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April 27, 2018

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Attention: Kirsten Walli, Board Secretary

Dear Ms. Walli:

Re: Ontario Sustainable Energy Association ("OSEA")
Board File No. EB 2017-0324
Enbridge Gas Limited 2015 DSM Deferral and Variance Accounts

Please find enclosed Ontario Sustainable Energy Association's Submissions in the above-noted matter.

Yours truly,

Robert Woon

cc: Janis Wilkinson, OSEA
Marion Fraser, Fraser & Company
Document #: 1359128

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B).

AND IN THE MATTER OF the Application by Enbridge Gas Distribution Inc. to dispose of balances in certain deferral and variance accounts related to the delivery of conservation programs in 2015

WRITTEN SUBMISSIONS OF ONTARIO SUSTAINABLE ENERGY ASSOCIATION ("OSEA")

April 27, 2018

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1 The Ontario Sustainable Energy Association (OSEA) is pleased to submit its argument with respect to Enbridge Gas Distribution Inc.'s (Enbridge) application for approval of the disposition of Enbridge's 2015 Demand Side Management (DSM) deferral and variance accounts.

2 OSEA has reviewed the Argument-in-Chief of Enbridge and agrees with the submissions made by Enbridge.

3 OSEA's consultant, Marion Fraser was a member of the Evaluation and Audit Committee and echoes many of the issues/concerns raised by Enbridge about the Evaluation, Measure and Verification process. OSEA acknowledges that the scope of the proceeding is to review and approve the amounts within the 2015 DSM deferral and variance accounts and that the Board will not be providing direction on the evaluation policy or its implementation.[1] OSEA submits that the contested issues in this proceeding highlight the fundamental issues within the DSM Framework itself and the EM&V process. OSEA

[1] EB-2017-0324, Procedural Order No 2. dated April 10, 2018.

submit that these issues must be considered during the DSM Mid-Term Review EB-2017-0127/EB-2017-0128. OSEA provides further comments enclosed in Appendix A.

4 OSEA agrees with Enbridge's submissions that the retroactive application of the Net to Gross (NTG) Study to the 2015 DSM results is inconsistent with prior Board decisions in that the NTG Study estimates the 2015 DSM program results using different assumptions than those used to calculate the 2015 DSM targets which were approved by the Board in a manner which altered those approved targets after the fact; and in this case more than two years after the fact.

5 In the 2015-2020 DSM Decision, the Board stated, "[t]o calculate next year's targets, the OEB directs the utilities to use the new, updated input assumptions and net-to-gross factors that are the result of the annual evaluation process."[2] Consistent with this direction, Enbridge used input assumptions that were the result of 2014 program EM&V when establishing its 2015 targets.

6 In any given year, it would be impossible for the natural gas utilities to use assumptions that had not yet been developed. Applying a set of assumptions developed two years after the fact is not appropriate and restricts the ability of DSM management to drive toward achieving or beating their targets which is the whole intent of the shareholder incentive.

7 OSEA is supportive of Enbridge's request for the Ontario Energy Board (Board) to approve the disposition of the balances in the amounts sought by Enbridge.[3]

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[2] EB-2015-0029/EB-2015-0049 Decision and Order dated January 20, 2016, p. 75.
[3] Exhibit A, Tab 1, Schedule 2.

Appendix A

Traditional DSM evaluation is all about a series of assumptions, predictions and engineering estimates of a wide variety of factors including but not limited to the energy savings of measures installed under a DSM program, measure life, operating hours of the building, home or facility, etc. A table from the Technical Resources Manual filed in EB-20 016-0226, Exhibit B, Tab 1, Schedule 3, page 5 of 8, Table 1, recreated below, provides the list of variables for every assumption. Revising any one of the estimates can have a significant impact on the estimated savings; revising all of them, whether up or down exaggerates the impact.

Table 1. Substantiation Document Measure Summary Table

Parameter	Definition
Measure Category	Retrofit, early replacement, new construction, or time of natural replacement. These terms are defined in the Measure Categorization section.
Baseline Technology	The existing condition, code compliant, or standard practice measure depending upon the measure category.
Efficient Technology	The installed higher efficiency measure as described in the substantiation document
Market Type	Commercial, Industrial, Residential, Multi-Residential,
Annual Natural Gas Savings	Expressed in cubic meters for prescriptive measures. Expressed as a savings factor (e.g. m^3/lb) for quasi-prescriptive measures.
Annual Electric Savings	Expressed in kWh for applicable measures.
Annual Water Savings	Expressed in litres for applicable measures
Measure Life	The length of time that a measure is expected to be functional and performing as predicted.
Incremental Cost ($)	The incremental cost is the difference in cost between the high efficiency technology and the baseline technology. The incremental cost includes incremental installation costs where appropriate.
Restriction	Describes any limitations to the applicability of the measure's prescribed savings or relationships, such as minimum size or applicable building types.

2 In its final argument for EB-2016-0226, OSEA noted an example for illustrative purposes about how the value of using actual data compared to using the estimates and weighted averages from the Technical Resource Manual. OSEA asked an interrogatory about hours of operations for schools. The answer indicated that the current data came from a U.S. Report. In that report, five different sources were cited. The variety of estimate of school operation hours is shown in the table below compared with Union's original estimate and the contractors' revised estimate.

US Source	Hours per Week
A	42
B	70
C	56
D	62
E	40
Original Union Gas Value	84
Revised Estimate based on US data	54

3 Because of this, the assumed operating hours for Ontario Schools was changed from 84 hours per week to the average of the U.S. data of 54 hours per week; a reduction of about 35%. In other words, just changing this one estimated value reduced the estimated/evaluated energy savings by 35%.

4 The major use of natural gas in schools is space heating. OSEA suggests that only heating a school for 54 hours per week is not reflective of the cold climate in Ontario during winter which requires heat to be on 24 hours and 7 days a week or the expanded uses of schools for day care. This illustrates not about whose estimates are correct, but whether estimates should be used at all.

A. IN THE BEGINNING, ENGINEERING ESTIMATES WERE NECESSARY

5 When natural gas DSM programs began in Ontario in 1995, the Board Order (E.B.O. 169-III) created an innovative and important regulatory foundation for conservation of natural gas. Earlier, the conservation programs of the former Ontario Hydro were cancelled as restructuring of the electricity sector became the government priority.

6 The model for utility driven DSM had been developed in the United States, primarily in California, New England and the mid-West. It was founded on the basis that investments in new supply could be avoided if any conservation programs which were cheaper than the supply alternative could be delivered.

7 At that time, the concept of big data and ubiquitous communications infrastructure was still a decade away. The only way to ensure the cost effectiveness of conservation was to use the methodologies that underpin the Technical Resource Manual to determine the cost effectiveness of replacing standard efficiency equipment with higher efficiency equipment. Those U.S. utilities then offered financial incentives to encourage customers to opt for higher efficiency equipment. Evaluation focused on accurate counts of "widgets" installed, the mathematical difference between standard efficiency and high efficiency and the effectiveness of programs in achieving high penetration rates.

8 Ontario's natural gas utilities with the support of the DSM consultative and the Board, pioneered the concept of custom projects which enabled programs that were more customer centric by taking a project orientation not limited to one specific higher efficiency product at a time. However, the evaluation process which was born out of the

product by product installations has been applied to custom projects but with even more complexities, greater debate and costlier third-party audit processes in addition to third party evaluations.

B. A BETTER WAY IS POSSIBLE

9 OSEA believes that the current government policy framework in Ontario provides an excellent opportunity to enhance, rationalize and reduce the cost of conservation in Ontario and to better account for energy savings and greenhouse gas emission reductions. The relevant elements of the current policy framework are:

(a) a regulation under the *Green Energy Act* (O. Reg. 397/11) requires the public sector to develop energy management plans which contain reporting on energy savings and greenhouse gas emission reductions. Another more recent regulation (O. Reg. 20/17) requires private sector building owners and managers to benchmark their buildings against similar facilities and disclose that information in a transparent fashion,

(b) natural gas utilities now have a responsibility with respect to the implementation of the Cap and Trade Program with for non-Large Final Emitters as part of Ontario's Greenhouse Gas framework, but the potential for overlap between Cap and Trade and DSM has already been noted,

(c) the widespread use of big data applications and accessible communications infrastructure has dramatically altered the technical landscape for using real data to make informed decisions with respect to managing energy (and water) use. E.g., the regulation for private sector buildings requires the data to be added to

> Portfolio Manager, the ENERGY STAR electronic reporting system developed by the United States Environmental Protection Agency, as adapted for use in Canada and administered by Natural Resources Canada, and available on the Internet, and

(d) the cost effectiveness of renewable energy and storage can be enhanced with an increased adoption of distributed energy resources to reduce costly transmission and distribution systems as well as to support energy conservation and reduce greenhouse gas emissions.

10 OSEA played a major role in Ontario's *Green Energy Act*. One of the regulations arising from the Act was O.Reg. 397/11. This regulation set the standards for energy conservation in the public sector. The following are prescribed as public agencies for the purposes of the Act: every municipality, municipal service board, post-secondary educational institution, public hospital, school board.

> These agencies must prepare, publish, make available to the public and implement energy conservation and demand management plans or joint plans in accordance with sections 6 and 7 of the Act and with this Regulation. An energy conservation and demand management plan is composed of two parts as follows: A summary of the public agency's annual energy consumption and greenhouse gas emissions for its operations and a description of previous, current and proposed measures for conserving and otherwise reducing the amount of energy consumed by the public agency's operations and for managing the public agency's demand for energy, including a forecast of the expected results of current and proposed measures. (O Reg. 397/11)

11 More recently, OSEA has participated in Ministry of Energy consultations which have led to another regulation under the *Green Energy Act* for properties not owned by a public agency. O.Reg. 20/17 requires "the reporting information respecting the property, including identifying information and information respecting energy consumption, water

use, performance metrics in respect of energy consumption and water use in respect of the property, that is set out in the document titled "Ontario's Large Building Energy and Water Reporting and Benchmarking Requirement: Data Elements", as it may be amended from time to time, that is published by the Ministry on the Government of Ontario website." (O Reg. 20/17)

12 It is OSEA's view that these plans and public disclosure of said information provide a better basis for planning, implementing and evaluating DSM programs in the natural gas sector than the complex, detailed and costly approach inherent currently in use. The utilities could partner with each of public sector organizations such as school boards, universities, colleges, local area health networks and municipalities to help these agencies reduce their energy intensity and the performance of each utility could be measured on reductions in energy intensity over time.

13 While this may seem like a daunting task, it is significantly more efficient than targeting individual pieces of equipment in each separate building and attempting to persuade management of those facilities to install a more efficient device when replacing them. And, as these public energy management plans include reporting on greenhouse gas emission reductions, the utilities could be transformed into true partners with the public sector in mitigating the impacts of energy use. Cooperation with electrical utilities, also would have a stronger foundation in working on an intra-organizational basis.

C. THE VALUE OF ACTUAL DATA

14 Estimates are no longer required. Real data is available now that that O.Reg. 397/11 requires the following operational data be included in the public-sector plans:

(a) the address at which the operation is conducted.

(b) the type of operation.

(c) the total floor area of the indoor space in which the operation is conducted.

(d) a description of the days and hours in the year during which the operation is conducted and, if the operation is conducted on a seasonal basis, the period or periods during the year when it is conducted. (emphasis added)

(e) the types of energy purchased for the year and consumed in connection with the operation.

(f) the total amount of each type of energy purchased for the year and consumed in connection with the operation.

(g) the total amount of greenhouse gas emissions for the year with respect to each type of energy purchased and consumed in connection with the operation.

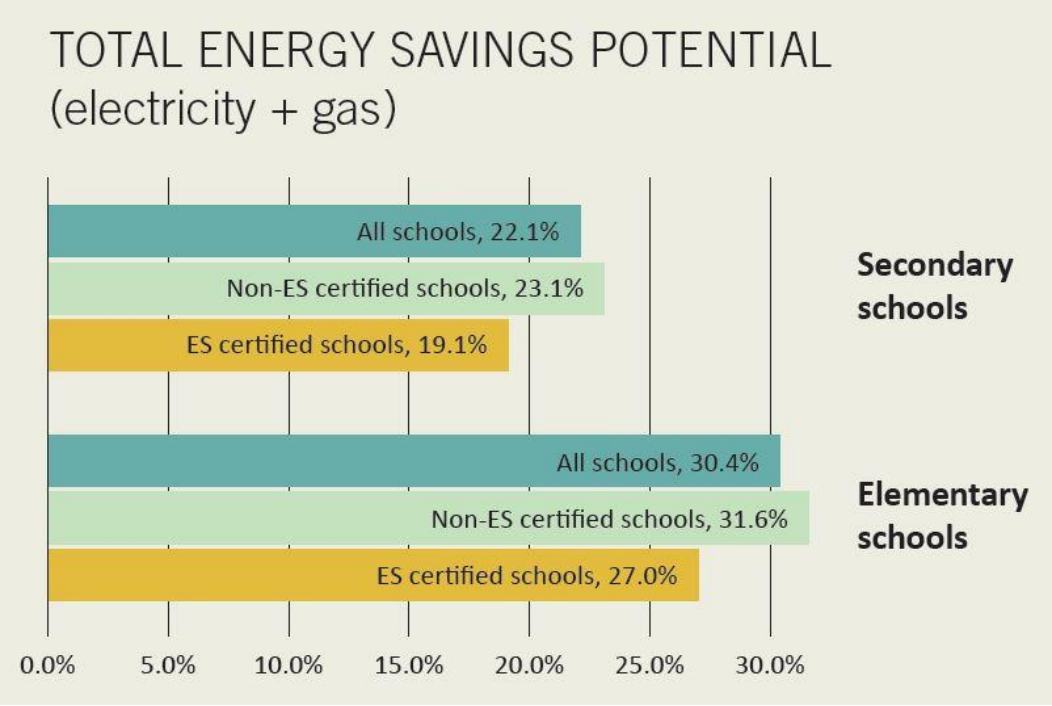
(h) the greenhouse gas emissions and energy consumption for the year from conducting the operation, calculating, the annual mega watt hours per mega litre of water treated and distributed, if the operation is a water works, the annual mega watt hours per mega litre of sewage treated and distributed, if the operation is a sewage works, <u>per unit of floor space of the building or facility in which the operation is conducted, in any other case.</u> (Emphasis Added)

15 With this actual data, the intensity of energy use (gas, electricity or water) for a given unit of floor space for the facility could be easily determined and tracked annually. Natural gas utilities could readily be assessed on how much they help school boards reduce the

energy intensity in their schools. Currently some natural gas DSM programs have a size limit which makes individual schools ineligible for utility programs. OSEA believes that this should change.

16 A recent study[4] by Enerlife Consulting showed how working with school boards makes a difference and how this data from O. Reg. 397/11 tells a story that engineering estimates could never tell.

17 It compared schools participating in the Toronto and Region Conservation Area's EcoSchools Program to all the rest of the schools in the province. While there are differences between them, the real story is how much potential savings are still possible.



[4] http://sustainableschools.ca/wp-content/uploads/2013/07/Top-Boards-Report-White-Paper-June-2017_final.pdf

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