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September 8, 2015

Ms Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th floor
PO Box 2319
Toronto, ON
M4P 1E4

RE: EB-2015-0049 & 0029 Transcript Undertakings

Dear Ms Walli,

Please find enclosed 2 copies of Transcript Undertakings J10.1, J10.2, J10.4 and J10.6 from GEC witnesses given during the hearing on September 1st.

The responses are being emailed to all parties and will be uploaded to the RESS.

Sincerely,

(Mr.) Kai Millyard
Case Manager
Green Energy Coalition

ec: All parties

Green Energy Coalition

Undertaking

To Mr. Shepherd

Undertaking:

GEC TO PROVIDE AN OPINION ON WHY MASSACHUSSETTS DOES NOT SPEND MORE ON C&I PROGRAMS GIVEN THEY HAVE AN "ALL COST EFFECTIVE DSM" DIRECTIVE

Response:

In the time available to investigate this issue since the completion of his cross-examination, Mr. Neme has not been able to make a definitive determination as to why Massachusetts' gas C&I spending is about 20% of its total gas spending. There is some anecdotal evidence to suggest that at least part of the reason may be that the Massachusetts utilities are not yet, in fact, capturing all cost-effective C&I efficiency resources. Another possible explanation is that very high financial incentive levels for residential retrofits drives the residential budget share up (and therefore the C&I budget share down). However, Mr. Neme has not been able to definitively determine either the extent to which those factors (or others) might have impacted historic spending levels on C&I programs.

Witness: Chris Neme

Green Energy Coalition

Undertaking

To Mr. Elson

Undertaking:

GEC TO CONFIRM WHETHER RHODE ISLAND IS UNDER A REGULATORY REGIME THAT REQUIRES THE ACHIEVEMENT OF ALL COST-EFFECTIVE DSM

Response:

It is Mr. Neme's understanding that Rhode Island is a jurisdiction that requires achievement of all cost-effective electric and gas efficiency through DSM.

Witness: Chris Neme

Green Energy Coalition

Undertaking

To Mr. Elson

Undertaking:

GEC TO UPDATE TABLE 3 ROW 1 BASED ON THE CURRENT CARBON PRICES IN CALIFORNIA AND QUEBEC, AND ROW 4 BEING THE AVOIDED DISTRIBUTION COSTS THAT THE UTILITIES HAVE ACCEPTED

Response:

The alternative version of Mr. Neme's Table 3 is provided below. As requested, this includes two changes – one to the first row regarding the value of carbon emission reduction compliance costs and one to the value of avoided distribution system costs.

Witness: Chris Neme, Paul Chernick

Alternative Table 3: Efficiency Benefits that Put Downward Pressure on Rates

	Benefit	NPV of Lifetime Benefits per Annual m^3 Saved[1]		Average Annual Value from Utilities'2016-2020 DSM Plans (millions $)[2]		Benefits as a % of Average Annual (2016-2020) DSM Plan Budget[3]	
		Enbridge	Union	Enbridge	Union	Enbridge	Union
1	Avoided carbon regulation costs[4]	$0.58	$0.58	$42.9	$43.3	59%	75%
2	Price suppression effects[5]	$0.08	$0.08	$6.2	$6.2	9%	11%
3	Reduce purchase of most expensive gas[6]	$0.10	$0.18	$7.2	$13.3	10%	23%
4	Avoided distribution system costs[7]	$0.12	$0.08	$8.9	$5.8	12%	10%
	Total	**$0.88**	**$0.91**	**$65.2**	**$68.7**	**90%**	**120%**

[1] Assumes an average measure life of 16 years. All values in 2015 Canadian dollars (CDN).
[2] This is NPV of benefits per annual m^3 saved multiplied by the average incremental annual m^3 savings forecast for the 2016-2020 period by Enbridge (74.4 million m^3) and Union (75.1 million m^3).
[3] Enbridge's average annual budget from is $72.3 million; Union's is $57.4 million (both in 2015 dollars).
[4] First year value is $18.11 (Canadian). That is the most recent California and Quebec forward auction prices of $16.10 per metric tonne escalated by a 4% real discount rate for three years to account for the time value of money (in recognition that current auction prices are for 2018 emission allowances). The first year value is escalated consistent with Synapse's forecast escalation rate for its low carbon price case.
[5] Mr. Chernick estimates that a 1 billion m^3 reduction in annual gas demand would produce a $0.00027 reduction in price per m^3. Over the 2016-2020 period, I assume that average annual gas sales in Ontario will be approximately 27 billion m^3. Thus, the price reduction benefit to Ontario gas users from a 1 billion m^3 reduction in gas demand would be worth approximately $7.2 million. That equates to a benefit of approximately $0.0072 for one year's worth of a single m^3 of demand reduction. That, in turn translates to a benefit of approximately $0.083 for 16 years (the average measure life) of one m^3 of demand reduction. The magnitude of this benefit is assumed to be the same (per m^3 of savings) for both utilities. Note that this is what Mr. Chernick referred to as "continental DRIPE"; "basis DRIPE" is conservatively omitted.
[6] For Enbridge, Mr. Chernick estimates that this benefit is equal to approximately $0.013 per m^3 of space heating gas saved per year and $0.011 per m^3 of combined space heating and water heating energy saved per year; there are essentially no such savings from baseload measures (industrial and water heating). For Union, I used the average of the differences Mr. Chernick reports for 2015 and 2016 (Chernick p. 28): $0.015 for baseload and $0.017 for space heating measures. Data on the mix of end use gas saved in the utilities' proposed plans were not included in their filing. Thus, I have assumed that the mix (in percentage terms) will be the same as in 2014 for Enbridge and the same as in 2014 for Union excluding the T2/Rate 100 savings. To the extent that the utilities will get more of their savings in future years from space heating these estimated benefits will be conservatively low.
[7] In its plan filing Enbridge used estimates of avoided distribution system costs developed for the Company by Navigant Consulting (Exh. C/T1/S4). Enbridge has since conceded that those values should be increased by 27% (Enbridge Compendium of Materials for Cross-Examination of GEC). These values reflect that adjustment. Note that the magnitude of the avoided distribution costs vary by a factor of 4, depending on whether the savings are from space heating or from baseload measure end uses like water heating or industrial process efficiency improvements (See Navigant Table 7). I have estimated the lifetime NPV of an annual savings of an m^3 using a nominal discount rate (i.e. the 4% real discount rate adjusted for an assumed annual inflation rate of 1.68%) because Navigant estimates were expressed in constant nominal dollars. A weighted average value for the entire Enbridge portfolio was estimated based on the Company's 2014 distribution of savings by end use. Absent better information, the values for Union were assumed to be the same as for Enbridge per end use. However, because Union's savings are assumed to be more baseload heavy and less space heating focused, the weighted average value per m^3 is estimated to be lower for Union.

Witness: Chris Neme, Paul Chernick

Green Energy Coalition

Undertaking

To Dr. Higgin

Undertaking:

TO COMPARE THE BALANCE BETWEEN THE CI AND RESIDENTIAL SPEND AND TARGETS FOR ONTARIO AND MASSACHUSETTS FOR ENBRIDGE.

Response:

As noted in response to J.10.1, Mr. Neme has not been able to develop a definitive understanding in the time available regarding why 20% of Massachusetts gas DSM spending in 2014 was on C&I programs. However, as the following table shows, none of the four leading jurisdictions identified in Mr. Neme's evidence spend more than one-third of their budget on C&I programs.

% of 2014 Gas DSM Spending on C&I Sector

MA	MN	RI	VT	Average
20%	27%	28%	32%	27%

By way of comparison, Enbridge's proposed budgets for 2016 through 2020 would have the utility spending an average of approximately 36% of its DSM budget on C&I programs.

Witness: Chris Neme