



450 – 1 Street S.W.
Calgary, Alberta T2P 5H1

Tel: (403) 920-2563
Fax: (403) 920-2308
Email: matthew_ducharme@transcanada.com

November 12, 2015

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: Union Gas Limited (Union) & Enbridge Gas Distribution Inc. (Enbridge)
NEXUS Proceeding
OEB File No. EB-2015-0166 / EB-2015-0175
TransCanada PipeLines Limited (TransCanada)
Aids to Cross Examination**

Attached are two Aids to Cross Examination to which TransCanada intends to refer at the oral hearing commencing November 13, 2015. The Aids to Cross Examination were served to Enbridge counsel on November 11, 2015.

If there are any questions, please contact the undersigned at your earliest convenience.

Yours Truly,

TransCanada PipeLines Limited

Original signed by

Matthew D. Ducharme
Counsel
Law, Canadian Pipelines

cc: All Parties in EB-2015-0166 / EB-2015-0175

Encl.



Marcellus and Utica Shale Access via TransCanada PipeLines and Tennessee Gas Pipeline

June, 2013



Key Messages



- **TransCanada (TCPL) will be holding a New Capacity Open Season in mid-June, and will be offering select paths from Niagara with an in-service date as early as Nov. 1, 2015**
- **Tennessee Gas Pipeline (TGP) is able to provide up to 150,000 Dth/day of firm transportation to the U.S./Canadian border effective *date***
- **Under fixed toll model, TransCanada is unable to recover costs of capital expansion in its tolls; risk of cost disallowance**

Key Messages (Cont.)

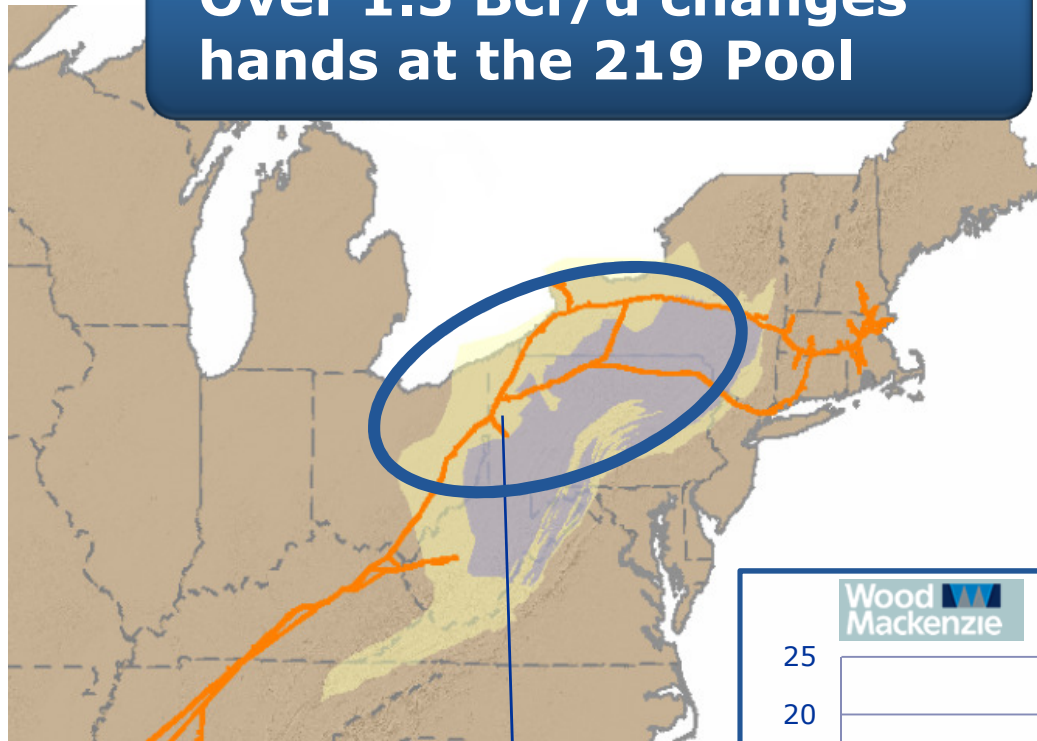


- **TCPL and TGP provide an economic link between Marcellus and Utica production and key Eastern Canadian markets**
 - TransCanada has filed for lower and more certain rates – decision expected Q1 2013
- **Significant liquidity along the path between Niagara / Chippawa and key markets**
 - Customers can access Dawn Storage, major Canadian markets including Toronto and Montreal, and growing gas-fired power plant load
 - arbitrage opportunities
- **TransCanada and TGP can add system capacity where required to ensure Marcellus supply can access key markets in a timely fashion**
 - Greater certainty of meeting in-service requirements

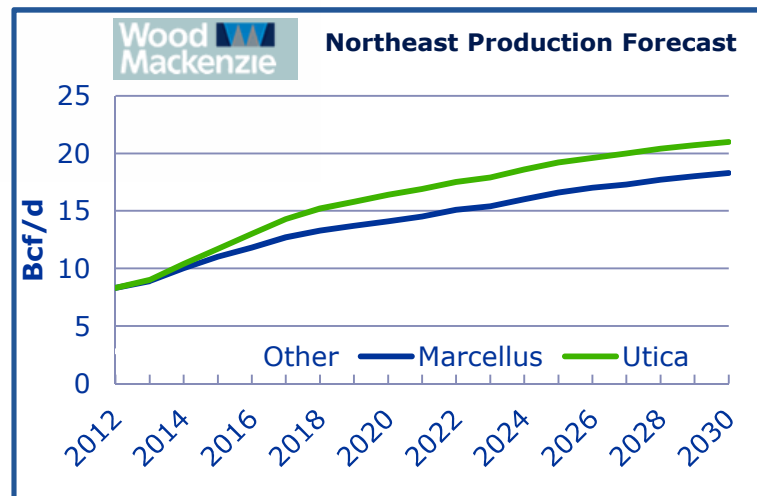
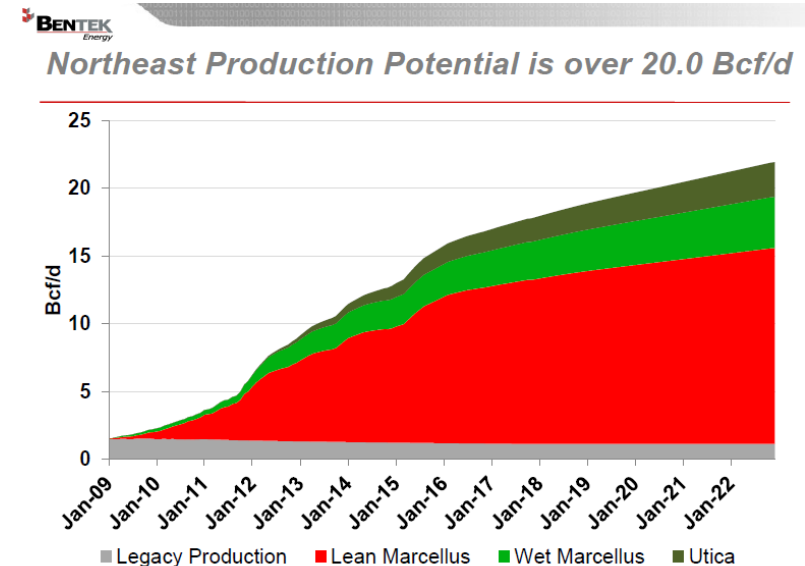
Tennessee Access to Utica & Marcellus



Over 1.5 Bcf/d changes hands at the 219 Pool

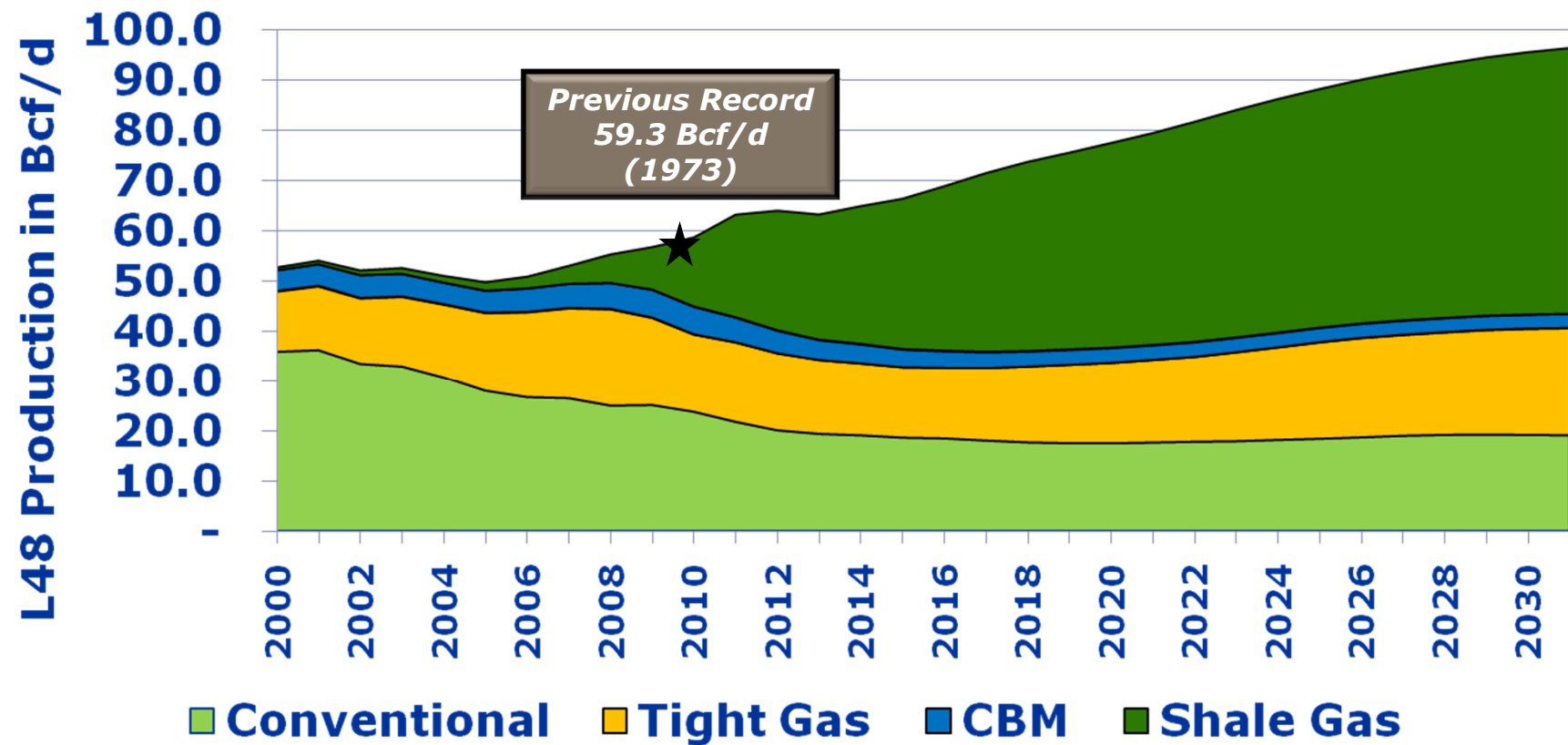


Sta. 219 Pool – Access to Utica and Marcellus



Marcellus continues to provide the bulk of NE supply with Utica following

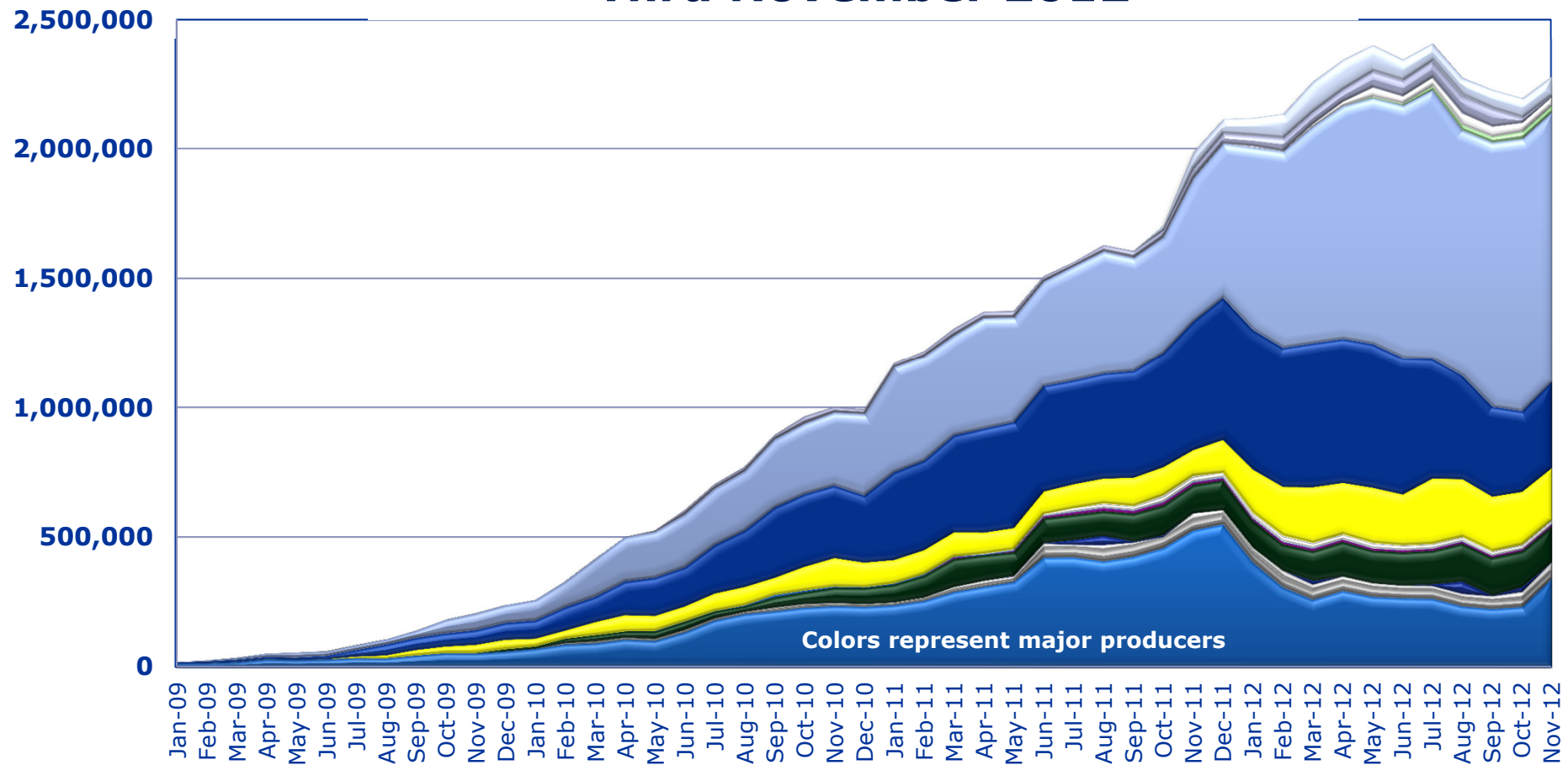
Shale Gas Boom



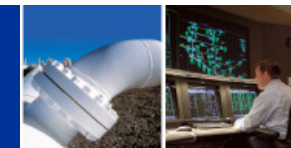
Tennessee Gas Pipeline Marcellus



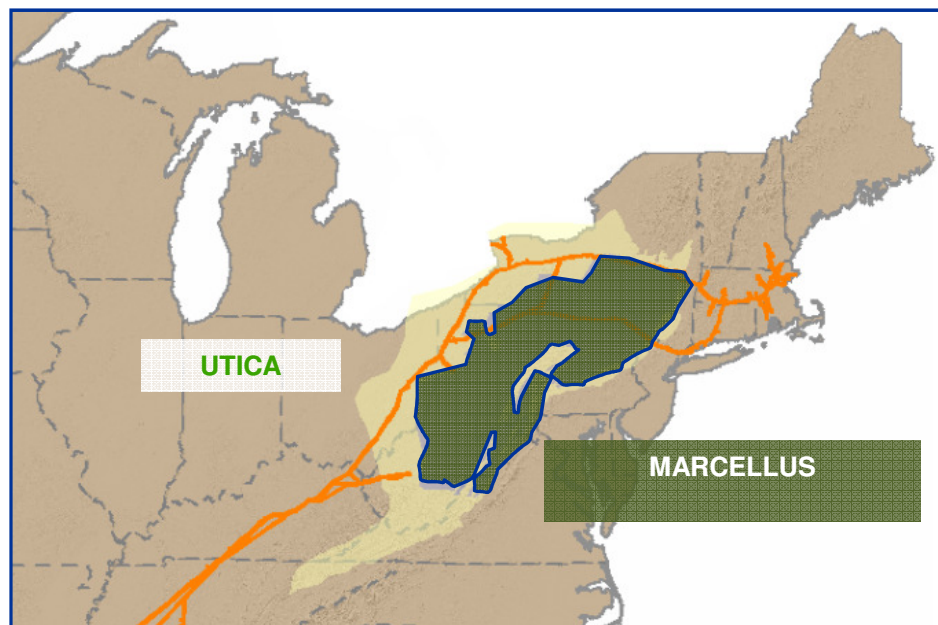
TGP Marcellus Avg Day Flows (Dth) Thru November 2012



TGP Advantage: Unmatched Access to Marcellus



TGP Marcellus Access



Marcellus Shale

- 8.9 Bcf/d – Receipt access
- 38 Producer Interconnections
- 2.3 Bcf/d – Avg. Daily Receipts (Aug)
- ~1.0 Bcf/d receipt access added in 2012
= continued growth

Marcellus Receipts by Pipeline

Pipeline	% of Total	YTD 2012 (MDth/d)
TGP	43%	2,360
Transco	18%	982
Stagecoach	8%	413
TETCO	7%	401
Dominion	6%	352
Columbia Gas	6%	333
Equitrans	4%	224
National Fuel	3%	168
Millennium	2%	129
National Fuel Prod	2%	109
TOTAL	100%	5,470



Tennessee Gas Pipeline
Company, L.L.C.
a Kinder Morgan company

Source: Bentek



TGP Unmatched Access to Marcellus Producers

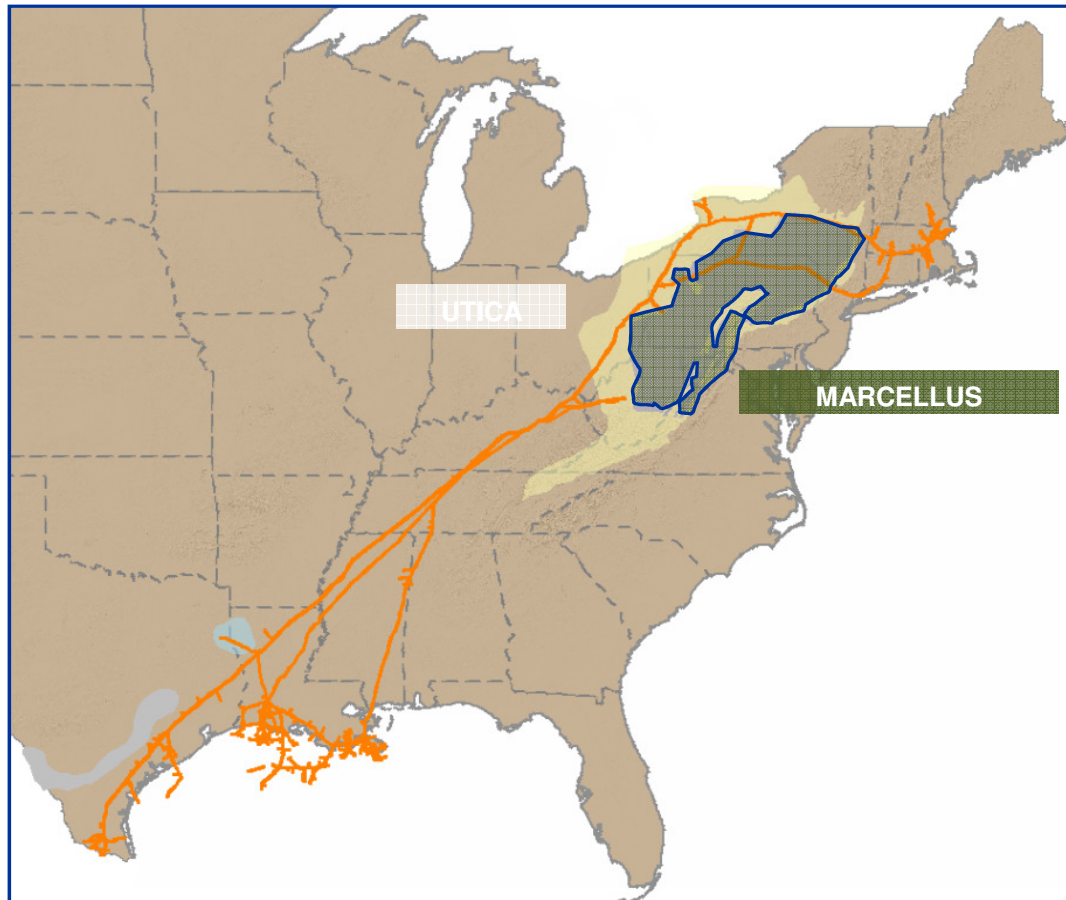


- **38 Marcellus producer interconnects on TGP totaling 8.9 Bcf/d Marcellus receipt point access**
- **~ 1 Bcf/d receipt access added on 2012**
- **Chesapeake**
- **Seneca Resources**
- **Shell**
- **Chevron**
- **Range Resources**
- **Magnum Hunter**
- **ExxonMobil**
- **EOG**
- **Hess**
- **Consol**
- **Anadarko**
- **Cabot**
- **Total**
- **BP**
- **Sierra Buckeye**
- **Enervest**
- **Southwestern**

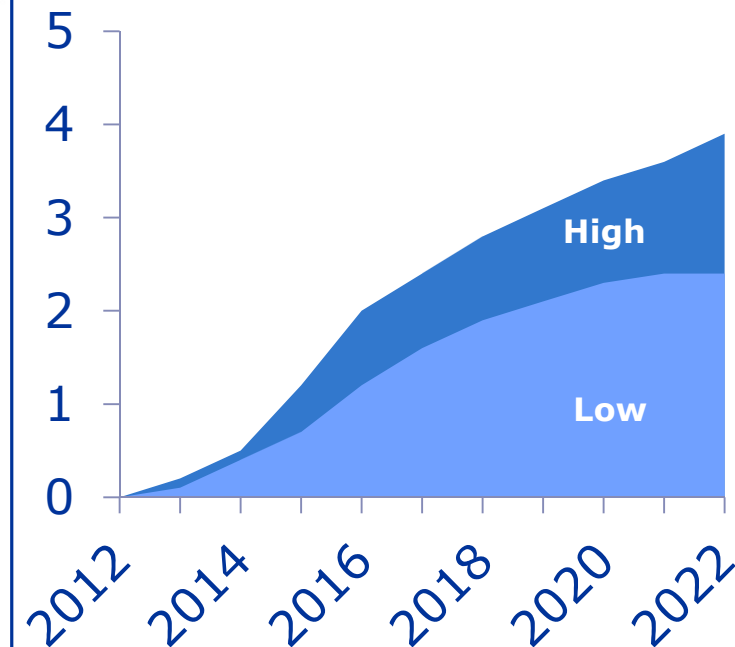
The Next Act - Utica Access



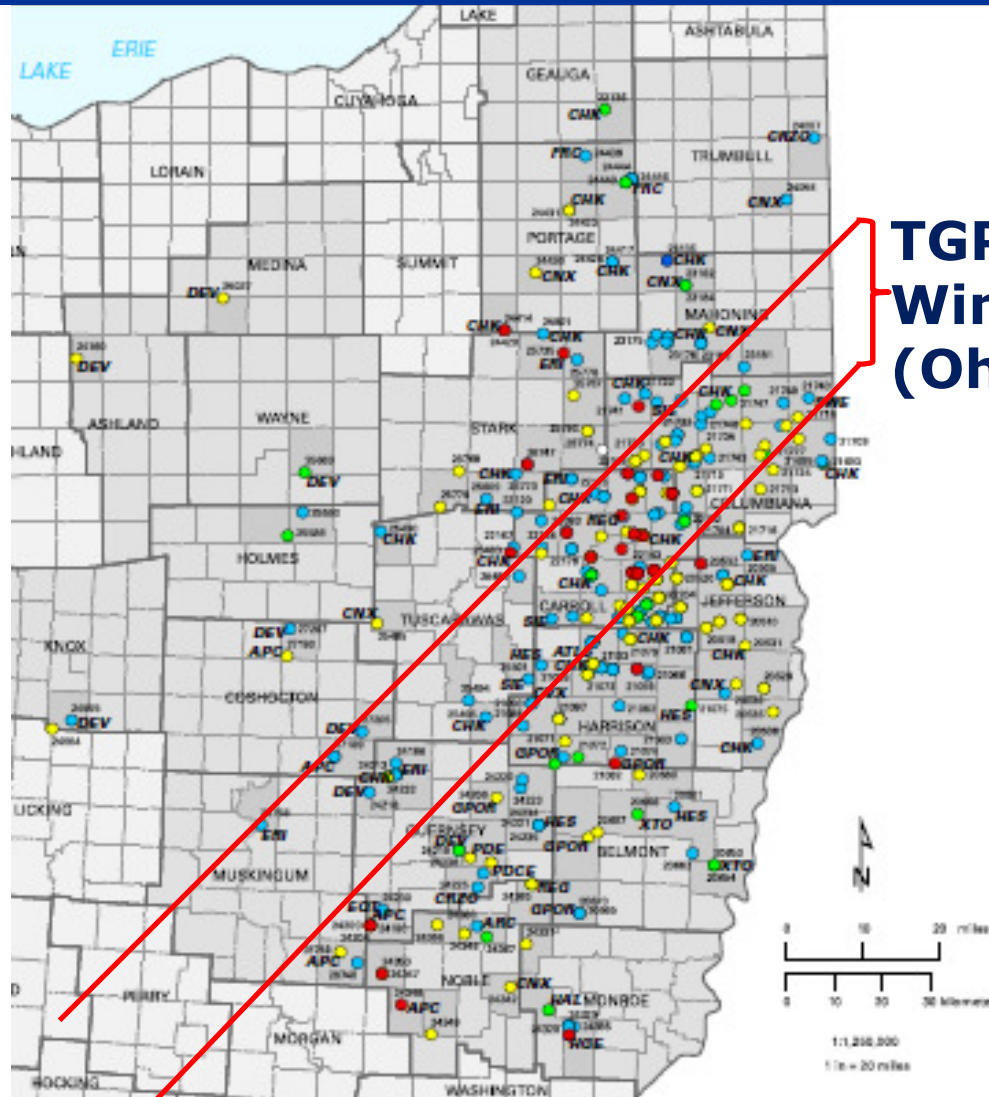
Utica projected to be 1.5 - 2.5 Bcf/d by 2017



Utica Projections



Utica Producer Activity



**TGP ROW
Window
(Ohio)**

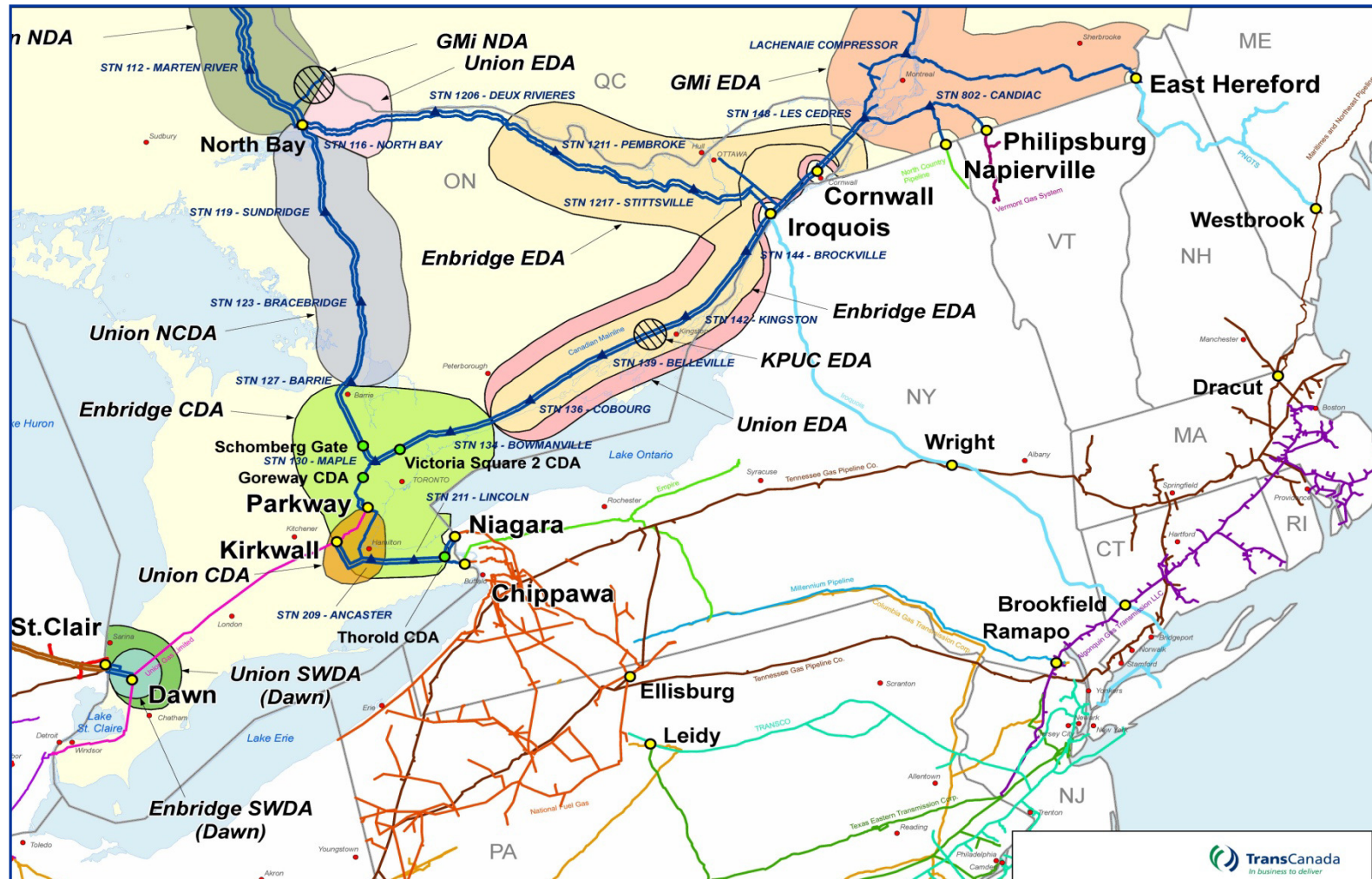
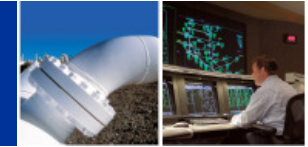
Operator	Net Acres
Chesapeake/ Total	1,300,000
Enervest	700,000
Chevron	623,000
Anadarko	390,000 (g)
Hess	200,000
Range	190,000
Halcon	140,000
Consol	100,000
Xon	90,000
BP	84,000
Rex	72,200
Gulfport	62,500
Antero	56,000
Shell	undisclosed
Hilcorp	private
Sierra	private
TOTAL	4,007,700



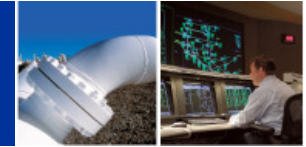
Tennessee Gas Pipeline
Company, L.L.C.
a Kinder Morgan company



Canadian Mainline – Eastern Triangle



Marcellus and the Mainline



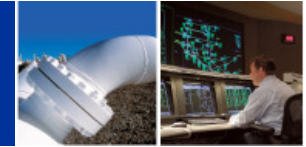
- **To date, TransCanada has executed firm transportation contracts for approximately 410,000 GJ/d of long-term service between Niagara Falls and Eastern Canadian markets**
 - Facilities installed to move gas from Niagara effective November 1, 2012
 - TransCanada expects to be able to install additional capacity from Niagara/Chippawa to Kirkwall for November 1, 2014 and for November 1, 2016 to markets downstream of Parkway (e.g. Toronto, Montreal, Iroquois, PNGTS)

Access to Canadian Mainline Markets



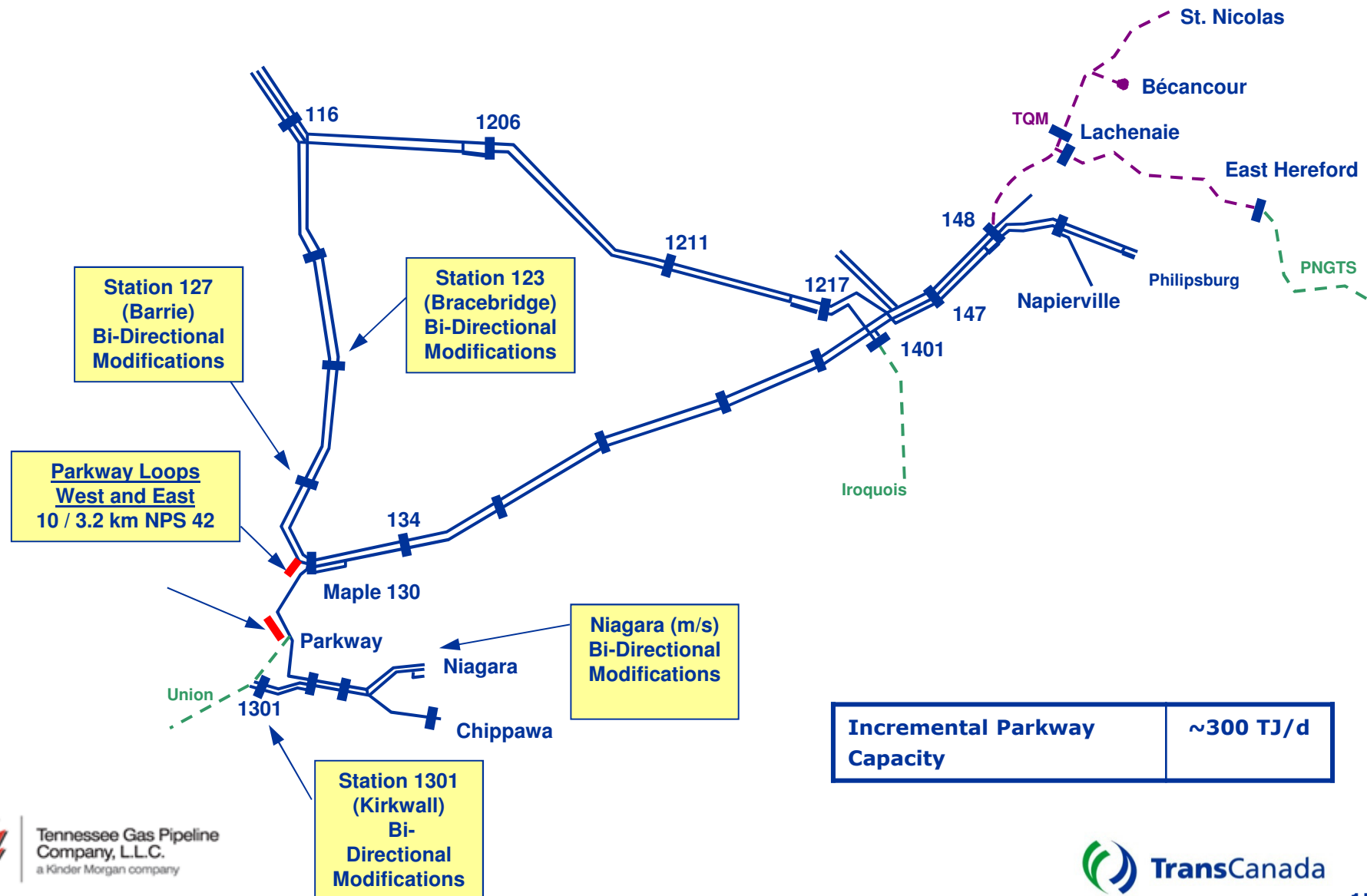
- **Dawn Hub (Dawn is the 3rd largest trading hub in North America – access to storage, liquidity)**
- **Large LDC's**
 - Enbridge Gas Distribution, Union Gas, Gaz Metro (Quebec)
- **Gas-Fired Power Generators**
 - 4800 MW of gas-fired generation sourcing gas supply at Dawn
 - 1000 MW of new gas-fired generation expected in service by 2016/17
 - Greenfield South Power Corp., TransCanada Energy
- **Marketers/Banks/Brokers**
 - BP, Emera, J. Aron, JP Morgan, Tenaska, etc.
- **Industrials**
 - Vale Inco, Xstrata, Nova Chemical, GM, Ford, etc.

Incremental Capacity to Key Markets

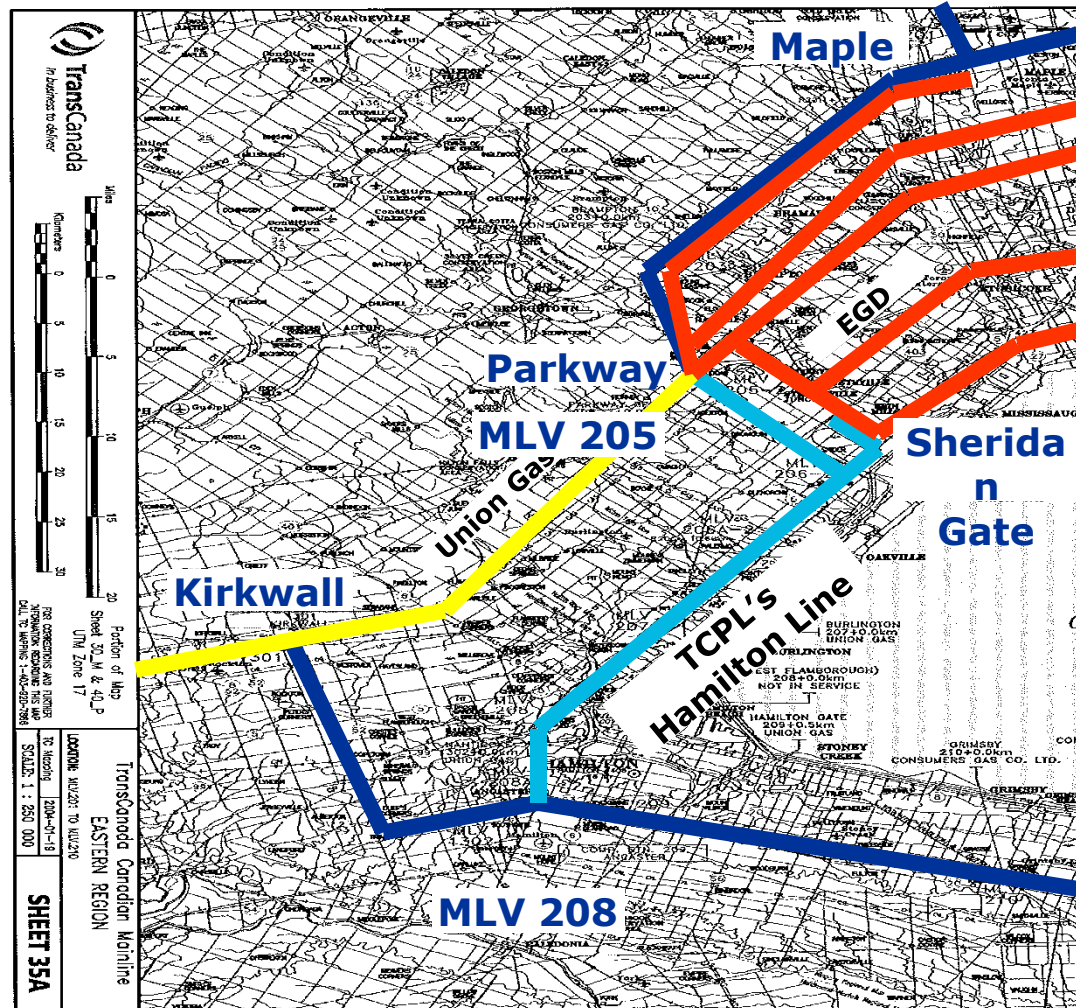


- **TCPL and TGP can expand system capacity as required to enable Marcellus and Utica supply to reach Canadian markets**
 - TGP put the Niagara Spur Loop Line Bi-directional Flow Project and its NSD Project in-service 11-1-12 for delivery capacity at Niagara, operational capacity ~ 725,000 – 800,000 Mcf/d
 - Most recent TCPL expansion (Niagara to Kirkwall and Parkway to Maple) put into service November 2012 (current Niagara receipt point capacity is ~ 425 TJ)
 - TCPL's Q2 2012 open season resulted in approximately 300 TJ/d of incremental service requests from Parkway for November 2015
- **Utilizing existing infrastructure, both TCPL and TGP are able to achieve the lowest cost expansion solutions by offering scalable (various range of volumes) projects to suit producer/market needs and timing of in-service dates**

2012 Mainline Expansion Facilities



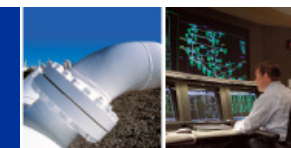
Niagara to Toronto via Hamilton Line



Benefits :

- Efficient
 - Low capital versus capacity
- Flexible
 - Capacity ramp-up
- Lower toll to EGD at Pkwy if meter tolled separately from broader EGD CDA ("EGD Parkway")
- Estimated Niagara to EGD Parkway DDA = \$0.14/GJ

Price Comparison: Nexus vs TGP/TCPL Marcellus to Dawn (400,000 Dth/d)



Nexus		TGP/TCPL	
Gas Price Dominion S	\$3.32	\$3.085	Gas Price TGP Marcellus
Nexus rate	\$0.80	\$0.50 - \$0.60	TGP rate
Gathering / OPEN rate??	\$??	\$0.13	TCPL rate to Kirkwall*
		\$0.10	Union Gas M12X rate
TOTAL DELIVERED COST	\$4.12	\$3.81 - \$3.91	TOTAL DELIVERED COST

***TC Rates are 2013 Restructuring Rates**

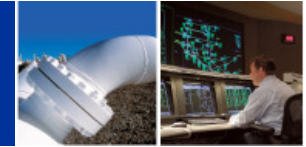
Price Comparison: Nexus vs TGP/TCPL Marcellus to Toronto (Enbridge CDA)



Nexus		TGP/TCPL	
Gas Price Dominion S	\$3.32	\$3.085	Gas Price TGP Marcellus
Nexus rate	\$0.80	\$0.35 - \$0.38	TGP rate
Gathering / OPEN rate??	\$??	\$0.15	TCPL rate to EGD Parkway CDA
Union Gas M12X Rate	\$0.10		Union Gas M12X rate
TOTAL DELIVERED COST	\$4.22	\$3.74 - \$3.84	TOTAL DELIVERED COST

***TC Rates are 2013 Restructuring Rates**

Conclusions & Next Steps



Access to Marcellus Supply

- TransCanada's Mainline connects suppliers to premium markets within Ontario and Quebec via Tennessee Gas Pipeline and other interstate pipeline connections

Competitive Option

- TransCanada's seamless service provides a competitive option to markets looking to access Marcellus and Utica supplies at Niagara

Operational Excellence (TCPL & TGP)

- Secure and reliable annual firm service
- Flexible and easy to use transactional systems
- Strong record of meeting project in-service dates

Next Steps

Meetings with Producers and Markets Jan/Feb, 2013 to assess customer interest and timing of infrastructure needs

Contact Information:



- **TransCanada Pipeline**

- Tim Stringer
- (416) 869-2177 office
- (416) 606-4092 cell
- Tim_stringer@transcanada.com

- **Tennessee Gas Pipeline**

- Lorraine Lindberg
- (713) 420-3622 office
- (713) 206-1242 cell
- Lorraine_lindberg@kindermorgan.com

Lisa DeAbreu
Trans Canada PipeLines Ltd. (TCPL) Aid to Cross Examination 2

Subject: Fw: TGP Meeting (Conference Call In Info Below)
Location: ES&P Room

Start: Wed 6/12/2013 10:00 AM
End: Wed 6/12/2013 11:30 AM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Jamie LeBlanc
Required Attendees: Lisa DeAbreu

Can you make this meeting tomorrow?

Tim,
Please forward this call in information Lorraine.

.....
Join online meeting <<https://meet.gazifere.com/jamie.leblanc/KLV24SYW>>
<https://meet.gazifere.com/jamie.leblanc/KLV24SYW>

Join by Phone
*CONF (*2663) - EGD Cisco Phone
+1-647-317-0410 Toronto - GTA
+1-705-417-2002 Barrie, ON
+1-289-323-0803 Brampton, ON
+1-587-794-3128 Calgary
+1-587-786-3131 Edmonton
+1-819-317-1182 Gazifere / Hull, QC
+1-713-904-7540 Houston
+1-315-842-4088 Massena, NY / St. Lawrence Gas
+1-506-801-0017 Moncton, NB
+1-289-316-1224 Oshawa, ON (Durham Region)
+1-613-916-6059 Ottawa
+1-705-201-5390 Peterborough, ON
+1-289-434-4245 Thorold
+1-519-491-2900 Tecumseh Gas / Sarnia
+1-855-343-5962 Toll-Free
Find a local number <<https://dialin.egd.enbridge.com>>

Conference ID: 519249

Forgot your dial-in PIN? <<https://dialin.egd.enbridge.com>> | First online meeting?
<<http://r.office.microsoft.com/r/rlidOC10?clid=1033&p1=4&p2=1041&pc=oc&ver=4&subver=0&bld=7185&bldver=0>>
[!OC([1033])!]

.....
Hi Joel,

I am sending you this to get it on your calendar even though we do not have a specific time yet. Feel free to invite others from your group.

Lucy,

Once we know a time we will need to book the room.
TransCanada PipeLines Ltd. (TCPL) Aid to Cross Examination 2
Jamie

Tim,
Please forward this call in information Lorraine.

Join online meeting <<https://meet.gazifere.com/jamie.leblanc/KLV24SYW>>

<https://meet.gazifere.com/jamie.leblanc/KLV24SYW>

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+1-315-842-4088 Massena, NY / St. Lawrence Gas

+1-506-801-0017 Moncton, NB

+1-289-316-1224 Oshawa, ON (Durham Region)

+1-613-916-6059 Ottawa

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+1-289-434-4245 Thorold

+1-519-491-2900 Tecumseh Gas / Sarnia

+1-855-343-5962 Toll-Free

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Conference ID: 519249

Forgot your dial-in PIN? <<https://dialin.egd.enbridge.com>> | First online meeting?

<<http://r.office.microsoft.com/r/rlidOC10?clid=1033&p1=4&p2=1041&pc=oc&ver=4&subver=0&bld=7185&bldver=0>>

[!OC([1033])!]

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