ENBRIDGE

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VIA RESS, EMAIL and COURIER

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

Dear Ms Walli:

Re: Enbridge Gas Distribution Inc. ("Enbridge")
Cap and Trade Application ("Application")
Ontario Energy Board ("Board") File Number EB-2016-0300
J –Undertakings Responses

Enclosed please find the following undertakings:

- J1.1 to J1.8.

This submission was filed through the Board's Regulatory Electronic Submission System and will be available on the Enbridge website at www.enbridgegas.com/ratescase.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Signed)

Lorraine Chiasson
Regulatory Coordinator

cc: Mr. D. O'Leary, Aird & Berlis LLP
All Interested Parties EB-2016-0300 (via email)

UNDERTAKING J1.1

UNDERTAKING

TR 1, p.24

To update the Tables at Exhibit G, Tab 1, Schedule 1, Appendix A, Tables A1 And A2.

RESPONSE

Please see below the updated Tables A1 and A2 based on the cost of allowances of $18.08/tonne CO_2e which represents the settlement price from March 2017 Ontario Auction #1.

Please note that Tables A1 and A2 use the forecast volumes and CO_2 emissions as filed in the Cap and Trade Application on November 15, 2016. Table A2 was updated on February 23, 2017 to correct CH_4 and N_2O emission factors for boilers and compressor fuel volumes resulting in a slight change to total facility-related emissions.

Should the Board approve the application as filed, then the interim Cap and Trade rates would become final Cap and Trade rates and any variance (everything else being equal) between the actual costs of emissions and the actual amount recovered through rates will be captured in the Greenhouse Gas Emissions Customer and Facility Costs Variance Account (GGECFCVA).

Witness: A. Kacicnik

TABLE A1

TABLE 1: 2017 CUSTOMER-RELATED VOLUMES, EMISSIONS, COST OF EMISSIONS AND UNIT RATE

		Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
Line	Rate	Budget Forecast Volumes[1]	LFE, Voluntary Participants and Other Exempt Gas Volumes[2]	Net Volumes[3]	Net CO_2e Emissions[4]	Assumed Cost of Allowances[5]	Cost of CO_2e Emissions[6]	Unit Rate[7]
		(10^3m^3)	(10^3m^3)	(10^3m^3)	(Tonnes CO_2e)	($/tonne CO_2e)	($)	(¢/m^3)
1.1	1	4,911,477.9	0.0	4,911,477.9	9,207,189.1	18.08	166,465,978.6	
1.2	6	4,862,269.2	120,126.9	4,742,142.3	8,889,748.0	18.08	160,726,643.7	
1.3	9	262.8	0.0	262.8	492.7	18.08	8,907.1	
1.4	100	0.0	0.0	0.0	0.0	18.08	0.0	
1.5	110	861,434.8	403,080.8	458,354.0	859,242.8	18.08	15,535,109.5	
1.6	115	490,291.9	304,439.5	185,852.4	348,403.9	18.08	6,299,143.0	
1.7a	125	305,896.4	0.0	305,896.4	573,441.7	18.08	10,367,825.0	
1.7b	125D[8]	325,082.3	0.0	325,082.3	609,408.1	18.08	11,018,097.7	
1.8	135	60,899.0	0.0	60,899.0	114,162.9	18.08	2,064,065.4	
1.9	145	63,318.2	14,091.0	49,227.2	92,282.6	18.08	1,668,470.1	
1.10	170	296,313.0	183,005.6	113,307.4	212,409.1	18.08	3,840,356.7	
1.11	200	170,842.7	170,842.7	0.0	0.0	18.08	0.0	
1.12	300	35,440.4	34,992.0	448.4	840.6	18.08	15,197.7	
1	Total Customer-Related	12,383,528.6	1,230,578.5	11,152,950.1	20,907,621.4	18.08	378,009,794.7	3.3893

Notes:

(1) Exhibit B, Tab 2, Schedule 1, Table 1, Col. 1 - Col. 2

(2) Exhibit B, Tab 2, Schedule 1, Table 1, Col. 4 and Col. 5. Rate 300 is landfill gas volume.

(3) Col. 1 - Col. 2

(4) Exhibit B, Tab 3, Schedule 1, Table 1, Col. 5

(5) Internal forecast of carbon allowance pricing based on past auction data and Cap and Trade Regulation

(6) Col. 4 x Col. 5

(7) (Col. 6 / (Col. 3 x 1000)) x 100

(8) Dedicated unbundled customers

Customer-Related Unit Rate Calculation

Cap and Trade Customer Related Charge = Cost of CO_2e Emissions / Net Volumes
= $ 378,009,794.7 / 11,152,950.1 10^3m^3
= 3.3893 ¢/m^3

TABLE A2

TABLE 2: 2017 FACILITY-RELATED VOLUMES, EMISSIONS, COST OF EMISSIONS AND UNIT RATES

Line		Col. 1 Volumes[1] (10^3m^3)	Col. 2 CO_2e Emissions[2] (Tonnes CO_2e)	Col. 3 Assumed Cost of Allowances[3] ($/tonne CO_2e)	Col. 4 Cost of CO_2e Emissions[4] ($)	Col. 5 Unit Rate ($¢/m^3$)	
2.1	Company Use						
2.1.1	Fleet	1,500.0	2,811.9	18.08	50,839.9		
2.1.2	Buildings	1,505.9	2,823.0	18.08	51,040.3		
2.1.3	Boilers	3,930.2	7,307.8	18.08	132,125.0		
2.1	Company Use	6,936.2	12,942.8	18.08	234,005.2	0.0019	5
2.2	Unaccounted For Gas (UAF)	98,279.0	184,236.5	18.08	3,330,995.3	0.0277	6
2.3	Compressor Fuel	17,191.8	31,966.0	18.08	577,944.6	0.0049	7
2	Total Facility-Related	122,407.0	229,145.2	18.08	4,142,945.1	0.0344	

Notes:

(1) Exhibit B, Tab 2, Schedule 1, Table 2

(2) Exhibit B, Tab 3, Schedule 1, Table 3, Col. 5

(3) Internal forecast of carbon allowance pricing based on past auction data and Cap and Trade Regulation

(4) Col. 2 x Col. 3

(5) Cost of CO_2e emissions / Total customer-related volume = [Col. 4 / (Exhibit A1, Table 1, Line 1, Col. 1 x 1000)] x 100

(6) Cost of CO_2e emissions / (Total customer-related volume - Rate 125D customers - landfill gas volume) = [Col. 4 / ((Exhibit A1, Table 1, Line 1, Col. 1 - Line 1.7b, Col. 1 - Line 1.12, Col. 2) x 1000)] x 100

(7) Cost of CO_2e emissions / (Total customer-related volume excluding unbundled customers (Rates 125 and 300) + Rate 325 Volume) = [Col. 4 / ((Exhibit A1, Table 1, Line 1, Col. 1 - Line 1.7a, Col. 1 - - Line 1.7b, Col. 1 - Line 1.12, Col. 1 + 190,328 10^3 m^3)) x 1000] x 100

Facility-Related Unit Rate Calculations

Company Use = Cost of CO_2e Emissions for Company Use / Total Customer-Related Volume
= $ 234,005.2 / 12,383,528.6 10^3m^3
= 0.0019 $¢/m^3$

Unaccounted For Gas Volumes = Cost of CO_2e Emissions for Unaccounted For Gas / (Total Customer-Related Volume Excluding Rate 125D and Landfill Gas)
= $ 3,330,995.3 / (12,383,528.6 - 325,082.3 - 34,992.0) 10^3m^3
= 0.0277 $¢/m^3$

Compressor Fuel Volumes = Cost of CO_2e Emissions for Compressor Fuel / (Total Customer-Related Volume Excluding Unbundled Customers + Rate 325 Volume)
= $ 577,944.6 / (12,383,528.6 - 305,896.4 - 325,082.3 - 35,440.4 + 190,328.0) 10^3m^3
= 0.0049 $¢/m^3$

Facility-Related Charge = 0.0019 + 0.0277 + 0.0049 $¢/m^3$
= 0.0344 $¢/m^3$

UNDERTAKING J1.2

UNDERTAKING

TR 1, p.58

To provide a copy of the table at Exhibit C, Tab 3, Schedule 6, Page 7, Table 1 (Page 13 in IGUA compendium) updated to reflect the actuals.

RESPONSE

The costs captured in the 2016 GGEIDA include:

Cost Element	**Actual Amount**
IT billing system – revenue requirement	$ (99,500)
Staff Resources	$533,321
Market Intelligence, and Consulting Support	$268,199
Customer Education and Outreach	$44,783
External Legal Counsel (Compliance Readiness and C&T Regulatory Proceeding Preparations)	$93,533
Total	**$840,336**

The table above does not include the total installed capital costs associated with the IT billing system of $564,200. In TR. 1, pg. 57, the quoted 2016 GGEIDA balance assumed inclusion of the total installed capital costs of the IT billing system update. The IT billing system was put into service in late 2016, resulting in a revenue requirement of ($99,500) in 2016.

Enbridge notes that some services were rendered in 2016, but were invoiced and will therefore be accounted for in the 2017 GGEIDA.

Witnesses: A. Langstaff
F. Oliver-Glasford

UNDERTAKING J1.3

UNDERTAKING

TR 1, p.84

To file the sensitivity analysis from Enbridge's submission in the Stakeholder Consultation on the Report of the Board, EB-2015-0363.

RESPONSE

The below paragraphs and tables are taken from page 16 and Appendix A respectively of Enbridge's submission in the Stakeholder Consultation on the Report of the Board, EB-2015-0363.

> As noted in the discussion paper, settlement prices from recent quarterly auctions, namely 2015, have been stable; however, the currency exchange rate has fluctuated during this period. As per the final Cap and Trade Regulation, the minimum price will be "…the higher of the annual auction reserve prices most recently established, as of the day of the auction, for each of Québec and California." It should be noted that both auctions settle at the same price, as a result of the exchange rate. If an annual calibration period was implemented from the year of 2015, assuming an annual refresh is implemented, approximately $52M would have been recorded in the cap and trade variance account to be collected from customers – a material amount. This variance would have been composed of: $9M due to pricing being higher than anticipated and $43M due to exchange rate fluctuation. This would represent an increase (vs. forecast) in the cap and trade costs of approximately 16%, which is composed of an exchange rate increase of 13% and carbon allowance price increase of 3%.
>
> Carbon allowance prices have not always been stable year-over-year. If an annual rate mechanism was implemented for 2013, a variance account balance of about $60M would have been realized and needed to be collected from customers. In comparison to 2015, the 2013 variance is primarily attributable to the fluctuation in carbon allowance pricing (+$48M). The difference in exchange rate further impacts the amount of the variance, although to a lesser degree (+$12M).
>
> Appendix A contains analysis to fully illustrate the above two scenarios.

Witness: A. Kacicnik

EGD simulated 2015 emission allowance Analysis based on 2015 auction data

Rate		Consumption Volume 103m3	CO2e Emissions tonnes
1		4,997,039.58	9,369,449.21
6		5,006,600.93	9,387,376.75
9		328.28	615.52
100		-	-
110		667,950.07	1,252,406.38
115	*	512,238.60	960,447.38
125		630,978.69	1,183,085.05
135		68,664.95	128,746.78
145		77,495.98	145,304.96
170		394,777.92	740,208.61
200		176,403.19	330,755.97
300 (including Landfil gas)	*	35,440.43	66,450.80
		12,567,918.62	23,564,847.42

* 2017 volume as proxy (2015 volume not available)

Allowance bought

Date	Cdn $	Cdn Unit Price	US$ Unit P	FX	Cdn Unit Price at $1.13	Cdn $
Nov-15	$ 89,216,883.47	$ 17.00	12.73	$ 1.34	$ 14.40	$ 84,849,858.46
Aug-15	$ 88,427,089.94	$ 16.39	12.52	$ 1.31	$ 14.17	$ 83,450,135.74
May-15	$ 96,556,962.30	$ 15.01	12.29	$ 1.22	$ 13.90	$ 81,917,106.09
Feb-15	$ 100,140,992.96	$ 15.14	12.21	$ 1.24	$ 13.81	$ 81,383,878.39
	$ 374,341,928.68					$ 331,600,978.68
Budget Allowance						
Budget Cdn Dollar	$ 322,487,293.41	$ 13.69	12.1	$ 1.13		
Amount captured by variance account (Including Price and FX fluctuation)	$ 51,854,635.26					
	16%					
Amount captured by variance account (Price fluctuation Only)	$ 9,113,685.26					
	3%					
Amount captured by variance account (FX fluctuation Only)	$ 42,740,950.00					
	13%					

Witness: A. Kacicnik

EGD simulated 2013 emission allowance Analysis based on 2013 auction data

Rate		Consumption Volume 103m3	CO2e Emissions tonnes
1		4,785,564.37	8,972,933.18
6		4,739,870.03	8,887,256.31
9		711.29	1,333.68
100		-	-
110		522,326.44	979,362.08
115	*	568,678.52	1,066,272.23
125	*	630,978.69	1,183,085.05
135		55,455.90	103,979.81
145		166,467.34	312,126.26
170		496,776.04	931,455.08
200		184,331.97	345,622.43
300 (including Landfil gas)	*	35,440.43	66,450.80
		12,186,601.02	22,849,876.91

* 2017 volume as proxy (2013 volume not available)

Allowance bought

Date	Cdn Dollar Per 2013 actual auction price							
	Cdn $	Cdn Unit Price	US$ Unit Price		FX		Cdn Unit Price	Cdn $
Nov-13	$ 68,807,608.12	$ 12.05	11.48	$	1.05	$	11.36	$ 64,895,052.61
Aug-13	$ 73,200,290.05	$ 12.81	12.22	$	1.05	$	12.09	$ 69,078,183.18
May-13	$ 81,562,791.34	$ 14.28	14.00	$	1.02	$	13.85	$ 79,140,308.06
Feb-13	$ 78,569,993.98	$ 13.75	13.62	$	1.01	$	13.48	$ 76,992,213.98
	$ 302,140,683.49							$ 290,105,757.83
Budget Allowance								
Budget Cdn Dollar	$ 242,169,342.66	$ 10.60	10.71	$	0.99			
Amount captured by variance account (Including Price and FX fluctuation)	$ 59,971,340.82							
	25%							
Amount captured by variance account (Price fluctuation Only)	$ 47,936,415.17							
	20%							
Amount captured by variance account (FX fluctuation Only)	$ 12,034,925.66							
	5%							

Witness: A. Kacicnik

UNDERTAKING J1.4

UNDERTAKING

TR 1, p.114

To provide the dollar value impact in 2017 if the forecast volumes were 25 percent different.

RESPONSE

If either the price per allowance or total volume increased by 25%, the total dollar impact would be an increase of $93,530,192 for a total annual compliance cost of $467,650,961.

Table 1: Cost impact of +/- 25% Change in Emissions[1]

Scenario	GHG Emissions (tCO_2e)	Total Forecast Cost of Compliance
At forecast volume	21,136,767	$374,120,769
25% lower than forecast	15,852,575	$280,590,576
25% higher than forecast	26,420,958	$467,650,961

Table 2: Cost impact of +/- 25% Change in Price[2]

Scenario	Price ($)	Total Forecast Cost of Compliance
At proxy	$17.70	$374,120,769
25% lower than proxy	$13.28	$280,590,576
25% higher than proxy	$22.13	$467,650,961

[1] In Table 1 the price is held constant at $17.70 per tonne.
[2] In Table 2 the emissions are held constant at 21,136,767 tonnes.

Witnesses: A. Langstaff
J. Murphy
F. Oliver-Glasford

UNDERTAKING J1.5

UNDERTAKING

TR 1, p.118

To provide the GGEIDA, the costs incurred to date in 2017.

RESPONSE

The table below provides a listing of the costs incurred in GGEIDA from January 1 through March 31, 2017.

Cost Element	**Actual Amount**
IT billing system – revenue requirement*	$98,600
Staffing Resource	$162,056
Implementation, Market Intelligence, and Consulting Support	$46,675
External Legal Counsel (Compliance Readiness and C&T Regulatory Proceeding Preparations)	$78,514
Incremental Cap and Trade related GHG Reporting and Verification	$0
Customer Education and Outreach	$12,881
Total	$398,726

*The table above denotes the full year cost of the revenue requirement for the IT billing system. A pro-rated amount for the revenue requirement for the first three months would be $24,650.

Enbridge notes that the 2017 administrative costs include services rendered in 2016, but invoiced in 2017.

Witnesses: A. Langstaff
F. Oliver-Glasford

UNDERTAKING J1.6

UNDERTAKING

TR 1, p.126

To explain why the change in forecasts re: in 2016, 9.5 was the forecast, in 2017, 9.796 is the forecast.

RESPONSE

The Company's EB-2012-0459 as filed 2017 bad debt forecast was $9.796 M, as found at Exhibit D6, Tab 2, Schedule 2 of that proceeding. As was indicated at Exhibit D6, Tab 2, Schedule 1, of EB-2012-0459, the 2017 value for "Other O&M", which included bad debt costs, was determined by applying an average annual growth rate, calculated based on forecast "Other O&M" costs between 2013 through 2016, to the 2016 forecast "Other O&M" costs.

Witness: D. McIlwraith

UNDERTAKING J1.7

UNDERTAKING

TR 1, p.164

To confirm the figure of $16 or $17.

RESPONSE

In the DSM Multi Year Plan Hearing (EB-2015-0049) at Exhibit K5.1, Enbridge compared the calculated cost of carbon using a price of $15.22 Cdn/tonne against total NPV Benefits plus the 15% adder and calculated the difference to be 3%.

Witness: M. Lister

UNDERTAKING J1.8

UNDERTAKING

TR 1, p.166

To reproduce the table at Exhibit K1.5, page 9, providing the figures for TRC plus

RESPONSE

Table 1: 2017 TRC & TRC Plus				
	TRC Benefits [1]	TRC Costs [2,3]	TRC Net Benefits	TRC Ratio
	(a)	(b)	(c)=(a-b)	(d)-(a/b)
Residential	$ 35,828,981	$ 23,075,000	$ 12,753,981	1.6
Commercial/Industrial	$ 133,018,806	$ 43,128,662	$ 89,890,144	3.1
Low Income	$ 14,399,534	$ 10,691,942	$ 3,707,592	1.3
	TRC Plus Benefits [1]	TRC Costs [2,3]	TRC Plus Net Benefits	TRC Plus Ratio
	(a)	(b)	(c)=(a-b)	(d)-(a/b)
Residential	$ 41,203,328	$ 23,075,000	$ 18,128,328	1.8
Commercial/Industrial	$ 152,971,627	$ 43,128,662	$ 109,842,965	3.5
Low Income	$ 16,559,464	$ 10,691,942	$ 5,867,522	1.5

Witness: M. Lister