

June 2, 2015

**BY COURIER (2 COPIES) AND RESS**

**Ms. Kirsten Walli**

Board Secretary

Ontario Energy Board

2300 Yonge Street, Suite 2700, P.O. Box 2319

Toronto, Ontario M4P 1E4

Dear Ms. Walli:

**Re: EB-2015-0049 Enbridge Gas Distribution Inc. (“Enbridge”)  
EB-2015-0029 Union Gas Limited (“Union”)  
2015-2020 Demand Side Management (“DSM”) Plans**

Enclosed please find the interrogatories for Enbridge and Union in the above matter.

Yours truly,



Kent Elson

cc: Applicants, Intervenors, and Board Staff for this Proceeding

**Application for Approval of 2015-2020 Demand Side Management Plans  
EB-2015-0049**

**Environmental Defence Interrogatories for Enbridge Gas Distribution Inc.**

**Topic 3 – DSM Budgets**

**3-ED-1**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7

Please state the Large C/I Resource Acquisition Program's cumulative cubic metre (CCM) savings and net TRC benefits for each year from 2016 to 2020 inclusive.

**3-ED-2**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7 and Ex. B, Tab 1, Schedule 5

Please provide a break-out of the Large C/I Resource Acquisition Program's rate allocation for each year from 2016 to 2020 inclusive.

**3-ED-3**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7 and Ex. B, Tab 1, Schedule 5

Please re-calculate the rate allocation of the Large C/I Resource Acquisition Program's for each year from 2016 to 2020 inclusive assuming that the Program's expenditures are rate based and amortized over the expected lives of their lifetime cubic metre savings.

**3-ED-4**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7

Please state the Small C/I Resource Acquisition Program's cumulative cubic metre (CCM) savings and net TRC benefits for each year from 2016 to 2020 inclusive.

**3-ED-5**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7 and Ex. B, Tab 1, Schedule 5

Please provide a break-out of the Small C/I Resource Acquisition Program's rate allocation for each year from 2016 to 2020 inclusive.

**3-ED-6**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7 and Ex. B, Tab 1, Schedule 5

Please re-calculate the rate allocation of the Small C/I Resource Acquisition Program's for each year from 2016 to 2020 inclusive assuming that the Program's expenditures are rate based and amortized over the expected lives of their lifetime cubic metre savings.

**3-ED-7**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7

- (a) Please do a sensitivity analysis to calculate the impact of 25%, 50% and 100% increases in the budgets of the Large C/I Resource Acquisition Program for each year from 2016 to 2020. When doing the budget sensitivity analyses, to the extent practical, please make program design changes which will deliver the largest possible increase in the Program's net TRC benefits.

- (b) For each year please show the impacts of the budget increases on the Program's CCM and net TRC benefits.
- (c) For each budget increase and each year please provide a break-out of the Program's rate allocation.
- (d) For each budget increase and each year please re-calculate the rate impact by rate class assuming the Program's budget is rate based and amortized over the expected lives of the lifetime cubic metre savings.

### **3-ED-8**

Reference: Ex. B, Tab 1, Schedule 4, Page 9, Table 7

- (a) Please do a sensitivity analysis to calculate the impact of 25%, 50% and 100% increases in the budgets of the Small C/I Resource Acquisition Program for each year from 2016 to 2020. When doing the budget sensitivity analyses, to the extent practical, please make program design changes which will deliver the largest possible increase in the Program's net TRC benefits.
- (b) For each year please show the impacts of the budget increases on the Program's CCM and net TRC benefits.
- (c) For each budget increase and each year please provide a break-out of the Program's rate allocation.
- (d) For each budget increase and each year please re-calculate the rate impact by rate class assuming the Program's budget is rate based and amortized over the expected lives of the lifetime cubic metre savings.

### **3-ED-9**

Reference: Ex. B, Tab 1, Schedule 5, Page 5

Please provide Enbridge's best estimate of its 2016 distribution revenue requirement and throughput volumes by rate class.

### **3-ED-10**

Reference: Ex. B, Tab 1, Schedule 5, Page 5

Please provide Enbridge's forecast of the average gas commodity cost (\$ per thousand cubic metres) for its customers in 2016. If the average gas commodity costs are forecast to vary by rate class, please provide price forecasts by rate class.

### **3-ED-11**

Reference: Ex. B, Tab 2, Schedule 4, Page 5

- (a) Please provide a table showing the average annual natural gas price (Henry Hub) over the past ten years (2005 to 2014 inclusive).

- (b) Please provide Enbridge's average effective rate for natural gas (i.e. commodity costs) for residential customers over the past ten years (2005 to 2014 inclusive). Please provide the data in two tables, one with annual averages and the other quarterly.

### **3-ED-12**

Reference: Ex. B, Tab 2, Schedule 4, Page 5

- (a) Please calculate the overall gross cumulative savings (i.e. all avoided costs) achieved by Enbridge's customers as a result of its DSM programs up to January 1, 2015.
- (b) Please calculate the **net** annual savings for all of Enbridge's customers as a result of its DSM programs. Please account for all DSM costs and all DSM benefits (i.e. all avoided costs).
- (c) Please calculate the net annual savings for all of Enbridge's **residential** customers as a result of its DSM programs. Please account for all DSM costs and all DSM benefits (i.e. all avoided costs).
- (d) Please calculate the net annual savings for the **average or typical** Enbridge residential customer as a result of all of Enbridge's DSM programs (i.e. the per customer savings). Please account for all DSM costs and all DSM benefits (i.e. all avoided costs).
- (e) Please calculate the amount by which the annual gas bill of the average or typical Enbridge residential customer is lower as a result of all of Enbridge's DSM programs. Please account for all DSM costs and all DSM benefits that result in lower gas bills. Please provide a response in terms of both the annual gas cost and the average monthly bill.

For all of the above please provide the figures as of January 1, 2015 (or another recent date for ease of the calculations) and please include the impact of all DSM measures since the inception of Enbridge's DSM program to the extent that the benefits from those measures will have persisted. Please make and state any necessary assumptions.

### **3-ED-13**

Reference: Ex. B, Tab 2, Schedule 4, Page 5

- (a) For 2015, 2016, and 2017, please estimate the net present value of the net savings for the average Enbridge residential customer that will arise from Enbridge's DSM program in each year (over the lifetime of the measures). Please account for all relevant DSM costs and all relevant DSM benefits (i.e. all avoided costs). Please make and state any necessary assumptions.

### **3-ED-14**

Reference: Ex. B, Tab 2, Schedule 4, Page 5

Page 15 of the Board's DSM Framework states as follows: "Many elements of DSM programs that offer the greatest opportunity to realize long-term natural gas savings (and bill reductions)

are related to the installation of energy efficient products, such as a furnace or insulation. The opportunity to install one of these more significant items will not be present for the majority of customers in the gas utilities' service territories.”

- (a) What percentage of Enbridge's customers have had the opportunity to participate in one of its DSM programs through the installation of an energy efficient product since Enbridge first started offering its DSM programs? Please make and state any necessary assumptions in answering this question.

### **3-ED-15**

Reference: Ex. C, Tab 1, Schedule 1

- (a) Please recalculate the achievable DSM potential based on the assumption that there is no cap on the DSM budget. Please only include those measures that pass the TRC cost-benefit test and retain the other assumptions regarding “achievable” potential as described on page 11 of the Navigant report (except with regard to budget limits). Please provide figures for 2015 to 2024 inclusive. For each year please calculate the average TRC benefit/cost ratio and the total net TRC benefits.
- (b) Please reproduce figure ES-1 and table ES-1 on page 13 of the Navigant report with an additional series of data representing the recalculated achievable potential described in (a) above.

### **3-ED-16**

Reference: Ex. C, Tab 1, Schedule 1

- (a) Enerlife Consulting Inc. calculated the DSM potential for the Greater Toronto Area in a report filed in EB-2012-0451 (Exhibit L.EGD.ED.1, filed: 2013-06-28) using a performance-based model. Please provide a table comparing the commercial DSM potential estimated in the Enerlife report with the commercial DSM potential calculated by Navigant.

### **3-ED-17**

Reference: Ex. C, Tab 1, Schedule 1

Section 5.1.3 and Appendix E contain a benchmarking analysis. Please reproduce the tables and figures contained therein including only those jurisdictions where the utilities in question are required to implement all cost-effective DSM.

## **Topic 5 – Program Types**

### **5-ED-18**

Reference: Ex. B, Tab 1, Schedule 2

Has Enbridge analysed the cost-effectiveness of rate re-design (e.g., lower fixed customer charges and higher volumetric charges, seasonal rates, enhanced interruptible rates) to help it achieve all cost-effective DSM? If yes, please provide Enbridge's analyses, including both a

summary of the analysis that has been undertaken and any underlying assessment and analysis documents. If no, please explain why not.

**5-ED-19**

Reference: Ex. B, Tab 4, Schedule 3

Please provide an analysis of the costs and benefits of establishing a residential on-bill financing pilot project in 2016. Please assume that the financing is provided by a third-party financial institution.

**Topic 13 – Other**

**13-ED-20**

Reference: Ex. B, Tab 2, Schedule 4

Would Enbridge object to a proposal to rate base DSM expenditures to better match the distribution of their benefits and costs over time and to mitigate the rate impacts of rising DSM budgets? Please fully justify your response.

**Application for Approval of 2015-2020 Demand Side Management Plans**  
**EB-2015-0029**

**Environmental Defence Interrogatories for Union Gas**

**Topic 3 – DSM Budgets**

**3-ED-1**

Reference: Ex. A, Tab 2, Page 7

Please provide the actual budget, TRC Net Benefits and lifetime cubic metre savings of Union's 2013 Large Volume T1/T2/R100 DSM program.

**3-ED-2**

Reference: Ex. A, Tab 2, Page 7

Please provide the actual budget, TRC Net Benefits and lifetime cubic metre savings of Union's 2014 Large Volume T1/T2/R100 DSM program.

**3-ED-3**

Reference: Ex. A, Tab 3, Page 6

Please provide Union's best estimate of the TRC Net Benefits and lifetime cubic metre savings of Union's Large Volume DSM programs for each year from 2016 to 2020 inclusive.

**3-ED-4**

Reference: Ex. A, Tab 3, Appendix A, page 64.

This page describes the key features of Union's Large Volume (T2 and Rate 100) DSM program in 2013 and 2014.

Please provide Union's best estimates of the TRC Net Benefits and lifetime cubic metre savings that would be created if this program were to continue to operate in 2016 with a budget of: a) \$4 million; b) \$8 million; and c) \$16 million.

Please assume that the key qualitative features of this Large Volume (T2 and Rate 100) DSM program in 2016 are the same as they were in 2013 and 2014, but with any adjustments as would be necessary to maximize the net TRC benefits.

Please provide a similar sensitivity analysis for 2017, 2018, 2019 and 2020.

**3-ED-5**

Reference: Ex. A, Tab 3, Appendix A, page 64

Please estimate the revenue requirement impacts in 2016 and 2017 of 2016 Large Volume DSM budgets of: a) \$4 million; b) \$8 million; and c) \$16 billion assuming that they are rate-based and amortized over the expected lives of their lifetime cubic metre savings.

### **3-ED-6**

Reference: Ex. A, Tab 3, Appendix A, page 64

Please provide Union's best estimates of its T2 revenues and throughput volumes in 2015 and 2016.

### **3-ED-7**

Reference: Ex. A, Tab 3, Appendix A, page 64

Please provide Union's best estimates of its Rate 100 revenues and throughput volumes in 2015 and 2016.

### **3-ED-8**

Reference: Ex. A, Tab 3, Appendix A, page 64

Please provide Union's forecast of the average gas commodity cost (\$ per thousand cubic metres) for its T2 customers in 2016.

### **3-ED-9**

Reference: Ex. A, Tab 3, Appendix A, page 64

Please provide Union's forecast of the average gas commodity cost (\$ per thousand cubic metres) for its Rate 100 customers in 2016.

### **3-ED-10**

Reference: Ex. A, Tab 3, Page 12, Table 3

For each program type and each year, please state its budget and its forecast TRC Net Benefits.

### **3-ED-11**

Reference: Ex. A, Tab 1, Page 6

- (a) Please provide a table showing the average annual natural gas price (Henry Hub) over the past ten years (2005 to 2014 inclusive).
- (b) Please provide Union's average effective rate for natural gas (i.e. commodity costs) for residential customers over the past ten years (2005 to 2014 inclusive). Please provide the data in two tables, one with annual averages and the other quarterly.

### **3-ED-12**

Reference: Ex. A, Tab 1, Page 6

- (a) Please calculate the overall gross cumulative savings (i.e. all avoided costs) achieved by Union's customers as a result of its DSM programs up to January 1, 2015.
- (b) Please calculate the **net** annual savings for all of Union's customers as a result of its DSM programs. Please account for all DSM costs and all DSM benefits (i.e. all avoided costs).
- (c) Please calculate the net annual savings for all of Union's **residential** customers as a result of its DSM programs. Please account for all DSM costs and all DSM benefits (i.e. all

avoided costs).

- (d) Please calculate the net annual savings for the **average or typical** Union residential customer as a result of all of Union's DSM programs (i.e. the per customer savings). Please account for all DSM costs and all DSM benefits (i.e. all avoided costs).
- (e) Please calculate the amount by which the annual gas bill of the average or typical Union residential customer is lower as a result of all of Union's DSM programs. Please account for all DSM costs and all DSM benefits that result in lower gas bills. Please provide a response in terms of both the annual gas cost and the average monthly bill.

For all of the above please provide the figures as of January 1, 2015 (or another recent date for ease of the calculations) and please include the impact of all DSM measures since the inception of Union's DSM program to the extent that the benefits from those measures will have persisted. Please make and state any necessary assumptions.

### **3-ED-13**

Reference: Ex. A, Tab 1, Page 6

- (a) For 2015, 2016, and 2017, please estimate the net present value of the net savings for the average Union residential customer that will arise from Union's DSM program in each year (over the lifetime of the measures). Please account for all relevant DSM costs and all relevant DSM benefits (i.e. all avoided costs). Please make and state any necessary assumptions.

### **3-ED-14**

Reference: Ex. A, Tab 1, Page 6

Page 15 of the Board's DSM Framework states as follows: "Many elements of DSM programs that offer the greatest opportunity to realize long-term natural gas savings (and bill reductions) are related to the installation of energy efficient products, such as a furnace or insulation. The opportunity to install one of these more significant items will not be present for the majority of customers in the gas utilities' service territories."

- (a) What percentage of Union's customers have had the opportunity to participate in one of its DSM programs through the installation of an energy efficient product since Union first started offering its DSM programs? Please make and state any necessary assumptions in answering this question.

### **3-ED-15**

Reference: Ex. A, Tab 3, Appendix A, page 64.

This page describes the key features of Union's Large Volume (T2 and Rate 100) DSM program in 2013 and 2014.

- (a) Please describe and justify the assumptions made regarding free riders in Union's Large Volume DSM programs in 2013 and 2014. Please include a definition of the term "free

rider” in the answer.

- (b) Please describe the process used to develop the free rider assumptions discussed in (a), including the involvement of industry stakeholders.
- (c) Please describe the process used to verify and audit the results of Union’s Large Volume DSM programs in 2013 and 2014.
- (d) Please estimate and describe the extent to which the gas savings associated with Union’s 2013 and 2014 Large Volume programs would have been achieved by its customers on their own without assistance from union (if at all). Please justify the response.
- (e) What percentage of Union’s Large Volume customers (T2 and Rate 100) have participated in its DSM programs since the inception of these programs at least once.

### **Topic 5 – Program Types**

#### **5-ED-16**

Reference: Ex. A, Tab 3, Appendix A, page 20

“As noted above, it is not reasonable to offer rebates at the level of top performing jurisdictions while still achieving high participation rates within Union’s budget guidelines. The experience of Ohio, Vermont and Wisconsin indicate that Union’s [Home Reno Rebate] targets at the project rebate level (34% of project costs) will be challenging.”

Could low-interest on-bill financing be a cost-effective option to enable Union to achieve higher Home Reno Rebate targets? When answering this question, please assume that the financing is provided by a third-party financial institution. Please fully justify your response.

#### **5-ED-17**

Reference: Ex. A, Tab 1, Appendix B, page 20 [Jack : This reference is to the on-bill financing section of the application.]

Please provide an analysis of the costs and benefits of establishing a residential on-bill financing pilot project in 2016. Please assume that the financing is provided by a third-party financial institution.

### **Topic 13 – Other**

#### **13-ED-18**

Reference: Ex. A, Tab 1, Page 1

Has Union analysed the cost-effectives of rate re-design (e.g., lower fixed customer charges and higher volumetric charges, seasonal rates, enhanced interruptible rates) to help it achieve all cost-effective DSM? If yes, please provide Union’s analyses. If no, please explain why not.

**13-ED-19**

Reference: Ex. A, Tab 1, Page 1

Would Union object to a proposal to rate base DSM expenditures to better match the distribution of their benefits and costs over time and to mitigate the rate impacts of rising DSM budgets?

Please fully justify your response.