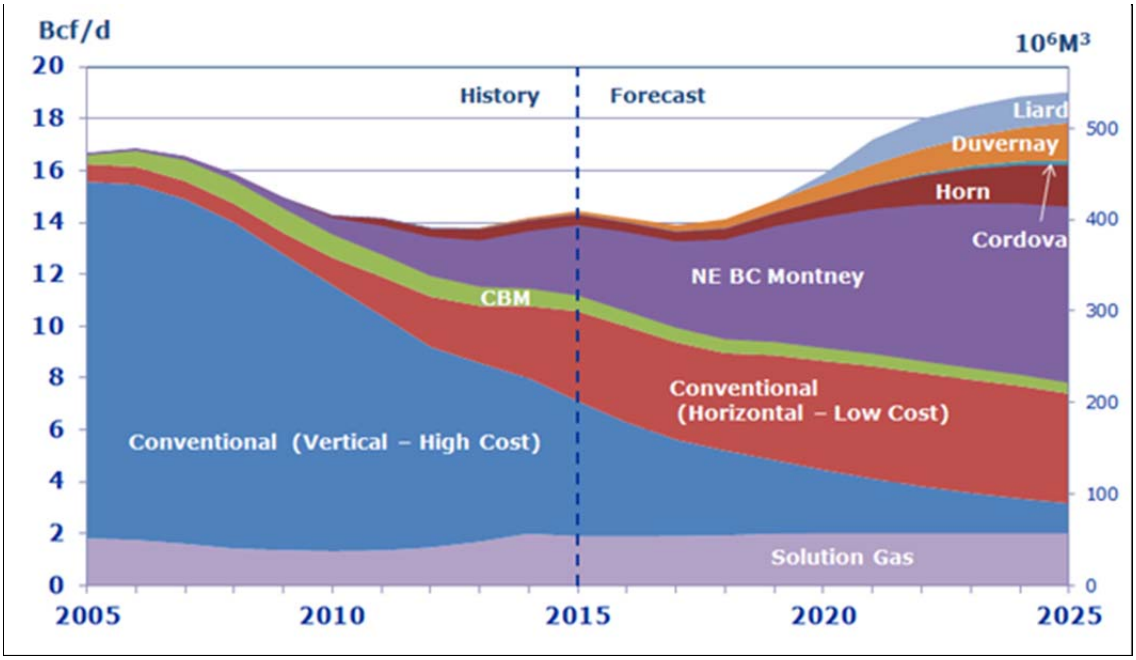


Figure 2: WCSB Production Outlook

b. WCSB Technically Recoverable Resource Estimate

Over the past six years, there has been a significant increase in estimates for the WCSB's recoverable resource base as a result of advances in production technology and efficiency. The resource base has increased from an estimated 172 TCF in 2008, to 886 TCF currently. To illustrate the size of the resource base, with western Canadian natural gas demand currently at approximately 5.6 Bcf/d, there is enough WCSB supply to last 435 years. It is clear that there is ample WCSB supply available for export to markets across North America. On a cost basis, some of the

unconventional WCSB plays are amongst the most economic on the continent and compare favorably with those in the Marcellus.

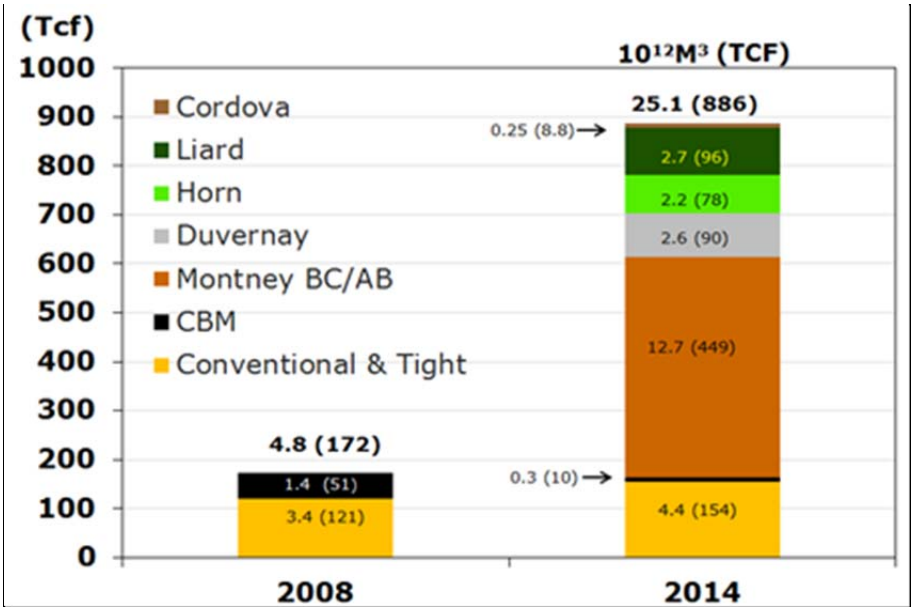


Figure 3: WCSB Technically Recoverable Resource Estimate

c. WCSB Expansions

NGTL has received sufficient shipper interest to underpin facilities expansions in the WCSB with aggregate costs in excess of $2 billion. These facilities include the 2017 NGTL System Expansion ($1.14 billion, NEB application submitted April, 2015), the Towerbirch Expansion Project ($439 million, NEB application submitted September 2015), and the 2018 NGTL Expansion ($570 million, expected NEB application in mid-2016).

In aggregate, by 2018 the NGTL system is expanding to connect new supply for new firm service receipt contracts which total between 5 – 6 Bcf/d. These large expansions and capital expenditures illustrate WCSB producer commitment to develop supply in the region.

4.0 PATH DIVERSITY IN ONTARIO

a. The Dawn-Parkway System

A significant portion of Ontario's natural gas supply portfolio is expected to arrive via the Dawn hub, and by extension, the Dawn-Parkway System. TransCanada has utilized the evidence filed by Union Gas Limited (Union) and Enbridge Gas Distribution Inc. (Enbridge) in the NEXUS proceeding to create Figure 4, which

shows the projected path distribution of supply for Union's South portfolio and Enbridge's overall portfolio.

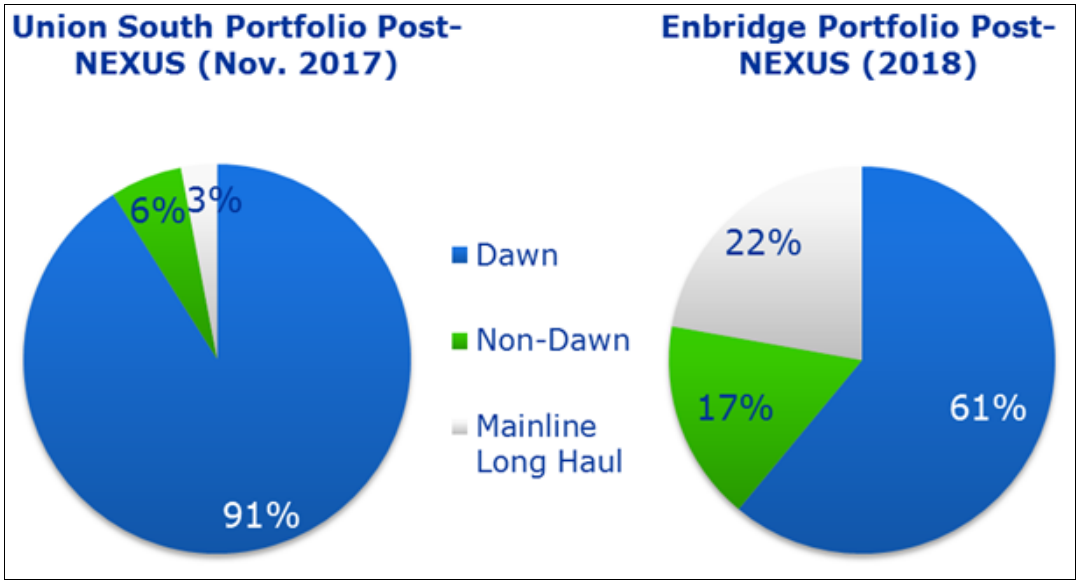


Figure 4: Dawn-Parkway System Dependence[3]

Figure 4 shows that Ontario's LDCs will become increasingly dependent on the Dawn supply path. The Figure was derived by grouping into three categories the various sources of supply presented in the source data of the LDC's evidence to the NEXUS proceeding. TransCanada notes that the data used from Union's evidence includes uncommitted supply of 111,536 GJ in 2017 (approximately 29% of the Union South portfolio) that is assumed to be transported through Dawn.[4] Should Union choose to fully utilize this uncommitted supply to introduce additional path diversity to their Union South portfolio, by contracting for the Niagara option for example, the resulting distribution would look more similar to that of Enbridge, with the dependence on Dawn decreasing from 91% to 62%.[5]

As path diversity is compromised, operational risks increase and commercial flexibility decreases. Accordingly, Enbridge's maintenance of a greater degree of path

[3] Adapted from EB-2015-0166, Exhibit A, Page 31 of 54, Figure 5-2. The categories in the source figures were reorganized as follows: Dawn: Dawn-Other, Michigan, Local, Gulf of Mexico (TGC/PEPL), Mid-Continent (PEPL), WCSB-Alliance/Vector, Chicago-Vector, Appalachia-NEXUS. Non-Dawn: Niagara-TCPL. Mainline Long Haul: WCSB-TCPL.

[4] EB-2015-0166/EB-2015-0175 Exhibit B.T2.Union.Staff.12, Attachment 1.

[5] EB-2015-0166/EB-2015-0175 Oral Hearing Transcript Vol. 1, November 13, 2015, pages 31-32: In this reference, Union states that the figure in their application (reference three of this document) assumed 150,000 GJ of uncommitted supply under the Dawn-other category for November 1, 2017. This differs with the information provided in their interrogatory response to Staff.12 (reference four in this document), which states 111,546 GJ of uncommitted supply. This calculation may differ depending on the figure used.

diversity with gas sourced via TransCanada long-haul and via Niagara/Chippawa reduces its customers' exposure to risk.

As noted in Section 2, several alternatives to the Dawn path do exist. Basin and path diversity can both be enhanced through supplies sourced from the WCSB and by alternative paths from the Marcellus/Utica supply area. For supplies from the Marcellus/Utica supply area, the existing Niagara/Chippawa point could be economically expanded, and flows via the Waddington interconnection point are expected to reverse.

b. WCSB Supply and Path Diversity Brings Proven Benefits

Figure 5 illustrates how firm service transportation access from the WCSB to Ontario can reduce price risk for Ontario consumers.

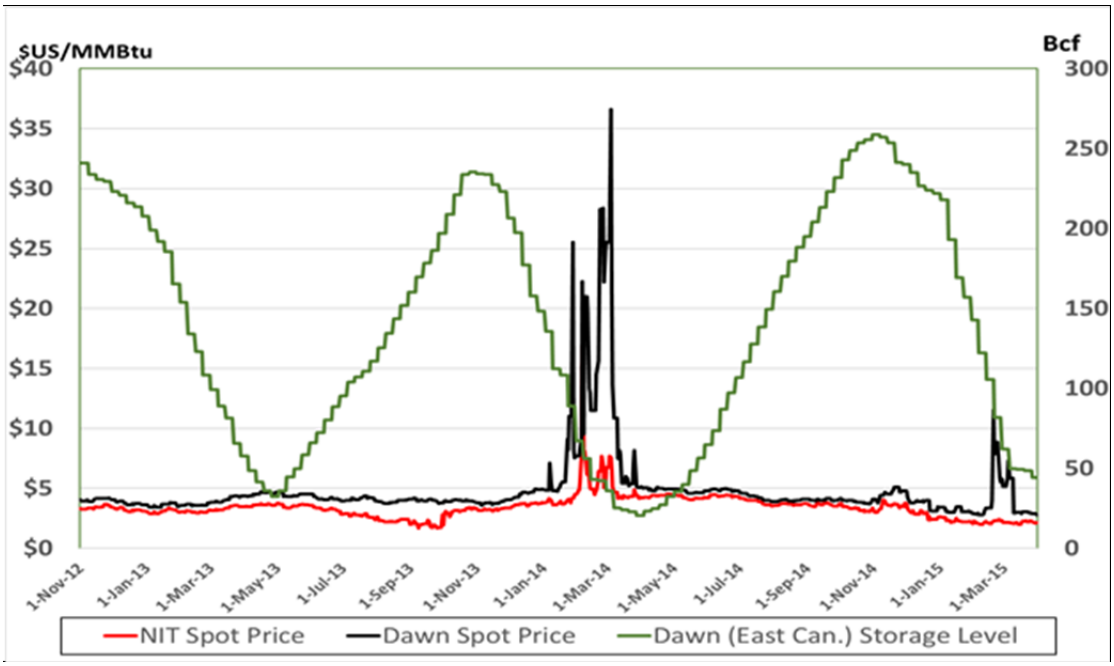


Figure 5: Dawn/NIT Prices and Dawn Storage Level, 2012-2015[6]

The figure shows NIT and Dawn prices over the 2012-2015 period, as well as the gas storage inventory levels at Dawn. In the past two winters, as the Dawn storage levels have been drawn down and cold temperatures have occurred, the Dawn price rose well above normal levels and also well above the price level at NIT.

During periods such as this, firm transportation access to the WCSB can mitigate the risk of exposure to high gas prices at Dawn and can result in substantial cost saving for gas consumers in Ontario. In fact, Enbridge stated as such in their Quarterly Rate

[6] Pricing data courtesy of Natural Gas Exchange (NGX). Storage data courtesy of Canadian Enerdata Ltd.

Adjustment Mechanism (QRAM) application to the OEB in 2015 when they estimated that they saved $97.4 million in gas supply acquisition costs by fully utilizing their long-haul contracted capacity during the polar vortex in January and February of 2014.[7]

c. Niagara/Chippawa

TransCanada has transported Marcellus/Utica supply into Ontario via the Niagara point since 2012, and more recently via Chippawa since November 2015. Both points were previously export points for deliveries into the US Northeast, but due to the growth in Marcellus/Utica supply, they have now reversed to become import points.

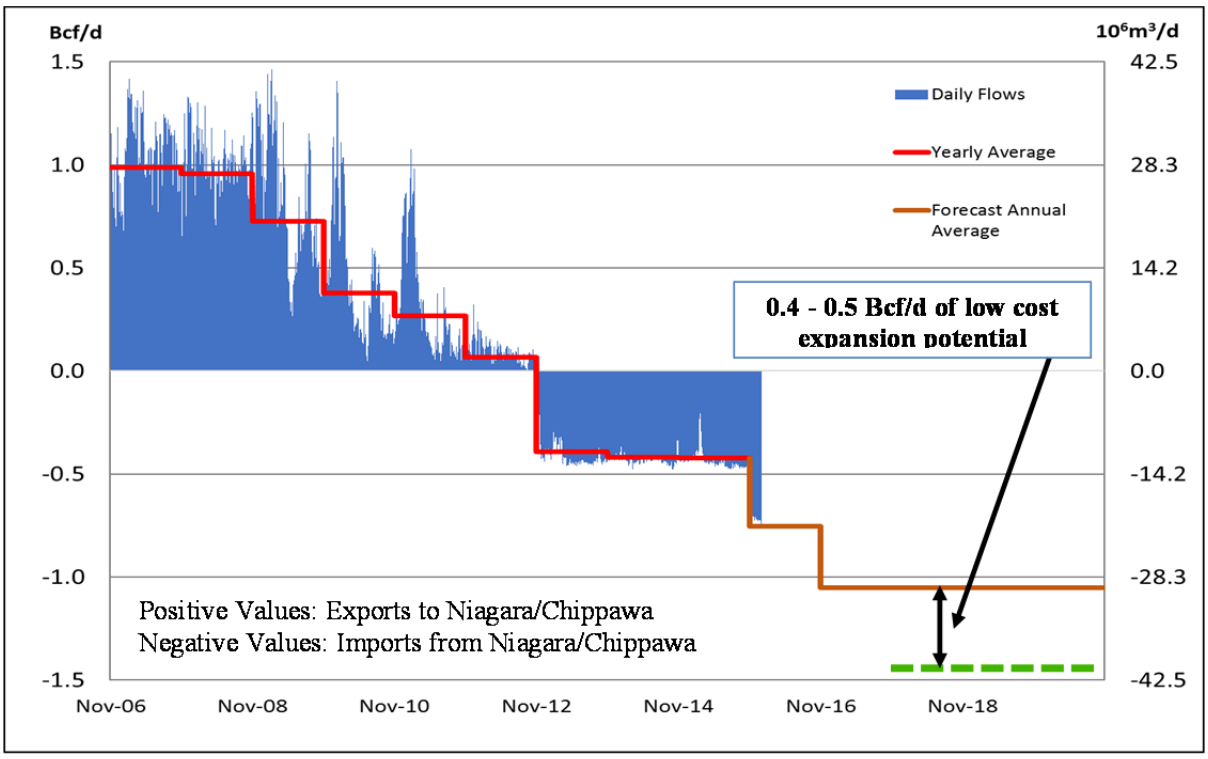


Figure 6: Niagara/Chippawa Flows, Historical and Forecast

Figure 6 illustrates the importance of the Niagara/Chippawa import points to Ontario. Firm contracts for supply through these points will rise to nearly 1.1 Bcf/d in the winter of 2016/17.

TransCanada expects to be able to service this reversal of flow service at relatively low cost. To accommodate the 1.1 Bcf/d of firm receipt service, TransCanada will have spent less than a total of $30 million.

[7] EB-2014-0039 Enbridge Application, Exhibit Q2-2, Tab 1, Schedule 1, Page 6 of 10.

Further opportunity for low cost expansions at the Niagara/Chippawa points exists. Approximately 400 - 500 MMcf/d of incremental import capacity can be made available at the relatively low cost of approximately $20 million. This incremental capacity is a cost effective option to service future growth in Ontario.

d. Waddington

As the Niagara/Chippawa points have already done, Waddington is expected to reverse flow in the near term. TransCanada has signed firm contracts to receive gas at this location, effective November 2017. This reversal will be further facilitated by the completion of pipeline projects in the US Northeast such as Constitution and the supply segment of Northeast Energy Direct, further discussed in subsection 'e'.

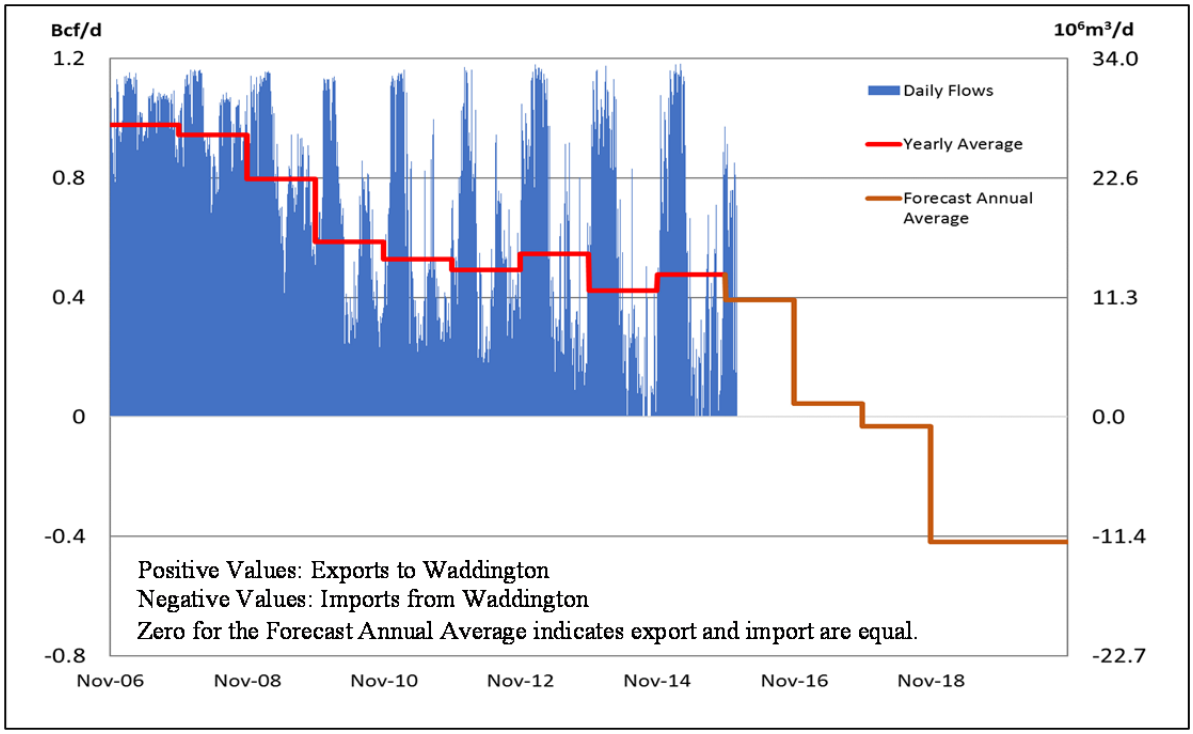


Figure 7: Waddington Flows, Historical and Forecast

Waddington offers a number of benefits as an option to facilitate the transportation of Marcellus/Utica supply into Ontario.

First, it is low cost. Pipeline infrastructure is already in place and the modifications to accommodate imports primarily consist of simply reversing the direction of flow. TransCanada has already announced plans to reverse the meter at Waddington so that flow can be measured in both directions.

Second, imports at Waddington could eliminate the need for more expensive expansion of the Dawn-Parkway pipeline corridor where recent expansions and capital expenditures have driven toll increases on that path.

Third, imports at Waddington would increase path diversity from the Marcellus/Utica and reduce the reliance on Dawn as a transport path for gas into Ontario.

e. Constitution and Northeast Energy Direct Pipeline Projects

The Constitution Pipeline project (Constitution), proposed by Williams consists of a 124 mile (200 km) 30-inch diameter pipeline connecting gas supplies from the Marcellus supply area to an interconnect with the Iroquois system at Wright, New York. The Iroquois system connects to the TransCanada Mainline at the Waddington, ON interconnect point. The project has an initial capacity of 640 MMcf/d. Constitution has executed binding precedent agreements with shippers equal to its initial capacity. A map of the Constitution pipeline route is included as Attachment 1.

On December 2, 2014, Constitution was granted a Certificate of Public Convenience and Necessity (CPCN) by the Federal Energy Regulatory Commission (FERC). Construction is scheduled to begin in the spring of 2016, with a target in-service date of Q4 2016.

The Tennessee Gas Pipeline Company (TGP) has proposed the Northeast Energy Direct (NED) project, which is comprised of two components. The supply path component will facilitate the flow of 618 MMcf/d of Marcellus gas to the Iroquois system at Wright, New York. The supply path component is scalable up to 1.2 Bcf/d. TGP initiated the FERC pre-filing process in September, 2014 and anticipates it will obtain its FERC CPCN for the NED Project in Q4 2016. The project is expected to be placed into service by November, 2018. A map of the NED pipeline route is included as Attachment 2.

f. Niagara and Waddington Options are Cost Effective

Transportation paths via the Niagara/Chippawa and the Waddington interconnect points are cost effective for Ontario consumers. This is illustrated in Figure 8, which shows the landed cost of gas into the Enbridge EDA franchise area. Similar economics apply to the Union EDA.

Niagara and Iroquois sourced gas are amongst the lowest cost options to serve these markets and represent viable alternatives for the future.

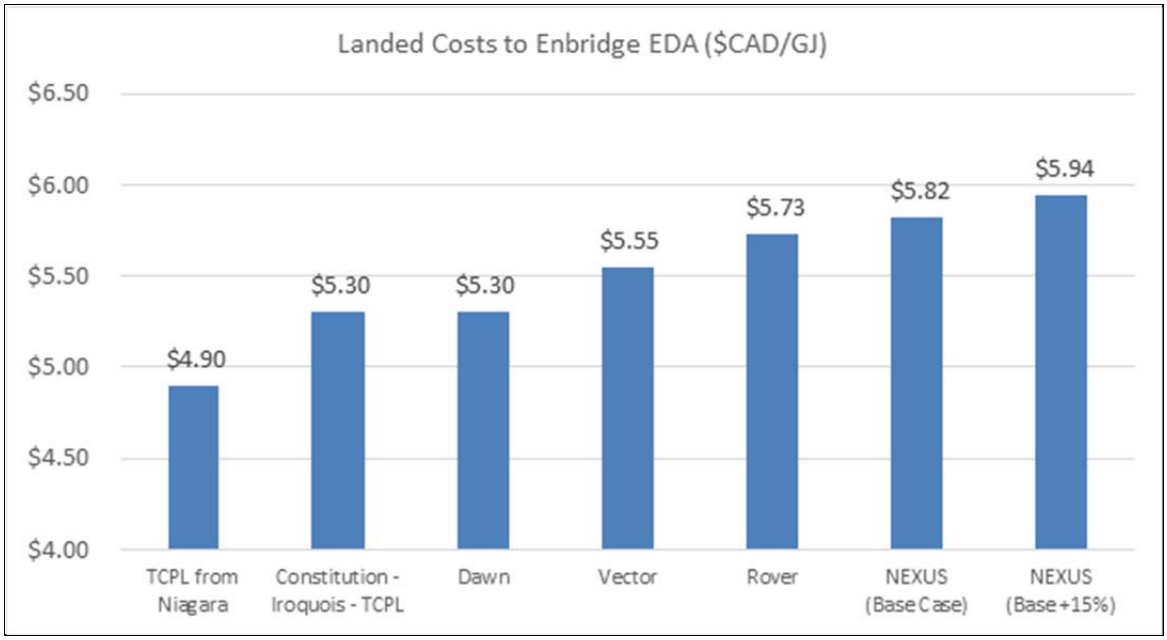


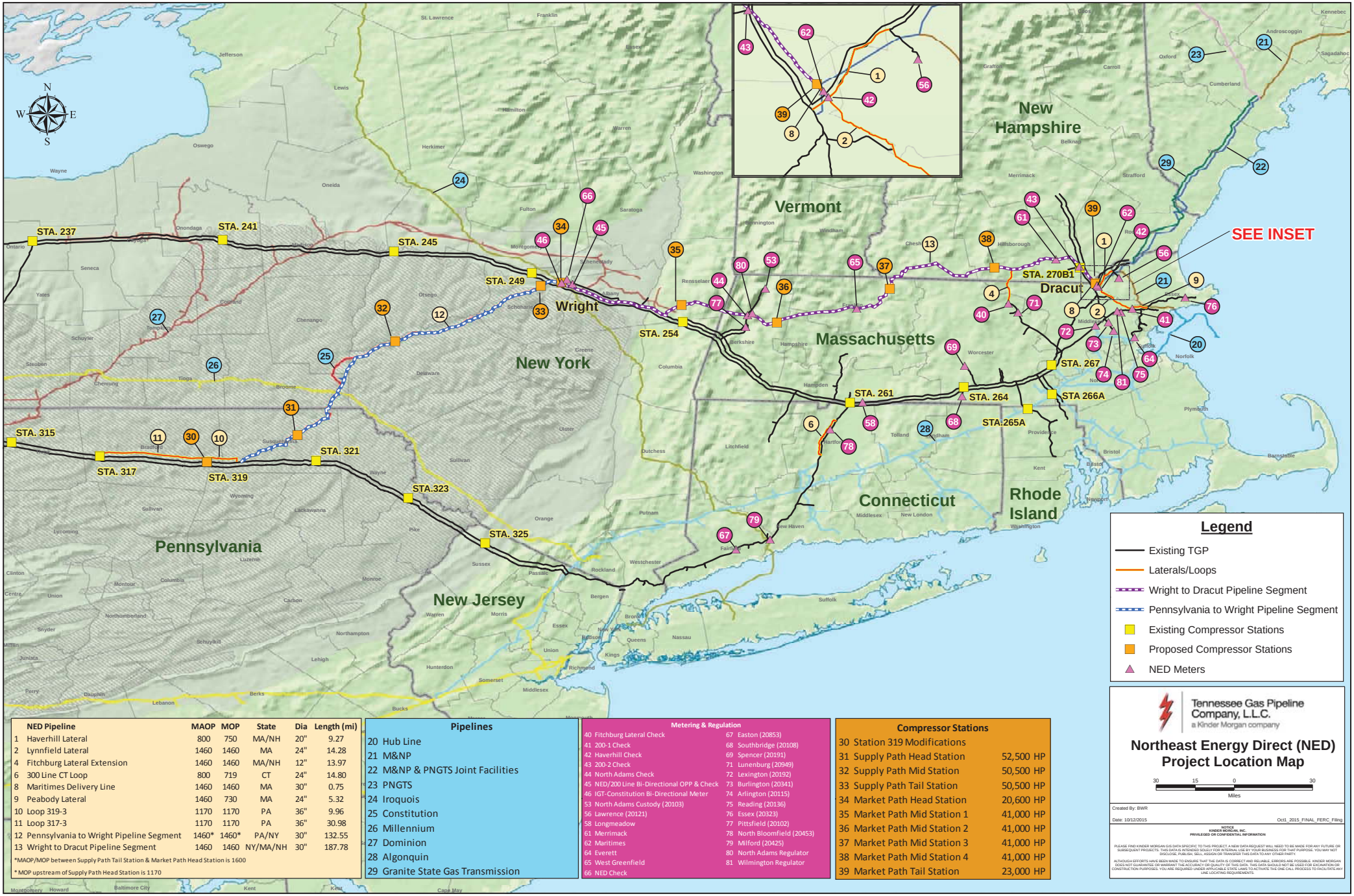
Figure 8: Landed Cost to Enbridge EDA[8]

5.0 CONCLUSION

Although Marcellus/Utica supply has been and is becoming a key supply source for the Ontario market, the WCSB is not in decline and should continue to be included in a balanced portfolio for Ontario to enhance supply and path diversity and to mitigate commodity cost risks. With uncommitted supply in the Union South portfolio to exceed 111,000 GJ by 2017, Union has the opportunity to diversify its highly Dawn-reliant portfolio to the benefit of its customers.

Path diversity increases operational reliability and commercial flexibility. The Niagara/Chippawa and Waddington import points are alternatives to the Dawn path to increase path diversity into Ontario and they also are shown to be competitive as lowest cost options into the Ontario market.

[8] EB-2015-0166/EB-2015-0175, Exhibit I.T1.EGDI.STAFF.5. The Constitution-Iroquois-TCPL path was calculated using the same basin supply cost as was used by Enbridge for Dominion South, with the addition of tolls for Constitution, Iroquois and the TransCanada Mainline.



	NED Pipeline	MAOP	MOP	State	Dia	Length (mi)
1	Haverhill Lateral	800	750	MA/NH	20"	9.27
2	Lynnfield Lateral	1460	1460	MA	24"	14.28
4	Fitchburg Lateral Extension	1460	1460	MA/NH	12"	13.97
6	300 Line CT Loop	800	719	CT	24"	14.80
8	Maritimes Delivery Line	1460	1460	MA	30"	0.75
9	Peabody Lateral	1460	730	MA	24"	5.32
10	Loop 319-3	1170	1170	PA	36"	9.96
11	Loop 317-3	1170	1170	PA	36"	30.98
12	Pennsylvania to Wright Pipeline Segment	1460*	1460*	PA/NY	30"	132.55
13	Wright to Dracut Pipeline Segment	1460	1460	NY/MA/NH	30"	187.78

*MAOP/MOP between Supply Path Tail Station & Market Path Head Station is 1600

* MOP upstream of Supply Path Head Station is 1170

Pipelines

20	Hub Line
21	M&NP
22	M&NP & PNGTS Joint Facilities
23	PNGTS
24	Iroquois
25	Constitution
26	Millennium
27	Dominion
28	Algonquin
29	Granite State Gas Transmission

Metering & Regulation

40	Fitchburg Lateral Check	67	Easton (20853)
41	200-1 Check	68	Southbridge (20108)
42	Haverhill Check	69	Spencer (20191)
43	200-2 Check	71	Lunenburg (20949)
44	North Adams Check	72	Lexington (20192)
45	NED/200 Line Bi-Directional OPP & Check	73	Burlington (20341)
46	IGT-Constitution Bi-Directional Meter	74	Arlington (20115)
53	North Adams Custody (20103)	75	Reading (20136)
56	Lawrence (20121)	76	Essex (20323)
58	Longmeadow	77	Pittsfield (20102)
61	Merrimack	78	North Bloomfield (20453)
62	Maritimes	79	Milford (20425)
64	Everett	80	North Adams Regulator
65	West Greenfield	81	Wilmington Regulator
66	NED Check		

Compressor Stations

30	Station 319 Modifications	
31	Supply Path Head Station	52,500 HP
32	Supply Path Mid Station	50,500 HP
33	Supply Path Tail Station	50,500 HP
34	Market Path Head Station	20,600 HP
35	Market Path Mid Station 1	41,000 HP
36	Market Path Mid Station 2	41,000 HP
37	Market Path Mid Station 3	41,000 HP
38	Market Path Mid Station 4	41,000 HP
39	Market Path Tail Station	23,000 HP