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BY E-MAIL

April 5, 2018

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2701
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: Enbridge Gas Distribution Inc.
2018 Cap and Trade Compliance Plan Application
OEB File Number EB-2017-0224**

In accordance with Procedural Order No. 3, please find attached the topic areas and questions OEB staff intends to seek further clarification on at the technical conference related to the above noted proceeding.

Yours truly,

Original signed by

Josh Wasylyk
Project Advisor, Application Policy & Climate Change

OEB Staff Technical Conference Summary

OEB staff has outlined its technical conference questions for Enbridge Gas Distribution Inc. (Enbridge) below. The areas that OEB staff seeks further information and clarity from Enbridge include:

- a) ISSUE 1.10 – Are the gas utility’s proposed greenhouse gas abatement activities reasonable and appropriate?
- b) ISSUE 4 – Deferral and Variance Accounts

ISSUE 1.10 – Are the gas utility’s proposed greenhouse gas abatement activities reasonable and appropriate?

OEB Staff Technical Conference – Enbridge Question 1

Reference:

Exhibit I.1.EGDI.STAFF.24

Answer to Interrogatory from OEB Staff

Ref: Exhibit C / Tab 5 / Schedule 1 / p. 15 and Exhibit C / Tab 5 / Schedule 2 / p. 1, #4

Preamble:

Enbridge Gas states that it considered the guidance and information provided in the OEB MACC study to assess whether it should be expanding DSM programs, and Enbridge Gas “concluded that additional DSM programs would not be cost-effective; in some cases the marginal costs of new programs may be higher than the cost of compliance instruments.”

Enbridge Gas also states that it remains in the best position to deliver reliable energy efficiency programs in the Province. Further, Enbridge Gas indicates that since the Government announced its Climate Change Action Plan (“CCAP”), it has been responsive to evolving Government objectives and has made several proposals to advance energy efficiency in the province.

Questions:

- a) Please explain how Enbridge Gas determined that additional DSM programs would not be cost-effective, and in some cases, the marginal costs of new programs may be higher than the cost of compliance instruments. Please provide all supporting documentation including data, assumptions and analysis.*
- b) Does Enbridge Gas plan to undertake any customer abatement without provincial funding? Please explain.*

ENBRIDGE RESPONSE

a) Enbridge took the analysis as provided by the ICF MACC study and compared the anticipated results filed for DSM with what the MACC study indicated was cost effective. At a high level the

results show that all energy efficiency customer abatement deemed cost effective in the MACC is being undertaken by Enbridge's existing DSM offerings. This analysis is shown in Exhibit C, Tab 5, Schedule 2 Page 25-26, with the assumptions provided. Further details are included in the attached document, Attachment 1.

Exhibit C, Tab 5, Schedule 2 Page 25-26

Table 3: MACC Potential vs. DSM Plan⁵

Customer Segment	Province-Wide Gross Savings in MACC Study (Mid-Range LTCPF) (m ³)	Net Savings ⁶ (m ³)	% of Potential in EGD Franchise	Net Potential in EGD Franchise as per MACC (m ³)	DSM Plan as originally filed in EB-2015-0049 (m ³)
Residential	97,000,000	82,450,000	62%	51,119,000	56,224,675
Commercial	99,000,000	83,160,000	58%	48,232,800	169,335,715
Industrial	96,000,000	48,000,000	44%	21,120,000	
Total	196,000,000	165,610,000	-	120,471,800	225,560,390

Attachment 1

MACC Potential vs. DSM Plan

Customer Segment	Province-Wide Gross Savings in MACC Study (Mid-Range LTCPF)	Net Savings	% of Potential in EGD Franchise	Net Potential in EGD Franchise as per MACC	DSM Plan as originally filed in EB-2015-0049
Residential	97,000,000	82,450,000	62%	51,119,000	56,224,675
Commercial	99,000,000	83,160,000	58%	48,232,800	169,335,715
Industrial	96,000,000	48,000,000	44%	21,120,000	
Total	292,000,000	213,610,000	-	120,471,800	225,560,390

Ref: EB-2017-0224 Exhibit C Tab 5 Sch 2 p26

From 2015-2020 Plan	2018	2019	2020	
Large C/I	40,943,260	41,047,949	41,206,955	
Small C/I	10,402,236	10,610,277	10,822,487	
LI Multi-Res	4,646,475	4,766,646	4,889,430	
Total	55,991,971	56,424,872	56,918,872	169,335,715
HEC	11,249,383	11,798,048	12,281,470	
Adaptive	4,765,500	4,989,858	5,135,099	
LI Part 9	2,021,333	2,001,709	1,982,275	
Total	18,036,216	18,789,615	19,398,844	56,224,675

Note: excludes O-Power as this program was not approved and Small Commercial New Construction as this program was not pursued

NTG Rates

HEC	85%	85%	Residential
Industrial	50%	50%	Industrial
Commercial	88%	84%	Commercial
Multi-Residential	80%		

EB-2014-0354, Exhibit B, Tab 1 Schedule 2, Page 9

In addition, Enbridge also performed a separate analysis using the ICF Natural Gas Potential Study. In this analysis Enbridge compared the marginal cost in \$/tonne of moving from the Constrained (budgets at the Company's current level of DSM spending) to Semi-Constrained

(budgets were gradually doubled) and Unconstrained (assumes no budget constraints or policy restrictions) scenarios as defined in the Natural Gas Conservation Potential Study. This analysis showed that the marginal cost of increasing to the Semi-Constrained scenario was \$60/tonne, which exceeded the LTCPF through 2028. Further details are included in the attached document, Attachment 2.

b) Given the number of interrogatories received on the topic of incremental customer abatement, and more specifically incremental energy efficiency, Enbridge believes it is appropriate to articulate its concerns and to outline current realities which impact how and whether the Company could proceed with abatement programs. It is important to first recognize that there are billions of dollars entering the market for low carbon abatement initiatives. This dramatically changes the landscape in which the Utilities are developing and implementing their Compliance Plans. It is also important to note that the gas utilities are already actively collaborating with GreenOn and other entities in the design and roll out of new and significantly expanded programs that are being funded by GreenOn at least in part. In other words, there already is a substantial expansion of abatement, including incremental energy efficiency activities.

Enbridge acknowledges that the MACC is useful in helping to identify potential abatement activities, however the Company notes that a MACC is relevant for a given point in time, and is based on externalities such as technology and the availability of external funding at that point in time. The MACC developed by ICF for the Board did not contemplate the dramatic change in low carbon investment in Ontario through the Government's GreenOn program, which materially impacts the marginal cost effectiveness of abatement programs. The MACC therefore cannot be relied on at this time in the context of non-transparent and significant funding entering the market.

The availability of GreenON funding can play a material role in the cost effectiveness of an abatement activity. For example, if the Government directs funding to an activity that is not currently cost effective from a ratepayer DSM or MACC perspective, such programs may, with the Government's subsidy, become cost effective. As an example, RNG which is shown as not being cost effective on the MACC at a range of \$77 to \$1,990 per tCO_{2e}, has now become cost effective with the addition of Government funding. Conversely, existing DSM programming may become ineffective or less relevant where Government subsidies are funneled to similar programs not driven by the Utility. As an example, Enbridge's DSM Adaptive Thermostat Program has been impacted by GreenOn's program of the same nature, which provides a greater incentive to participants. The potential of Enbridge's program, and its related costs, are materially changed by the presence of Government funding, regardless of what the MACC or Conservation Potential Study might suggest. To have proposed in either 2017 or in 2018 a material increase in this program is a clear example of the risk and problem of proceeding without knowledge of the Government's intentions. If Enbridge was able to gain transparency with GreenOn funding, the MACC may be modified to reflect the new information. Once the amount of Government funding is known, the Utilities are in a better position to determine how best these funds can be leveraged and considered in the design and implementation of incremental abatement programs, which complement the Governments

initiatives instead of competing with them. Until such time, Enbridge believes that development of any incremental DSM or abatement activities is not a prudent course of action as true cost effectiveness cannot be determined. Enbridge believes that, in addition to first understanding the Government's intentions and priorities, some indication is required from the Board as to whether additional ratepayer funding should be directed at DSM. Clear rules are required around the treatment of results, determination of targets, and appropriateness of budgets.

In the interim, Enbridge is always looking for ways to improve DSM programs within the existing framework to drive improved results through changes to incentive levels, more effective marketing, etc. Outside of the DSM framework, Enbridge is in discussion with GreenON to look at additional funds for new or enhanced programs. This includes proposing new programs that may not be cost effective in the DSM framework, and bidding on RFPs issued by the government to deliver incremental energy efficiency programs.

Attachment 2

Total DSM program - All of Ontario
Achievable Potential - 2020

<u>Description</u>	<u>Constrained</u>	<u>Semi-constrained</u>	<u>Unconstrained</u>
Annual Savings (million m3/yr)	1,187	1,338	1,869
Measure Lifecycle Savings CCM (million m3)	14,115	18,909	28,582
Program Spending to milestone year (million \$)	\$666	\$893	\$3,298

Source: Natural Gas Conservation Potential Study - July 7, 2016; Exhibit ES 4, page v

Industrial Large Volume program - All of Ontario
Achievable Potential - 2020

<u>Description</u>	<u>Constrained</u>	<u>Semi-constrained</u>	<u>Unconstrained</u>
Annual Savings - m3/yr	183	241	350
Measure Lifecycle Savings CCM (million m3)	1,174	3,999	5,726
Program Spending to milestone year (million \$)	\$26	\$33	\$442

Source: Natural Gas Conservation Potential Study - July 7, 2016; Exhibit ES 17, page xv

**Province-Wide Gas DSM
Achievable Potential by 2020 (excl. Large Vol)**

<u>Description</u>	<u>Constrained</u>	<u>Semi-Constrained</u>	<u>Unconstrained</u>
Annual Savings (million m3/yr)	1,004	1,097	1,519
Measure Lifecycle Savings CCM (million m3)	12,941	14,910	22,856
Program Spending 2015-2020 (million \$)	640	860	2,856
GHG Savings (million tonnes)	24	28	43
\$/tonne	\$26	\$31	\$67
Marginal Cost (\$/tonne)	-	\$60	\$134

Reference:

Exhibit I.1.EGDI.STAFF.28

Answer to Interrogatory from OEB Staff

Ref: Exhibit B / Tab 2 / Schedule 1 / p. 2 and Exhibit C / Tab 5 / Schedule 2 / p. 26, Table 3

Preamble:

In Exhibit C, Tab 5, Schedule 2, Table 3, Enbridge Gas compares the savings potential identified in the OEB MACC study and the savings found in Enbridge Gas' DSM Plan. Enbridge Gas adjusted the savings potentials found in the OEB's conservation potential study¹ (OEB CPS) and the OEB MACC because it claims that they were gross (i.e., did not exclude efficiency upgrades that would occur in the absence of DSM programming).

The OEB CPS indicates it included natural conservation, and notes that it gave special consideration to:

- Naturally-occurring improvements in equipment efficiency*
- Expected penetration of more efficient equipment into the building stock*
- Known, upcoming changes in building and equipment energy performance codes and standards*

Questions:

- a) Please review the totals provided in Table 3 to ensure they are accurate.*
- b) Please explain why the province-wide gross residential and commercial savings in Enbridge Gas' Table 3 (second column) do not match those shown in the OEB MACC report (Table 10 indicates that the 2018-2020 commercial sector abatement potential is 108 million m3 for the mid-range LTCPF₂; Table 14 shows that residential sector abatement potential is 144 million m3 for the mid-range LTCPF).*

If revisions are required, please update all necessary tables.

- a) Please explain why Enbridge Gas believes that the opportunity identified in the OEB MACC should be adjusted for free ridership.*

- b) *Please confirm that Enbridge Gas understands that the OEB MACC analysis is based on the data and analysis from the OEB CPS, which indicates that the reference case included natural conservation.*
- c) *Please explain how the adjustment factors Enbridge Gas used to reduce the OEB MACC potential are reasonable, given that the reference case included natural conservation.*
- d) *Please provide Enbridge Gas' data and analysis used to calculate the annual savings achieved at the end of 2020 from Enbridge Gas' DSM plan for the residential, commercial, and industrial sector, including the annual savings achieved in 2018 and 2019. Please indicate the achievement of their targets (in %) assumed for 2017, 2018, 2019, and 2020 in this calculation.*
- e) *Please explain whether the 2018 annual savings from Enbridge Gas' DSM plan calculated for d) above are consistent with the 2018 DSM volume reductions indicated in Exhibit B.*

ENBRIDGE RESPONSE

a) *Enbridge identified an error in the table sums of columns 2 and 3, however this did not impact the totals in columns 5 and 6. The corrected values are included below.*

Customer Segment	Province-Wide Gross Savings in MACC Study (Mid-Range LTCPF)	Net Savings	% of Potential in EGD Franchise	Net Potential in EGD Franchise as per MACC	DSM Plan as originally filed in EB-2015-0049
Residential	97,000,000	82,450,000	62%	51,119,000	56,224,675
Commercial	99,000,000	83,160,000	58%	48,232,800	169,335,715
Industrial	96,000,000	48,000,000	44%	21,120,000	
Total	292,000,000	213,610,000	-	120,471,800	225,560,390

b) *The values in the second column of Table 3 are the cost effective portion under the Mid-Range LTCPF Scenario while the values referenced above are the totals not accounting for cost effectiveness. For example in residential, there is 97 million cost effective m3 of a total 144 million m3 (page 41 of MACC final report).*

a) *It is Enbridge's position that the savings from the OEB CPS are gross savings. The methodology applied by ICF Consulting in the OEB CPS is consistent with that used by ICF (formerly Marbek) and Navigant Consulting in the 2008 and 2014 studies respectively. In both studies completed for Enbridge, the results were gross natural gas savings.*

*"All savings reported in this study are gross, rather than net, meaning that the effect of possible free ridership is not included in the reported savings, per Enbridge's guidance and for consistency with past studies."*³

As a result, a Net to Gross ("NTG") or free ridership and spillover adjustment factor needs to be applied to gross savings estimated in the OEB MACC study to determine potential net savings in an attempt to determine the true cost effectiveness of a particular initiative.

In addition, the CPS did not take into account the Climate Change Action Plan and Federal funding on energy efficiency. The significant amount of funding for energy efficiency programming could result in changing NTG adjustments to the Company's DSM programs.

b) Enbridge understands that the OEB MACC is based on data and analysis from the OEB CPS which only incorporates a baseline efficiency adjustment which accounts for improvements in technology and changes to codes and standards as Board staff have noted. The study did not account for NTG.

c) In response 2a) Enbridge has outlined the rationale for applying a NTG adjustment factor to the gross savings from the OEB CPS and ultimately the MACC study. The specific figures applied are based on NTG ratios included as part of Enbridge's Multi-Year (2015-2020) DSM Plan.⁴

d) Enbridge has provided a spreadsheet with the details of this analysis in response to Board Staff IR #24 a) found at Exhibit I.1.EGDI.STAFF.24. For each year, 100% of the achievement target was used.

e) Please see the company's response to Board Staff IR#14 b) found at Exhibit I.1.EGDI.STAFF.14.

OEB STAFF TECHNICAL CONFERENCE QUESTIONS

Re. CCAP Adjustment Factor

- a) Please discuss how Enbridge has determined the adjustment factor to account for CCAP initiative savings in 2018, 2019 and 2020 and the manner in which Enbridge has applied these adjustment factors to each MACC.
- b) Please indicate if Enbridge has developed different CCAP adjustment factors relative to each sector and/or end-use and the rationale and methodology for determining these adjustment factors.
- c) In Mr. Neme's response to OEB Staff interrogatory GEC.ED.STAFF.4, he provided his expert opinion related to Union reducing the commercial and industrial savings potential identified in the MACC by 54%. Mr. Neme states:

"That said, it is important to emphasize that Union implicitly assumes that more than half – 54% – of the commercial and industrial savings potential identified in the MACC would be acquired through CCAP initiatives. It is hard to imagine that anything close to that amount – particularly in 2018 – could be acquired through initiatives that are both not comprehensively addressing the market (i.e. they are clearly targeting specific markets like hospitals, schools and social housing) and also just getting off the ground. In my experience, when starting from scratch, such initiatives take time to begin penetrating the market at anything close to the level necessary to acquire more than half the cost-effective savings potential."

- i) Please discuss if and how Enbridge accounted for CCAP initiative savings within its adjustment factor to the MACC and indicate if and how Enbridge considered

the overall impact of CCAP initiatives in 2018, particularly as the CCAP initiatives are targeting specific market segments and are in their infancy.

- d) Please provide the detailed adjustment factors Enbridge has applied to each MACC, including all supporting analysis, calculations, assumptions and methodologies.

Re. Abatement

- a) Please explain what cost test Enbridge used when assessing the cost effectiveness of potential customer abatement opportunities.
- i. Please list and describe all of the costs and benefits that Enbridge included in its cost test that it used to calculate cost-effectiveness of abatement opportunities.¹
- b) Compare and contrast the cost test that Enbridge used for incremental abatement programs with those used to calculate the cost effectiveness of RNG. Please list and describe all of the costs and benefits included in the cost tests.
- c) Please provide the following cost effectiveness calculations using an adjustment factor for the MACC of 15% (as opposed to various NTG factors applied by Enbridge)
- i. Calculate the cost-effectiveness of the abatement measures Enbridge considered in developing its 2018 Compliance Plan using the following cost effectiveness tests:
- a. Utility Cost Test, including the following costs:
1. Utility incentive costs
 2. Utility program delivery costs
- And the following benefits:
3. Natural gas avoided costs, comprising commodity costs, upstream capacity costs and downstream distribution system costs
 4. Avoided cost of carbon, based on the mid-range LTCPF scenario
- b. TRC-Plus Test, with costs and benefits as defined in section 9.1.3 of the Filing Guidelines for the DSM Framework (2015-2020) (EB-2014-0134)
- c. Compare the cost-effectiveness of abatement using the results of the UTC test and the TRC-Plus test to the cost of an allowance (\$18.99).
- d) Please clarify how Enbridge considered the data provided in the MACC for the specific customer abatement end use categories (see Table 3 on page 15 of the MACC report) by providing details and supporting documentation on the extent to which the measures shown in the MACC are currently addressed in DSM programming.

¹ For example, utility program delivery costs, utility incentive costs, natural gas avoided costs, avoided costs of carbon, etc

- a. Industrial: Please describe how Enbridge is currently capturing the full potential identified in the MACC, making reference to the measures shown in Table 7 on pages 30 and 31 (particularly for industrial direct heating, HVAC, and steam hot water system due to significant abatement potential). Please provide the number of projects completed in 2017 and average project size.
- b. Commercial: Please describe how Enbridge is capturing the full potential identified in the MACC, making reference to the measures shown in Table 11 on pages 36-38 (particularly for space heating, due to significant abatement potential). Please provide number of projects completed in 2017 and average project size
- c. Residential: Please describe how Enbridge is capturing the full potential identified in the MACC, making reference to the measures shown in Table 15 on pages 36-38 (particularly for space heating, due to significant abatement potential). Please provide number of projects completed in 2017 and average project size.

ISSUE 4 – Deferral and Variance Accounts

Preamble:

In response to an interrogatory from CCC, Enbridge stated the following:

Reference: Exhibit I.C.EGDI.CCC.10, page 3 of 3:

- *Bullet #5 – variances from the assumed gas costs in the RNG procurement model vs. actual gas costs at the relevant time will be reflected in the PGVA*
- *Bullet # 7 – where the cost of carbon allowances is different from the LTCPF at the time of the RNG RFP then the amounts recorded in the GHG-Customer Variance Account will be higher or lower than expected*

For context, Union provided the following responses to interrogatories on the same topic.

Union response to OEB Staff interrogatory

Reference: Exhibit B.Staff.6, page 2 of 3

“On an actual basis, the price of natural gas and carbon may be different from the forecast price at the time the RNG contract is negotiated, however, the cost to ratepayers will be contracted rate (i.e., the forecast of natural gas and carbon at the time the RNG contract is finalized and will be fixed for the term of the RNG contract.”

Union response to LPMA interrogatory

Reference: Exhibit B.LPMA.8

- *“RNG contracts that are negotiated at the same time will use the same forecasts for natural gas and carbon. As new or updated gas and carbon forecasts become available any new RNG contracts will be negotiated using the new forecasts.”*

OEB Staff Technical Conference Questions

1. It appears that Enbridge’s and Union’s treatment of actual costs as related to RNG procurement is different. For example, Enbridge intends to reflect gas cost variances in the PGVA and allowances cost variances in the GHG-Customer Variance Account, while it appears that Union does not.
 - a) Is this correct? If so, please walk us through how this would work.
2. Does Enbridge think that the treatment of actual costs for gas and carbon related to RNG procurement should be the same for both distributors? If not, please explain why not?