uniongas
A Spectra Energy Company

October 20, 2015

BY COURIER & RESS

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

RE: EB-2015-0200 – Union Gas Limited ("Union") – 2017 Dawn Parkway Project Undertaking Responses, Interrogatory Response and Transcript Corrections

Dear Ms. Walli,

Please find attached Union's responses to the undertakings received in the Technical Conference on October 15, 2015. These will be filed in RESS and copies will be sent to the Board.

Union has also provided a copy of the Spectra Energy Board of Directors presentation (dated October 8, 2015) as referenced in its response to Exhibit B.SEC.1. The presentation will be filed in RESS and copies will be sent to the Board.

In addition, Union's witnesses have reviewed the Technical Conference transcript and have the following corrections to make:

Appearances – Chris Gagner, Board Staff *should be* Chris Gagner, Union Gas Limited
p. 16, line 10 – between November 16 and November 17 *should be* between November-16 and November-17
p. 23, line 22 – Dalmuir *should be* Dow Moore
p. 44, line 2 – we have contemplated as it is written *should be* we have contemplated that as it is written
p. 52, lines 27, 28 – DHi *should be* Dehy
p. 53, lines 7, 8, 10, 13, 18, 25 – DHi *should be* Dehy
p. 54, line 2 – Dalmuir *should be* Dow Moore
p. 54, line 5 – DHi *should be* Dehy
p. 97, line 10 – I would like at it *should be* I would look at it
p. 99, line 19 – That's not good enough. It needs to be something else. *should be referenced in quotes* "That's not good enough. It needs to be something else."
p. 123, line 23 – the cost would be approximately $90 million than building *should be* the cost would be approximately $90 million more than building
p. 155, line 13 – Mr. Quesnelle *should be* Mr. Quinn

If you have any questions with respect to this submission please contact me at 519-436-5473.

Yours truly,

[original signed by]

Karen Hockin
Manager, Regulatory Initiatives

Encl.

cc: Mark Kitchen, Union Gas
Crawford Smith, Torys
All Intervenors (EB-2015-0200)

UNION GAS LIMITED

Undertaking of Ms. Mikhaila
To Mr. Yardley

To provide the rate impact of the reallocation of the indirect costs.

Union estimates that $0.009/GJ/day of the total estimated 2018 M12 rate of $0.121/GJ/day, including the Parkway Projects, is attributable to the re-allocation of indirect costs associated with Union's Parkway West, Brantford to Kirkwall/Parkway D, Hamilton to Milton and Lobo C Compressor (2016 Dawn Parkway), Burlington to Oakville and 2017 Dawn Parkway Projects. Please see Table 1 for the estimated M12 rate impact associated with the indirect cost allocation for each Project.

To calculate the rate impacts, Union estimates that approximately $19.3 million in indirect costs are re-allocated to Rate M12 for the Projects. The increase in the allocation of indirect costs to Rate M12 is the result of adding rate base and operating costs associated with the Projects to the 2013 Board-approved cost study.

Table 1
Impact of Indirect Cost Allocation on the M12/C1 Dawn-Parkway Rate

Line No.	Particulars ($/GJ/day)	M12/C1 Dawn to Parkway Rate
		(a)
1	EB-2015-0035 Approved (1)	0.086
2	EB-2015-0200 Including Parkway Projects (2)	0.121
	Rate Impact of Indirect Cost Allocation	
3	EB-2012-0433 Parkway West Project	0.002
4	EB-2013-0074 Brantford to Kirkwall/Parkway D Project	0.001
5	EB-2014-0261 Dawn Parkway 2016 Project	0.003
6	EB-2014-0182 Burlington Oakville Pipeline Project	(0.000)
7	EB-2015-0200 Dawn Parkway 2017 Project	0.003
8	Total Rate Impact	0.009

Notes:
(1) EB-2015-0035, Appendix A, Pages 14-16, column (c), effective April 1, 2015.
(2) Parkway Projects includes Parkway West, Brantford to Kirkwall Pipeline and Parkway D Compressor, and Hamilton to Milton Pipeline and Lobo C Compressor.

UNION GAS LIMITED

Undertaking of Mr. Hockin
To Mr. Yardley

To describe the calculation of income tax.

Please see Attachment 1 which adds the tax calculation to Exhibit B.Energy Probe.14, Attachment 2.

Lin e	Project Year ($000's)	1	2	3	4	5	6	7	8	9	10	11
	Cash Inflow											
1	Revenue	-	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
	Expenses:											
2	O & M Expense	-	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
3	Municipal Tax	-	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
4	Income Tax	1,734	9,187	12,249	9,637	7,646	5,954	4,516	3,293	2,254	1,369	617
5	Net Cash Inflow	1,734	23,348	26,409	23,797	21,806	20,115	18,677	17,454	16,414	15,530	14,778
	Cash Outflow											
6	Incremental Capital - 2016 In-Service	107,400	6,723	-	-	-	-	-	-	-	-	-
7	Incremental Capital - 2017 In-Service	-	494,114	14,267	-	-	-	-	-	-	-	-
8	Change in Working Capital	-	130	-	-	-	-	-	-	-	-	-
9	Cash Outflow	77,075	375,025	10,644	-	-	-	-	-	-	-	-
	Cumulative Net Present Value											
10	Cash Inflow	1,691	23,360	46,682	66,676	84,109	99,409	112,926	124,945	135,700	145,381	154,147
11	Cash Outflow	77,075	433,902	443,538	443,538	443,538	443,538	443,538	443,538	443,538	443,538	443,538
12	NPV By Year	(75,383)	(410,541)	(396,856)	(376,862)	(359,428)	(344,128)	(330,611)	(318,592)	(307,838)	(298,156)	(289,391)
13	**Project NPV**	-205,502										
	Profitability Index											
14	By Year PI	0.02	0.05	0.11	0.15	0.19	0.22	0.25	0.28	0.31	0.33	0.35
15	Project PI	0.54										
	Calculation of Income Tax											
16	Revenue	-	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
17	O&M Expense	-	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
18	Municipal Tax	-	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
19	Capital Tax	-	-	-	-	-	-	-	-	-	-	-
20	CCA	(6,543)	(48,829)	(60,383)	(50,525)	(43,013)	(36,629)	(31,202)	(26,588)	(22,665)	(19,328)	(16,489)
21	Taxable Income	(6,543)	(34,669)	(46,223)	(36,364)	(28,853)	(22,469)	(17,042)	(12,428)	(8,505)	(5,168)	(2,329)
22	Income Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
23	Current Income Taxes	(1,734)	(9,187)	(12,249)	(9,637)	(7,646)	(5,954)	(4,516)	(3,293)	(2,254)	(1,369)	(617)
24	Income Tax Cash Flow	1,734	9,187	12,249	9,637	7,646	5,954	4,516	3,293	2,254	1,369	617

Lin e	Project Year ($000's)	12	13	14	15	16	17	18	19	20	21	22
	Cash Inflow											
1	Revenue	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
	Expenses:											
2	O & M Expense	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
3	Municipal Tax	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
4	Income Tax	(23)	(568)	(1,031)	(1,426)	(1,645)	(1,832)	(2,109)	(2,345)	(2,546)	(2,717)	(2,863)
5	Net Cash Inflow	14,137	13,593	13,129	12,734	12,515	12,328	12,052	11,816	11,615	11,443	11,297
	Cash Outflow											
6	Incremental Capital - 2016 In-Service	-	-	-	-	-	-	-	-	-	-	-
7	Incremental Capital - 2017 In-Service	-	-	-	-	5,900	-	-	-	-	-	-
8	Change in Working Capital	-	-	-	-	-	-	-	-	-	-	-
9	Cash Outflow	-	-	-	-	5,900	-	-	-	-	-	-
	Cumulative Net Present Value											
10	Cash Inflow	162,126	169,425	176,133	182,324	188,112	193,538	198,585	203,293	207,696	211,823	215,701
11	Cash Outflow	443,538	443,538	443,538	443,538	446,335	446,335	446,335	446,335	446,335	446,335	446,335
12	NPV By Year	(281,412)	(274,113)	(267,405)	(261,214)	(258,223)	(252,797)	(247,751)	(243,043)	(238,640)	(234,512)	(230,635)
13	**Project NPV**											
	Profitability Index											
14	By Year PI	0.37	0.38	0.40	0.41	0.42	0.43	0.44	0.46	0.47	0.47	0.48
15	Project PI											
	Calculation of Income Tax											
16	Revenue	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
17	O&M Expense	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
18	Municipal Tax	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
19	Capital Tax	-	-	-	-	-	-	-	-	-	-	-
20	CCA	(14,074)	(12,018)	(10,268)	(8,779)	(7,952)	(7,247)	(6,203)	(5,313)	(4,555)	(3,908)	(3,356)
21	Taxable Income	87	2,142	3,892	5,382	6,208	6,913	7,957	8,847	9,606	10,253	10,805
22	Income Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
23	Current Income Taxes	23	568	1,031	1,426	1,645	1,832	2,109	2,345	2,546	2,717	2,863
24	Income Tax Cash Flow	(23)	(568)	(1,031)	(1,426)	(1,645)	(1,832)	(2,109)	(2,345)	(2,546)	(2,717)	(2,863)

Lin e	Project Year ($000's)	23	24	25	26	27	28	29	30	31
	Cash Inflow									
1	Revenue	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
	Expenses:									
2	O & M Expense	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
3	Municipal Tax	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
4	Income Tax	(2,988)	(3,095)	(3,186)	(3,264)	(3,330)	(3,387)	(3,436)	(3,478)	(3,397)
5	Net Cash Inflow	11,172	11,066	10,975	10,897	10,830	10,773	10,724	10,682	10,764
	Cash Outflow									
6	Incremental Capital - 2016 In-Service	-	-	-	-	-	-	-	-	-
7	Incremental Capital - 2017 In-Service	-	-	-	-	-	-	-	-	5,900
8	Change in Working Capital	-	-	-	-	-	-	-	-	-
9	Cash Outflow	-	-	-	-	-	-	-	-	5,900
	Cumulative Net Present Value									
10	Cash Inflow	219,349	222,787	226,031	229,096	231,995	234,738	237,336	239,799	242,160
11	Cash Outflow	446,335	446,335	446,335	446,335	446,335	446,335	446,335	446,335	447,662
12	NPV By Year	(226,987)	(223,549)	(220,304)	(217,239)	(214,341)	(211,598)	(208,999)	(206,537)	(205,502)
13	**Project NPV**									
	Profitability Index									
14	By Year PI	0.49	0.50	0.51	0.51	0.52	0.53	0.53	0.54	0.54
15	Project PI									
	Calculation of Income Tax									
16	Revenue	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551	17,551
17	O&M Expense	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)	(2,576)
18	Municipal Tax	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)	(814)
19	Capital Tax	-	-	-	-	-	-	-	-	-
20	CCA	(2,885)	(2,482)	(2,139)	(1,845)	(1,593)	(1,378)	(1,194)	(1,036)	(1,343)
21	Taxable Income	11,276	11,678	12,022	12,316	12,567	12,782	12,966	13,124	12,817
22	Income Tax Rate	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%	26.50%
23	Current Income Taxes	2,988	3,095	3,186	3,264	3,330	3,387	3,436	3,478	3,397
24	Income Tax Cash Flow	(2,988)	(3,095)	(3,186)	(3,264)	(3,330)	(3,387)	(3,436)	(3,478)	(3,397)

UNION GAS LIMITED

Undertaking of Ms. Mikhaila
To Mr. Yardley

To provide the additional detail with respect to lines 8 through 10 of Schedule 1 of Exhibit 1, Tab 10.

Please see Attachment 1 for the additional detail.

UNION GAS LIMITED
Income Tax Component of Revenue Requirement

Line No.	Particulars ($000's)	2016 (a)	2017 (b)	2018 (c)
	Income Taxes - Equity Return			
1	Average Investment	11,432	171,034	592,525
2	Equity Return on Rate Base (line 1 x 36% x 8.93%)	368	5,498	19,048
3	Income Tax Gross-up (1)	34.2%	34.2%	34.2%
4	Total Income Tax Gross-up (line 2 x line 3)	126	1,879	6,510
5	Pre-tax Impact of Equity Return (line 2 + line 4)	493	7,377	25,558
6	Income Tax Rate (1)	25.5%	25.5%	25.5%
7	Income Tax - Equity Return Component of Revenue Requirement (line 5 x line 6)	126	1,879	6,510
	Income Taxes - Utility Timing Differences			
	Utility Timing Differences:			
	Temporary Timing Differences			
8	Capital Cost Allowance	(8,197)	(50,641)	(79,214)
9	Depreciation Expense	1,677	11,310	19,416
10	Total Temporary Timing Differences	(6,520)	(39,331)	(59,798)
	Permanent Differences			
11	Tax Deductible Interest During Construction	(5,687)	(10,582)	-
12	Tax Deductible Plant B Removal Costs	-	-	(5,000)
13	Total Permanent Differences	(5,687)	(10,582)	(5,000)
14	Total Utility Timing Differences (line 10 + line 13)	(12,207)	(49,913)	(64,798)
15	Income Tax Gross-up (1)	34.2%	34.2%	34.2%
16	Total Income Tax Gross-up (line 14 x line 15)	(4,178)	(17,084)	(22,179)
17	Pre-Tax Impact of Utility Timing Differences (line 14 + line 16)	(16,386)	(66,997)	(86,978)
18	Income Tax Rate (1)	25.5%	25.5%	25.5%
19	Income Tax - Utility Timing Differences Component of Revenue Requirement (line 17 x line 18)	(4,178)	(17,084)	(22,179)
20	**Total Income Taxes (line 7 + line 19)**	**(4,053)**	**(15,205)**	**(15,669)**

Notes:

(1)	Income Tax Rate per IRM Settlement Agreement	25.5%
	Income Tax Gross-up [(1 / (1 - 25.5%)) - 100%]	34.2%

UNION GAS LIMITED

Undertaking of Mr. Tetreault
To Mr. Higgin

To provide an updated figured for the Dawn Station revenue requirement.

Please see Attachment 1 for the 2013 Board-approved Dawn revenue requirement, updated as per Union's 2014 Rates application (EB-2013-0365). The Dawn revenue requirement excludes non-utility storage costs.

The supporting cost allocation schedules can be found at the link below.

http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/436593/view/UNION_SettlementA_Cost%20Study_20140430.PDF

Please see Exhibit B.ANE.8, Attachment 1, for the 2013 Board-approved transmission and storage cost allocation factors.

UNION GAS LIMITED
2013 Board-Approved Dawn Revenue Requirement including Project Costs

Line No.	Particulars ($000's)	2013 Board-Approved (1)	2017 Dawn Parkway Project	Other Projects (2)	Total
		(a)	(b)	(c)	(d) = (a + b + c)
	Storage Costs				
1	Storage Dehydrator Demand	316	(13)	(17)	286
2	Storage Dehydrator Commodity	154	(2)	(3)	148
3	Storage Excluding Dehydrator Delivery	42,360	(301)	(865)	41,193
4	Storage Excluding Dehydrator Commodity	7,043	(15)	(19)	7,010
5	Storage Excluding Dehydrator Space	26,713	(1,343)	(1,401)	23,969
6	Storage Excluding Dehydrator System Integrity	8,548	(296)	(331)	7,920
7	Total Storage Costs	85,133	(1,970)	(2,637)	80,526
	Transmission Costs (3)				
8	Dawn Station Demand	20,025	26,076	(631)	45,470
9	Dawn Station Commodity	7,448	-	-	7,448
10	Total Transmission Costs	27,473	26,076	(631)	52,918
11	Total Dawn Storage and Transmission Costs (3)	112,607	24,106	(3,268)	133,444

Notes:
(1) EB-2011-0210, 2013 Board-approved, Updated as per EB-2013-0365.
(2) Includes Parkway West, Brantford to Kirkwall Pipeline and Parkway D Compressor, Hamilton to Milton Pipeline and Lobo C Compressor and Burlington to Oakville Projects.
(3) Excludes Dawn storage-related costs allocated to Ojibway/St. Clair Transmission.

UNION GAS LIMITED

Undertaking of Mr. Sloan (ICF)
To Mr. Quinn

To provide the modifications that were made to Table 4-7.

Updated versions to Exhibits 4-7, 4-8, and 4-9 from Exhibit A, Tab 5, Schedule 1 are attached below. These updates have been prepared by ICF and reflect ICF's most recent information regarding gas pipeline expansions in the North American markets specified in each table.

Exhibit 4-7: Potential Marcellus and Utica Expansions into the Northeast (Updated October 19, 2015)

Project Name	Company	Route	Planned In-Service Date	Planned Capacity MMcfd	Status
East Side Exp.[1]	Columbia Gas Transmission	Increased receipt capacity in NY from Millennium and NJ from Tennessee	Oct-15	310	In-Service
Wright Interconnect Project[2]	Iroquois Gas Transmission	Expand Wright Interconnect to accommodate Constitution Pipeline	Nov-16	650	FERC Approved
Constitution Pipeline[2]	Williams/Cabot Oil/Piedmont Nat Gas	Susquehanna PA to TGP/IGT Wright Interconnect in Schoharie NY	Nov-16	650	FERC Approved
AIM Project	Algonquin	Algonquin looping and compression	Nov-16	342	Under Construction
Connecticut Expansion Project	Tennessee Gas Pipeline	Wright NY to Connecticut on Lines 200 & 300.	Nov-16	72	FERC filed
New Market Expansion	Dominion Transmission	Additional compression along existing system in east central NY	Nov-16	112	FERC filed
Valley Lateral Project[1]	Millennium Pipeline	From Orange County, NY to CPV Valley Energy Center in Wawayanda, NY	Apr-17	130	FERC Pre-Filing
Penneast Pipeline[3]	AGL, NJ, and UGI	Pennsylvania to New Jersey	Sep-17	1,107	FERC filed
South to North[1]	Iroquois Gas Transmission	Reversal of system between Wright and Waddington	Nov-17	650	Announced
Atlantic Bridge	Algonquin & M&N	New Jersey to New England and Maritimes Canada	Nov-17	153	Announced
Millennium Expansion[4]	Millennium Pipeline	Open season March 2015	Nov-17	~350	Announced
Diamond East[1]	Williams Transcontinental	Pennsylvania to New Jersey	Jun-18	1,000	Announced
Access Northeast[5]	Algonquin & M&N	Into New England	Nov-18	1,000	Announced
Northeast Energy Direct[5]	Kinder Morgan	North central PA through east central NY and eastern MA and southern NH	Nov-18	1,300	Announced

[1]These projects are not included in the ICF October 2015 GMM Base Case
[2]Constitution Pipeline and the Wright Interconnect Project are being built in conjunction with each other to enable delivery of up to 650 MMcfd of natural gas from the terminus of the Constitution Pipeline into both the Tennessee Gas Pipeline and Iroquois Gas Transmission. ICF assumes only one project within its October 2015 GMM Base Case.

[3]ICF assumes a capacity of 1,000 MMcfd for the Penneast Project within its October 2015 GMM Base Case.
[4]ICF assumes a capacity of 350 MMcfd for the Millennium Expansion in 2017. This project held an Open Season in March-2015, and has already secured four anchor shippers (http://millenniumpipeline.com/documents/Millennium_Open_Season_Announcement.pdf).
[5]Both Algonquin & M&N's Access Northeast project and Kinder Morgan's Northeast Energy Direct are proposed to serve New England. ICF assumes a generic pipeline expansion of 1,000 MMcfd into New England coming online November-2018.

Exhibit 4-8: Potential Marcellus and Utica Expansions to the Midwest and Ontario (Updated October 19, 2015)

Project Name	Company	Route	Planned In-Service Date	Planned Capacity MMcfd	Status
Uniontown to Gas City[1]	Texas Eastern	Reverse capacity in PA, Ohio, and Indiana	Sep-15	425	Partial In-Service
Ohio Valley Connector[2]	Equitrans Pipeline	Looping and compression expansion in WV and OH	Jun-16	850	FERC filed
Dominion Clarington	Dominion Transmission	Compression expansion WV to OH	Nov-16	250	FERC Approved
Zone 3 Capacity Enhancement	Rockies Express Pipeline	Bi-directional capacity between Muskingum, OH and Decatur, IN	Dec-16	800	FERC filed
Rover Pipeline Pt1[3]	Energy Transfer	Marcellus/Utica to Ohio/Michigan	Dec-16	2,200	FERC Filed
Rover Pipeline Pt2[3]	Energy Transfer	Marcellus/Utica to Ohio/Michigan	Jun 17	1,050	FERC Filed
Midwest Markets Project[2]	ANR Pipeline	Defiance, OH to Farewell, MI. Held open season in March 2015.	Sep-17	558	Announced
NEXUS Gas Transmission[3]	Spectra	NE Ohio to Michigan	Nov-17	1,500	Announced

[1]Uniontown to Gas City began service in September-2015, after receiving approval from FERC on July 28th, 2015 to accelerate its in-service date from November-2015. ICF assumes an in-service date of September-2015 within its October 2015 GMM Base Case.
[2]These projects are not included in ICF's October 2015 GMM Base Case.
[3]These projects are competing to move Utica and Marcellus gas supply into existing markets in Michigan and Ontario. ICF assumes a generic build with a capacity up to 3,250 MMcfd going into the Midwest and Michigan markets, coming fully online by June 2017.

Exhibit 4-9: Potential Pipeline Expansions in Western New York and within Ontario (Updated October 19, 2015)

Project Name	Company	Route	Planned In-Service Date	Planned Capacity MMcfd	Status
Enbridge GTA	Enbridge Gas Distribution	GTA (Greater Toronto Area) project is sized greater than Toronto needs and combined with TCPL builds will relieve constraints on Parkway to Maple corridor.	Oct-15	760	In-Service
Greater Golden Horseshoe Facilities Project	TransCanada Pipe Line	From Niagara and Chippawa stations to Parkway and Kirkwall	Nov-15	325	Under Construction
Kings North - Parkway West	TransCanada Pipe Line	Will receive gas from the Enbridge GTA pipeline.	Nov-16	340	Under Construction
Niagara Expansion	Tennessee Gas Pipeline	Modify Interconnect with NFGS and small pipeline loops in NY and PA.	Nov-15	158	Under Construction
Northern Access 2015	National Fuel Gas Supply	Compression expansion to allow additional Niagara deliveries	Nov-15	140	Under Construction
Dawn to Parkway Projects 2015	Union Gas	Includes Bradford-Kirkwall pipeline and Lobo compressor project.	Jan 16	690	Under Construction
Dawn to Parkway Projects 2016[1]	Union Gas	48” Hamilton to Milton loop	Nov-16	430	Filed with OEB
Northern Access 2016[1]	National Fuel & Empire Pipeline	Loop pipe and add compression to increase deliveries to Niagara and Chippawa	Nov-16	497	FERC filed
Maple Compression	TransCanada Pipe Line	Incremental compression added at existing Maple compression station	Nov-16	438	Filed with NEB
Vaughan Pipeline Loop	TransCanada Pipe Line	Connects the Enbridge GTA pipe to Maple	Nov-17	445	To be filed 2015 Q4
Dawn to Parkway Projects 2017	Union Gas	Bright, Lobo, and Dawn H compression enhancements	Nov-17	480	Announced
Eastern Mainline Expansion[3]	TransCanada Pipe Line	Complete loop of Ontario eastern triangle in conjunction with Energy East pipeline conversion.	2019	N/A	Announced

[1]ICF assumes a capacity of 430 MMcfd for this project.
[2]Project filed with FERC for capacity up to 497 MMcfd. ICF assumes project capacity of 350 MMcfd within its October 2015 GMM Base Case.
[3]Proposed throughput for the TCPL Eastern Mainline Expansion project yet to be determined. ICF assumes a project capacity of 715 MMcfd (approximately 750 GJ/d) in its October 2015 GMM Base Case.

UNION GAS LIMITED

Undertaking of Mr. Tetreault
To Mr. Quinn

To go through each of the individual compressors and say how they're allocated, functionalized between storage, transmission and those that are both storage and transmission.

The allocation of Dawn compressors is provided at Table 1.

Table 1
Allocation of Utility Costs for Compressors at Dawn

Line No.	Particulars	Allocation	Utility Storage	Transmission	Total
		(a)	(b)	(c)	(e) = (b) + (c)
	2013 Board-Approved				
1	Dawn Plant B	Allocated (1)	55%	45%	100%
2	Dawn Plant C	Allocated (1)	55%	45%	100%
3	Dawn Plant D	Allocated (1)	55%	45%	100%
4	Dawn Plant E	Directly Assigned	0%	100%	100%
5	Dawn Plant F	Allocated (1)	55%	45%	100%
6	Dawn Plant G	Allocated (1)	55%	45%	100%
7	Dawn Plant J	Allocated (1)	55%	45%	100%
8	Dawn Plant I	Unregulated	0%	0%	0%
9	Proposed Dawn Plant H	Directly Assigned	0%	100%	100%

Notes:
(1) COMPRECL-PT functionalization factor, as per EB-2011-0210, Exhibit G3, Tab 3, Schedule 4, p.2. These compressors also include an unregulated storage allocation.

UNION GAS LIMITED

Undertaking of Mr. Tetreault
To Mr. Quinn

To differentiate the cost drivers that would be in play and would direct the cost allocation for the differences between Plant B and the new Plant H

Per the Board's decision in Union's 2010 Deferral Disposition proceeding (EB-2011-0038), Union identifies three categories of underground storage assets:

a. storage assets that are directly attributable to providing storage services;
b. storage assets that are directly attributable to providing transmission services only; and,
c. storage assets that provide both storage and transmission services.

Dawn Plant B is functionalized between storage and transmission as it can provide both storage and transmission service (as per c. above). Union utilizes a horsepower allocation methodology to functionalize compression-related costs between the storage and transmission functions based on the amount of compression horsepower required to provide storage and transmission services on design day. This methodology is consistent with the utility allocation of Dawn C, Dawn D, Dawn F, Dawn G and Dawn J. In determining the overall horsepower allocation for Dawn plant, Dawn Plant B horsepower is 100% transmission on Design Day.

Dawn Plant H cannot provide storage service. Dawn H is directly assigned to transmission as it is dedicated to providing utility transmission service only (as per b. above). Accordingly, Union has proposed to direct assign Dawn H to transmission in Union's cost allocation study and allocate its costs to rate classes in proportion to design day demands that require Dawn compression. Kirkwall to Parkway Project demands of 85,000 GJ/d are excluded from this allocator as they do not require Dawn compression. This methodology is consistent with the allocation of Dawn Plant E, which is also directly assigned to transmission, as it provides utility transmission service only.

UNION GAS LIMITED

Undertaking of Mr. Redford
To Mr. Quinn

To advise what the excess capability at Dawn was and the amount that was taken up as a result of 2015 and 2016 Dawn to Parkway System Expansions, separating whatever goes to Panhandle.

In Winter 2014/ 2015 there was 0.82 PJ/d of excess capacity at Dawn.

The 2015/2016 Dawn Parkway builds used 0.34 PJ/d of the Dawn capacity.

The 2016/2017 Panhandle is forecast to use 0.04 PJ/d of Dawn capacity and the Dawn Parkway builds are forecast to use 0.43 PJ/d of the Dawn capacity.

As of Winter 2016/2017 there is 0.01 PJ/d excess transmission horsepower remaining at Dawn.

For Winter 2017/2018 there is forecast incremental Dawn sendout capacity of 0.48 PJ/d required. Specifically for Winter 2017/2018, the breakdown of changes in the Dawn sendout is shown in the table below.

Changes to Dawn Sendout (2017/2018)	GJ/d
In-franchise North	5,975
Dawn to Parkway	362,082
Kirkwall to Parkway	0
Turnback	-42,047
PDO Reduction	22,778
Change in Line Pack	44,961
Reduce Winter 16/17 Shortfall to Zero	66,382
Incremental Fuel	19,850
Total	479,981

UNION GAS LIMITED

Undertaking of Mr. Lamoureux
To Mr. Garner

To file pages 50 to 53 of the above-mentioned document.

Please see Attachment 1.

e) A critical unit compressor outage has occurred at either Lobo or Bright;

f) All compression at Parkway is available and online;

g) Required pressure and supply are available from Dawn;

h) Maximum Operating Pressure of 6,160 kPag (893 psig);

i) Minimum pressures for laterals supplying in-franchise customers are met;

j) Minimum suction pressures for Dawn-Parkway compressor units are met; and

k) Minimum contractual delivery pressures at Kirkwall of 4,480 kPag (650 psig), at Parkway(TCPL) of 6,450 kPag (935 psig) and at Parkway(Consumers) and Lisgar of 3,450 kPag (500 psig) are met.

8. The Dawn-Parkway system differs from many transmission pipelines in that it is a relatively short system which moves a large volume of gas. As a result, the impact of an outage anywhere on the Dawn-Parkway System is felt almost immediately, and Union has very little line pack to mitigate short-term outages.

9. Some Union in-franchise Direct Purchase customers have an obligation to deliver their Daily Contract Quantity (DCQ) to the compressed ("discharge") side of Parkway ("Parkway Obligation") which reduces the amount of gas required to physically flow through the Parkway compressors. Parkway Obligations for the 2014-2015 gas-year total 0.64 PJ/d. As a result, flow through the Parkway compressors to meet firm commitments for the 2014-2015 gas-year is forecast to be 2.3 PJ/d. If the Obligated Deliveries were not received at Parkway, flow through Parkway compression, and along the Dawn-Parkway System, could increase by up to 0.64 PJ/d.

10. Union has surplus capacity on the Dawn-Parkway System in 2014/2015 of approximately 0.2 PJ/day. If the surplus is sold, the Design Day flow through the Parkway compressors would increase to approximately 2.5 PJ/d.

Loss of Critical Unit Protection

11. Loss of critical unit coverage is included in the Design Day analysis to ensure that all firm demands are met in the event of an unplanned compressor outage, or a planned outage for maintenance of the critical compressor unit at the Lobo, Bright or Dawn compressor stations.

There is currently loss of critical unit protection on the Dawn–Parkway System to provide reserve horsepower that protects the flow of natural gas from an outage at either Lobo or Bright. There is also loss of critical unit protection at Dawn to provide reserve horsepower that protects the flow of natural gas out of Dawn. No firm Dawn-Parkway transportation services are sold using the capacity created by the loss of critical unit horsepower.

12. Loss of critical unit protection for the Dawn-Parkway System was originally proposed by Union in 1990 as a direct result of a major compressor failure at Dawn. In January 1990, Dawn Plant C suffered a complete failure of the gas turbine. Union was able to locate a spare engine within seven days to replace the gas turbine. Without a spare engine, Dawn Plant C would have been unavailable for three months while the engine was repaired.

13. During EBRO 462, the issue of loss of critical unit protection was introduced by a proposal to construct a new compressor at the Lobo station for loss of critical unit protection covering Dawn-Parkway in-franchise and ex-franchise firm transportation requirements. Although the Ontario Energy Board identified this as a significant change in Union's approach to system design, loss of critical unit protection costs were approved for inclusion in Union's rate base. The Decision with Reasons from EBRO 462 stated:

> *"In reaching its finding, the Board has been mindful of the fact that accidents and equipment failures do occur. By nature they are unpredictable both as to timing and extent. A complete failure of the LCU (Bright compressor) could have serious consequences for all of Union's customers, especially if the outage is prolonged. A major shutdown could not, according to the evidence, be confined to any particular class of customers. Interruptible customers cannot be relied upon to get off the system quickly enough and line-pack gas is of little, if any, use. Most persuasively, the need for speedy reaction is apparent from the evidence which referred to the compressor problems of January, 5, 1988. The Board has concluded that, as a safe and reliable provider of distribution, sales, transmission and storage services, Union requires the type of protection that it is seeking. Accordingly, the Board finds that the cost of LCU protection, as proposed by Union in this case, is appropriate for inclusion in rate base."*

14. At the time of the EBRO 462 application, the entire Dawn-Parkway System design day throughput was 2.3 PJ/d. At that time, design day flows through Parkway to the TCPL Mainline were less than 0.5 PJ/d. Loss of critical unit protection at Parkway was not deemed critical at these flows. Since that time, flows through Parkway compression have increased and are forecast to be 2.3 PJ/d on Design Day in winter 2014/2015, and over 3.4 PJ/d by the winter of 2015/16. Additionally, the requirement to export to the TCPL Mainline on a year-round basis has significantly increased reliance on the Parkway compressors.

15. Union's current Design Day analysis is performed with the Lobo Plant B compressor offline. All firm volumes, both in-franchise and ex-franchise, must be met on the coldest winter day with the Lobo Plant B compressor unavailable.

16. Union's philosophy of maintaining horsepower in reserve at Dawn and at Lobo or Bright provides loss of critical unit protection along the Dawn-Parkway System from Dawn up to the inlet of the Parkway compression. Deliveries into the Enbridge system at Parkway are loss of critical unit protected, because these deliveries flow to Enbridge from the suction (uncompressed) side of Parkway. Union does not have dedicated loss of critical unit protection to meet firm deliveries into the TCPL Mainline at Parkway.

17. Loss of critical unit protection is a common feature of system design across storage and transmission companies. For example, loss of critical unit protection is an element of the system design of the TCPL Mainline (EB-2011-0210: IR Union-TCPL 13(c)) with firm transportation on the Mainline is backed by loss of critical unit protection. See also TCPL's section 58 application in connection with its 2012 Eastern Canadian Mainline Expansion.

18. Spectra Energy's Western Canadian operations utilize a percent reserve margin to provide protection in case of a loss of throughput in their facilities. Their system is designed to meet 105% of design demands.

19. Parkway is in a unique position of being located at the terminus of the Dawn-Parkway System where Union discharges into the TCPL Mainline. Parkway compression is required to meet firm deliveries for in-franchise and ex-franchise customers into the TCPL Mainline at TCPL pressure requirements. No loss of critical unit protection is currently provided to maintain the flow of natural gas through Parkway to the TCPL Mainline in the event of an outage of a

compressor at Parkway. Union has identified the lack of loss of critical unit protection at Parkway as the most significant operational risk on its system.

UNION GAS LIMITED

Undertaking of Mr. Lamoureux
To Mr. Higgin

To identify how the costs of the spare engine will be allocated to the various elements of the Dawn-to-Parkway System.

The costs for the spare engine have been included in the Lobo D cost estimates. The spare engine can primarily be used to replace Dawn Parkway compressors at Lobo, Bright and Parkway. Accordingly, the costs for the spare engine have been classified as Dawn-Parkway Easterly Transmission Demand costs and allocated to rate classes in proportion to distance weighted Dawn Parkway System design day demands.

UNION GAS LIMITED

Undertaking of Mr. Wallace
To Mr. Quinn

To provide the reference where the conversion was given as to what Dawn-to-Parkway capacity was created.

The reference to the Keyspan Dawn to Kirkwall turnback of 138,600 GJ/d conversion to Dawn Parkway capacity can be found in EB-2014-0261, Exhibit A, Tab 8, pg. 8, lines 19-21.

The reference notes: *In Winter 2015/2016 the shortfall is expected to be managed using the forecast KeySpan Dawn to Kirkwall turn back which results in a Parkway equivalent volume of 122,677 GJ/d.*

UNION GAS LIMITED

Undertaking of Mr. Wallace
To Mr. Quinn

To ask whether the other customers are contracting, to Union's knowledge, to serve an existing gas-fired plant or to increase capacity to an existing gas fired plant.

As noted at Exhibit A, Tab 6, page 4, Table 6-2, TransCanada Energy has reserved 120,000 GJ/d of Dawn to Parkway transportation capacity commencing November 1, 2017 (also at Exhibit A, Tab 6, pg. 9). Union understands that this transportation capacity will be utilized to serve the proposed TCE Napanee gas-fired power generation plant.

Union is not able to identify if other shippers that have reserved capacity through the 2017 Open Season are serving new or existing Ontario gas-fired power generation.

Filed: 2015-10-20
EB-2015-0200
Exhibit B.SEC.1
Attachment 1

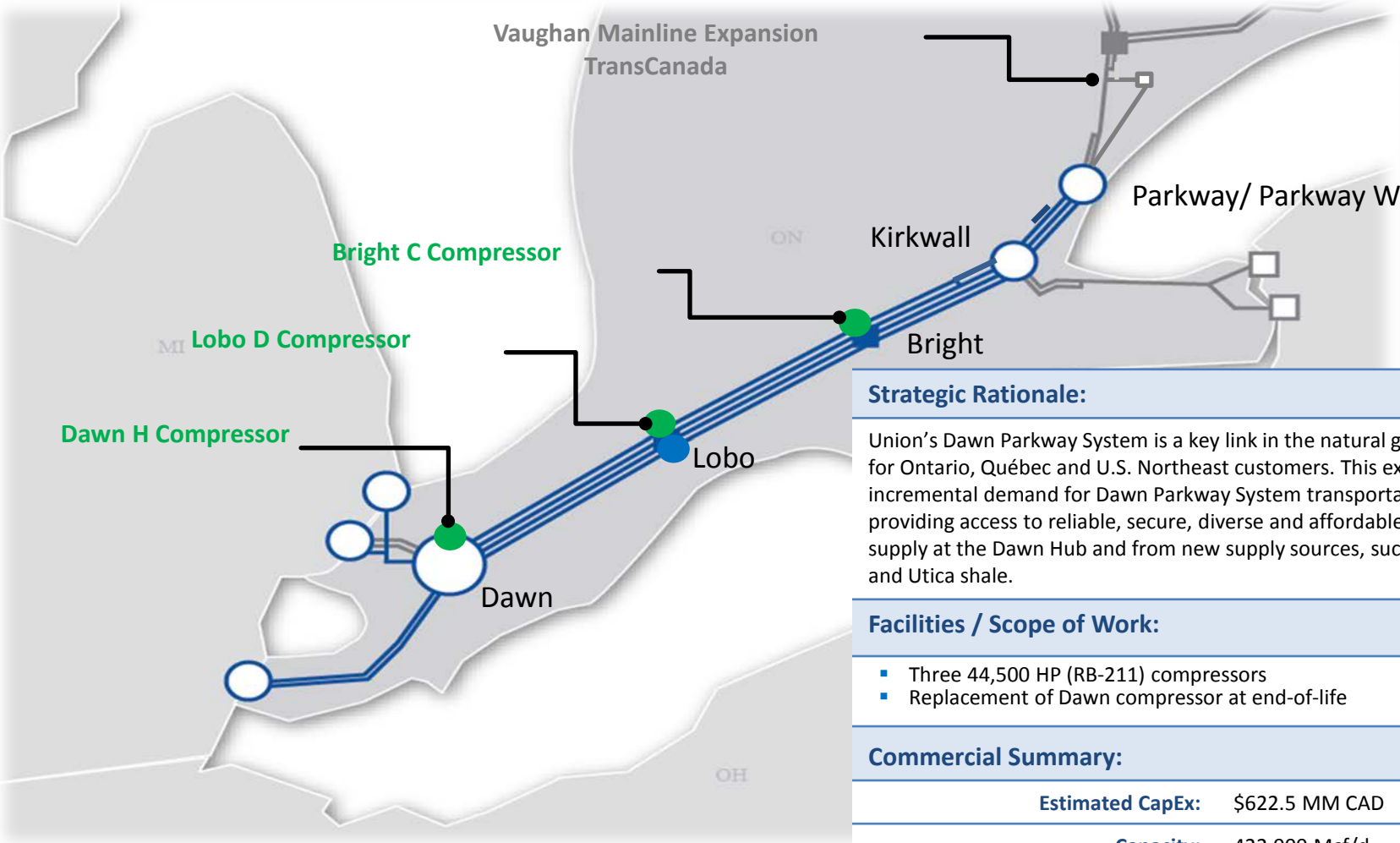
2017 Dawn Parkway Project

Union Gas Limited

Steve Baker
President, Union Gas

2017 Dawn Parkway Project
Transaction Overview

Filed: 2015-10-20
EB-2015-0200
Exhibit B.SEC.1
Attachment 1



Strategic Rationale:

Union's Dawn Parkway System is a key link in the natural gas delivery chain for Ontario, Québec and U.S. Northeast customers. This expansion meets incremental demand for Dawn Parkway System transportation capacity providing access to reliable, secure, diverse and affordable natural gas supply at the Dawn Hub and from new supply sources, such as Marcellus and Utica shale.

Facilities / Scope of Work:

- Three 44,500 HP (RB-211) compressors
- Replacement of Dawn compressor at end-of-life

Commercial Summary:

Estimated CapEx:	$622.5 MM CAD
Capacity:	422,000 Mcf/d
Term:	15 years

In-Service Date: November 1, 2017

2017 Dawn Parkway Project
Base Case Assumptions

Filed: 2015-10-20
EB-2015-0200
Exhibit B.SEC.1
Attachment 1

Spectra Energy

Project Level

In-Service Date:	November 1, 2017
CapEx:	C$622.5 MM Meets capital pass through threshold per Incentive Regulatory Mechanism (IRM) framework
Annual Revenue:	Estimated incremental annual revenue requirement of C$44 MM

Assumptions:	• Full cost of service recovery in rates at regulated return as facilities placed into service
	  • Deferral account true up for CapEx; O&M; cost of debt and equity; and timing of in-service date
	• CapEx In-Service :
	  • November 2016 $107 MM
	  • November 2017 $501 MM
	  • Q2 2018 $15 MM
	• Rebasing in 2019; 5 year IRM terms thereafter
	• Revenue (Rate) increases 1.0% annually
	• IRM rate increase based on 40% GDP IPI FDD *
	• Capital pass through based on 26.5% tax rate
	• O&M inflated 2% annually

** Gross Domestic Product ,Implicit Price Index, Final Domestic Demand*

2017 Dawn Parkway Project
Financials – Base Case

Filed: 2015-10-20
EB-2015-0200
Exhibit B.SEC.1
Attachment 1

IRR = 5.8%

Base Case Project Metrics	
Total CapEx	$622.5
NPV @ 5.5% ($MM)	$16.9
NPV @ 8.5% ($MM)	$(128.2)
Payback (years)	13.9
EBITDA multiple (2018)	14.1x

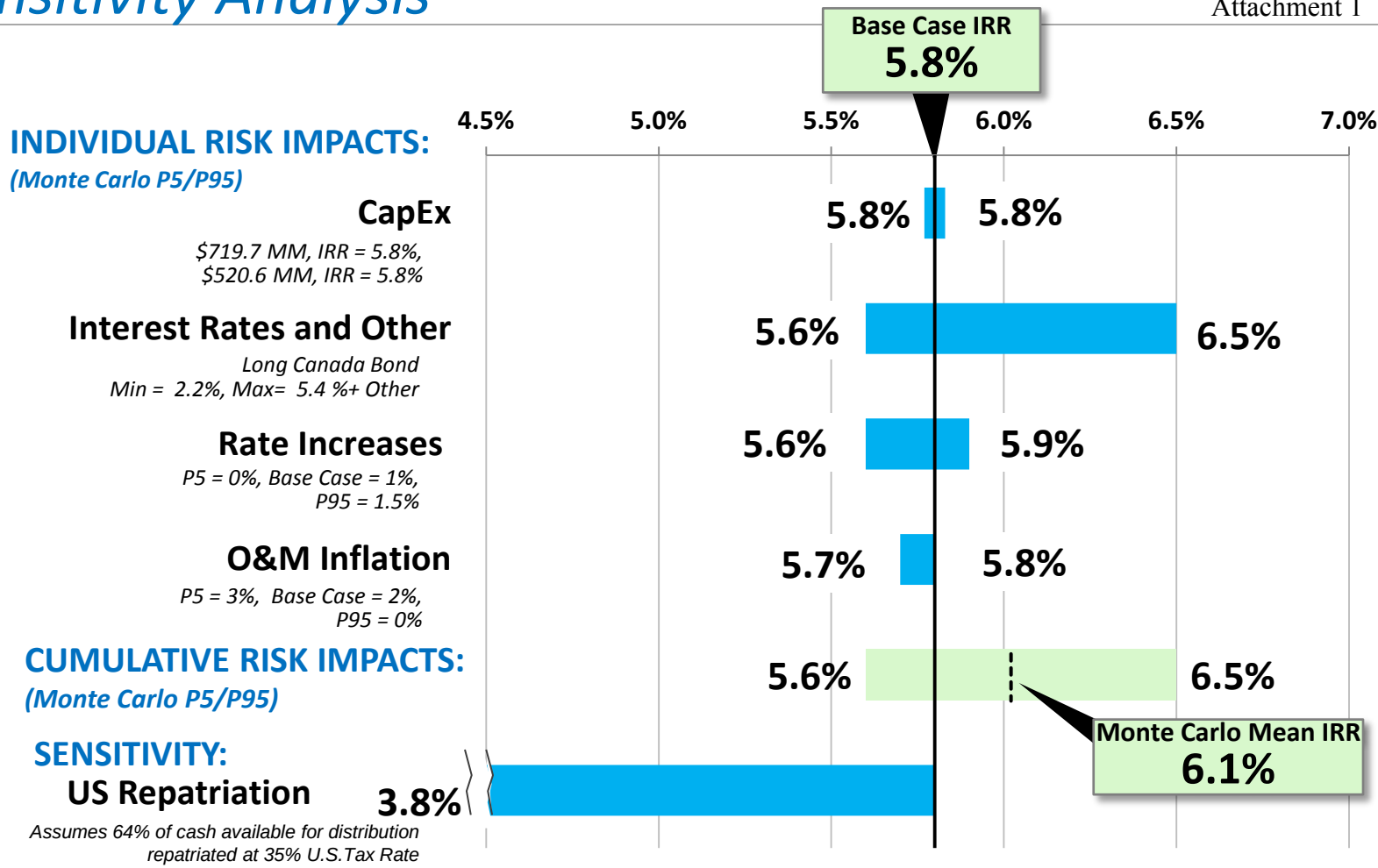
Base Case IRR Components	
Regulated Return IRR	5.0%
Other	0.6%
Rate Increases	0.2%
Base Case IRR	**5.8%**

($MM)	2015	2016	2017	2018	2019	2020
Project Level C$ (1)						
CapEx	41.0	384.3	182.9	14.3	-	-
EBITDA	-	(1.9)	6.6	44.2	47.5	49.9
ROCE (%)	-	(1.5%)	(0.9%)	4.3%	5.1%	5.9%
ROE (%)	-	10.9%	10.9%	10.9%	10.9%	10.9%
SE Level - US$ (2) *Debt/ EBITDA (2018) = 9.0x*						
SE DCF	(0.3)	(2.7)	7.3	34.0	33.4	32.6
SE DCF/Share	(0.001)	(0.008)	0.001	0.039	0.038	0.037
EPS Accretion/Dilution	(0.001)	(0.011)	(0.023)	(0.001)	0.001	0.003

(1) Project Level assumes 100% ownership and is before financing
(2) Fx 1.25; 64/36 debt equity

2017 Dawn Parkway Project
Sensitivity Analysis

Filed: 2015-10-20
EB-2015-0200
Exhibit B.SEC.1
Attachment 1



60% **Probability of Capex being less than C$622.5M**

35% **Probability of In Service before November 1, 2017**

Authorization

- Authorization to spend no more than C$622.5 MM in capital