



Fogler, Rubinoff LLP
Lawyers

77 King Street West
Suite 3000, PO Box 95
TD Centre North Tower
Toronto, ON M5K 1G8
t: 416.864.9700 | f: 416.941.8852
foglers.com

March 15, 2017

Reply To: Thomas Brett
Direct Dial: 416.941.8861
E-mail: tbrett@foglers.com
Our File No. 171294

VIA RESS, EMAIL AND COURIER

Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, Ontario
M4P 1E4

Attention: Kirsten Walli
Board Secretary

Dear Ms. Walli:

**Re: EB-2016-0246: Enbridge Gas Distribution Inc. and Union Gas Limited, Joint
Submission - New and Updated DSM Measures**

Further to Procedural Order No. 1, please find enclosed herewith BOMA's Interrogatories.

Yours truly,

FOGLER, RUBINOFF LLP

A handwritten signature in blue ink that reads "Tom Brett per" followed by a stylized circular flourish.

Thomas Brett

TB/dd

Encls.

cc: All Parties (*by e-mail*)

ONTARIO ENERGY BOARD

Union Gas Limited and Enbridge Gas Distribution Inc.

**Application for Approval of New and Updated Conservation Measures
and the Technical Resource Manual**

**Interrogatories of Building Owners and Managers Association,
Greater Toronto ("BOMA")**

March 15, 2017

Tom Brett
Fogler, Rubinoff LLP
77 King Street West, Suite 3000
P.O. Box 95, TD Centre North Tower
Toronto, ON M5K 1G8

Counsel for BOMA

Interrogatories of BOMA

1. **Ref: Exhibit B, Tab 1, Schedule 1, p5 of 5**

Preamble:

"Union's Custom EUL Table included in this evidence is the updated version reflecting best available substantiating references as per the Union Gas 2015-2020 DSM Plan (EB-2015-0029).

Enbridge's Measure Life Guide for Custom Offers included in this evidence provides updates reflecting best available substantiating references."

Why do Union's Customer EUL table and Enbridge Measure Life Guide differ both in title and in equipment/measure life?

2. **Ref: Exhibit B, Tab 1, Schedule 3, p1 of 8**

Preamble:

"This TRM includes measures that have been considered by the utilities, or might be considered in the future. It should be noted that the TRM is a technical reference document and as such inclusion in the TRM does not imply that it is appropriate to include a measure in the utilities' portfolio in a given program year."

Which measures included in the current version of the TRC are NOT included in either Union's or Enbridge's current programs.? What is the criteria to exclude a given measure?

3. **Ref: Exhibit B, Tab 1, Schedule 3, p4 of 8**

Preamble:

"New Construction – efficiency measures in new construction or major renovations, whose baseline would be the relevant code or standard market practice. Example – A project design team, influenced by the program, specifies a high efficiency boiler rather than the least cost code compliant, or predominant industry practice, option."

Which measures may be made ineligible for DSM Programs due to future changes to building codes and equipment standards? How do Enbridge and Union determine predominant industry practice?

4. **Ref: Exhibit B, Tab 1, Schedule 1, p2 of 5**

Preamble:

"The 2008 DSM Guidelines requested that a Terms of Reference for Stakeholder Engagement ("Terms of Reference"; EB-2011-0295 Exhibit B, Tab 2, Schedule 9, Appendix A) be developed by the natural gas utilities in cooperation with stakeholders for the multi-year plan period. The Terms of Reference for Stakeholder Engagement mandated the TEC to develop a Technical Reference Manual ("TRM") for natural gas DSM activities. In 2013, the utilities, through the TEC, engaged a third-party consultant to begin development of the TRM."

The terms of reference states that the TRM is to cover natural gas DSM activities. However, it appears that the manual focuses exclusively on replacing a given piece of equipment for a more efficient device. BOMA Toronto members increasingly find that a more holistic "performance based" approach to energy conservation is more successful than a purely equipment based approach to reduce the energy intensity on a per square meter basis. Please indicate what efforts both Enbridge and Union are pursuing to adapt to these market based changes.

5. **Ref: Exhibit B, Tab 1, Schedule 3, p3 of 8**

Preamble:

"Sector" refers to the market categories (Residential, Multi-Residential, Commercial) for which the measure substantiation document applies. • Commercial: A location providing goods and services such as businesses or institutions, e.g. retail, hospitals, universities, etc. Industrial facilities are also included in this category; however, industrial process improvements are typically custom measures and not addressed by the TRM.

Please describe how custom projects apply to the non-industrial facilities in the Commercial Sector.

6. **Ref:** *Exhibit B, Tab 1, Schedule 3, p4 of 8*

Preamble:

"Technology: "Technology" refers to the type of equipment (e.g. Adaptive Thermostat)."

Dictionary.com defines technology as:

- "1. the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, and the environment, drawing upon such subjects as industrial arts, engineering, applied science, and pure science.
2. the application of this knowledge for practical ends.
3. the terminology of an art, science, etc.; technical nomenclature.
4. a scientific or industrial process, invention, method, or the like.
5. the sum of the ways in which social groups provide themselves with the material objects of their civilization."

Why does the TRM use such a narrow definition of technology, thereby limiting the potential measures that could be used in DSM?

7. **Ref:** *Exhibit B, Tab 1, Schedule 2, pp1-15*

- (a) What is the forecast volume of targeted savings in each year of the six-year conservation term that will be determined by the application of the estimated measure savings contained in the application, together with measure savings estimates that have already been approved and are in use? What percentage of forecast annual savings do they represent?
- (b) What was the comparable actual volume of 2015 and 2016 savings that were estimated using the measures, and what percentage of total achieved savings did they constitute?

- (c) Did the utilities conduct sample measurements to determine the accuracy of the engineering estimates for the 2015 and 2016 savings (i.e. to see how they compared with actual savings for the buildings in which the measures were installed)? If not, why not? If yes, please describe the sample size and how the measurements were carried out, and the actual results achieved compared to the forecast results.
- (d) Do the utilities plan to conduct similar sample studies in the remaining four years of the program to verify the validity of the demand savings forecast methodology, described in the TRM? If so, please describe the sample size, the measures that will be sampled, and how the measurements will be carried out. If not, why not?

8. **Ref:** *Exhibit B, Tab 1, Schedule 6*

- (a) To what extent are the measures that are the contained in this application updated measures for which prescribed calculation of savings have already been made, and if so, how do they update those calculations, as opposed to calculations for new measures for which savings calculations are being made for the first time? Please be specific in your answer, in other words, address each of the measures listed and for which savings calculation formulae are already being provided, in your answer.
- (b) How do the savings calculation formulae for the residential measures compare to the calculation prescribed for the Ontario MOEEC Total Home Retrofit Program?
- (c) Preamble - EB-2014-0134 Guidelines, p25:

"Where feasible and economically practical, the preference to determine LRAM and shareholder incentive amounts should be to use measured actual results, instead of input assumptions. For example, it may be feasible and economically practical to measure the natural gas savings of weatherization programs based on the results of the pre- and post-energy audits conducted by certified energy auditors on a custom basis, as opposed to input assumptions associated with the individual measures installed."

- (d) Please provide copies of any studies (in particular, more recent studies) undertaken by either the utilities, third parties contracted by the utilities, auditors, the Board staff, the TEC, or any other player in the DSM measure creation/approval process which, since the use of prescriptive or quasi-prescriptive savings determination began, that assess the accuracy of the engineering forecast equations, by measuring the before and after gas consumption of the structure, or facility. Please identify which of those studies were done of Ontario installations and structures.

9. **Ref: Exhibit B, Tab 1, Schedule 3, p4**

Are the programs sufficiently flexible to allow the utilities to advance the installation of a new, higher efficiency piece of equipment before the natural replacement date of equipment, in cases where it would pass the TRM plus test. If not, why not? How would installment at that time affect the cost benefit analysis of the measure?

10. **Ref: Exhibit B, Tab 1, Schedule 3**

The evidence states that the purpose of the TRM is not to determine free ridership or spillover effects. Who determines the free ridership ratios and spillover effects, when in

the process are they determined, and what evidence are they based on? Please provide examples.

11. **Ref:** *December 21, 2016 EGD/Union Letter to Board*

(a) Please provide a copy of the prioritized list of measures provided to Energy and Resource Solutions Inc.

12. **Ref:** *General*

Does Energy and Resource Solution Inc. have Canadian (Ontario) offices, or are they an American firm? If an American firm, why was an Ontario or Canadian firm not contracted to do the work? Please explain fully.

13. **Ref:** *Exhibit B, Schedule 6, p126*

What is the source for the transfer co-efficient of the warehouse roof?

14. **Ref:** *Ibid*

Page 125 – Why would London weather be used when the vast majority of the warehouses would be located in the Greater Toronto Area (GTA), which has warmer temperatures and less snow than London? What would the impact on savings be if GTA weather were used?

15. **Ref: Pages 133, 143**

Preamble:

"The evidence does not provide a Baseline Technology for the Heat and Energy Recovery Ventilation measures on the grounds that the Ontario Building Code does not require them."

- (a) Have the utilities examined current construction practices to determine whether builders/owners are including these systems in their buildings? If not, why not? If they are using the systems, should they not be the baseline?
- (b) With no baseline, how do you compute the savings?
- (c) The evidence states (p154) that the recovery efficiency varies with the outside temperatures. What outside winter temperature conditions are being assumed for the two utilities, London, GTA, or a third measure?

16. **Ref: Page 189**

Please explain fully what is meant by "in order to achieve an efficiency level that falls within the OB CSB-12 required compliance path".

17. **Ref: General**

In establishing the baseline technology for each new measure, were studies or surveys done to establish the technology in use, or was a particular technology deemed to be in general use? Please discuss.

18. **Ref: Exhibit B, Tab 1, Schedule 5, p6; Measure and Savings Persistence**

- (a) Measure Life is defined as:

"The length of time that a measure is expected to provide its estimated annual savings. Measure Life is a function of equipment life and measure persistence (not savings persistence)."

BOMA is not sure of how savings persistence is being determined, if at all, in the TRM. Please describe how the TRM deals with savings persistence (by calculation, assumption, etc.). If TRM does not deal with savings persistence, when and how is savings persistence determined and factored into the benefit cost ratio for the measure, and for measuring its contributions to savings over the period to 2020 and beyond, in subsequent conservation initiative periods? Please explain fully.

- (b) The Board Framework and Guidelines (see, for example, EB-2014-0134 Guidelines, p6) emphasize the need for utilities to give priority to measures that will result in long-term (persistent) savings. What studies have the utilities, verifiers, auditors, or the Board done to determine the persistence of savings generated by programs that utilize one or more of the measures contained in the application?
- (c) If Measure Life is a function of equipment life and measure persistence, and Measure Life is equivalent to Expected Useful Life, please explain how factors, such as "early retirement" or "reasons measures might be removed or discontinued" are reflected in Measure Life. Please provide a sample of the calculation.