

October 28, 2016

BY COURIER & RESS

Ms. Kirsten Walli  
Board Secretary  
Ontario Energy Board  
Suite 2700, 2300 Yonge Street  
Toronto, Ontario  
M4P 1E4

Dear Ms. Walli:

**RE: Union Gas Limited (“Union”) - EB-2016-0186 Panhandle Reinforcement Project -  
Response to requests for information from FRPO Motion**

Please find attached Union’s responses to the information requests received in the October 20, 2016 motion filed on behalf of FRPO in the above noted proceeding. The Motion was heard by the Board on October 24, 2016. These were filed in RESS and copies were sent to the Board.

Response to Motion Request 1:

Please see Attachment 1 for the requested data for the past 3 winters. It includes the following:

**Receipts from Union**

Union contracts for gas supply at Ojibway. In order to reduce physical transportation needs from Dawn to Ojibway and defer building facilities, Union relies on its gas supply arriving on Design Day.

Union noted in response to Exhibit JT1.13 that over the last three years Union made no spot or monthly purchases in addition to those required to fill the contracted firm transportation capacity on PEPL.

**Receipts from C1**

These are transportation contracts held by other parties. Union cannot rely on these volumes. As noted in evidence at Exhibit A, Tab 4 page 4 lines 14,15 “.....Union must be able to transport these volumes on the Panhandle System on a firm basis as requested by the shipper. However, Union cannot rely on these volumes at Ojibway when designing the system.”

As shown in the summary table provided at Exhibit B.FRPO.8 c) iii), C1 activity varies and has been as low as zero. This can also be seen in the attached data, column b).

**Monthly and Daily Hubs (sum =Total receipts from HUBS)**

Union previously provided total HUB data at Exhibit JT1.15. These can be firm or interruptible daily, weekly, monthly or seasonal contracts in duration depending upon unutilized pipeline capacity on Union's Panhandle System. These cannot be relied upon to serve firm demand on a Design Day. The enhanced HUB contracts are held by marketers who control and dictate when and to what degree nominations are made under their contracts so they may or may not utilize the Panhandle System on peak demand days.

**Total Receipts**

This is the sum of Union, C1 and HUB receipts from Ojibway toward Dawn.

**Total Deliveries** (from Dawn toward Ojibway)

There are occasional firm or interruptible nominated flows (HUB contracts) for Dawn to Ojibway.

**Net Nominated**

This represents Total Receipts less Total Deliveries

**OBA Activity**

The OBA is a balancing agreement that exists between PEPL and Union to balance physical flows. It was described in the Hearing of the Motion in Transcript at Page 26, lines 6-16:

*Effectively is that the actual flows represent the relationship between two parties, Union and Panhandle. So there is no ability -- and the way they keep track of the fact that there is differences in those flows is through an agreement called an operating balancing agreement where effectively they record the differences and sometimes they will nominate more, or they will nominate something else differently, so that actually over time, if more gas is being taken by Union, they will pay it back to Panhandle over time. It's an operational thing between system operators.*

**Measured at Ojibway**

This column represents the actual flows at Ojibway as provided previously at Exhibit JT1.10

**Average Ojibway Delivery Pressure (kPag)**

This represents the average Ojibway delivery pressure at the Ojibway Measurement Station

**Response to Motion Request 2:**

Please see Attachment 2 for the requested correspondence.

Should you have any questions on the above or would like to discuss in more detail, please contact me at 519-436-5473.

Yours truly,

*[original signed by]*

Karen Hockin  
Manager, Regulatory Initiatives

Encl.

c.c.: Zora Crnojacki, Board Staff  
Mark Kitchen, Union Gas  
Charles Keizer, Torys  
All Intervenors (EB-2016-0186)

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)	(h) = (f) - (g)		(i)	(j) = (h) + (i)		(k)
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)								
November 1, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-339	135,967	2,516									
November 2, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	5,626	141,931	2,490									
November 3, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-34	136,272	2,468									
November 4, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	286	136,591	2,471									
November 5, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-1,823	134,482	2,486									
November 6, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-2,477	133,828	2,471									
November 7, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-2,622	133,684	2,429									
November 8, 2013	38,661	74,461	21,074	0	21,074	134,196	134,196	-1,068	133,128	2,445									
November 9, 2013	38,661	74,461	21,074	0	21,074	134,196	134,196	-966	133,229	2,498									
November 10, 2013	38,661	74,461	21,074	0	21,074	134,196	134,196	-1,457	132,738	2,464									
November 11, 2013	38,661	74,461	21,074	0	21,074	134,196	134,196	-1,266	132,929	2,514									
November 12, 2013	38,661	74,461	7,358	0	7,358	120,480	120,480	8,478	128,958	2,596									
November 13, 2013	38,661	72,983	11,579	0	11,579	123,223	123,223	11,653	134,876	2,670									
November 14, 2013	38,661	74,461	17,909	0	17,909	131,031	131,031	-12,085	118,946	2,733									
November 15, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	-2,873	133,433	2,519									
November 16, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	2,425	138,730	2,470									
November 17, 2013	38,661	74,461	23,184	0	23,184	136,306	136,306	30,510	166,816	2,591									
November 18, 2013	38,661	74,461	9,468	0	9,468	122,590	122,590	5,080	127,670	2,339									
November 19, 2013	38,661	68,208	6,303	0	6,303	113,172	113,172	9,954	123,126	2,322									
November 20, 2013	38,661	74,461	17,909	0	17,909	131,031	131,031	-7,769	123,261	2,343									
November 21, 2013	38,661	74,461	12,634	0	12,634	125,756	125,756	4,716	130,471	2,379									
November 22, 2013	38,661	68,208	7,991	0	7,991	114,860	114,860	3,717	118,576	2,318									
November 23, 2013	38,661	57,825	7,358	0	7,358	103,844	103,844	3,767	107,610	2,256									
November 24, 2013	38,661	57,825	7,358	0	7,358	103,844	103,844	3,998	107,841	2,260									
November 25, 2013	38,661	57,825	7,358	0	7,358	103,844	103,844	3,929	107,772	2,275									
November 26, 2013	38,661	44,584	6,303	0	6,303	89,548	89,548	274	89,822	2,516									
November 27, 2013	38,661	57,825	22,129	0	22,129	118,615	118,615	-1,198	117,417	2,626									
November 28, 2013	38,661	57,825	22,129	0	22,129	118,615	118,615	-37	118,578	2,585									
November 29, 2013	38,661	57,825	22,129	0	22,129	118,615	118,615	-171	118,443	2,585									
November 30, 2013	38,661	57,825	22,129	0	22,129	118,615	118,615	-209	118,406	2,686									
December 1, 2013	38,602	74,461	23,184	0	23,184	136,247	136,247	-1,889	134,359	2,489									
December 2, 2013	38,602	74,461	17,909	0	17,909	130,972	130,972	7,359	138,331	2,375									
December 3, 2013	38,602	74,461	23,184	0	23,184	136,247	136,247	17,518	153,766	2,498									
December 4, 2013	38,602	74,461	23,184	0	23,184	136,247	136,247	25,092	161,340	2,583									
December 5, 2013	38,602	74,461	20,546	0	20,546	133,609	133,609	1,087	134,696	2,413									
December 6, 2013	38,602	40,119	12,634	0	12,634	91,355	91,355	3,089	91,732	2,339									
December 7, 2013	38,602	46,891	12,634	0	12,634	98,127	98,127	-1,169	91,533	2,409									
December 8, 2013	38,602	52,083	12,634	0	12,634	103,319	103,319	-7,947	95,373	2,409									
December 9, 2013	38,602	52,083	12,634	0	12,634	103,319	103,319	2,341	97,708	2,240									
December 10, 2013	38,602	-2,083	12,634	0	12,634	49,153	49,153	1,593	48,625	2,207									
December 11, 2013	38,602	19,018	12,634	0	12,634	70,254	70,254	2,988	65,525	2,250									
December 12, 2013	38,602	61,220	12,634	0	12,634	112,456	112,456	-1,268	107,915	2,609									



	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)										
January 26, 2014	38,522	21,734	21,092	0	21,092	81,348	81,348	81,348	22,193	103,541	2,414											
January 27, 2014	38,522	21,734	21,092	0	21,092	81,348	81,348	81,348	22,188	103,536	2,374											
January 28, 2014	38,522	21,417	21,101	10,551	31,652	91,591	91,591	91,591	1,245	92,836	2,397											
January 29, 2014	38,522	50,168	21,101	40,831	61,932	150,622	150,622	1,081	-11,239	138,303	2,554											
January 30, 2014	38,522	69,186	23,184	36,927	60,111	167,819	167,819		102	167,922	2,549											
January 31, 2014	38,522	74,461	23,184	36,927	60,111	173,094	173,094		-2,254	170,841	2,557											
February 1, 2014	38,493	45,003	21,100	405	21,505	105,001	105,001		64,132	169,133	2,616											
February 2, 2014	38,493	45,003	21,100	405	21,505	105,001	105,001		58,960	163,961	2,613											
February 3, 2014	38,493	45,003	21,100	405	21,505	105,001	105,001		341	105,342	2,473											
February 4, 2014	38,493	45,003	21,101	66,345	87,446	170,942	170,942	3,299	-11,319	159,624	2,599											
February 5, 2014	38,493	31,762	26,376	52,753	79,129	149,384	149,384		2,384	148,470	2,509											
February 6, 2014	38,493	21,101	15,557	77,632	93,189	152,783	152,783		-22,250	130,534	2,558											
February 7, 2014	38,493	45,003	21,101	63,304	84,405	167,901	167,901		-21,984	145,917	2,563											
February 8, 2014	38,493	34,342	15,895	52,753	68,648	141,483	141,483		-10,230	131,254	2,572											
February 9, 2014	38,493	34,342	15,895	52,753	68,648	141,483	141,483		2,762	144,246	2,529											
February 10, 2014	38,493	34,342	26,446	73,854	100,300	173,135	173,135	312	-10,106	162,717	2,462											
February 11, 2014	38,493	34,342	31,652	84,606	116,258	189,093	189,093		-2,118	186,976	2,369											
February 12, 2014	38,493	45,003	31,652	84,750	116,402	199,898	199,898		-4,822	195,077	2,426											
February 13, 2014	38,493	45,003	31,652	84,404	116,056	199,552	199,552		-21,533	178,020	2,480											
February 14, 2014	38,493	48,696	31,652	86,531	118,183	205,372	205,372		-20,982	184,391	2,591											
February 15, 2014	38,493	48,168	31,652	87,818	119,470	206,131	206,131		-19,942	186,190	2,587											
February 16, 2014	38,493	48,168	31,652	87,816	119,468	206,129	206,129		-10,946	195,183	2,496											
February 17, 2014	38,493	48,168	31,652	87,816	119,468	206,129	206,129		-3,643	202,487	2,472											
February 18, 2014	38,493	48,168	31,652	87,816	119,468	206,129	206,129		-11,248	194,882	2,486											
February 19, 2014	38,493	71,380	31,652	88,413	120,065	229,938	229,938		-40,553	189,386	2,514											
February 20, 2014	38,493	71,380	31,652	89,680	121,332	231,205	231,205		-50,432	180,774	2,510											
February 21, 2014	38,493	87,733	31,652	66,996	98,648	224,874	224,874		-38,633	186,242	2,531											
February 22, 2014	38,493	43,421	31,652	3,812	35,464	117,378	117,378		1,624	119,002	2,367											
February 23, 2014	38,493	43,421	31,652	3,812	35,464	117,378	117,378		398	117,776	2,275											
February 24, 2014	38,493	43,421	31,652	2,658	34,310	116,224	116,224		1,460	117,685	2,383											
February 25, 2014	38,493	47,219	31,652	0	31,652	117,364	117,364		92	117,457	2,516											
February 26, 2014	38,493	45,003	31,652	33,408	65,060	148,556	148,556		-30,971	117,586	2,465											
February 27, 2014	38,493	45,003	31,652	31,652	63,304	146,800	146,800	2,387	-2,587	141,827	2,425											
February 28, 2014	38,493	45,003	31,652	327	31,979	115,475	115,475		21,707	137,182	2,537											
March 1, 2014	38,480	59,135	21,101	0	21,101	118,716	118,716		25,872	144,588	2,605											
March 2, 2014	38,480	59,135	31,652	0	31,652	129,267	129,267		19,097	148,364	2,376											
March 3, 2014	32,643	53,887	29,014	0	29,014	115,544	115,544		13,402	128,947	2,438											
March 4, 2014	38,476	73,508	31,652	0	31,652	143,636	143,636		-2,779	140,857	2,450											
March 5, 2014	38,480	69,186	33,735	0	33,735	141,401	141,401		-3,522	137,879	2,372											
March 6, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676		-1,873	144,803	2,413											
March 7, 2014	38,480	74,461	33,735	35,356	69,091	182,032	182,032		-10,848	171,184	2,502											
March 8, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676		-5,879	140,797	2,388											
March 9, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676		129	146,805	2,456											
March 10, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676		323	146,999	2,464											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)											
March 11, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-13	146,663	2,489											
March 12, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-1,966	144,710	2,360											
March 13, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-3,198	143,478	2,428											
March 14, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	369	147,045	2,582											
March 15, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-271	146,405	2,534											
March 16, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-23	146,653	2,459											
March 17, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	143	146,819	2,407											
March 18, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-121	146,555	2,517											
March 19, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-577	146,099	2,481											
March 20, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-372	146,304	2,464											
March 21, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	205	146,881	2,471											
March 22, 2014	38,480	74,456	33,735	0	33,735	146,671	146,671	146,671	15,425	162,096	2,510											
March 23, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	14,367	161,043	2,460											
March 24, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	16,824	163,500	2,511											
March 25, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-13,282	133,394	2,431											
March 26, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-25,066	121,610	2,541											
March 27, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	-23,529	123,147	2,655											
March 28, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	11,934	158,610	2,613											
March 29, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	25,653	172,329	2,551											
March 30, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	21,941	168,617	2,566											
March 31, 2014	38,480	74,461	33,735	0	33,735	146,676	146,676	146,676	21,533	168,209	2,580											
November 1, 2014	60,138	57,021	11,982	0	11,982	129,141	129,141	129,141	-3,940	125,202	2,155											
November 2, 2014	60,138	57,021	13,243	0	13,243	130,402	130,402	130,402	-14,976	115,427	2,166											
November 3, 2014	60,138	57,021	13,258	0	13,258	130,417	130,417	130,417	-17,893	112,524	2,174											
November 4, 2014	58,134	57,021	13,988	0	13,988	129,143	129,143	129,143	-15,759	113,383	2,173											
November 5, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	-15,166	115,981	2,167											
November 6, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	-12,963	118,184	2,231											
November 7, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	16,384	147,531	2,339											
November 8, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	17,549	148,696	2,375											
November 9, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	17,261	148,408	2,376											
November 10, 2014	60,138	57,021	13,988	0	13,988	131,147	131,147	131,147	15,317	146,465	2,383											
November 11, 2014	60,138	67,571	12,450	0	12,450	140,159	140,159	140,159	8,446	148,605	2,381											
November 12, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-45,211	96,486	2,178											
November 13, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-16,050	125,647	2,210											
November 14, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-16,853	124,844	2,239											
November 15, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-14,650	127,047	2,260											
November 16, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-15,191	126,505	2,282											
November 17, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	17,128	158,825	2,370											
November 18, 2014	44,312	67,571	13,988	0	13,988	125,871	125,871	125,871	11,734	137,606	2,278											
November 19, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-34,955	106,742	2,181											
November 20, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-28,514	113,183	2,186											
November 21, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-53	141,644	2,416											
November 22, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	362	142,059	2,444											
November 23, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	716	142,414	2,503											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)											
November 24, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	1,319	143,016	2,468											
November 25, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	1,237	142,934	2,426											
November 26, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	895	142,592	2,427											
November 27, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	786	142,483	2,398											
November 28, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	860	142,557	2,419											
November 29, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-18,744	122,953	2,671											
November 30, 2014	60,138	67,571	13,988	0	13,988	141,697	141,697	141,697	-28,127	113,570	2,737											
December 1, 2014	60,138	83,323	13,988	0	13,988	157,449	157,449	157,449	11,755	169,205	2,515											
December 2, 2014	56,973	85,722	13,988	0	13,988	156,683	156,683	156,683	11,540	168,223	2,539											
December 3, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	12,591	172,440	2,598											
December 4, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	6,062	165,912	2,547											
December 5, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	11,425	171,274	2,478											
December 6, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	14,944	174,793	2,593											
December 7, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	16,676	176,525	2,578											
December 8, 2014	60,138	85,721	13,988	0	13,988	159,847	159,847	159,847	18,686	178,533	2,601											
December 9, 2014	60,008	85,723	13,988	2,638	16,626	162,357	162,357	162,357	16,921	179,278	2,590											
December 10, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	18,978	178,828	2,548											
December 11, 2014	60,138	85,723	13,988	7,913	21,901	167,762	167,762	167,762	3,923	171,685	2,527											
December 12, 2014	60,138	85,723	13,988	14,243	28,231	174,092	174,092	174,092	4,771	178,863	2,585											
December 13, 2014	60,138	85,723	13,988	14,243	28,231	174,092	174,092	174,092	2,463	176,555	2,610											
December 14, 2014	60,138	85,723	13,988	14,243	28,231	174,092	174,092	174,092	-4,312	169,780	2,632											
December 15, 2014	60,138	85,723	13,988	14,243	28,231	174,092	174,092	174,092	-3,915	170,177	2,644											
December 16, 2014	60,138	75,011	13,988	14,243	28,231	163,380	163,380	163,380	2,873	166,253	2,556											
December 17, 2014	60,138	85,723	13,988	0	13,988	159,849	159,849	159,849	5,558	165,407	2,494											
December 18, 2014	60,138	85,723	13,988	7,913	21,901	167,762	167,762	167,762	1,495	169,257	2,516											
December 19, 2014	60,138	85,723	13,988	19,509	33,497	179,358	179,358	179,358	-10,727	168,631	2,501											
December 20, 2014	60,138	85,723	13,988	8,957	22,945	168,806	168,806	168,806	427	169,234	2,514											
December 21, 2014	60,138	85,723	13,988	8,958	22,946	168,807	168,807	168,807	675	169,482	2,515											
December 22, 2014	58,028	85,723	13,988	8,958	22,946	166,697	166,697	166,697	-4,399	162,299	2,517											
December 23, 2014	60,138	64,622	13,976	10,551	24,527	149,287	149,287	149,287	19,856	169,143	2,581											
December 24, 2014	60,138	85,723	13,988	10,551	24,539	170,400	170,400	170,400	-2,664	167,736	2,585											
December 25, 2014	60,138	85,723	10,228	10,551	20,779	166,640	166,640	166,640	581	167,222	2,629											
December 26, 2014	60,138	85,723	10,228	10,551	20,779	166,640	166,640	166,640	-2,086	164,554	2,635											
December 27, 2014	60,138	85,723	10,228	10,551	20,779	166,640	166,640	166,640	-699	165,942	2,630											
December 28, 2014	60,138	85,723	10,228	10,551	20,779	166,640	166,640	166,640	517	167,157	2,511											
December 29, 2014	59,637	85,723	10,228	10,551	20,779	166,139	166,139	166,139	1,979	168,118	2,468											
December 30, 2014	60,138	64,622	0	5,275	5,275	130,035	130,035	130,035	-1,036	128,999	2,252											
December 31, 2014	60,138	75,011	0	0	0	135,149	135,149	135,149	-13,629	121,520	2,239											
January 1, 2015	60,138	76,326	0	0	0	136,464	136,464	136,464	-1,754	134,711	2,323											
January 2, 2015	60,138	76,326	0	0	0	136,464	136,464	136,464	17,527	153,991	2,433											
January 3, 2015	60,138	67,495	0	0	0	127,633	127,633	127,633	4,985	132,618	2,356											
January 4, 2015	60,138	67,495	0	0	0	127,633	127,633	127,633	5,185	132,818	2,343											
January 5, 2015	60,138	67,495	0	0	0	127,633	127,633	127,633	5,563	133,196	2,336											
January 6, 2015	50,642	62,219	0	0	0	112,861	112,861	112,861	18,939	131,800	2,325											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure											
January 7, 2015	49,588	5,194	0	0	0	54,782	54,782	747	55,529	2,435												
January 8, 2015	60,138	5,194	0	0	0	65,332	65,332	-529	64,804	2,537												
January 9, 2015	60,138	0	0	0	0	60,138	60,138	-497	59,641	2,424												
January 10, 2015	60,138	5,194	0	0	0	65,332	65,332	-662	64,671	2,495												
January 11, 2015	60,138	5,194	0	0	0	65,332	65,332	-642	64,691	2,553												
January 12, 2015	60,138	5,194	0	0	0	65,332	65,332	833	66,166	2,378												
January 13, 2015	60,138	20,018	0	0	0	80,156	80,156	1,246	81,402	2,525												
January 14, 2015	60,138	35,843	0	0	0	95,981	95,981	321	96,302	2,477												
January 15, 2015	60,138	67,495	13,988	0	13,988	141,621	141,621	-362	141,259	2,543												
January 16, 2015	60,138	66,197	13,988	21,101	35,089	161,424	161,424	2,549	163,973	2,427												
January 17, 2015	60,138	68,622	13,988	0	13,988	142,748	142,748	446	143,195	2,440												
January 18, 2015	60,138	68,622	13,988	0	13,988	142,748	142,748	5,358	148,106	2,450												
January 19, 2015	60,138	70,320	12,321	0	12,321	142,779	142,779	5,953	148,732	2,440												
January 20, 2015	60,138	70,320	13,965	0	13,965	144,423	144,423	4,655	149,078	2,466												
January 21, 2015	60,138	83,391	13,988	14,328	28,316	171,845	171,845	-2,764	169,081	2,555												
January 22, 2015	60,138	83,286	13,988	10,551	24,539	167,963	167,963	5,013	172,976	2,571												
January 23, 2015	60,138	83,286	13,988	10,551	24,539	167,963	167,963	5,096	173,059	2,579												
January 24, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	6,032	174,100	2,599												
January 25, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	812	168,881	2,465												
January 26, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	986	169,055	2,486												
January 27, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	827	168,895	2,454												
January 28, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	-12,910	155,158	2,463												
January 29, 2015	60,138	83,391	13,988	10,551	24,539	168,068	168,068	-2,386	165,683	2,524												
January 30, 2015	60,138	69,331	4,074	0	4,074	133,543	133,543	35,107	168,650	2,513												
January 31, 2015	60,138	62,301	0	0	0	122,439	122,439	45,900	168,339	2,543												
February 1, 2015	60,138	0	10,551	0	10,551	70,689	70,689	-2,160	68,529	2,349												
February 2, 2015	60,138	0	10,551	0	10,551	70,689	70,689	1,228	71,917	2,448												
February 3, 2015	60,138	0	10,551	0	10,551	70,689	70,689	1,157	71,847	2,387												
February 4, 2015	60,138	0	0	0	0	60,138	60,138	11,491	71,629	2,489												
February 5, 2015	58,661	0	0	0	0	58,661	58,661	2,377	61,038	2,300												
February 6, 2015	60,138	0	10,551	0	10,551	70,689	70,689	-155	70,534	2,404												
February 7, 2015	60,138	0	10,551	0	10,551	70,689	70,689	2,958	73,648	2,426												
February 8, 2015	60,138	0	10,551	0	10,551	70,689	70,689	-83	70,606	2,332												
February 9, 2015	60,138	0	10,551	0	10,551	70,689	70,689	204	70,893	2,365												
February 10, 2015	60,138	55,485	24,539	10,551	35,090	150,713	150,713	-6,615	144,098	2,569												
February 11, 2015	60,138	61,090	24,539	10,551	35,090	156,318	156,318	3,120	159,438	2,533												
February 12, 2015	60,138	21,090	21,649	0	21,649	102,877	102,877	3,852	106,729	2,375												
February 13, 2015	60,138	42,719	24,539	10,551	35,090	137,947	137,947	-6,563	131,385	2,570												
February 14, 2015	60,138	21,090	24,327	0	24,327	105,555	105,555	-482	105,073	2,493												
February 15, 2015	60,138	21,090	24,327	0	24,327	105,555	105,555	-1,361	104,194	2,379												
February 16, 2015	60,138	21,090	24,327	0	24,327	105,555	105,555	-1,142	104,414	2,356												
February 17, 2015	60,138	21,090	15,137	0	15,137	96,365	96,365	7,017	103,382	2,409												
February 18, 2015	60,138	26,296	10,551	0	10,551	96,985	96,985	-784	96,201	2,362												
February 19, 2015	60,138	0	17,092	0	17,092	77,230	77,230	2,219	79,449	2,188												

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)										
February 20, 2015	60,138	17,732	10,551	0	10,551	88,421	88,421	88,421	-1,284	87,137	2,256											
February 21, 2015	60,138	7,030	10,551	3,517	14,068	81,236	81,236	81,236	-54	81,182	2,460											
February 22, 2015	60,138	21,090	10,551	14,560	25,111	106,339	106,339	106,339	-4,300	102,039	2,374											
February 23, 2015	60,138	21,090	10,551	5,275	15,826	97,054	97,054	97,054	1,353	98,407	2,329											
February 24, 2015	60,138	10,389	10,551	0	10,551	81,078	81,078	81,078	11,125	92,203	2,439											
February 25, 2015	60,138	10,389	24,464	0	24,464	94,991	94,991	94,991	-2,908	92,083	2,462											
February 26, 2015	60,138	21,101	24,539	0	24,539	105,778	105,778	105,778	10,029	115,808	2,491											
February 27, 2015	60,138	21,101	24,539	0	24,539	105,778	105,778	105,778	1,114	106,892	2,456											
February 28, 2015	60,138	21,101	24,539	0	24,539	105,778	105,778	105,778	676	106,454	2,452											
March 1, 2015	60,138	61,221	24,539	21,101	45,640	166,999	166,999	166,999	-11,347	155,652	2,631											
March 2, 2015	60,127	61,221	24,539	21,101	45,640	166,988	166,988	166,988	4,802	171,789	2,520											
March 3, 2015	60,138	61,221	24,539	21,101	45,640	166,999	166,999	166,999	7,050	174,049	2,565											
March 4, 2015	60,138	78,102	13,988	26,376	40,364	178,604	178,604	178,604	-2,501	176,104	2,512											
March 5, 2015	60,138	63,619	21,772	26,376	48,148	171,905	171,905	171,905	-7,542	164,364	2,367											
March 6, 2015	60,138	61,221	26,649	20,800	47,449	168,808	168,808	168,808	-3,600	165,208	2,476											
March 7, 2015	60,138	61,221	26,649	0	26,649	148,008	148,008	148,008	13,182	161,190	2,558											
March 8, 2015	60,138	61,221	26,649	0	26,649	148,008	148,008	148,008	11,721	159,729	2,498											
March 9, 2015	60,138	61,221	26,649	0	26,649	148,008	148,008	148,008	-444	147,564	2,475											
March 10, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	651	146,549	2,461											
March 11, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	1,584	147,482	2,492											
March 12, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	-48	145,851	2,476											
March 13, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	4,956	150,854	2,466											
March 14, 2015	60,138	61,221	24,443	0	24,443	145,802	145,802	145,802	3,224	149,026	2,453											
March 15, 2015	60,138	61,221	24,286	0	24,286	145,645	145,645	145,645	54	145,699	2,448											
March 16, 2015	60,138	61,221	24,274	0	24,274	145,633	145,633	145,633	475	146,108	2,462											
March 17, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	28	145,927	2,432											
March 18, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	226	146,124	2,411											
March 19, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	658	146,557	2,410											
March 20, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	1,154	147,052	2,441											
March 21, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	956	146,854	2,411											
March 22, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	1,034	146,932	2,415											
March 23, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	-2,095	143,803	2,395											
March 24, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	1,608	147,506	2,468											
March 25, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	1,678	147,576	2,481											
March 26, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	10,161	156,059	2,462											
March 27, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	11,928	157,827	2,452											
March 28, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	16,448	162,347	2,483											
March 29, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	20,771	166,669	2,517											
March 30, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	21,392	167,291	2,548											
March 31, 2015	60,138	61,221	24,539	0	24,539	145,898	145,898	145,898	20,533	166,432	2,520											
November 1, 2015	60,138	41,161	0	15,826	15,826	117,125	117,125	117,125	35,546	152,671	2,566											
November 2, 2015	60,132	41,161	0	15,826	15,826	117,119	117,119	117,119	3,276	120,395	2,435											
November 3, 2015	60,138	41,161	0	26,377	26,377	127,676	127,676	127,676	-7,508	120,168	2,497											
November 4, 2015	60,138	41,161	0	31,652	31,652	132,951	132,951	132,951	-10,844	122,107	2,580											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)										
November 5, 2015	60,138	41,161	0	40,092	40,092	141,391	141,391	141,391	-1,995	139,396	2,537											
November 6, 2015	60,138	41,161	0	40,092	40,092	141,391	141,391	141,391	-1,875	139,516	2,478											
November 7, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	27,110	138,960	2,479											
November 8, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	27,214	139,064	2,471											
November 9, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	12,634	124,485	2,430											
November 10, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	10,029	121,879	2,410											
November 11, 2015	60,138	41,161	0	9,311	9,311	110,610	110,610	110,610	29,670	140,280	2,496											
November 12, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	31,755	143,605	2,488											
November 13, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	31,458	143,308	2,477											
November 14, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	30,686	142,537	2,507											
November 15, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	9,475	121,325	2,423											
November 16, 2015	60,138	41,161	0	10,551	10,551	111,850	111,850	111,850	9,198	121,048	2,420											
November 17, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	19,568	120,867	2,434											
November 18, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	19,692	120,991	2,440											
November 19, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-167	101,132	2,335											
November 20, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-202	101,098	2,387											
November 21, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-375	100,925	2,338											
November 22, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-446	100,853	2,311											
November 23, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-168	101,131	2,238											
November 24, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-378	100,921	2,300											
November 25, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-226	101,073	2,540											
November 26, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	-40	101,259	2,647											
November 27, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	14,881	116,180	2,443											
November 28, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	14,532	115,832	2,419											
November 29, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	14,511	115,810	2,418											
November 30, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	8,396	109,695	2,432											
December 1, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	746	102,007	2,360											
December 2, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	2,277	103,576	2,336											
December 3, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	1,096	102,395	2,345											
December 4, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	792	102,092	2,360											
December 5, 2015	60,138	20,060	0	0	0	80,198	80,198	80,198	-11,590	68,608	2,298											
December 6, 2015	60,138	20,060	0	0	0	80,198	80,198	80,198	-11,587	68,612	2,282											
December 7, 2015	60,138	20,060	0	0	0	80,198	80,198	80,198	-11,695	68,503	2,273											
December 8, 2015	60,138	32,611	0	0	0	92,749	92,749	92,749	-10,738	82,011	2,310											
December 9, 2015	60,138	41,161	0	0	0	101,299	101,299	101,299	12,882	114,181	2,379											
December 10, 2015	60,138	30,734	0	0	0	90,872	90,872	90,872	26,096	116,969	2,618											
December 11, 2015	60,138	30,734	0	2,670	2,670	93,542	93,542	93,542	-25,302	68,240	2,373											
December 12, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	-8,036	93,224	2,600											
December 13, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	1,950	103,210	2,439											
December 14, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	16,813	118,074	2,454											
December 15, 2015	60,138	20,060	0	0	0	80,198	80,198	80,198	-174	80,024	2,318											
December 16, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	-10,540	90,721	2,343											
December 17, 2015	60,138	38,307	0	0	0	98,445	98,445	98,445	657	99,102	2,339											
December 18, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	15	101,275	2,285											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Nominated & Scheduled		Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)										
				Daily HUBS	Total Receipts from HUBS																	
December 19, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	-186	101,076	2,278											
December 20, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	-60	101,201	2,328											
December 21, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	-157	101,104	2,397											
December 22, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	332	101,593	2,322											
December 23, 2015	60,138	39,825	0	0	0	99,963	99,963	99,963	-2,080	97,884	2,630											
December 24, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	731	101,991	2,441											
December 25, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	748	102,008	2,445											
December 26, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	269	101,529	2,464											
December 27, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	344	101,604	2,427											
December 28, 2015	52,952	41,122	0	0	0	94,074	94,074	94,074	7,604	101,678	2,394											
December 29, 2015	59,970	40,907	0	0	0	100,877	100,877	100,877	746	101,623	2,310											
December 30, 2015	60,138	41,122	0	0	0	101,260	101,260	101,260	426	101,686	2,306											
December 31, 2015	60,138	41,123	0	0	0	101,261	101,261	101,261	397	101,658	2,305											
January 1, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	491	101,790	2,324											
January 2, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	731	102,030	2,372											
January 3, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-259	101,041	2,299											
January 4, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	168	101,467	2,327											
January 5, 2016	60,138	41,137	0	0	0	101,275	101,275	101,275	4,739	106,015	2,395											
January 6, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-1,111	100,188	2,400											
January 7, 2016	60,138	39,160	0	0	0	99,298	99,298	99,298	-682	98,617	2,411											
January 8, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	3,098	104,397	2,514											
January 9, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	130	101,429	2,623											
January 10, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-119	101,180	2,269											
January 11, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	419	101,718	2,438											
January 12, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-10,031	91,269	2,342											
January 13, 2016	60,138	36,515	0	0	0	96,653	96,653	96,653	-5,229	91,424	2,352											
January 14, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-9,910	91,390	2,597											
January 15, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-10,482	90,817	2,607											
January 16, 2016	60,138	40,912	0	0	0	101,050	101,050	101,050	-5,741	95,310	2,469											
January 17, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	112	101,411	2,339											
January 18, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	255	101,555	2,370											
January 19, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	33	101,332	2,353											
January 20, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-236	101,063	2,474											
January 21, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-361	100,938	2,593											
January 22, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-363	100,936	2,502											
January 23, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-895	100,404	2,507											
January 24, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-745	100,554	2,440											
January 25, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-492	100,808	2,486											
January 26, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-512	100,787	2,362											
January 27, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-442	100,857	2,403											
January 28, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-522	100,777	2,447											
January 29, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-457	100,842	2,445											
January 30, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-576	100,723	2,601											
January 31, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-611	100,688	2,597											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)		(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)										
February 1, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-412	100,887	2,486											
February 2, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-338	100,961	2,521											
February 3, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-957	100,341	2,531											
February 4, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-248	101,050	2,398											
February 5, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-227	101,071	2,479											
February 6, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	44	101,342	2,457											
February 7, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	248	101,546	2,572											
February 8, 2016	60,137	41,154	0	0	0	101,291	101,291	101,291	724	102,015	2,465											
February 9, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	805	102,103	2,332											
February 10, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	761	102,059	2,375											
February 11, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	770	102,068	2,538											
February 12, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	394	101,692	2,528											
February 13, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	140	101,438	2,381											
February 14, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	406	101,704	2,414											
February 15, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	213	101,511	2,545											
February 16, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	55	101,353	2,497											
February 17, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	69	101,367	2,456											
February 18, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	150	101,448	2,539											
February 19, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-1,067	100,231	2,594											
February 20, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	109	101,407	2,425											
February 21, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	217	101,515	2,399											
February 22, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-39	101,259	2,565											
February 23, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	75	101,373	2,456											
February 24, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	258	101,557	2,429											
February 25, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	199	101,498	2,352											
February 26, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	187	101,485	2,542											
February 27, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	298	101,596	2,637											
February 28, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	-9,086	92,212	2,713											
February 29, 2016	60,137	41,161	0	0	0	101,298	101,298	101,298	176	101,474	2,387											
March 1, 2016	60,138	27,095	0	0	0	87,233	87,233	87,233	14,271	101,504	2,427											
March 2, 2016	60,138	20,060	0	0	0	80,198	80,198	80,198	-304	79,894	2,314											
March 3, 2016	60,138	25,482	0	0	0	85,620	85,620	85,620	-2,367	83,254	2,521											
March 4, 2016	60,138	41,123	0	0	0	101,261	101,261	101,261	-316	100,946	2,454											
March 5, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	2,833	104,132	2,407											
March 6, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	4,470	105,769	2,386											
March 7, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-2,041	99,259	2,699											
March 8, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-4,530	96,769	2,757											
March 9, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	-61	101,238	2,727											
March 10, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	5,646	106,945	2,489											
March 11, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	11,174	112,473	2,502											
March 12, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	6,745	108,044	2,513											
March 13, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	10,917	112,216	2,453											
March 14, 2016	60,138	41,161	0	0	0	101,299	101,299	101,299	10,774	112,073	2,423											
March 15, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	138,226	17,114	155,340	2,576											

	(a)		(b)		(c)		(d)		(e) = (c) + (d)			(f) = (a) + (b) + (e)		(g)		(h) = (f) - (g)		(i)		(j) = (h) + (i)		(k)	
	Receipts from UNION	Receipts from C1	Monthly HUBS	Daily HUBS	Total Receipts from HUBS	Total Receipts	Total Deliveries	Net Nominated	OBA Activity	Measured at Ojibway	Avg. Ojibway Delivery Pressure (kPag)												
March 16, 2016	60,138	35,616	0	52,753	52,753	148,507	148,507	14,617	163,124	2,626													
March 17, 2016	60,138	41,161	0	47,478	47,478	148,777	148,777	9,475	158,252	2,580													
March 18, 2016	60,138	41,161	0	47,478	47,478	148,777	148,777	10,609	159,386	2,493													
March 19, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	23,327	161,553	2,495													
March 20, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	20,216	158,442	2,491													
March 21, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	19,111	157,337	2,491													
March 22, 2016	60,138	41,161	0	13,736	13,736	115,035	115,035	38,148	153,183	2,512													
March 23, 2016	60,138	41,161	0	58,028	58,028	159,327	159,327	2,734	162,061	2,529													
March 24, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	26,985	165,211	2,612													
March 25, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	15,679	153,905	2,585													
March 26, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	19,405	157,631	2,596													
March 27, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	12,172	150,398	2,596													
March 28, 2016	60,138	41,161	0	36,927	36,927	138,226	138,226	35,762	173,988	2,657													
March 29, 2016	60,138	41,161	0	52,753	52,753	154,052	154,052	18,005	172,057	2,599													
March 30, 2016	60,138	41,161	0	15,826	15,826	117,125	117,125	53,655	170,780	2,559													
March 31, 2016	60,138	41,161	0	15,826	15,826	117,125	117,125	54,116	171,241	2,560													

**Hockin, Karen**

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**From:** Cadotte, Jeff  
**Sent:** July 2, 2015 1:09 PM  
**To:** Debevc, Melissa; Drewery, Kevin  
**Cc:** Moxley-Peltier, Michelle; Wallace, Dan  
**Subject:** RE: Panhandle System Capacity at Ojibway for Rover  
**Attachments:** Panhandle System Schematic.ppt

Hi Melissa, a few things to note that may help.

- 1) We are looking at a summer scenario for this situation (with the lowest available market/worst case conditions) to sell Rover year round - firm
- 2) Has horsepower been de-rated to summer temps?
- 3) Have you added in market upstream of Sandwich compressor? The 115,000 GJ/d came from ~ 35,000 GJ/d market (can't count on power market to sell firm year round) off the 16" in Windsor plus 80,000 GJ/d capability from the Sandwich unit. If you add in the market demand upstream of the compressor it will likely cause suction to drop and therefore cause min inlet constraints. It will also reduce the compression capability back to Dawn.
- 4) The additional 20,000 GJ/d is not Union Supply, it is an S&T Contract out to year 2020.
- 5) The NPS 16 can physically bring 32 MMcf/d back to Dawn, but there is no market for that volume so we aren't able to count it unless we can find a home for it. To keep the system 'whole' we should be looking to bring back to Dawn at 700 psig, which you did with one scenario on the 20" below (127 mmcf/d).

See the attached schematic.

The max we can move from Ojibway each and every day in the summer time is the guaranteed summer Windsor market plus whatever Sandwich can do. We will have to build for anything incremental above this volume to get back to Dawn. Does the Sandwich capability drop with summer weather and upstream market impacts?

It would be interesting to see how much pipeline integrity work we could avoid on the 16" if we built a new river crossing and pipe back to Sandwich, in combination with a revenue generating build with Rover.

Happy to get back together and chat if nec. Kevin did I miss anything?

Thanks  
Jeff

**From:** Debevc, Melissa  
**Sent:** Tuesday, June 30, 2015 2:41 PM  
**To:** Drewery, Kevin; Cadotte, Jeff  
**Cc:** Moxley-Peltier, Michelle; Wallace, Dan  
**Subject:** Panhandle System Capacity at Ojibway for Rover

Hi Kevin and Jeff.

I wanted to provide an update on the Panhandle systems capability to move gas from Ojibway towards Dawn.

To set a minimum volume that can be shipped on the Ojibway to Dawn path, I removed all of the demand from the system such that the results should provide the capability of the pipeline and Sandwich compressor only.

I set up the model with the following assumptions:

- 1) Ojibway pressure 415 Psig (max)

- |  |  |
|--|--|
| 2) Ojibway Max Flow                      | 192 mmcf/d   |
| 3) Dover Transmission Station            | Bypassed   |
| 4) Dawn NPS 16 Delivery pressure to Dawn | 300 Psig   |
| 5) Sandwich Compressor                   | 4500 hp and Max discharge pressure 876 Psig                  |
| 6) Current market                        | 115,000 GJ/d (106 mmcf/d)                                    |
| 7) Union Supply<br>20000 GJ/d yet)       | 60,000 GJ/d (not sure that I have heard about the additional |
| 8) Rover requirement                     | 70,000 GJ/d  |

The results from this model indicate:

NPS 16 could flow 32 mmcf/d to Dawn at 300 Psig

Sandwich Compressor could flow 100 mmcf/d with a suction pressure of 334 Psig and a discharge pressure of 647 Psig.

Gas on the NPS 20 would arrive at Dawn at 582 Psig

In total about 132 mmcf/d should be able to be imported at Ojibway every day.

In theory this should be enough to support Union's current 60,000 GJ/d of supply plus Rover's proposed 70,000 GJ/d of transportation (120 mmcf/d).

Even with Union's additional 20,000 GJ/d (which I am yet unaware of) the total would be 138 mmcf/d or 6 more than the pipe alone can provide and should be able to be supplied from the demand that is available.

If I set Dawn at 700 Psig, Sandwich still has the ability to overcome that pressure and deliver 700 Psig at Dawn with a slightly less volume (127 mmcf/d total)

My question to you ... Do I have the correct assumptions in the model?

Are our current operations doing something to reduce the amount of gas that can be imported at Ojibway?

Melissa Debevc P. Eng.

Principal System Planning Engineer

Union Gas Limited, a Suncor Energy Company

25750 Yonge Street

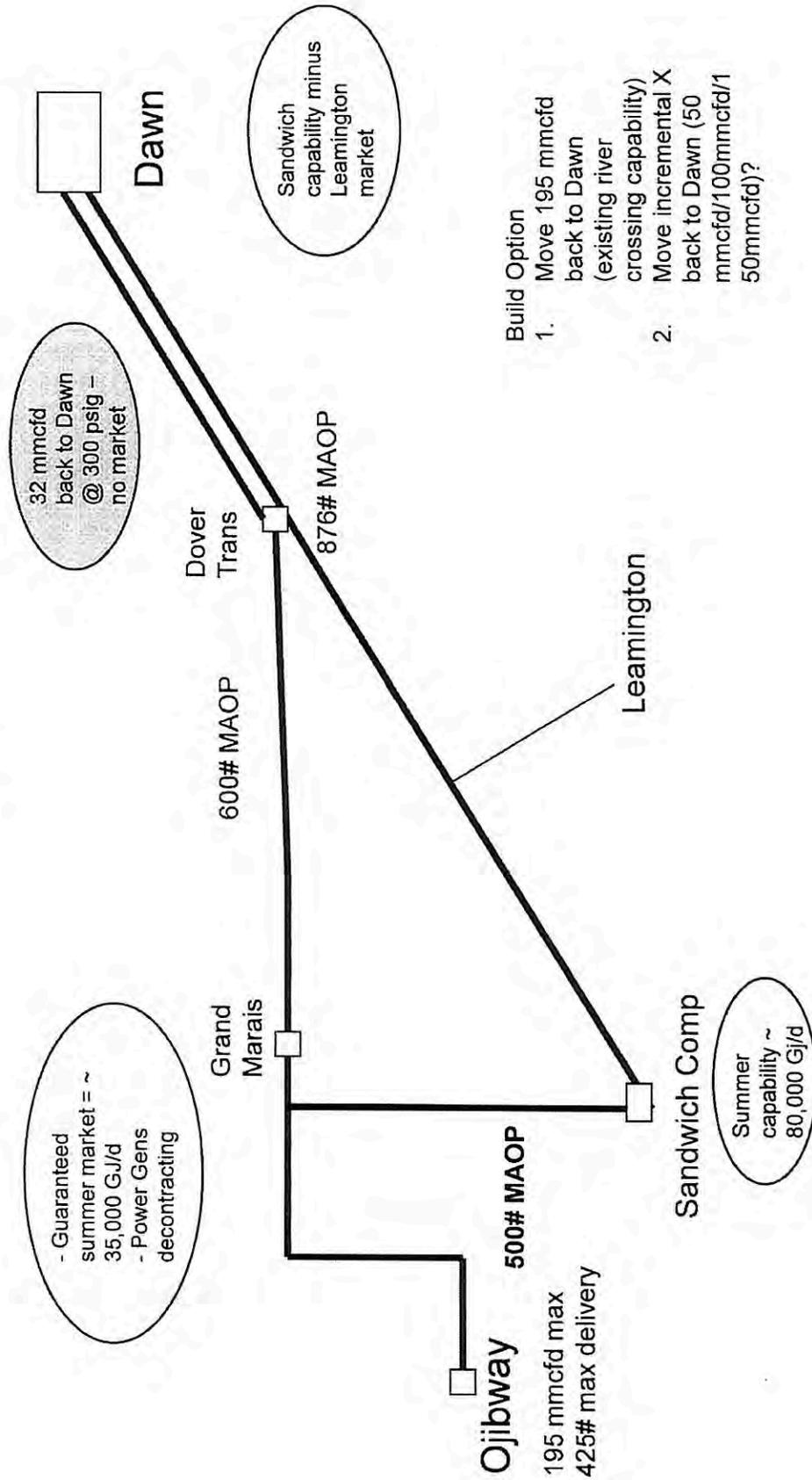
Richmond Hill, ON L4B 1R7, Canada

Phone: 905-709-1111, ext. 5106887

Cell: 905-709-1111

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# Panhandle System Schematic



**Hockin, Karen**

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**From:** Debevc, Melissa  
**Sent:** July 6, 2015 4:27 PM  
**To:** Moxley-Peltier, Michelle  
**Subject:** FW: Ojibway

FYI....Can you provide an estimate of when you will have the information ready for Dale.

He has indicated Union would build for 35 TJ/d.

Melissa Debevc P. Eng.  
Principal System Planning Engineer  
Union Gas Limited - 4 Quebec Energy Services  
750 Richmond Street  
Ottawa, ON K1P 1G1  
Office: 453-2440 ext 522850 / cell  
Cell: 453-441301

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**From:** Van Der Meersch, Dale  
**Sent:** July 6, 2015 4:08 PM  
**To:** Debevc, Melissa  
**Cc:** Mastronardi, Paolo  
**Subject:** RE: Ojibway

Melissa...as part of the take away that you were doing 1) upsize the sandwich compressor 2) total replacement of the river crossing is there an option to do something where we can do something to get us enough volume to cover what we are currently short for Rover. I believe Union has a contract for 80,000 and the market can take 115,000 which leaves 35,000. Rover wanted 70,000 so can we tweak anything to get us the other 35,000?

Dale

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**From:** Debevc, Melissa  
**Sent:** June-30-15 3:15 PM  
**To:** Van Der Meersch, Dale; Wallace, Dan; Bossy, Deb  
**Cc:** Mastronardi, Paolo  
**Subject:** RE: Ojibway

Deb is going to work on a magnitude estimate for early next week.

I will get you the capacity.

Melissa Debevc P. Eng.  
Principal System Planning Engineer  
Union Gas Limited - 4 Quebec Energy Services  
750 Richmond Street  
Ottawa, ON K1P 1G1

Cell: 453-441301 / cell: 453-441301

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**From:** Van Der Meersch, Dale  
**Sent:** June 30, 2015 3:04 PM  
**To:** Debevc, Melissa; Wallace, Dan  
**Cc:** Mastronardi, Paolo  
**Subject:** RE: Ojibway

yes

**From:** Debevc, Melissa  
**Sent:** June-30-15 3:03 PM  
**To:** Van Der Meersch, Dale; Wallace, Dan  
**Cc:** Mastronardi, Paolo  
**Subject:** RE: Ojibway

For a River Crossing Replacement?

Melissa Debevc P. Eng.  
Principal System Planning Engineer  
1000 Lakeshore Blvd. East, Suite 2000  
Toronto, Ontario M5G 1S6  
Canada  
Tel: 416-291-2000  
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Email: [Melissa.Debevc@hydro.quebec.com](mailto:Melissa.Debevc@hydro.quebec.com)

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**From:** Van Der Meersch, Dale  
**Sent:** June 30, 2015 3:02 PM  
**To:** Debevc, Melissa; Wallace, Dan  
**Cc:** Mastronardi, Paolo  
**Subject:** Ojibway  
**Importance:** High

As a take away from a meeting today could you please provide the following information:

- Compare the cost difference between 20 inch and a 24 inch
- Compare the capacity difference between the two

Is this something we could get early next week?

**Hockin, Karen**

---

**From:** Van Der Meersch, Dale  
**Sent:** July 15, 2015 8:35 AM  
**To:** Cadotte, Jeff; Byng, Joan; Debevc, Melissa; Moxley-Peltier, Michelle; Wallace, Dan  
**Cc:** Mastronardi, Paolo  
**Subject:** Panhandle River Crossing - jrc,dvdm and jb edits.docx  
**Attachments:** Panhandle River Crossing - jrc,dvdm and jb edits.docx

If you haven't already done so please make comments from this updated version. This version includes updates/comments from Jeff and Joan. Keep track changes on.

Thanks

Dale

## Panhandle River Crossing

### Background:

The Panhandle River crossings were installed in 1947. Ownership of this crossing is shared between Union Gas and Panhandle Eastern (Energy Transfer Partners), the International Border being the delineation of ownership of the two lines. The Presidential Permit for imports is ~212 TJ/d. The Panhandle River Crossing is an important component of Union's Gas Supply plan facilitating Union's ability to meet firm design day demands at the west end of Union South providing diversity and security of supply. Windsor and Union's Panhandle system cannot be supported entirely from Dawn supply.

The amount of gas which can be imported into Ontario at Ojibway is a function of the amount the local market can consume to a maximum presidential permit amount of 212 TJ/d. The current import capability into the Windsor market is 115 TJ/d in the summer starting in 2016 going forward. The market reflects a forecasted decline of approximately 35 TJ/d due to a reduction in generation load as a result of changes in contracting by the IESO (Independent Electricity System Operator) It is anticipated [REDACTED] Gas that is not consumed by the local market in Windsor is limited to the capability of the Sandwich compressor unit to transport back to Dawn (currently 80 MMcfd)

The current restrictions for gas to move beyond the Sandwich compressor are the MOP of the river crossing (425 psi) and the size of the compressor unit at Sandwich (3800HP).

The condition of the river crossing being almost 70 years old is unknown. Union would like to conduct integrity testing on the river crossing as part of its ongoing integrity program for all its facilities. The consequence of a failed integrity inspection could result in the river crossing being taken out of service immediately to potentially having the two lines placed back into service but at a reduced pressure. Placing back into service at a reduced pressure will result in reduced capacity therefore not being able to meet current contractual obligations. Repairs to the lines if necessary are not considered to be a viable option.

Current breakdown of the capacity allocation is as follows:

Total Capacity Available	115TJ/d
Union Gas Requirements (System Supply)	- 60 TJ/d
Current Long Term S&T Deal (expires 2020)	- 20 TJ/d
Capacity Available(on the shelf)	35 TJ/d

A number of scenarios were developed to illustrate what would be needed to allow incremental capacity to move beyond Sandwich to other markets and to Dawn.

### Scenario 1

There is a request for 80 TJ/d from an ex-franchise customer. This analysis consists of adding enough facilities to accommodate that request. Therefore what facilities are needed to be added to meet the 45 TJ/d shortfall. (Current available 35 + 45 needed = 80 request)

The recommendation to accommodate the additional 45 TJ/d is to replace the existing river crossing with NPS 20 and increase the MOP to 500 psig. There is also the need to increase the compression at Sandwich by an incremental 1200 HP.

These facilities would accommodate the incremental 45 TJ/d at a cost of approximately \$32MM. It is assumed the river crossing would be shared at least 50/50 with Panhandle therefore, Union's share of the \$32MM estimate would be \$22MM. This is a magnitude level estimate with (+50%/-50%) with 25% contingency. This option is not being pursued at this time.

Replace River Crossing (NPS 20) and increase MOP to 500 psig	\$20,030,000
Increase Compression at Sandwich by 1200 HP	\$12,000,000
<b>Total Project Cost</b>	<b>\$32,030,000</b>

Resulting Capacity Allocation Breakdown

Total Capacity Available	160TJ/d
Union Gas Requirements (System Supply)	- 60 TJ/d
Current Long Term S&T Deal	- 20 TJ/d
New S&T Deal	-80 TJ/d
Capacity Available (on the shelf)	0 TJ/d

Scenario 2

If Union wanted to have some capacity reserved for either System Supply purposes, for S&T purposes, or to manage the risk regarding further reductions in the Windsor market, what additional facilities would be required to meet the request for 75 TJ/d and what would the resulting available capacity be.

The recommendation is to replace the river crossing with NPS20 and increase the MOP to 500 psig, loop NPS 20 from river crossing to Sandwich Transmission Station (approx 17 km) and increase the compression by 1200 HP at Sandwich.

These facilities would result in incremental capacity of 98 TJ/d at a cost of \$74.3MM. **Please note that we would be able to move more than the current presidential permit allows. It is assumed that you could increase the permit as required based on new crossing.** The same assumption applies that the river crossing would be split 50/50 with Panhandle therefore Union's cost of the project would be \$64.3MM.

Replace River Crossing (NPS 20) and increase MOP	\$20,030,000
--	--------------

to 500 psig	
Loop NPS 20 from River Crossing to Sandwich Transmission Station – approx 17km	\$43,200,000
Increase Compression at Sandwich by 3800 HP	\$12,000,000
<b>Total Project Cost</b>	<b>\$74,330,000</b>

Resulting Capacity Allocation Breakdown

Total Capacity Available	213TJ/d
Union Gas Requirements (System Supply)	- 60 TJ/d
Current Long Term S&T Deal	- 20 TJ/d
New S&T Deal	-75 TJ/d
Capacity Available (on the shelf)	58 TJ/d

It is assumed in both cases that the pressure across the river can be raised to 500 psig. If the pressure can be raised higher from the U.S. side of the border incremental capacity could be achieved with the same facilities. This should be explored when discussion occurs with Panhandle.

**[NTD: A high level analysis of rate impact to follow]**

**[NTD: please provide a map describing the above as discussed]**

**[NTD: recommendation to follow]**

Hockin, Karen

---

**From:** Moxley-Peltier, Michelle  
**Sent:** July 23, 2015 7:45 AM  
**To:** Van Der Meersch, Dale  
**Subject:** RE: Scenario's  
**Attachments:** C2017 Ojibway - Rover Recommendations.xlsx

Good Morning Dale,

Please find attached the recommendations provided to date.

Thanks

Michelle

Michelle Moxley-Peltier P.Eng CEM  
System Planning Engineer | Major Projects  
Union Gas Limited | A Spectra Energy Company  
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[www.uniongas.com](http://www.uniongas.com)



**From:** Van Der Meersch, Dale  
**Sent:** July-22-15 1:10 PM  
**To:** Moxley-Peltier, Michelle  
**Subject:** Scenario's

Michelle can you please send me both of the scenario's which you have completed so far electronically?

Thanks

## Ojibway - Rover

### Existing Facilities

2 x NPS 12 River Crossings + Sandwich Compressor operating at 3800hp in summer

### Desired outcome

Import an additional 40 T/d at Ojibway

### Recommendations:

		Final Cost
1	Use existing River Crossing (2 x NPS 12)	\$ -
	Loop NPS 20 from River Crossing to junction of NPS 16 and NPS 20 - 10km in length Increase Compression at Sandwich (1200HP)	\$ 27,000,000
2	Replace River Crossing (NPS 20) and increase MOP to 500psig Increase Compression at Sandwich (1200HP)	\$ 20,030,000
		\$ 12,000,000
3	Replace River Crossing (NPS 24) and increase Mop to 500psig Increase Compression at Sandwich (1200HP)	\$ 20,920,000
		\$ 12,000,000
		\$ 39,000,000
		\$ 32,030,000
		\$ 32,920,000

## Ojibway - Rover

### Existing Facilities

2 x NPS 12 River Crossings + Sandwich Compressor operating at 3800hp in summer

### Desired outcome

To maximize Ojibway imports by replacing existing river crossing with an NPS 20 and increasing the MOP

Pressure:	Incremental Imports:	Recommendations:	Final Cost
500 psig	89.5mmcid 97,737 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 500psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Increase Compression at Sandwich (1200HP incremental)	\$ 12,000,000
500 psig	110.7mmcid 120,930 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 500psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Increase Compression at Sandwich (3800HP incremental)	\$ 24,000,000
600 psig	119.1mmcid 130,009 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 600psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Add Regulation at Ojibway Measurement Station	\$ 5,850,000
		Increase Compression at Sandwich (1200HP incremental)	\$ 12,000,000
600 psig	145.2mmcid 158,575 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 600psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Add Regulation at Ojibway Measurement Station	\$ 5,850,000
		Increase Compression at Sandwich (5200HP incremental)	\$ 33,250,000
700 psig	136.8mmcid 149,357 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 700psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Add Regulation at Ojibway Measurement Station	\$ 5,850,000
		Increase Compression at Sandwich (1200HP incremental)	\$ 12,000,000
700 psig	170.57mmcid 186,237 GJ/d	Replace River Crossing (NPS 20) and increase MOP to 700psig	\$ 20,030,000
		Loop NPS 20 from River Crossing to Sandwich Transmission Station - 17km in length	\$ 43,200,000
		Add Regulation at Ojibway Measurement Station	\$ 5,850,000
		Increase Compression at Sandwich (6200HP incremental)	\$ 33,250,000

Note: The above recommendations assumed all flow back to Dawn on the NPS 16 was used in the Heat Exchanger or Sarnia IP market.

**Hockin, Karen**

---

**From:** Bossy, Deb  
**Sent:** July 28, 2015 3:56 PM  
**To:** Moxley-Peltier, Michelle  
**Cc:** Wallace, Dan  
**Subject:** RE: Rush Request: July 28, 2015 - Magnitude Estimates - Panhandle - NPS 20 River Crossing - Rover  
**Attachments:** 2015 07 23 Panhandle River Crossing NPS20\_Rover\_Opt1-5.pdf

Hi Michelle, please find attached magnitude estimates and a summary for the scenarios you requested.

Thanks, Deb

**From:** Moxley-Peltier, Michelle  
**Sent:** July-24-15 9:41 AM  
**To:** Bossy, Deb  
**Cc:** Duphette, Pat  
**Subject:** Rush Request: July 28, 2015 - Magnitude Estimates - Panhandle - NPS 20 River Crossing - Rover

Good Morning Deb,

Response Required: Tuesday July 28, 2015

As per our conversation yesterday, I am forwarding you a number of requests for Magnitude Estimates for the Panhandle – NPS 20 River Crossing – Rover Project. Business development is in negotiations with an ex-franchise customer to transport a minimum of 80TJ/d of gas on the Panhandle System from Ojibway to Dawn. I have developed five (5) options requiring Magnitude level cost estimates. Each option has a different combination of River Crossing, pipeline looping, and added compression at Sandwich Transmission.

Business Development has arranged a meeting with the client for early next week. Please let me know if you are unable to provide the following magnitude estimates by 3pm on **Tuesday July 28<sup>th</sup>**.

- Option 1
  - NPS 20 River Crossing with tie into Ojibway Measurement Station
  - Add an incremental 1200HP of compression at Sandwich Compressor
- Option 2
  - NPS 20 River Crossing with tie into Ojibway Measurement Station
  - Add an incremental 1200HP of compression at Sandwich Compressor
  - Loop 16.5km of Panhandle from Ojibway Measurement to Sandwich Transmission NPS 20
- Option 3
  - NPS 20 River Crossing with tie into Ojibway Measurement Station
  - Add an incremental 3512HP of compression at Sandwich Compressor (or closest increment)
  - Loop 16.5km of Panhandle from Ojibway Measurement to Sandwich Transmission NPS 20
- Option 4
  - NPS 20 River Crossing with tie into Ojibway Measurement Station
  - Add an incremental 1200HP of compression at Sandwich Compressor
  - Loop 17.92km of Panhandle from Ojibway Measurement to Sandwich Transmission NPS 20
- Option 5
  - NPS 20 River Crossing with tie into Ojibway Measurement Station
  - Add an incremental 3682HP of compression at Sandwich Compressor (or closest increment)
  - Loop 17.92km of Panhandle from Ojibway Measurement to Sandwich Transmission NPS 20

Please review the attached document and let me know if you require additional background information.

Thanks

Michelle

Michelle Moxley-Peltier P.Eng CEM  
System Planning Engineer | Major Projects  
Union Gas Limited | A Spectra Energy Company  
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[www.uniongas.com](http://www.uniongas.com)





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**Scope & Estimate Summary**  
 for In-Service Year  
 Magnitude (+50% / -25%)

Project: **Panhandle - NPS 20 River Crossing - Rover**

In-Service Date: **2018/1/01**

Area(s): **Windsor, ON**

Requestor: **Michelle Moxley-Peltier**

Option-Version: **(see below)**

Estimator: **Deb Bossy**

Date: **2015/07/23**

Project Description: Construction of NPS20 steel pipeline + add compression at existing Sandwich Trans. Station (see details below).  
 (Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)

Scenario Details		Pipeline Details		Other Details	
Estimate Date	Option-Version				
2015/07/23	Opt1-PR04_M1	=	2.4 km NPS 20 + 1200 hp		River crossing (US to Ojibway Stn)
2015/07/23	Opt2-PR05_M1	=	16.9 km NPS 20 + 1200 hp		River crossing (US to Ojibway Stn) + Looping Panhandle NPS 16
2015/07/23	Opt3-PR06_M1	=	16.9 km NPS 20 + 3512 hp		River crossing (US to Ojibway Stn) + Looping Panhandle NPS 16
2015/07/23	Opt4-PR07_M1	=	18.4 km NPS 20 + 1200 hp		River crossing (US to Ojibway Stn) + via I/O lands (by Pkwy's/Expy's)
2015/07/23	Opt5-PR08_M1	=	18.4 km NPS 20 + 3682 hp		River crossing (US to Ojibway Stn) + via I/O lands (by Pkwy's/Expy's)

**IMPORTANT: see individual quotes for specific Notes / Assumptions.**

	Opt1-PR04_M1	Opt2-PR05_M1	Opt3-PR06_M1	Opt4-PR07_M1	Opt5-PR08_M1	0
	Estimated Cost 2018\$					
<b>Incremental Pipeline Looping / Relay</b>						
NPS 20 River Crossing	\$14,500,000	\$14,000,000	\$14,000,000	\$14,000,000	\$14,000,000	\$0
NPS 20 River Crossing (abandonment)	\$0	\$0	\$0	\$0	\$0	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	\$4,500,000	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$0
NPS 20 Ojibway Stn. To Sandwich Stn	\$0	\$37,000,000	\$37,000,000	\$41,000,000	\$41,000,000	\$0
Adders: land	\$0	\$11,000,000	\$11,000,000	\$15,000,000	\$15,000,000	\$0
Adders: built up / urban	\$0	\$18,000,000	\$18,000,000	\$0	\$0	\$0
Adders: major road & park crossings	\$0	\$2,000,000	\$2,000,000	\$3,000,000	\$3,000,000	\$0
<b>Sub-Total Pipeline:</b>	<b>\$19,000,000</b>	<b>\$86,000,000</b>	<b>\$86,000,000</b>	<b>\$77,000,000</b>	<b>\$77,000,000</b>	<b>\$0</b>
<b>Incremental Compression</b>						
Add Compression to Sandwich Trans	\$14,500,000	\$14,000,000	\$22,000,000	\$14,000,000	\$23,000,000	\$0
<b>Sub-Total Compression:</b>	<b>\$14,500,000</b>	<b>\$14,000,000</b>	<b>\$22,000,000</b>	<b>\$14,000,000</b>	<b>\$23,000,000</b>	<b>\$0</b>
<b>Measurement / Regulation and Miscellaneous</b>						
Ojibway Measurement Station Mod's	\$1,500,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$0
Sandwich Transmission Station Mod's	\$0	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$0
<b>Sub-Total Measurement/Misc:</b>	<b>\$1,500,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$0</b>
<b>TOTAL Estimated Cost:</b>	<b>\$35,000,000</b>	<b>\$102,000,000</b>	<b>\$110,000,000</b>	<b>\$93,000,000</b>	<b>\$102,000,000</b>	<b>\$0</b>
Rangeability +50%	\$52,500,000	\$153,000,000	\$165,000,000	\$140,000,000	\$153,000,000	\$0
Rangeability -25%	\$26,500,000	\$77,000,000	\$83,000,000	\$70,000,000	\$77,000,000	\$0



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**Scope & Estimate Summary**  
**Magnitude (+50% / -25%)**

Project: Panhandle - NPS 20 River Crossing - Rover  
 In-Service Date: 2018/11/01 Area(s): Windsor, ON  
 Option-Version: Opt1=PR04\_M1 Requestor: Michelle Moxley-Peltier  
 Date: 2015/07/23 Estimator: Deb Bossy

Project Description: Construction of NPS20 steel pipeline + add 1200 hp compression at existing Sandwich Trans. Station. Pipeline = 1.1km river crossing (incl. abandonment of 2 x NPS 12 x 1.1km) + 1.3km from river crossing to Ojibway Stn.

(Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)



Option 1:  
 This option will include:  
 - replacing the existing Detroit River Crossing with a single NPS 20 River Crossing  
 - adding 1200 horsepower of compression at Sandwich Transmission  
 Pipeline:  
 River Crossing  
 - Start Point on the US side of the Detroit River.  
 - End Point at the Ojibway Measurement Station

Incremental Pipeline Looping / Relay						
Pipeline Segment	Length (m)	Diameter (NPS)	\$/m	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
NPS 20 River Crossing	1,100	20	\$11,850		\$13,050,000	\$14,500,000
NPS 20 River Crossing (abandonment)		2 x 12	\$150	Grout and cap 2 x NPS 12 lines (1,100m/ea)	\$150,000	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	1,300	20	\$3,000		\$3,900,000	\$4,500,000
Adders: land				n/a (included above)		\$0
Adders: built up / urban				n/a (included above)		\$0
Adders: major road & park crossings				n/a		\$0
<b>Sub-Total Pipeline:</b>	<b>2,400</b>				<b>\$17,100,000</b>	<b>\$19,000,000</b>
Incremental Compression						
Compressor Station	HP	Type		Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Add Compression to Sandwich Trans	1,200			Incremental 1200 HP to be added to existing compression	\$13,200,000	\$14,500,000
						\$0
<b>Sub-Total Compression:</b>	<b>1,200</b>				<b>\$13,200,000</b>	<b>\$14,500,000</b>
Measurement / Regulation and Miscellaneous						
Location	Load (m3/h)	Inlet (kPa)	Delivery (kPa)	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Ojibway Measurement Station Mod's	N/A			Complete tie in for new diameter River Crossing	\$1,200,000	\$1,500,000
						\$0
						\$0
						\$0
<b>Sub-Total Measurement/Misc:</b>					<b>\$1,200,000</b>	<b>\$1,500,000</b>
<b>TOTAL Estimated Cost:</b>					<b>\$31,500,000</b>	<b>\$35,000,000</b>
Estimated Cash Flow Per Year					Rangeability +50%	\$52,500,000
	2016	2017	2018	2019		
	\$500,000	\$1,000,000	\$33,000,000	\$500,000	Rangeability -25%	\$26,500,000

**Notes / Assumptions**  
 Contingency is factored into the cost at 20%. All costs are in 2015 Canadian Dollars (CAD) escalated at 3% per year Rounded to nearest \$500K.  
 1) Desktop estimate (using high level mapping and single line sketches) not reviewed by design. 6)  
 2) Price does not include cost of unforeseen site conditions (e.g., hazardous waste, major archeological) 7)  
 3) Aid to construct not included 8)  
 4) All ROW at "non-standard" 25 m temporary easement 9)  
 5) Lands costs for pipeline @ \$225K/acre 10)



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**Scope & Estimate Summary**  
**Magnitude (+50% / -25%)**

Project: Panhandle - NPS 20 River Crossing - Rover  
 In-Service Date: 2018/11/01 Area(s): Windsor, ON  
 Option-Version: Opt2=PR05\_M1 Requestor: Michelle Moxley-Peltier  
 Date: 2015/07/23 Estimator: Deb Bossy

**Project Description:** Construction of NPS20 steel pipeline + add 1200 hp compression at existing Sandwich Trans. Station. Pipeline = 1.1km river crossing (incl. abandonment of 2 x NPS 12 x 1.1km) + 1.3km from river crossing to Ojibway Stn. + 14.5km from Ojibway Stn. to Sandwich Trans. Stn. (looping the existing NPS 16 Panhandle line). (Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)



**Option 2:**

This option will include:  
 - Replacing the existing Detroit River Crossing with a single NPS 20 River Crossing  
 - Adding 1200 horsepower of compression at Sandwich Transmission  
 - Loop the existing NPS 16 Panhandle between the River Crossing and Sandwich Transmission with 16.5km of NPS 20 pipe

**Pipelines:**

**River Crossing**  
 - Start Point on the US side of the Detroit River.  
 - End Point at the Ojibway Measurement Station

**Panhandle Loop**  
 - Start Point at the Ojibway Measurement Station  
 - End Point at Sandwich Transmission

**Incremental Pipeline Looping / Relay**

Pipeline Segment	Length (m)	Diameter (NPS)	\$/m	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
NPS 20 River Crossing	1,100	20	\$11,850		\$13,050,000	\$14,000,000
NPS 20 River Crossing (abandonment)		2 x 12	\$150	Grout and cap 2 x NPS 12 lines (1,100m/ea)	\$150,000	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	1,300	20	\$3,000		\$3,900,000	\$4,000,000
NPS 20 Ojibway Stn. to Sandwich Stn.	14,500	20	\$2,350		\$34,100,000	\$37,000,000
Adders: land (TLU for 14.0km portion)				Using 25m ROW	\$10,100,000	\$11,000,000
Adders: built up / urban				Approx. 7,150m	\$16,800,000	\$18,000,000
Adders: major road & park crossings				6 major roads + 2 parks	\$2,100,000	\$2,000,000
<b>Sub-Total Pipeline:</b>	<b>16,900</b>				<b>\$80,200,000</b>	<b>\$86,000,000</b>

**Incremental Compression**

Compressor Station	HP	Type	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Add Compression to Sandwich Trans	1,200		Incremental 1200 HP to be added to existing compression	\$13,200,000	\$14,000,000
					\$0
<b>Sub-Total Compression:</b>	<b>1,200</b>			<b>\$13,200,000</b>	<b>\$14,000,000</b>

**Measurement / Regulation and Miscellaneous**

Location	Load (m3/h)	Inlet (kPa)	Delivery (kPa)	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Ojibway Measurement Station Mod's	N/A			Complete tie in for new diameter River Crossing	\$1,200,000	\$1,000,000
Sandwich Transmission Station Mod's	N/A			Complete tie in for new NPS 20 pipe	\$600,000	\$1,000,000
						\$0
						\$0
<b>Sub-Total Measurement/Misc:</b>					<b>\$1,800,000</b>	<b>\$2,000,000</b>

**TOTAL Estimated Cost:**

		<b>\$95,200,000</b>	<b>\$102,000,000</b>
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**Estimated Cash Flow Per Year**

	2016	2017	2018	2019	Rangeability +50%	Rangeability -25%
	\$1,000,000	\$3,000,000	\$97,000,000	\$1,000,000	\$153,000,000	\$77,000,000

**Notes / Assumptions**

- Contingency is factored into the cost at 20%. All costs are in 2015 Canadian Dollars (CAD) escalated at 3% per year. Rounded to nearest \$1M.
- 1) Desktop estimate (using high level mapping and single line sketches) not reviewed by design.
  - 2) Price does not include cost of unforeseen site conditions (e.g., hazardous waste, major archeological)
  - 3) Aid to construct not included
  - 4) All ROW at "non-standard" 25 m temporary easement
  - 5) Lands costs for pipeline @ \$225K/acre
  - 6) ROW along railway may not be sufficient but was NOT included in costing.
  - 7)
  - 8)
  - 9)
  - 10)



**Scope & Estimate Summary**  
**Magnitude (+50% / -25%)**

Project: Panhandle - NPS 20 River Crossing - Rover  
 In-Service Date: 2018/11/01 Area(s): Windsor, ON  
 Option-Version: Opt3=PR06\_M1 Requestor: Michelle Moxley-Peltier  
 Date: 2015/07/23 Estimator: Deb Bossy

Project Description: Construction of NPS20 steel pipeline + add 3512 hp compression at existing Sandwich Trans. Station. Pipeline = 1.1km river crossing (incl. abandonment of 2 x NPS 12 x 1.1km) + 1.3km from river crossing to Ojibway Stn. + 14.5km from Ojibway Stn. to Sandwich Trans. Stn. (looping the existing NPS 16 Panhandle line). (Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)



**Option 3:**  
 This option will include:  
 - Replacing the existing Detroit River Crossing with a single NPS 20 River Crossing  
 - Adding 3512 horsepower of compression at Sandwich Transmission  
 - Loop the existing NPS 16 Panhandle between the River Crossing and Sandwich Transmission with 16.5km of NPS 20 pipe  
**Pipelines:**  
**River Crossing**  
 - Start Point on the US side of the Detroit River.  
 - End Point at the Ojibway Measurement Station  
**Panhandle Loop**  
 - Start Point at the Ojibway Measurement Station  
 - End Point at Sandwich Transmission

Incremental Pipeline Looping / Relay						
Pipeline Segment	Length (m)	Diameter (NPS)	\$/m	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
NPS 20 River Crossing	1,100	20	\$11,850		\$13,050,000	\$14,000,000
NPS 20 River Crossing (abandonment)		2 x 12	\$150	Grout and cap 2 x NPS 12 lines (1,100m/ea)	\$150,000	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	1,300	20	\$3,000		\$3,900,000	\$4,000,000
NPS 20 Ojibway Stn. to Sandwich Stn.	14,500	20	\$2,350		\$34,100,000	\$37,000,000
Adders: land (TLU for 14.0km portion)				Using 25m ROW	\$10,100,000	\$11,000,000
Adders: built up / urban				Approx. 7,150m	\$16,800,000	\$18,000,000
Adders: major road & park crossings				6 major roads + 2 parks	\$2,100,000	\$2,000,000
<b>Sub-Total Pipeline:</b>	<b>16,900</b>				<b>\$80,200,000</b>	<b>\$86,000,000</b>
Incremental Compression						
Compressor Station	HP	Type		Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Add Compression to Sandwich Trans	3,512			Incremental 3512 HP to be added to existing compression	\$20,500,000	\$22,000,000
						\$0
<b>Sub-Total Compression:</b>	<b>3,512</b>				<b>\$20,500,000</b>	<b>\$22,000,000</b>
Measurement / Regulation and Miscellaneous						
Location	Load (m3/h)	Inlet (kPa)	Delivery (kPa)	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Ojibway Measurement Station Mod's	N/A			Complete tie in for new diameter River Crossing	\$1,200,000	\$1,000,000
Sandwich Transmission Station Mod's	N/A			Complete tie in for new NPS 20 pipe	\$600,000	\$1,000,000
						\$0
						\$0
<b>Sub-Total Measurement/Misc:</b>					<b>\$1,800,000</b>	<b>\$2,000,000</b>
<b>TOTAL Estimated Cost:</b>					<b>\$102,500,000</b>	<b>\$110,000,000</b>
Estimated Cash Flow Per Year					Rangeability +50%	\$165,000,000
	2016	2017	2018	2019		
	\$1,000,000	\$3,000,000	\$105,000,000	\$1,000,000	Rangeability -25%	\$83,000,000

**Notes / Assumptions**  
 Contingency is factored into the cost at 20%. All costs are in 2015 Canadian Dollars (CAD) escalated at 3% per year. Rounded to nearest \$1M.  
 1) Desktop estimate (using high level mapping and single line sketches) not reviewed by design. 6) ROW along railway may not be sufficient but was NOT included in costing.  
 2) Price does not include cost of unforeseen site conditions (e.g., hazardous waste, major archeological) 7)  
 3) Aid to construct not included 8)  
 4) All ROW at "non-standard" 25 m temporary easement 9)  
 5) Lands costs for pipeline @ \$225K/acre 10)



**uniongas**  
 A Spectra Energy Company

**Scope & Estimate Summary**  
**Magnitude (+50% / -25%)**

Project: Panhandle - NPS 20 River Crossing - Rover  
 In-Service Date: 2018/11/01 Area(s): Windsor, ON  
 Option-Version: Opt4=PR07\_M1 Requestor: Michelle Moxley-Peltier  
 Date: 2015/07/23 Estimator: Deb Bossy

Project Description: Construction of NPS20 steel pipeline + add 1200 hp compression at existing Sandwich Trans. Station. Pipeline = 1.1km river crossing (incl. abandonment of 2 x NPS12 x 1.1km) + 1.3km from river crossing to Ojibway Stn. + 16.0km from Ojibway Stn. to Sandwich Trans.Stn. (paralleling Ojibway Pkwy/ EC Row Expy/ Huron Church Rd (Herb Gray Pkwy)/ Talbot Rd (Hwy#3)). (Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)



**Option 4:**

This option will include:  
 - Replacing the existing Detroit River Crossing with a single NPS 20 River Crossing  
 - Adding 1200 horsepower of compression at Sandwich Transmission  
 - Loop the existing NPS 16 Panhandle between the River Crossing and Sandwich Transmission with 17.92km of NPS 20 pipe

**Pipelines:**

**River Crossing**  
 - Start Point on the US side of the Detroit River.  
 - End Point at the Ojibway Measurement Station

**Panhandle Loop**  
 - Start Point at the Ojibway Measurement Station  
 - End Point at Sandwich Transmission

**Incremental Pipeline Looping / Relay**

Pipeline Segment	Length (m)	Diameter (NPS)	\$/m	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
NPS 20 River Crossing	1,100	20	\$11,850		\$13,050,000	\$14,000,000
NPS 20 River Crossing (abandonment)		2 x 12	\$150	Grout and cap 2 x NPS 12 lines (1,100m/ea)	\$150,000	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	1,300	20	\$3,000		\$3,900,000	\$4,000,000
NPS 20 Ojibway Stn. to Sandwich Stn.	16,000	20	\$2,350		\$37,600,000	\$41,000,000
Adders: land (TLU for 16.0km portion)				Using 25m ROW	\$13,350,000	\$15,000,000
Adders: built up / urban				n/a (assumed all ROW in utility corridor)	\$0	\$0
Adders: major road & park crossings				5 major roads, 1 flood diversion, + constricted park ROW	\$2,400,000	\$3,000,000
<b>Sub-Total Pipeline:</b>	<b>18,400</b>				<b>\$70,450,000</b>	<b>\$77,000,000</b>

**Incremental Compression**

Compressor Station	HP	Type	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Add Compression to Sandwich Trans	1,200		Incremental 1200 HP to be added to existing compression	\$13,200,000	\$14,000,000
					\$0
<b>Sub-Total Compression:</b>	<b>1,200</b>			<b>\$13,200,000</b>	<b>\$14,000,000</b>

**Measurement / Regulation and Miscellaneous**

Location	Load (m3/h)	Inlet (kPa)	Delivery (kPa)	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Ojibway Measurement Station Mod's	N/A			Complete tie in for new diameter River Crossing	\$1,200,000	\$1,000,000
Sandwich Transmission Station Mod's	N/A			Complete tie in for new NPS 20 pipe	\$600,000	\$1,000,000
						\$0
						\$0
<b>Sub-Total Measurement/Misc:</b>					<b>\$1,800,000</b>	<b>\$2,000,000</b>

**TOTAL Estimated Cost:**

					<b>\$85,450,000</b>	<b>\$93,000,000</b>
<b>Estimated Cash Flow Per Year</b>		2016	2017	2018	2019	Rangeability +50% Rangeability -25%
		\$1,000,000	\$3,000,000	\$88,000,000	\$1,000,000	<b>\$140,000,000</b> <b>\$70,000,000</b>

**Notes / Assumptions**

- Contingency is factored into the cost at 20%. All costs are in 2015 Canadian Dollars (CAD) escalated at 3% per year Rounded to nearest \$1M.
- 1) Desktop estimate (using high level mapping and single line sketches) not reviewed by design 6)
  - 2) Price does not include cost of unforeseen site conditions (e.g., hazardous waste, major archeological) 7)
  - 3) Aid to construct not included 8)
  - 4) All ROW at "non-standard" 25 m temporary easement 9)
  - 5) Lands costs for pipeline @ \$225K/acre + 20% (assuming Infrastructure Ontario land used for all ROW) 10)



**Scope & Estimate Summary**  
**Magnitude (+50% / -25%)**

Project: Panhandle - NPS 20 River Crossing - Rover  
 In-Service Date: 2018/11/01 Area(s): Windsor, ON  
 Option-Version: Opt5=PR08\_M1 Requestor: Michelle Moxley-Peltier  
 Date: 2015/07/23 Estimator: Deb Bossy

Project Description: Construction of NPS20 steel pipeline + add 3682 hp compression at existing Sandwich Trans. Station. Pipeline = 1.1km river crossing (incl. abandonment of 2 x NPS12 x 1.1km) + 1.3km from river crossing to Ojibway Stn. + 16.0km from Ojibway Stn. to Sandwich Trans.Stn. (paralleling Ojibway Pkwy/ EC Row Expy/ Huron Church Rd (Herb Gray Pkwy)/ Talbot Rd (Hwy#3)). (Note: An ex-franchise customer requests transportation of 80TJ/d landing at Ojibway and moving eastward to Dawn.)



**Option 5:**

This option will include:  
 - Replacing the existing Detroit River Crossing with a single NPS 20 River Crossing  
 - Adding 3682 horsepower of compression at Sandwich Transmission  
 - Loop the existing NPS 16 Panhandle between the River Crossing and Sandwich Transmission with 17.92km of NPS 20 pipe

**Pipelines:**

**River Crossing**  
 - Start Point on the US side of the Detroit River.  
 - End Point at the Ojibway Measurement Station

**Panhandle Loop**  
 - Start Point at the Ojibway Measurement Station  
 - End Point at Sandwich Transmission

**Incremental Pipeline Looping / Relay**

Pipeline Segment	Length (m)	Diameter (NPS)	\$/m	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
NPS 20 River Crossing	1,100	20	\$11,850		\$13,050,000	\$14,000,000
NPS 20 River Crossing (abandonment)		2 x 12	\$150	Grout and cap 2 x NPS 12 lines (1,100m/ea)	\$150,000	\$0
NPS 20 Crossing tie-in to Ojibway Stn.	1,300	20	\$3,000		\$3,900,000	\$4,000,000
NPS 20 Ojibway Stn. to Sandwich Stn.	16,000	20	\$2,350		\$37,600,000	\$41,000,000
Adders: land (TLU for 16.0km portion)				Using 25m ROW	\$13,350,000	\$15,000,000
Adders: built up / urban				n/a (assumed all ROW in utility corridor)	\$0	\$0
Adders: major road & park crossings				5 major roads, 1 flood diversion, + constricted park ROW	\$2,400,000	\$3,000,000
<b>Sub-Total Pipeline:</b>	<b>18,400</b>				<b>\$70,450,000</b>	<b>\$77,000,000</b>

**Incremental Compression**

Compressor Station	HP	Type	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Add Compression to Sandwich Trans	3,682		Incremental 3682 HP to be added to existing compression	\$21,500,000	\$23,000,000
<b>Sub-Total Compression:</b>	<b>3,682</b>			<b>\$21,500,000</b>	<b>\$23,000,000</b>

**Measurement / Regulation and Miscellaneous**

Location	Load (m3/h)	Inlet (kPa)	Delivery (kPa)	Comments/Notes	Estimated Cost 2015\$	Estimated Cost 2018\$
Ojibway Measurement Station Mod's	N/A			Complete tie in for new diameter River Crossing	\$1,200,000	\$1,000,000
Sandwich Transmission Station Mod's	N/A			Complete tie in for new NPS 20 pipe	\$600,000	\$1,000,000
<b>Sub-Total Measurement/Misc:</b>					<b>\$1,800,000</b>	<b>\$2,000,000</b>

**TOTAL Estimated Cost:**

					<b>\$93,750,000</b>	<b>\$102,000,000</b>
<b>Estimated Cash Flow Per Year</b>		2016	2017	2018	2019	Rangeability +50% Rangeability -25%
		\$1,000,000	\$3,000,000	\$97,000,000	\$1,000,000	<b>\$153,000,000</b> <b>\$77,000,000</b>

**Notes / Assumptions**

- Contingency is factored into the cost at 20%. All costs are in 2015 Canadian Dollars (CAD) escalated at 3% per year Rounded to nearest \$1M.
- 1) Desktop estimate (using high level mapping and single line sketches) not reviewed by design 6)
  - 2) Price does not include cost of unforeseen site conditions (e.g., hazardous waste, major archeological) 7)
  - 3) Aid to construct not included 8)
  - 4) All ROW at "non-standard" 25 m temporary easement 9)
  - 5) Lands costs for pipeline @ \$225K/acre + 20% (assuming Infrastructure Ontario land used for all ROW) 10)

**Hockin, Karen**

**From:** Moxley-Peltier, Michelle  
**Sent:** August 7, 2015 1:45 PM  
**To:** Van Der Meersch, Dale  
**Cc:** Mastronardi, Paolo; Cadotte, Jeff; Debevc, Melissa; Wallace, Dan  
**Subject:** RE: River Crossing Cost Estimates

Good Afternoon,

I have completed two additional analyses to supply Rover with an incremental 40TJ/d.

Assumption 1: Ojibway imports are received at 375psig at the River Crossing.

Results: Union cannot receive the incremental 40TJ/d at a delivery pressure of 375psig.

	<b>Incremental Imports:</b>	<b>Recommendations:</b>
1	3.08mmcf 3.4 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 375psig
		Add 1025HP Compression at Sandwich
2	26.46mmcf 28.9 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 375psig
		Loop NPS 20 from River Crossing to Sandwich Transmission Station along existing path - 16.5km in length
		Add 1840HP Compression at Sandwich
3	25.55mmcf 27.9 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 375psig
		Loop NPS 20 from River Crossing to Sandwich Transmission Station along new path - 17.92km in length
		Add 1807HP Compression at Sandwich

Assumption 2: Ojibway imports are received at 425psig at the River Crossing.

Results: Union can receive the incremental 40TJ/d at a delivery pressure of 425psig. Additional compression is required at Sandwich

	<b>Incremental Imports:</b>	<b>Recommendations:</b>
1	22.53mmcf 24.6 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 425psig
		Add 1706HP Compression at Sandwich
2	48.99mmcf 53.5 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 425psig
		Loop NPS 20 from River Crossing to Sandwich Transmission Station along existing path - 16.5km in length
		Add 2609HP Compression at Sandwich
3	47.99mmcf 52.4 TJ/d	Replace River Crossing (NPS 20) - run river crossing at 425psig
		Loop NPS 20 from River Crossing to Sandwich Transmission Station along new path - 17.92km in length
		Add 2577HP Compression at Sandwich

Thanks

Michelle

Michelle Moxley-Peltier P.Eng CEM  
System Planning Engineer | Major Projects  
Union Gas Limited | A Spectra Energy Company  
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Chatham ON N7M 5J5  
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[www.uniongas.com](http://www.uniongas.com)



**From:** Van Der Meersch, Dale  
**Sent:** August-04-15 2:00 PM  
**To:** Moxley-Peltier, Michelle  
**Cc:** Mastronardi, Paolo; Cadotte, Jeff  
**Subject:** FW: River Crossing Cost Estimates  
**Importance:** High

Is this something you can run please as a sensitivity?

**From:** Van Der Meersch, Dale  
**Sent:** July-29-15 3:49 PM  
**To:** Cadotte, Jeff; Moxley-Peltier, Michelle; Wallace, Dan  
**Cc:** Mastronardi, Paolo; Debevc, Melissa  
**Subject:** FW: River Crossing Cost Estimates  
**Importance:** High

Good point Jeff.

Michelle can you please run a case where you use 375 psig instead of the 500 psig assumption? I can't remember why we thought 500 psig was a good idea.

**From:** Cadotte, Jeff  
**Sent:** July-29-15 3:42 PM  
**To:** Van Der Meersch, Dale  
**Cc:** Mastronardi, Paolo  
**Subject:** RE: River Crossing Cost Estimates

Dale, another thought for this analysis after talking with a few folks. We are making a pretty big assumption that we can get 500 psig at the River.

We should also look at a base case, which uses prevailing line pressure that we see today from PEPL. My apologies I didn't think of this sooner.

I did a trend over the last two seasons with the average being about 375 psig. Can you have Michelle take a look at what facilities would be required based on this actual pressure to serve the 40 TJ/d? We likely want to start here with discussions with PEPL.

They may have to build significantly on their side to serve 500 psig.

Thanks  
Jeff

**From:** Van Der Meersch, Dale  
**Sent:** Wednesday, July 29, 2015 3:16 PM  
**To:** Moxley-Peltier, Michelle; Mastronardi, Paolo; Cadotte, Jeff; Wallace, Dan  
**Cc:** Debevc, Melissa  
**Subject:** RE: River Crossing Cost Estimates

One further analysis please. What would the capacity created be if only the river crossing were to be completed and the MOP upgraded to 500#? Therefore assuming no incremental compression at Sandwich.

Thanks

Dale

**From:** Moxley-Peltier, Michelle  
**Sent:** July-29-15 8:19 AM  
**To:** Van Der Meersch, Dale; Mastronardi, Paolo; Cadotte, Jeff; Wallace, Dan  
**Cc:** Debevc, Melissa  
**Subject:** River Crossing Cost Estimates

Good Morning,

Please find attached the cost estimates for the 5 options reviewed on Monday.

The following assumptions were included:

- No additional costs to abandon existing river crossing
- Options 4 and 5 assumed the pipeline route was via I/O lands and areas w/o urban build up

Thanks

Michelle

Michelle Moxley-Peltier P.Eng CEM  
System Planning Engineer | Major Projects  
Union Gas Limited | A Spectra Energy Company  
745 Richmond St | P.O. Box 2001  
Chatham ON N7M 5J5  
Tel: 519-436-2460 ext 5236966 | Cell: 519-350-1681  
Email: [mmoxley@uniongas.com](mailto:mmoxley@uniongas.com) |  
[www.uniongas.com](http://www.uniongas.com)



**Bechard, Shelley**

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**From:** Piett, Patti  
**Sent:** August-07-15 3:47 PM  
**To:** Redford, Jim  
**Cc:** Mastronardi, Paolo; Montgomery, Jacquie  
**Subject:** Re: PANHANDLE MEETING TAKE AWAYS  
**Attachments:** image001.jpg

Thanks for the summary Jim. I was also going to send Beth/John information about Dawn (stats, index of customers, etc suitable for sharing with other shoppers/producers)

ET was going to confirm their requested capacity given our 35000 existing capacity limit and their interest to support a project beyond that. I don't believe they committed to a time for this but I will follow up in a week.

Sent from my iPhone

On Aug 7, 2015, at 9:29 AM, Redford, Jim <[JRedford@uniongas.com](mailto:JRedford@uniongas.com)> wrote:

Here are what I recorded as our take aways from yesterday's Panhandle Meetings:

- The Integrity Management Plan needs to be completed now and reviewed to ensure it covers decision tree and risk analysis. **PAOLO**
- Do we have the ability to offer a winter only service (above 35 TJ/d) and what would the terms of that service be (capacity, duration, etc.)? **PAOLO/PATTI**
- What is the capacity of one 12" line under the river (at 425 psig MOP = current conditions)? Does it exceed 115 TJ/d? **PAOLO**
- What is the cost and rate to provide 75 mmcf/d of Ojibway to Dawn capacity for Panhandle? **PAOLO**
- What is the cost and rate to handle 175 mmcf/d total deliveries at Ojibway (115 mmcf/d Ojibway to Dawn plus ~60 mmcf/d delivery at Ojibway for in-franchise)? **PAOLO**
- Is the river crossing replacement included in the expansion costs? Is the river crossing replacement maintenance capital under all circumstances? Can the river crossing replacement be a separate project from any work required to provide more than 35 TJ/d of firm capacity? **PAOLO**

We promised a response in September to these items. Paolo – I assume you will have Dale assist with the gathering and analysis of this information.

**Jim Redford, P. Eng.**  
**Director Business Development &  
Upstream Regulation**  
Union Gas Limited | A Spectra Energy  
Company  
50 Keil Drive North | Chatham, ON N7M  
5M1  
Direct Tel: 519.436.4577 Cell: 519-365-  
0510

**From:** [Reid, John](#)  
**To:** [Mastronardi, Paolo](#)  
**Cc:** [Colton, Joey](#)  
**Subject:** Re: Ojibway to Dawn Transport Discussion - ETP Meeting Followup  
**Date:** September-10-15 9:47:04 AM

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The 390 (not 375) is after the river crossing on the Cdn side (ie it already takes into account the losses through the crossing).

John

On Sep 10, 2015, at 8:01 AM, Mastronardi, Paolo <[pmastronardi@spectraenergy.com](mailto:pmastronardi@spectraenergy.com)> wrote:

John, met with a few people here. One point of clarification, on the 375 psi are delivering that to us at the middle of the river (cdn side) or is 375 psi at the beginning of the river.

**Paolo Mastronardi**  
Business Development Manager  
Union Gas Limited, a Spectra Energy Company  
Direct - 519.436.5264 | Cell - 519.359.3190  
AOLIM - MastronUnion

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**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** September 4, 2015 9:53 AM  
**To:** Mastronardi, Paolo  
**Cc:** Colton, Joey  
**Subject:** FW: Ojibway to Dawn Transport Discussion - ETP Meeting Followup

Paolo,

Our facilities guys have finished running all their models. Using our 425 psi MAOP at the US side of the river, we can push ~175 MM/d through the current crossing hitting you guys on the CAN side of the crossing at ~390 psi. We could flow more volume, but then the pressure would drop.

I hope this helps. Sorry for the delay in getting it to you.

John

**From:** Reid, John  
**Sent:** Wednesday, August 26, 2015 2:13 PM  
**To:** 'Mastronardi, Paolo' <[pmastronardi@spectraenergy.com](mailto:pmastronardi@spectraenergy.com)>  
**Subject:** RE: Ojibway to Dawn Transport Discussion - ETP Meeting Followup

Paolo,

We are re-running some model on our end to see how much volume and at what pressure's we can get those volumes to the river crossing. Our facilities guys think they will have those results by the end of the week.

John

**From:** Mastronardi, Paolo [<mailto:pmastronardi@spectraenergy.com>]  
**Sent:** Tuesday, August 18, 2015 1:02 PM  
**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>  
**Subject:** RE: Ojibway to Dawn Transport Discussion - ETP Meeting Followup

John thx for the response. I did recall you were out

Question – is there willingness to eliminate that restriction on your end?  
I remember a quick conversation on a booster compressor etc.  
I guess the other piece is whether ETP was willing to support a build. I know we are planning to provide some rates to you, not sure if that was the only deciding factor.

**Paolo Mastronardi**  
Business Development Manager  
Union Gas Limited - a Spectra Energy Company  
Direct - 519.436.5264 | Cell - 519.359.3190  
AOLIM - MastronUnion

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**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** August 18, 2015 11:41 AM  
**To:** Mastronardi, Paolo  
**Subject:** RE: Ojibway to Dawn Transport Discussion - ETP Meeting Followup

Paolo,

Sorry for the delay in getting back to you. I was off for a couple days last week and didn't get a chance to chase this down.

I met with our head of gas control, and he confirmed that the 375 psig is the best number to use. We have MAOP restrictions of 425 psig in that area, and by the time it gets to the river, 375 psig is about right. He said some days it might be 390, and some days 360, but 375 sounded about right as an average.

Thanks,

John

**From:** Mastronardi, Paolo [<mailto:pmastronardi@spectraenergy.com>]

**Sent:** Wednesday, August 12, 2015 4:52 PM

**To:** Reid, John

**Cc:** Mastronardi, Paolo

**Subject:** Ojibway to Dawn Transport Discussion - ETP Meeting Followup

John, just following up on the meeting we had last week.

Just a reminder that you were going to review what pressure PEPL can deliver to Union at Ojibway.

I am thinking based on existing facilities, and would there be an opportunity to provide higher pressures based on new facilities/upgrades (there was a quick talk about booster compressor).

Once we have an idea that will make it easier to scope out.

I am going to run a scenario based on what Union see's in terms of an average delivery pressure in the summer. If you recall I mentioned 375 psi.

When do you think this info would become available?

**Paolo Mastronardi**

Business Development Manager

Union Gas Limited, a Spectra Energy Company

Direct - 519.436.5264 | Cell - 519.359.3190

AOLIM - MastronUnion

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

## PROPOSAL TO ENERGY TRANSFER PARTNERS ("ETP")

NOVEMBER 2, 2015

Union and ETP each have transportation capacity requirements on the other's pipeline systems.

Union currently contracts for 60 TJ/d from ETP on PEPL and Trunkline to November 1, 2017. Union requires 60 TJ/d of transportation capacity on the ETP (PEPL) system to Ojibway on an ongoing basis. Union currently has Right of First Refusal (ROFR) rights on 35 TJ/d of the ETP (PEPL) capacity.

ETP has requested 75-80 TJ/d of transportation capacity on Union's system from Ojibway to Dawn. Currently, on a long term basis Union is only able to provide 35 TJ/d of firm year-round transportation capacity to ETP from Ojibway to Dawn without significant expansion of its facilities. ETP has indicated that it is not interested in supporting a significant facilities expansion on Union's system. ETP is not able to provide an increased delivery pressure of 500 psig which would significantly reduce the scope of Union's expansion facilities.

The availability of capacity assumes that both of the twin 12" River Crossing pipelines are in service. No internal inspection has been completed since installation in 1947.

### Proposal

The following package of commitments is intended to address the needs of both parties to the extent practical:

#### *Union and ETP Commitment*

- Execute in-line inspection program on 12" River Crossing pipelines (see attached)

#### *Union Commitments*

- Contract incremental 25 TJ/d of renewable Putnam (or a point to be determined further southwest) to Ojibway transportation capacity on PEPL for a 5 year term at posted tolls starting November 1, 2017
- Continue to renew 35 TJ/d of existing transportation capacity on PEPL

#### *ETP Commitments*

- Contract new 35 TJ/d of renewable Ojibway to Dawn transportation capacity on Union for up to a 15 year term at posted C1 tolls starting June 1, 2017\*

**Comment [RJ1]:** ET would be interested in purchasing capacity that would support a build, as long as it made economic sense. Union has not provided the estimate of what would be required.

**Comment [RJ2]:** The 425# MAOP of the river crossing is the limiting factor here. We could provide more pressure, but a new river crossing would be required

**Comment [RJ3]:** These would need to be addressed and calculated based on capital costs incurred by both parties, but I suspect the terms would need to be similar (ie longer than 5 years)

**Comment [RJ4]:** These would need to be addressed and calculated based on capital costs incurred by both parties

\*Only one River Crossing pipeline will be available for service at June 1, 2017. The quantity will be reduced to 25 TJ/d until such time that both 12" River Crossing pipelines are in service or the River Crossing replacement has been completed.

- Contract new 25 TJ/d of renewable Ojibway to Dawn transportation capacity on Union for the months of December, January and February on Union for up to a 15 year term at posted C1 tolls starting December 1, 2017\*\*

\*\*This contract will be available to start when both 12" River Crossing pipelines are in service or the River Crossing replacement has been completed.

If the results of the in-line inspection program requires the replacement of the River Crossing pipelines then the term of all Union (and ETP) Commitments increase to 10 years.

## RIVER CROSSING INTEGRITY PLAN

NOVEMBER 2, 2015

### Background

The twin 12" River Crossing pipelines were installed in 1947. Ownership of the River Crossing pipeline is shared between Union and ETP with the International Border being the delineation of ownership.

The River Crossing pipelines are approximately two-thirds to three-quarters of a mile long. The River crossing pipelines operate at a 425 psig MOP with an average seasonal operating pressure of approximately 375 psig. The operation pressure has ranged from 350 psig to 410 psig depending on prevailing pipeline pressures. The pipeline MOP is approximately 16% of the Specified Minimum Yield Strength.

The capacity of the twin 12" River Crossing pipelines supports the Presidential Permit for imports into Canada of ~212 TJ/d. However, a single 12" River Crossing pipeline can provide approximately 105 TJ/d of capacity. This is less capacity than the firm commitments contemplated under the proposal. There has been no in-line inspection of the twin 12" River Crossing pipelines to date.

### In-Line Inspection

In-line inspection is expected to cost approximately \$2.2 million CAD to complete which would include cleaning of the pipelines, running the in-line inspection tools and analyzing the data, and, if required, pressure testing and drying the pipelines. Pressure testing may be required to prove the integrity of the twin 12" River Crossing pipelines if the in-line inspection data is of poor quality.

A breakdown of the estimated costs is shown below:

In-Line Inspection Activities	Cost (millions CAD)
Cleaning	\$1.5
In-Line Inspection	\$0.4
Pressure Test and Drying (only required if inspection data is of poor quality)	\$0.3
<b>Total Per 12" River Crossing Pipeline</b>	<b>\$2.2</b>

These costs will be shared equally between Union and ETP.

Union and ETP will also be required to each cover their costs to prepare the twin 12" River Crossing pipelines for the in-line inspection. These activities will include, but not be limited to, the installation of launchers and receivers and the disposal of any liquids/waste.

**Comment [RJ5]:** Can you confirm if the price is \$2.2MM total or per line

The in-line inspection will be conducted one River Crossing pipeline at a time leaving the other line in operation. Union would propose to commence the program in February 2017 with results of the in-line inspection on the first River Crossing pipeline expected to be available in June 2017. An indicative schedule is shown below.

<b>Task Name – First River Crossing Pipeline</b>	<b>Start</b>	<b>Finish</b>
Install Launching/Receiving Facilities	20-Mar-17	14-Apr-17
Mechanical Cleaning / Pigging	17-Apr-17	28-Apr-17
Chemical Cleaning	01-May-17	26-May-17
In-Line Inspection (MFL Caliper)	29-May-17	02-Jun-17
Initial Data Analysis	05-Jun-17	09-Jun-17
In-Line Inspection Report	12-Jun-17	14-Jul-17
Pressure Testing and Drying (only if required)	12-Jun-17	07-Jul-17

The in-line inspection of the second River Crossing pipeline would only be undertaken if those results were satisfactory (i.e. no River Crossing replacement required). The results of the in-line inspection on the second River Crossing pipeline are expected to be available in December 2017.

<b>Task Name – Second River Crossing Pipeline</b>	<b>Start</b>	<b>Finish</b>
Install Launching/Receiving Facilities	14-Jul-17	11-Aug-17
Mechanical Cleaning / Pigging	14-Aug-17	25-Aug-17
Chemical Cleaning	28-Aug-17	22-Sep-17
In-Line Inspection (MFL Caliper)	25-Sep-17	29-Sep-17
Initial Data Analysis	02-Oct-17	06-Oct-17
In-Line Inspection Report	09-Oct-17	10-Nov-17
Pressure Testing and Drying (only if required)	09-Oct-17	03-Nov-17

If the results of the in-line inspection or pressure testing are positive for both of the twin 12" River Crossing pipelines then the pipelines will continue to operate.

A River Crossing replacement will be required if:

1. The results of the in-line inspections were conclusive and included a significant anomaly on either of the twin 12" River Crossing pipelines that cannot be repaired.
2. The hydrostatic pressure testing of either of the twin 12" River Crossing pipelines fails.

Until the River Crossing replacement is installed, one River Crossing pipeline will continue to operate.

## Shorts, Chris

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**From:** Shorts, Chris  
**Sent:** May-05-16 11:11 AM  
**To:** Piett, Patti; Redford, Jim; O'Hara, Clancy  
**Cc:** Mastronardi, Paolo  
**Subject:** FW: ETP Meeting in Detroit

Paolo and I met with Beth Hickey, John Reid and Bryan Hill in Detroit Monday evening and discussed:

- 1) Organizational Changes at Union
- 2) The Panhandle Reinforcement project
  - a. Provided the slides from the Stakeholder presentation
  - b. Discussed the drivers being the local in franchise markets including greenhouse
- 3) The need for capacity on PEPL for Union for our 10 that we have now and are assuming will continue
  - a. The ROFR has been filed
  - b. Will likely need to bid long haul tolls for a period of longer than 10 years (will be competing with Rover who is willing to bid 20 years for everything PEPL has left to Ojibway but at short haul tolls in the 15 to 17 cent range)
- 4) Also discussed the need for an additional 10 or so for a 2 year period to cover immediate needs in the market area
  - a. Again if we need more it will be subject to an open season and the competition will be Rover at 20 years
  - b. ETP can negotiate something prior to the ROFR closing to influence the Rover bid (ie needs to be done prior to June 15)
- 5) ETP not interested in expansion on their side but if required they will
- 6) We confirmed we didn't want anything more than 70 a day (the 60 long term and 10 short term) required
- 7) River crossing still not high on their radar [REDACTED]
  - a. Not crazy about pigging since they feel it is throwing good money at bad, both engineering groups feel that data may not be reliable anyway
  - b. They understand integrity but will need dollars to help support any work
  - c. Will need to nail down commitment on the entire portion of the capacity we want and for what term
  - d. This likely means a combination of short and long haul for a 10 to 15 year term to create more revenue that 20 year short haul
  - e. Would like a commercial agreement in place that would deal with river crossing, capacity on Union's System and PEPL System. This agreement will assist with capital required and term of transportation contracts required to recover the capital outlay.
- 8) If they cannot get the 75 a day they wanted they will need to go back to Rover and their shippers and find an alternative.
  - a. They didn't seem to interested in the 35 a day and said if Union wanted it they may back off (would still require long term commitment)
- 9) We did review the River crossing proposal and we both agreed to freshen the numbers
- 10) We need to understand our desire to a deal for 70 long term and what we would expect in return as it relates to the river crossing

Next Steps to reconvene in about a week to check back on progress...

Chris



**Chris Shorts**  
Director, Business Development & Upstream Regulation  
[cshorts@uniongas.com](mailto:cshorts@uniongas.com)  
Office (519) 436-4668 Cell (519) 365-0536  
fax (519) 436-5461

**Shorts, Chris**

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**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** May-19-16 10:16 AM  
**To:** Shorts, Chris  
**Cc:** Hill, Bryan D.  
**Subject:** Energy Transfer Proposal for Union Gas  
**Attachments:** Union Gas River Crossing Supply Proposal 51816.docx

Chris,

Please find attached a proposal from Energy Transfer regarding upstream transportation for the Windsor market and how that relates to the Ojibway River Crossing. I am sending this to you as you seem to be "leading the charge", but please forward to Cheryl as well.

I look forward to discussing this with you at your convenience.

Thanks,

John

**John Reid** | Sr. Director – Business Development  
Energy Transfer | 1300 Main St. | Houston, TX 77002  
P: 713.989.7143 | C: 713.444.1483 | IM: johnreid126  
Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.



Chris Shorts  
Director, Business Development and Upstream Regulation  
Union Gas Limited

May 17, 2016

Chris,

Energy Transfer is pleased to offer the following proposal to Union Gas Ltd. for capacity to continue to serve your Windsor market utilizing the Panhandle and Trunkline assets. Under the proposal below, Energy Transfer would commit to the following:

1. Energy Transfer agrees to fix the tariff rate for the term of the contracts.
2. Energy Transfer and Union execute an in-line inspection program on the 12" river crossing pipelines. The costs will be shared equally between Energy Transfer and Union (\$2.2 Million total estimated).
3. If the results of the in-line inspections are conclusive and included a significant anomaly on either of the twin 12" river crossing pipelines that cannot be repaired, a new river crossing replacement pipeline would be required. The costs for the replacement River Crossing will be shared equally between Energy Transfer and Union (\$24 Million total estimated).

**Proposal Details:**

1. Union extends their current 57,000 Dth/d of capacity on PEPL and Trunkline until 10/31/26 as follows:
  - 25,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2017 for a term of **9 years at tariff rate**
  - 20,000 Dth/d – TGC FZ to PEPL/BRBN and PEPL/BRBN to Ojibway capacity is renewed on 11-1-2017 for a term of **9 years at tariff rates**
  - 2,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2017 for a term of **9 years at tariff rate**
  - 10,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2016 for a term of **10 years at tariff rate**
2. Union signs up for an additional 38,000 Dth/d of PEPL FZ to Ojibway capacity starting on November 1, 2016 for a term of **10 years at tariff rate**. This will get total capacity commitment to 95,000 Dth/d.

I look forward to discussing this proposal in more detail. Please call me at 713-989-7143 at your convenience.

This proposal is valid through June 30, 2016 and is subject to available capacity and approval from Energy Transfer executive management. Fuel, commodity and other specifics are governed by the respective FERC GAS TARIFF's

Sincerely,

John Reid  
Senior Director  
Energy Transfer

**Shorts, Chris**

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**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** May-24-16 11:07 AM  
**To:** Shorts, Chris  
**Cc:** Colton, Joey  
**Subject:** Union Ojibway Capacity

Chris,

Based on our recent discussions with you, we are updating our PEPL system capacity at the Ojibway point. You had mentioned your "yearly" takeway number as being 115,000 Dth/d (or was that GJ's?). Can you please provide the number for both the summer and winter seasons so we can update our systems?

Thanks,

John

**John Reid** | Sr. Director – Business Development  
Energy Transfer | 1300 Main St. | Houston, TX 77002  
P: 713.989.7143 | C: 713.444.1483 | IM: johnreid126  
Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

**Shorts, Chris**

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**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** June-22-16 3:50 PM  
**To:** Shorts, Chris  
**Cc:** Colton, Joey; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

Sorry for taking so long to respond to this email. As you know I have been off on vacation for a couple of weeks.

We are still re-running our numbers and double checking our expected capital costs on the river crossing (if required), but with where our numbers look right now, we will be able to accommodate the items you mention below, namely:

1. Extend Union's current 57,000 Dth/d for a longer (~10 years as proposed) term with ROFR/Renewal rights
2. A lesser incremental volume (~15,000 Dth/d) for a shorter term as opposed to 38,000 Dth/d for 10 years as proposed
3. PEPL FZ to Union/Ojibway for all of the volume

Once I get confirmation of our numbers, I will send you a new, revised proposal. Give me a call at your convenience so we can discuss next steps on moving this forward.

Thanks,

John

**From:** Shorts, Chris [<mailto:CShorts@uniongas.com>]  
**Sent:** Wednesday, June 01, 2016 5:29 PM  
**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, as per our conversations, we really appreciate the offer and I want to provide you some feedback.

- 1) Our main concern is the continuation of the 57,000 Dth/d for a longer term and ensuring we have ROFR/Renewal rights on it
- 2) Given the constraints on our system and where the incremental load growth is materializing, we cannot take the 38,000 Dth/d on a long term basis
- 3) I am not comfortable with the PEPL Trunkline long haul commitment, although the PEPL only long haul path from the field zone would be more palatable
- 4) As per our original request we may be interested in about 15,000 Dth/d PEPL capacity on a short term basis (ie 2-3 years)

Let me know if you feel you can work this in...

Thanks

Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
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## Shorts, Chris

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**From:** Shorts, Chris  
**Sent:** June-29-16 1:12 PM  
**To:** Reid, John  
**Cc:** Colton, Joey; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, we did meet internally and I found I we hired a 3<sup>rd</sup> party consultant to provide some advice and they are just going through the findings now. I assume that since we have strayed away from the original offer that the June 30<sup>th</sup> deadline is somewhat irrelevant. Please let me know if we can still work on this post June 30<sup>th</sup>

Thanks  
Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** June-22-16 3:50 PM  
**To:** Shorts, Chris  
**Cc:** Colton, Joey; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

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Let me know if you feel you can work this in...

Thanks  
Chris

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**To:** Shorts, Chris  
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Thanks,

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Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

## Shorts, Chris

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**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** July-26-16 4:24 PM  
**To:** Shorts, Chris  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Fair enough. But you can transact the ramp-up in volumes? ie there's no ROFR on who may hold the capacity today?

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Tuesday, July 26, 2016 3:15 PM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, I am saying yes because I believe I can convince people to take some rounding risk to ensure our 22 is accessible longer term. There is no one here right now to confirm but I am confident I can convince them....just wanted to caveat it that way....hopefully I can fully confirm our abilities shortly...  
Nothing like a goal to get them convinced....

**From:** Shorts, Chris  
**Sent:** July-26-16 4:05 PM  
**To:** 'Reid, John'  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Yes we will make the 15 and 35 work, for the time periods you proposed...

**From:** Reid, John [mailto:John.Reid@energytransfer.com]  
**Sent:** July-26-16 3:57 PM  
**To:** Shorts, Chris  
**Subject:** RE: Energy Transfer Proposal for Union Gas

What about my first question – would you guys do the ramp-up contract? Could you squeeze 15,000 Dth and 35,000 Dth as I proposed?

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Tuesday, July 26, 2016 2:53 PM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John the 115 is TJ not Dth/d, so if we convert all that is

115 total

60 Union

21

21

Equals 13 TJ/d left over.....it can change by a little bit year to year given the Windsor market etc....

**From:** Reid, John [mailto:John.Reid@energytransfer.com]  
**Sent:** July-26-16 2:13 PM  
**To:** Shorts, Chris  
**Subject:** FW: Energy Transfer Proposal for Union Gas

Chris – I would also be happy with 18,000 Dth for the first piece. That's the number that my math shows should be available as follows:

115,000 Dth/d point capacity  
-57,000 Dth/d for Union  
-20,000, Dth/d for Other C1  
-20,000 Dth/d for delivered service

Remainder: 18,000 Dth/d

Can you please confirm the numbers?

Thanks

**From:** Reid, John  
**Sent:** Tuesday, July 26, 2016 12:56 PM  
**To:** 'Shorts, Chris' <CShorts@uniongas.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

We are still working on the proposal. As part of our presentation, we are putting in what we will be contracting for from you on the C1 Ojib to Dawn. Would you guys sell us the "shaped" transport in a contract now (ie a contract with the ramp-up over time)? We would be looking for slightly more rounded numbers as follows:

15,000 Dth/d Nov 1, 2017 to October 31, 2019  
35,000 Dth/d Nov 1, 2019 to October 31, 2032 (or thereabouts)

Let me know – thanks.

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Thursday, July 07, 2016 5:50 PM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Cc:** Newbury, Cheryl <CNewbury@uniongas.com>; Liberty, Erin <eliberty@uniongas.com>; McClacherty, Shawn <smcclacherty@uniongas.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, I verified the numbers and given some changes on our system only about 13,000 is available firm all year around now with 32,000 available winter only starting Nov 1, 2017. It looks like the 32,000 firm all year around won't be available until Nov 1, 2019, and that goes up for Nov 1, 2020 to in excess of the 35,000...

Sorry for any confusion...

Chris

**From:** Shorts, Chris  
**Sent:** July-07-16 1:18 PM  
**To:** 'Reid, John'  
**Cc:** Newbury, Cheryl; Liberty, Erin; McClacherty, Shawn  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, I should have also included the other issue we discussed, in that this should allow us to provide approx. 35,000 Dth/d of Ojibway to Dawn C1 capacity to PEPL all year around, although we may require gas to be delivered on this path for the heart of the winter for a period of time.  
Chris

**From:** Shorts, Chris  
**Sent:** July-07-16 10:03 AM  
**To:** 'Reid, John'  
**Cc:** Newbury, Cheryl; Liberty, Erin; McClacherty, Shawn  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, as per our discussion, Union is not in a position to consider the potential River Crossing work as part of its discussions at this point in time with ETP, but would like to term/sure up the 22,000 Dth/d that Union currently has under contract that does not have renewal/ROFR rights. This would mean Union would hold the remaining 35,000 Dth/d that it has with renewal/ROFR to potentially be available to be used to help justify any river crossing work in the future.

As such, Union is interested in obtaining the 22,000 longer term and is willing to contract for a 5 year term starting Nov 1, 2017 at max tariff rates, with approx. 15,000 Dth/d as short haul (Putnam/Lebanon interconnect) to Ojibway and 7,000 Dth/d long haul PEPL Field Zone to Ojibway. If possible our preference would be to lock in the tariff rate at current levels for the 5 year term and still have renewal/ROFR rights.

Union would rather contract now to provide PEPL with assurance related to the revenue and Union with assurance to access and cost, rather than to rely on the open season PEPL is currently having....

Please let me know your thoughts related to this request...

Thanks  
Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** July-07-16 9:28 AM  
**To:** Shorts, Chris  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris – could you please send me an email about your revised request for transport that we discussed yesterday?

Thanks

**From:** Shorts, Chris [<mailto:CShorts@uniongas.com>]  
**Sent:** Thursday, June 30, 2016 1:00 PM  
**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>  
**Cc:** Newbury, Cheryl <[CNewbury@uniongas.com](mailto:CNewbury@uniongas.com)>; Hill, Bryan D. <[Bryan.Hill@energytransfer.com](mailto:Bryan.Hill@energytransfer.com)>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Thanks John....  
Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** June-30-16 1:32 PM  
**To:** Shorts, Chris  
**Cc:** Newbury, Cheryl; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

You can still work on this past June 30<sup>th</sup>, that's fine. I would like to get this wrapped up as soon as we can though.

We can extend the offer through until July 15<sup>th</sup>.

Thanks,

John

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Wednesday, June 29, 2016 12:12 PM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Cc:** Colton, Joey <Joey.Colton@energytransfer.com>; Hill, Bryan D. <Bryan.Hill@energytransfer.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, we did meet internally and I found I we hired a 3<sup>rd</sup> party consultant to provide some advice and they are just going through the findings now. I assume that since we have strayed away from the original offer that the June 30<sup>th</sup> deadline is somewhat irrelevant. Please let me know if we can still work on this past June 30<sup>th</sup>

Thanks

Chris

**From:** Reid, John [mailto:John.Reid@energytransfer.com]  
**Sent:** June-22-16 3:50 PM  
**To:** Shorts, Chris  
**Cc:** Colton, Joey; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

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2. A lesser incremental volume (~15,000 Dth/d) for a shorter term as opposed to 38,000 Dth/d for 10 years as proposed
3. PEPL FZ to Union/Ojibway for all of the volume

Once I get confirmation of our numbers, I will send you a new, revised proposal. Give me a call at your convenience so we can discuss next steps on moving this forward.

Thanks,

John

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Wednesday, June 01, 2016 5:29 PM

**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, as per our conversations, we really appreciate the offer and I want to provide you some feedback.

- 1) Our main concern is the continuation of the 57,000 Dth/d for a longer term and ensuring we have ROFR/Renewal rights on it
- 2) Given the constraints on our system and where the incremental load growth is materializing, we cannot take the 38,000 Dth/d on a long term basis
- 3) I am not comfortable with the PEPL Trunkline long haul commitment, although the PEPL only long haul path from the field zone would be more palatable
- 4) As per our original request we may be interested in about 15,000 Dth/d PEPL capacity on a short term basis (ie 2-3 years)

Let me know if you feel you can work this in...

Thanks

Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** May-19-16 10:16 AM  
**To:** Shorts, Chris  
**Cc:** Hill, Bryan D.  
**Subject:** Energy Transfer Proposal for Union Gas

Chris,

Please find attached a proposal from Energy Transfer regarding upstream transportation for the Windsor market and how that relates to the Ojibway River Crossing. I am sending this to you as you seem to be "leading the charge", but please forward to Cheryl as well.

I look forward to discussing this with you at your convenience.

Thanks,

John

**John Reid** | Sr. Director – Business Development  
Energy Transfer | 1300 Main St. | Houston, TX 77002  
P: 713.989.7143 | C: 713.444.1483 | IM: johnreid126  
Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.

## Shorts, Chris

---

**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** August-08-16 10:40 AM  
**To:** Shorts, Chris  
**Subject:** Fwd: Energy Transfer Proposal for Union Gas

Any updates Chris?

Thanks.

Begin forwarded message:

**From:** "Reid, John" <John.Reid@energytransfer.com>  
**Date:** July 27, 2016 at 2:21:59 PM CDT  
**To:** "Shorts, Chris" <CShorts@uniongas.com>  
**Cc:** "Newbury, Cheryl" <CNewbury@uniongas.com>, "Liberty, Erin" <eliberty@uniongas.com>, "McClacherty, Shawn" <smcclacherty@uniongas.com>, "Hill, Bryan D." <Bryan.Hill@energytransfer.com>, "Colton, Joey" <Joey.Colton@energytransfer.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

Please find attached a new proposal based on the email below and our discussions to date on Union and Energy Transfer's requirements. This proposal is subject to management approval.

Please note that this new proposal does not support any work or capital related to the river crossing.

Please let me know when you have time to discuss.

Thanks,

John

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Thursday, July 07, 2016 9:03 AM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Cc:** Newbury, Cheryl <CNewbury@uniongas.com>; Liberty, Erin <eliberty@uniongas.com>; McClacherty, Shawn <smcclacherty@uniongas.com>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, as per our discussion, Union is not in a position to consider the potential River Crossing work as part of its discussions at this point in time with ETP, but would like to term/sure up the 22,000 Dth/d that Union currently has under contract that does not have renewal/ROFR rights. This would mean Union would hold the remaining 35,000 Dth/d that it has with renewal/ROFR to potentially be available to be used to help justify any river crossing work in the future.

As such, Union is interested in obtaining the 22,000 longer term and is willing to contract for a 5 year term starting Nov 1, 2017 at max tariff rates, with approx. 15,000 Dth/d as short haul (Putnam/Lebanon

interconnect) to Ojibway and 7,000 Dth/d long haul PEPL Field Zone to Ojibway. If possible our preference would be to lock in the tariff rate at current levels for the 5 year term and still have renewal/ROFR rights.

Union would rather contract now to provide PEPL with assurance related to the revenue and Union with assurance to access and cost, rather than to rely on the open season PEPL is currently having....

Please let me know your thoughts related to this request...

Thanks

Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** July-07-16 9:28 AM  
**To:** Shorts, Chris  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris – could you please send me an email about your revised request for transport that we discussed yesterday?

Thanks

**From:** Shorts, Chris [<mailto:CShorts@uniongas.com>]  
**Sent:** Thursday, June 30, 2016 1:00 PM  
**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>  
**Cc:** Newbury, Cheryl <[CNewbury@uniongas.com](mailto:CNewbury@uniongas.com)>; Hill, Bryan D. <[Bryan.Hill@energytransfer.com](mailto:Bryan.Hill@energytransfer.com)>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Thanks John....

Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** June-30-16 1:32 PM  
**To:** Shorts, Chris  
**Cc:** Newbury, Cheryl; Hill, Bryan D.  
**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

You can still work on this past June 30<sup>th</sup>, that's fine. I would like to get this wrapped up as soon as we can though.

We can extend the offer through until July 15<sup>th</sup>.

Thanks,

John

**From:** Shorts, Chris [<mailto:CShorts@uniongas.com>]  
**Sent:** Wednesday, June 29, 2016 12:12 PM  
**To:** Reid, John <[John.Reid@energytransfer.com](mailto:John.Reid@energytransfer.com)>

**Cc:** Colton, Joey <[Joey.Colton@energytransfer.com](mailto:Joey.Colton@energytransfer.com)>; Hill, Bryan D. <[Bryan.Hill@energytransfer.com](mailto:Bryan.Hill@energytransfer.com)>  
**Subject:** RE: Energy Transfer Proposal for Union Gas

John, we did meet internally and I found I we hired a 3<sup>rd</sup> party consultant to provide some advice and they are just going through the findings now. I assume that since we have strayed away from the original offer that the June 30<sup>th</sup> deadline is somewhat irrelevant. Please let me know if we can still work on this post June 30<sup>th</sup>

Thanks

Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]

**Sent:** June-22-16 3:50 PM

**To:** Shorts, Chris

**Cc:** Colton, Joey; Hill, Bryan D.

**Subject:** RE: Energy Transfer Proposal for Union Gas

Chris,

Sorry for taking so long to respond to this email. As you know I have been off on vacation for a couple of weeks.

We are still re-running our numbers and double checking our expected capital costs on the river crossing (if required), but with where our numbers look right now, we will be able to accommodate the items you mention below, namely:

1. Extend Union's current 57,000 Dth/d for a longer (~10 years as proposed) term with ROFR/Renewal rights
2. A lesser incremental volume (~15,000 Dth/d) for a shorter term as opposed to 38,000 Dth/d for 10 years as proposed
3. PEPL FZ to Union/Ojibway for all of the volume

Once I get confirmation of our numbers, I will send you a new, revised proposal. Give me a call at your convenience so we can discuss next steps on moving this forward.

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John

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**Sent:** Wednesday, June 01, 2016 5:29 PM

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Let me know if you feel you can work this in...  
Thanks  
Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]  
**Sent:** May-19-16 10:16 AM  
**To:** Shorts, Chris  
**Cc:** Hill, Bryan D.  
**Subject:** Energy Transfer Proposal for Union Gas

Chris,

Please find attached a proposal from Energy Transfer regarding upstream transportation for the Windsor market and how that relates to the Ojibway River Crossing. I am sending this to you as you seem to be "leading the charge", but please forward to Cheryl as well.

I look forward to discussing this with you at your convenience.

Thanks,

John

**John Reid** | Sr. Director – Business Development  
Energy Transfer | 1300 Main St. | Houston, TX 77002  
P: 713.989.7143 | C: 713.444.1483 | IM: johnreid126  
Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Private and confidential as detailed [here](#). If you cannot access hyperlink, please e-mail sender.  
<Union Gas Proposal 72816.docx>



Chris Shorts  
Director, Business Development and Upstream Regulation  
Union Gas Limited

July 28, 2016

Chris,

Energy Transfer is pleased to offer the following proposal to Union Gas Ltd. for capacity to continue to serve your Windsor market utilizing the Panhandle and Trunkline assets. Under the proposal below, Energy Transfer Energy Transfer agrees to fix the tariff rate for the term of the contracts.

**Proposal Details:**

1. Union extends their current 57,000 Dth/d of capacity on PEPL and Trunkline until 10/31/32 as follows:
  - 25,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2017 for a term of **15 years at tariff rate**
  - 20,000 Dth/d – TGC FZ to PEPL/BRBN and PEPL/BRBN to Ojibway capacity is renewed as PEPL FZ to Ojibway on 11-1-2017 for a term of **15 years at tariff rates**
  - 2,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2017 for a term of **15 years at tariff rate**
  - 10,000 Dth/d – PEPL FZ to Ojibway is renewed on 11-1-2017 for a term of **15 years at tariff rate**
2. Energy Transfer contracts for Union C1 Ojibway to Dawn transport as follows:
  - 15,000 Dth/d with a term of Rover in-service (currently expected to be 11-1-2017) to 10/31/2019 at **C1 tariff rate**
  - 35,000 Dth/d with a term of 11-1-2019 to **15 years** from in-service at **C1 tariff rate**

Please call me at 713-989-7143 at your convenience to discuss this in more detail.

This proposal is valid through August 15, 2016 and is subject to available capacity and approval from Energy Transfer executive management. Fuel, commodity and other specifics are governed by the respective FERC GAS TARIFF's

Sincerely,

John Reid  
Senior Director  
Energy Transfer

**Shorts, Chris**

---

**From:** Reid, John <John.Reid@energytransfer.com>  
**Sent:** September-22-16 11:15 AM  
**To:** Shorts, Chris  
**Subject:** RE: Panhandle Capacity

Chris,

Is Union still able to offer Energy Transfer the 35k/d of Ojibway to Dawn C1 transport?

Thanks

**From:** Shorts, Chris [mailto:CShorts@uniongas.com]  
**Sent:** Friday, September 16, 2016 2:23 PM  
**To:** Reid, John <John.Reid@energytransfer.com>  
**Cc:** Newbury, Cheryl <CNewbury@uniongas.com>  
**Subject:** Re: Panhandle Capacity

John we have run the numbers and I just don't see us in a position to commit to a 10 year term at this point. I think we may have to wait for the regulatory process to run its course. I appreciate you guys looking into options. I am just boarding a plane to Calgary as I have to be at an NEB hearing all of next week. I will call you when I get a chance.

Appreciate your efforts.

Chris

Sent from my iPhone

On Sep 16, 2016, at 11:19 AM, Reid, John <John.Reid@energytransfer.com> wrote:

Chris,

Any update on this? It's been a few weeks, and I would really like to get this resolved.

Thanks,

John

**From:** Reid, John  
**Sent:** Wednesday, August 24, 2016 9:54 AM  
**To:** Shorts, Chris <CShorts@uniongas.com>; Newbury, Cheryl <CNewbury@uniongas.com>  
**Subject:** Panhandle Capacity

Chris/Cheryl,

We have discussed this internally and ran our models. The increased capacity of 35k/d on the Ojibway to Dawn C1 does help our economics, but does not get us to a point where we could do down to a 5 year term. We could drop from the previously proposed 15 year term to a 10 year term on the PEPL FZ longhaul (57k/d).

Please let me know your thoughts.

Thanks,

John

-----Original Message-----

From: Shorts, Chris

Sent: August-11-16 10:24 PM

To: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

Subject: Panhandle capacity

John we have been working to see if we could provide 35 a day for the full 15 years starting Nov 1, 2017. Although I don't have a final answer from the planners, I was hoping you could see if that coupled with a 5 year commitment to the PEPL filed zone long haul may be of interest.  
Chris

**From:** Reid, John [<mailto:John.Reid@energytransfer.com>]

**Sent:** August-16-16 4:09 PM

**To:** Shorts, Chris

**Subject:** Test

**John Reid** | Sr. Director – Business Development  
Energy Transfer | 1300 Main St. | Houston, TX 77002  
P: 713.989.7143 | C: 713.444.1483 | IM: johnreid126  
Email: [john.reid@energytransfer.com](mailto:john.reid@energytransfer.com)

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