



uniongas

A Spectra Energy Company

May 26, 2009

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Union's 2009 DSM Input Assumptions Reply - EB-2009-0102

Attached please find Union's submission with regard to the above.

Should you have any questions, please contact me at 519-436-5476.

Sincerely,

[original signed by]

Chris Ripley
Manager, Regulatory Applications

cc: All EB-2009-0102 Intervenors

May 26, 2009

Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, Ontario
M4P 1E4

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

**Re: Demand Side Management ("DSM") 2009 Input Assumptions -
EB-2009-0102**

We are the solicitors for Union Gas Limited ("Union"). On March 31, 2009, Union filed an application with the Board for approval of Union's 2009 DSM input assumptions. Subsequently, by Procedural Order dated May 4, 2009, the Board invited comments on Union's application and afforded Union an opportunity to respond to those comments. This is Union's response.

Response to Comments

Union's 2009 input assumptions were prepared jointly with Enbridge and were filed with the Board pursuant to Chapter 5 of the Board's Decision with Reasons in EB-2006-0021 (the "Generic Proceeding"). The input assumptions were largely based on the draft Navigant report of measures and inputs for 2010.

A number of intervenors have commented on Union's input assumptions. Almost without exception, their comments are procedural, rather than substantive. More particularly, intervenors criticize Union for failing to provide its 2009 input assumptions to Union's Evaluation and Audit Committee ("EAC") prior to filing. This criticism is unwarranted.

In order to best design and manage conservation programs, Union requires Board approved input assumptions early in the program year. All parties accept this need for early approval. Union and the EAC recognized that the process in respect of Union's 2008 input assumptions took too long. In 2008, Union conducted extensive discussions with the EAC. While these discussions resulted in EAC acceptance of Union's 2008 input assumptions, this did not occur until November. Board approval of the 2008 input assumptions was received in January 2009, following a Board process which provided for a further period of intervenor commentary.

As a result of the 2008 process, the parties agreed that Union would provide its 2009 assumptions to the Board by the end of March, 2009. Union met this deadline and should not be criticized for doing so. As explained in Union's application, as a result of the release in early February 2009 of the draft Navigant report, and Union's subsequent focus on responding to that

report and on incorporating the report's conclusions into the 2009 input assumptions, Union was not able to provide these assumptions to the EAC any earlier. Further, while Union did not review the input assumptions with the EAC prior to filing, having regard to the process followed by the Board in respect of Union's 2008 assumptions - a written hearing - and the significant process associated with the 2010 input assumptions, it was Union's view that intervenor concerns regarding procedural and substantive fairness would be satisfied.

In addition, in order to provide assistance to the EAC in understanding Union's 2009 input assumptions, Union provided parties with a "continuance" schedule showing the changes between Union's 2008 Board approved assumptions and its 2009 application. This schedule was provided on April 16, 2009.

In their submissions, IGUA, CME and SEC suggest that the Board should defer approval of Union's 2009 input assumptions until the filing of Union's 2009 DSM audit. Further, they suggest that the results of this audit should be used to calculate Union's 2009 SSM. In Union's view, there is no merit to this suggestion; it is contrary to the Board's decision in the Generic Proceeding. As the Board concluded in that case, input assumptions should be "locked in" for the purposes of calculating SSM. The Board's decision confirmed the terms of a Partial Settlement Agreement which had received broad intervenor support, including from IGUA and SEC. The decision states:

SSM. Assumptions used from the beginning of any year will be those assumptions in existence in the immediately prior year, adjusted for any changes in the audit of that prior year. By way of example, if in June of 2008 the audit of the 2007 programs demonstrates a change in assumptions, that change shall apply for SSM purposes from the beginning of 2008 onwards until changed again.

Proposed Resolution

Union recognizes the difficult position all parties, and the Board, are faced with having regard to the fact that Union (and Enbridge) are in a period between the existing Generic DSM Framework and the Next Generation Framework currently under development. In order to address this position, and to continue to work positively and constructively with members of the EAC as it has in the past several years, Union suggests the following. For 2009 Union will use the Board approved 2010 input assumptions. With respect to free rider rates, which were not contained in the Navigant report, Union will use its previously submitted 2009 rates. Union will not pursue a spillover for 2009 (just as it did not for 2008). Union has added two measures that were not mentioned in the final Navigant report for which substantiation documents are available. The measures include the 1.0GPM faucet aerator (bathroom and kitchen), and the 0.64GPM pre-rinse spray nozzle.

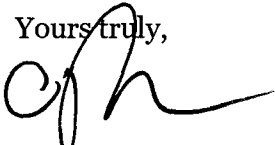
Union submits that the Board approved 2010 assumptions represent the best available information at this time, were developed by a disinterested third party, i.e. Navigant, and have been the subject of extensive written comments from all parties and, therefore, should be acceptable to all parties. For clarity, a summary table of all measures and related inputs for use in determining Union's 2009 SSM as per the outline above are provided in Appendix A. Substantiation documents for the two added measures are provided in Appendix B. In addition, the substantiation documents for high efficiency furnaces have been included in Appendix B as

the code change reflected in the Board approved 2010 input assumptions for this measure will not take effect until the end of 2009.

In making the above suggestion, Union has sought to address intervenor comments, provide the Board with comfort regarding the 2009 input assumptions and remain consistent with the Generic Proceeding.

As a final matter, Union notes that a decision in respect of its 2009 input assumptions by June 20, 2009 would significantly aid in the finalization of Union's 2008 DSM audit filing.

Yours truly,

A handwritten signature in black ink, appearing to be 'CS' followed by a stylized flourish.

Crawford Smith
CS/tm

Tel 416.865.8209
csmith@torys.com

cc: Chris Ripley

Appendix A

Appendix A – 2009 Input Assumptions

Target Market		Equipment Details				Annual Resource Savings				Other	
Sector	New/Existing	Efficient Equipment	Details of efficient equipment	Base Equipment	Details of base equipment	Natural Gas (m3)	Electricity (kWh)	Water (L)	EUL	Incremental Cost (\$)	Free Rider (%) ¹
Residential Space Heating											
7	Residential	Existing	Reflector Panels	No reflector panels		143	0	0	18	\$229	0%
8	Residential	Existing	High Efficiency (Condensing) Furnace ²	Mid-Efficiency Furnace		385	0	0	18	\$650	90%
9	Residential	Existing	Programmable Thermostat	Standard Thermostat		53	54	0	15	\$25	43%
Residential Water Heating											
11	Residential	Existing	Faucet Aerator	Average existing stock	2.2 GPM	6	0	2,004	10	\$2	33%
12	Residential	Existing	Faucet Aerator	Average existing stock	2.5 GPM	23	0	7,797	10	\$2	33%
13	Residential	Existing	Low-flow showerhead (Union Gas ESS)	Average existing stock	2.2 GPM	46	0	6,334	10	\$6	10%
14	Residential	Existing	Low-flow showerhead (Union Gas ESS)	Average existing stock	2.2 GPM	63	0	10,570	10	\$13	10%
15a	Residential	Existing	Low-flow showerhead (Endbridge TAPS)	Average existing stock	2.25 GPM	66	0	10,886	10	\$13	10%
15b	Residential	Existing	Low-flow showerhead (Endbridge TAPS)	Average existing stock	3.0 GPM	116	0	17,168	10	\$13	10%
16	Residential	Existing	Pipe Wrap (R-4) outlet pipe	Uninsulated DHW outlet pipes (R-1)	R-1	18	0	0	10	\$2	4%
Low Income Space Heating											
19	Low Income	Existing	Programmable Thermostat	Standard manual thermostat		53	54	0	15	\$25	1%
20	Low Income	Existing	Weatherization	No Weatherization		1,134	165	0	23	\$2,284	0%
Low Income Water Heating											
21	Low Income	Existing	Faucet Aerator	Average existing stock	2.2 GPM	6	0	2,004	10	\$2	1%
22	Low Income	Existing	Faucet Aerator	Average existing stock	2.5 GPM	23	0	7,797	10	\$2	1%
23	Low Income	Existing	Low-flow showerhead (Union Gas ESS)	Average existing stock	2.2 GPM	46	0	6,334	10	\$6	1%
24	Low Income	Existing	Low-flow showerhead (Union Gas ESS)	Average existing stock	2.2 GPM	63	0	10,570	10	\$13	1%
25a	Low Income	Existing	Low-flow showerhead (Endbridge TAPS)	Average existing stock	2.25 GPM	66	0	10,886	10	\$13	5%
25b	Low Income	Existing	Low-flow showerhead (Endbridge TAPS)	Average existing stock	3.0 GPM	116	0	17,168	10	\$13	5%
26	Low Income	Existing	Pipe insulation for DHW outlet pipe	Uninsulated DHW outlet pipes (R-1)	R-1	18	0	0	10	\$2	1%
Commercial Space Heating											
29	Commercial	Existing	Air Curtains	Non-air curtain doors		667	172	0	15	\$1,650	5%
30	Commercial	Existing	Air Curtains	Non-air curtain doors		1,529	1,023	0	15	\$2,500	5%
31	Commercial	Existing	Condensing Boilers	Non-condensing boiler	76% estimated seasonal efficiency	0.0104 / Btu/hr	0	0	25	\$12/KW/hr	5%
32	Commercial	New/Existing ³	Demand Control Kitchen Ventilation	Kitchen ventilation without DCKV		4,801	13,521	0	15	\$10,000	5%
33	Commercial	New/Existing ³	Demand Control Kitchen Ventilation	Kitchen ventilation without DCKV		11,486	30,901	0	15	\$15,000	5%
34	Commercial	New/Existing ³	Demand Control Kitchen Ventilation	Kitchen ventilation without DCKV		18,924	49,102	0	15	\$20,000	5%
35	Commercial	New/Existing	De-stratification Fans	No de-stratification fans		0.5/f ²	(-30,0034 / f ²)	0	15	\$7,021	10%
36	Commercial	Existing	Energy Recovery Ventilator	Ventilation without ERV		1.84 - 5.14CFM**	0	0	20	\$3/CFM	5%

Union Gas Commercial/Industrial Custom Projects	
Sector	Free Rider (%)*
Agriculture	0%
Industrial	56%
Commercial	59%
Multi-Residential	42%
New Construction	33%

*As per EB 2008-0385

Appendix B

Appendix B – Substantiation Documents

RESIDENTIAL EXISTING HOMES

HIGH EFFICIENCY FURNACE -----1

COMMERCIAL EXISTING BUILDINGS

HIGH EFFICIENCY FURNACE (UP TO 299 MBTU/H) ----- 2

0.64 GPM PRE-RINSE SPRAY NOZZLE -----3

1.0 FAUCET AERATOR (BATHROOM) -----4

1.0 FAUCET AERATOR (KITCHEN) -----5

1. HIGH EFFICIENCY FURNACE

Residential Existing Homes

Efficient Technology & Equipment Description
High efficiency furnace
Base Technology & Equipment Description
Mid-efficiency furnace

Resource Savings Assumptions

Natural Gas	385 m ³
Natural gas savings are based on Enbridge research that indicates the average consumption for a mid-efficiency furnace is 2,430 m ³ and 2,045 m ³ for a high efficiency furnace, suggesting annual savings of 385 m ³ as approved in the Decision for the Enbridge 2006 DSM Plan (EB2005-0001). ¹	
Electricity	n/a kWh
Water	n/a L

Other Input Assumptions

Equipment Life	18 years
High efficiency furnaces have an estimated service life of 18 years. ^{1, 2}	
Incremental Cost (Contractor Install)	\$650
The incremental cost is based on a pricing survey of 15 contractors in the Union Gas franchise area. The single incremental cost number is weighted average of Union Gas South (70%) and Union Gas North (30%) average incremental costs. ¹	
Free Ridership (Updated)	90 %
Free Ridership rate recommended by Summit Blue Consulting ³ , excluding spillover.	

¹ Approved in EB 2008-0384 & 0385

² ASHRAE Applications Handbook – 2003, Chapter 36 – Owning and Operating Costs, Table 3

³ “Residential Measure Free Ridership And Inside Spillover Study - Final Report”, Summit Blue Consulting, June 2008

2. HIGH EFFICIENCY FURNACE (UP TO 299 MBTU/H)

Commercial - Existing Buildings

Efficient Technology & Equipment Description
High efficiency furnace
Base Technology & Equipment Description
Mid-efficiency furnace

Resource Savings Assumptions

Natural Gas	5.1 m ³ / 1000 Btu/h
Based on residential high-efficiency gas savings of 385 m ³ (see Existing Homes – High Efficiency Furnace) and a typical residential furnace input of 75,000 Btu/h furnace → 385/75 = 5 m ³ / 1000 Btu/h.	
Electricity	n/a kWh
Water	n/a L

Other Input Assumptions

Equipment Life	18 years
High efficiency furnaces have an estimated service life of 18 years. ⁴	
Incremental Cost (Contractor Install)	650 \$
The incremental cost is based on a pricing survey of 15 contractors in the Union Gas franchise area. The single incremental cost number is weighted average of Union Gas South (70%) and Union Gas North (30%) average incremental costs.	
Free Ridership	17.5 %
As per EB-2006-0021	

⁴ ASHRAE Applications Handbook – 2003, Chapter 36 – Owning and Operating Costs, Table 3

3. PRE-RINSE SPRAY NOZZLE (0.64 GPM)

Commercial, Existing

Efficient Technology & Equipment Description
Low-flow pre-rinse spray nozzle/valve (0.64 GPM)
Base Technology & Equipment Description
Standard pre-rinse spray nozzle/valve (3.0 GPM)

Resource Savings Assumptions

Natural Gas	See below m ³								
<table><tr><th>Market Segment</th><th>Natural Gas (m³/yr)</th></tr><tr><td>Full Dining Establishments</td><td>1,286</td></tr><tr><td>Limited Service Establishments</td><td>339</td></tr><tr><td>Other Establishments</td><td>318</td></tr></table> <p>A field study was undertaken at 37 sites across 4 regions in Union Gas territory. Measurements of water pressure, incoming and leaving (at both burner On and Off setpoints) water temperature at the water heater and supplied to the pre-rinse spray valve, details of the make, model and type of water heater, and type of food service establishment, were collected at each site.</p> <p>Flow rate vs. pressure curves for high-flow and nominal 0.64 USgpm pre-rinse spray valves (PRSV) were developed from the Veritec studies in Waterloo⁵ and Calgary⁶. An average flow rate vs pressure curve for high-flow PRSVs was developed from the Veritec Waterloo study.</p> <p>Water savings were evaluated for each region based on the difference between the flow rates of the high-flow and low-flow PRSV at the average measured water pressure, and the average usage of the PRSV for each of 3 food service establishment types from the Veritec studies in Waterloo and Calgary.</p> <p>Natural gas savings were determined using the US-DOE WHAM⁷ model to establish water heater efficiency. Inputs to the model from site measurements included the average cold water and hot water setpoint temperatures for each region. Additional inputs to the model included water heater energy factor and rated water heater input (both average for the region), ambient air temperature (assumed at 70°F), and average daily volume of hot water. This last item was determined from a combination of research undertaken by FSTC⁸, and ASHRAE⁹ recommendations, for each food service establishment type. The proportion of hot water delivered to the PRSV was determined from the average measured mixed water temperature for each region. Operating times are not expected to be different between 1.24 & 0.64 (Bricor model B064) USgpm models based on cleanability times of 20-21 seconds according to the FTSC¹⁰.</p>		Market Segment	Natural Gas (m ³ /yr)	Full Dining Establishments	1,286	Limited Service Establishments	339	Other Establishments	318
Market Segment	Natural Gas (m ³ /yr)								
Full Dining Establishments	1,286								
Limited Service Establishments	339								
Other Establishments	318								

⁵ "Region of Waterloo – Pre-Rinse Spray Valve Pilot Study – Final Report", Veritec Consulting Inc., January 2005

⁶ "City of Calgary" – Pre-Rinse Spray Valve Pilot Study – Final Report", Veritec Consulting Inc., December 2005.

⁷ Appendix D-2. Water Heater Analysis Model. Water Heater Rulemaking Technical Support Documents.

http://www1.eere.energy.gov/buildings/appliance_standards/residential/waterheat_0300_r.html

⁸ Charles Wallace and Don Fisher Energy Efficiency Potential of Gas-Fired Commercial Hot Water Heating Systems in Restaurants. FSTC April 2007

⁹ ASHRAE Handbook 2007HVAC Applications. Chapter 49

¹⁰ pg 32 & 37 "Deemed Savings for (Low Flow) Pre-Rinse Spray Nozzles" by Energy Profiles, January 30, 2009.

Electricity	0 kWh								
Water	See below L								
<table border="1"> <thead> <tr> <th>Market Segment</th><th>Water (L)¹⁰</th></tr> </thead> <tbody> <tr> <td>Full Dining Establishments</td><td>252,000</td></tr> <tr> <td>Limited Service Establishments</td><td>66,400</td></tr> <tr> <td>Other Establishments</td><td>62,200</td></tr> </tbody> </table> <p>Assumptions and inputs:</p> <ul style="list-style-type: none"> Water savings were evaluated for 3 food service establishment types: Full Service Restaurants, Limited Service Restaurants, and Other The PRSV water usage was based on the 2 Veritec studies, and incorporated the measured differences in usage time for the high-flow and low-flow PRSVs. 		Market Segment	Water (L) ¹⁰	Full Dining Establishments	252,000	Limited Service Establishments	66,400	Other Establishments	62,200
Market Segment	Water (L) ¹⁰								
Full Dining Establishments	252,000								
Limited Service Establishments	66,400								
Other Establishments	62,200								

Other Input Assumptions

Equipment Life	5 years
This is consistent with other studies ^{11,12}	
Incremental Cost (Cust. / Contr. Install)	\$88
<p>\$88 = (\$50/pc* + \$1/pc* shipping USD) x 1.28901** exchange rate + \$22 installation***</p> <p>*estimated by Bricor, March 2, 2009</p> <p>**Exchange rate from March 2, 2009 - http://www.xe.com/ucc/convert.cgi</p> <p>***estimated installation from Seattle Utilities (\$21-23/pc), based on conversation with Bricor, March 2, 2009</p>	
Free Ridership	0 %
Relatively new product; currently only aware one manufacturer. Propose 0% free ridership.	

¹¹ CEE Commercial Kitchens Initiative - Program Guidance on Pre-Rinse Spray Valves

¹² Enbridge market survey of average usage

4. 1.0 GAL/MIN FAUCET AERATOR (BATHROOM)

Commercial Building Retrofit (Installed) - Multi-Residential

Efficient Technology & Equipment Description
1.0 GPM Faucet Aerator
Base Technology & Equipment Description
Average existing stock / 2.2 GPM Faucet Aerator

1.1.1 Resource Savings Assumptions

Natural Gas (Updated)	11 m³
Based on Navigant savings calculation adjusted for a 1.0 GPM unit.	
Electricity	n/a kWh
Water (Updated)	2,371 L
Based on Navigant savings calculation adjusted for a 1.0 GPM unit.	

1.1.2 Other Input Assumptions

Equipment Life	10 years
As recommended by Navigant.	
Incremental Cost (Contractor Install)	\$1.50
As per utility program costs.	
Free Ridership (Updated)	10 %
Free ridership – EB 2008-0384 & 0385	

5. 1.0 GAL/MIN FAUCET AERATOR (KITCHEN)

Commercial Building Retrofit (Installed) – Multi-Residential

Efficient Technology & Equipment Description
1.0 GPM Faucet Aerator
Base Technology & Equipment Description
Average existing stock / 2.5 GPM Faucet Aerator

Resource Savings Assumptions

Natural Gas (Updated)	39 m ³
Based on Navigant savings calculation adjusted for a 1.0 GPM unit.	
Electricity	n/a kWh
Water (Updated)	8,072 L
Based on Navigant savings calculation adjusted for a 1.0 GPM unit.	

Other Input Assumptions

Equipment Life	10 years
As recommended by Navigant.	
Incremental Cost (Contractor Install)	\$2
As per utility program costs.	
Free Ridership (Updated)	10 %
Free ridership – EB 2008-0384 & 0385	