

**Union Gas Limited and Enbridge Gas Distribution Inc.
Application for Approval of New and Updated Conservation Measures
and the Technical Resource Manual**

**INTERROGATORIES OF
ENERGY PROBE RESEARCH FOUNDATION
("ENERGY PROBE")**

March 14, 2017

Union Gas Limited and Enbridge Gas Distribution Inc.

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

Energy Probe Interrogatories

Energy Probe IR B.1

Ref: TRM

- a) Please indicate in some detail whether the mandate of the TRC requires that the TRM is a Consensus Document and/or whether/how dissents are addressed, either at a measure level, or an overall level.
- b) Please indicate which Residential Measures are/are not the result of a Consensus of the TRC
- c) Please explain in detail how Union and EGD expect the Board to address any non-consensus matters?

Energy Probe IR B.2

**Refs: Exhibit B, Tab1, Tab2;
Exhibit B, Page 8: Appendix A, Page 3 - Common Assumptions;
Exhibit B, Tab 1, Schedule 6, Page 6**

Preamble Where assumptions are shared between multiple technologies, they have been gathered in a Common Assumptions table (Appendix A). Among these common assumptions, London, Ontario was selected as a default climate zone, due to its elevation and annual average temperature cycle. In addition to weather-related assumptions, the common assumptions include efficiencies for different types of equipment, common conversions, local conditions that would impact measures like average water temperature, heat content of natural gas, etc.

Energy Probe would like to understand the sensitivity and effect of environmental variations in the Common Assumption for Heating Degree Days (HDD) and Cooling Degree Days (CDD) on the estimated savings for the listed Residential Measures in each of the two Union (North/South) and three Enbridge (Niagara, Central and Eastern) Zones, leaving other assumptions as per the TRM.

Building Envelope

Attic Insulation Retrofit

Basement Insulation Retrofit

Draft Proofing Kit Retrofit

Heat Reflector Panels Retrofit

Heating and Cooling

95% High Efficiency Furnace Retrofit

Adaptive Thermostat Direct Install Retrofit

Please Provide in Excel and PDF format:

- a) **A Table/Tab with the approved Heating and Cooling Degree days for each of the 5 Zones listed in the Preamble.**
- b) **For the Residential Measures listed below, please provide a Table/Tab summarizing the Common Assumptions.**
- c) **For the listed Measures please provide a Table/Tab with the savings estimates using Common Assumptions.**
- d) **For the listed Measures provide the savings for each of the 5 HDD and comparable CDD Zones in the Union/Enbridge Zones. Compare to the results using Common assumptions (London).**
- e) **For each of the Measures apply a weighting to the savings from the installed measures based on the last 3 years DSM programs.**
- f) **Prepare a Summary of the Weighted Difference in savings for each measure.**
- g) **Please provide the claimed savings for each measure using Common Assumptions and the savings using Zone-Based Heating and Cooling DD assumptions.**
- h) **Please provide statistical analysis of the variation/difference in heating/cooling Degree days on savings claimed for each measure in the last three years by Union and Enbridge.**

Energy Probe IR B.3

Ref: Exhibit B, Page 8, Appendix A, Page 3, Common Assumptions Table

Preamble: Energy Probe would like to understand the sensitivity and effect of changed Common Assumptions of environmental temperatures for mains water input supply for the Water Heating DSM Measures listed below.

Water Heating

**Tankless Water Heater Condensing EF 0.91 Replacement
High Efficiency Gas Storage Water Heaters EF 0.8 New**

Please provide in Excel and PDF formats

- A Table/Tab with the Common Assumption(s).**
- The Algorithm calculation(s) for the Measures.**
- Estimates for the average mean water supply temperatures for Union North and Union South and for Enbridge Niagara, Central and Eastern Areas.**
- Profile/statistics of units installed under Union and Enbridge Programs for last three years.**
- Weighted Savings with Common Assumptions.**
- Weighted Savings for revised input assumptions.**
- Statistical analysis of differences between Common and Zone/Area input assumptions.**