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

December 9, 2010

Dear Ms. Walli,

RE: EB-2010-0067
2011 Electricity Distribution Rate Application for Burlington Hydro Inc.
Responses to Interrogatories

Please find attached the responses to interrogatories related to the 2011 IRM3 Electricity Distribution Rate Application from Burlington Hydro Inc ("BHI"), requesting new distribution rates effective May 1, 2011.

BHI has included two paper copies and one CD with all electronic files. BHI has also filed through the Board's web portal at www.err.oeb.gov.on.ca.

I can be reached at 905-332-2258 should anything further be required.

Yours truly,

*original signed by*

Joe Saunders
Director, Regulatory Compliance and Asset Management

# Burlington Hydro Inc.
# Response to Interrogatory from Board Staff
# Question 1

**Question:**

Ref: Tax Sharing Model – B1.1 ReBased Bill Det & Rates

a) Please explain why rates in columns D, E and F are not consistent with rates from Sheet "E1.1 Rate Reb Base Dist Rts Gen" of the 2011 IRM3 Rate Generator.
b) If Burlington Hydro is of the view that the data included in the application is more appropriate to use, please explain why. If not, please re-file the referenced sheet with the correct rates and staff will make the necessary adjustment to the Tax Sharing model.

---

**Response:**

a) Burlington Hydro inadvertently used the base rates prior to adjustments for cost allocation.
b) Sheet B1.1 from the Tax Sharing Model has been updated and is attached to this response.

Ontario

**Name of LDC:** Burlington Hydro Inc.
**File Number:** IRM3
**Effective Date:** May 1, 2011
**Version :** 1.0

# Rate Class and Re-Based Billing Determinants & Rates

| | |
|---|---|
| Last COS Re-based Year | 2010 |
| Last COS OEB Application Number | EB-2009-0259 |

| Rate Group | Rate Class | Fixed Metric | Vol Metric | Re-based Billed Customers or Connections A | Re-based Billed kWh B | Re-based Billed kW C | Rate ReBal Base Service Charge D | Rate ReBal Base Distribution Volumetric Rate kWh E | Rate ReBal Base Distribution Volumetric Rate kW F |
|---|---|---|---|---|---|---|---|---|---|
| RES | Residential | Customer | kWh | 58,643 | 555,923,716 | | 12.10 | 0.0165 | |
| GSLT50 | General Service Less Than 50 kW | Customer | kWh | 5,028 | 183,112,615 | | 25.14 | 0.0135 | |
| GSGT50 | General Service 50 to 4,999 kW | Customer | kW | 1,030 | 950,876,174 | 2,448,411 | 71.66 | | 2.8286 |
| USL | Unmetered Scattered Load | Connection | kWh | 602 | 3,918,008 | | 10.18 | 0.0176 | |
| SL | Street Lighting | Connection | kW | 14,673 | 9,421,002 | 26,120 | 0.60 | | 4.3624 |
| NA | Rate Class 6 | NA | NA | | | | | | |
| NA | Rate Class 7 | NA | NA | | | | | | |
| NA | Rate Class 8 | NA | NA | | | | | | |
| NA | Rate Class 9 | NA | NA | | | | | | |
| NA | Rate Class 10 | NA | NA | | | | | | |
| NA | Rate Class 11 | NA | NA | | | | | | |
| NA | Rate Class 12 | NA | NA | | | | | | |
| NA | Rate Class 13 | NA | NA | | | | | | |
| NA | Rate Class 14 | NA | NA | | | | | | |
| NA | Rate Class 15 | NA | NA | | | | | | |
| NA | Rate Class 16 | NA | NA | | | | | | |
| NA | Rate Class 17 | NA | NA | | | | | | |
| NA | Rate Class 18 | NA | NA | | | | | | |
| NA | Rate Class 19 | NA | NA | | | | | | |
| NA | Rate Class 20 | NA | NA | | | | | | |
| NA | Rate Class 21 | NA | NA | | | | | | |
| NA | Rate Class 22 | NA | NA | | | | | | |
| NA | Rate Class 23 | NA | NA | | | | | | |
| NA | Rate Class 24 | NA | NA | | | | | | |
| NA | Rate Class 25 | NA | NA | | | | | | |

# Burlington Hydro Inc.
# Response to Interrogatory from Board Staff
# Question 2

**Question:**

Ref: IndEco Third Party Report, Page 2

IndEco notes that the LRAM claim reviewed in the third party review document and applied for by BHI is for lost revenues that resulted from third tranche and 2006-8 OPA programs between January 1, 2009 and April 30, 2010.

a) Please confirm that BHI has not included the lost revenues applied for in this application into its load forecast when new rates were last set.

---

**Response:**

a) BHI has not included the lost revenues applied for in this application into its load forecast when new rates were last set.

Question Date: November 24, 2010
Response Date: December 9, 2010

# Burlington Hydro Inc.
# Response to Interrogatory from Board Staff
# Question 3

**Question:**

Ref: IndEco Third Party Report, Page 2

IndEco notes that the LRAM claim reviewed in the third party review document and applied for by BHI is in part from 2009 OPA programs between January 1, 2009 and December 31, 2010, the results of which have been provided on a preliminary basis and that they will be updated when final program results become available. In the Board's Guidelines for Electricity Distributor Conservation and Demand Management issued on March 28, 1008, it states at section 5.3 that when applying for LRAM, a distributor should ensure that sufficient time has passed to ensure that the information needed to support the application is available.

a) When does BHI expect to receive the final results for 2009 OPA program that ran between January 1, 2009 and December 31, 2010?
b) Please provide the rationale for including preliminary program results in BHI's LRAM claim.
c) Please describe the process for updating the information with the final 2009 OPA program results BHI receives from the OPA.
d) Please provide a revised LRAM claim with the preliminary 2009 program results removed.

---

**Response:**

a) BHI received the final results for 2009 OPA programs that ran between January 1, 2009 and December 31, 2009 in an email sent by James Yue (OPA) on December 1, 2010. An electronic version of this file has been included in this filing package with file name "Burlington_BoardStaffIR3_2006-2009FinalOPACDMResults_20101209.xls". The updated LRAM results as received from the OPA, are appended. The updated LRAM claim is provided in response c below.

b) When the LRAM claim was filed on October 1, 2010 as part of BHI's 2011 3rd Generation IRM Electricity Distribution Rate Application, it appeared that the final 2009 OPA results would be available in ample time to update the LRAM claim. Furthermore, including preliminary information on 2009 OPA programs would produce a preliminary LRAM claim much closer to the final LRAM claim than would excluding 2009 OPA program results altogether. We also expected the changes between preliminary and final results to be relatively minor and easily integrated into an updated claim.

   It was considered more beneficial to all parties involved to include 2009 OPA program results in this LRAM claim as opposed to including them in a future LRAM claim. For customers, rate increases are more moderate if LRAM is more quickly recovered. A timelier LRAM claim is fairer to customers – particularly those entering or leaving the service area – since it more closely ties rate impacts of conservation activities to those activities. For the utility it helps with cash flow, and overall financial situation since the carrying charges paid by the Board do not fully reflect the cost of carrying those funds, and it helps the utility to address these issues while they are timely and the staff responsible are available to answer any questions that arise. For the regulator it is also advantageous to deal with these matters expeditiously rather than drag them out over an extended time frame for the same reasons.

c) In light of the fact that the final 2009 OPA program data are now available, BHI has updated the LRAM claim to reflect this new information.

The tables below show the original LRAM claim and the LRAM claim calculated using the final 2009 OPA program data, and the rate riders based on the revised LRAM claim.

| Rate class | LRAM claim as originally filed | **LRAM claim with final 2009 OPA program results** |
|---|---|---|
| Residential | $240,011 | **$247,026** |
| GS < 50kW | $145,155 | **$137,681** |
| GS 50-4,999kW | $22,624 | **$28,744** |
| Total | $407,790 | **$413,451** |

| Rate class | Amounts with final 2009 OPA program results (2009 & 2010) LRAM $ | Billing units (2010) | | Rate Riders LRAM $/unit (kWh or kW) | Two Year Rate Rider Total $/unit (kWh or kW) | Three Year Rate Rider Total $/unit (kWh or kW) | Number of Years to Use 3 | Proposed Rate Rider Total $/unit (kWh or kW) | Existing Rate Rider Total $/unit (kWh or kW) | **Combined Rate Rider Total $/unit (kWh or kW)** |
|---|---|---|---|---|---|---|---|---|---|---|
| Residential | $247,026 | 555,523,716 | kWh | 0.0004 | 0.0002 | 0.0001 | | 0.0001 | 0.0003 | **0.0004** |
| GS < 50kW | $137,681 | 183,112,615 | kWh | 0.0008 | 0.0004 | 0.0003 | | 0.0003 | 0.0001 | **0.0004** |
| GS 50-4,999kW | $28,744 | 2,448,411 | kW | 0.0117 | 0.0059 | 0.0039 | | 0.0039 | 0.0103 | **0.0142** |
| USL | 0 | 3,918,008 | kWh | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | **0.0000** |
| Street Lighting | 0 | 26,120 | kW | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | **0.0000** |
| Total | $413,451 | | | | | | | | | |

At the level of precision used (4 decimal places), there is no change in the rate rider for the residential or GS<40kW rate classes. The proposed rate rider for the GS 50 – 4,999 kW class increases slightly from 0.0031 in the application as filed to 0.0039 $/kW/month

d) The two tables below show the original LRAM claim with the preliminary 2009 OPA data removed, and the resulting rate riders. Note that these tables are provided only in response to Board staff interrogatory question 3d. The revised LRAM claim and rate riders found in the response to Board staff interrogatory question 3c are those that BHI wishes the Board to approve.

| Rate class | LRAM with preliminary 2009 OPA program results omitted |
|---|---|
| Residential | $195,568 |
| GS < 50kW | $20,910 |
| GS 50-4,999kW | $17,449 |
| Total | $233,927 |

| Rate class | Amounts with preliminary 2009 OPA program results omitted (2009 & 2010) LRAM $ | Billing units (2010) | | Rate Riders LRAM $/unit (kWh or kW) | Two Year Rate Rider Total $/unit (kWh or kW) | Three Year Rate Rider Total $/unit (kWh or kW) | Number of Years to Use 3 | Proposed Rate Rider Total $/unit (kWh or kW) | Existing Rate Rider Total $/unit (kWh or kW) | **Combined Rate Rider Total $/unit (kWh or kW)** |
|---|---|---|---|---|---|---|---|---|---|---|
| Residential | $195,568 | 555,923,716 | kWh | 0.0004 | 0.0002 | 0.0001 | | 0.0001 | 0.0003 | **0.0004** |
| GS < 50kW | $20,910 | 183,112,615 | kWh | 0.0001 | 0.0001 | 0.0000 | | 0.0000 | 0.0001 | **0.0001** |
| GS 50-4,999kW | $17,449 | 2,448,411 | kW | 0.0071 | 0.0036 | 0.0024 | | 0.0024 | 0.0103 | **0.0127** |
| USL | 0 | 3,918,008 | kWh | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | **0.0000** |
| Street Lighting | 0 | 26,120 | kW | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | **0.0000** |
| Total | $233,927 | | | | | | | | | |

# Burlington Hydro Inc.
# Response to Interrogatory from Vulnerable Energy Consumers Coalition
# Question 1

**Question:**

LRAM
References: Tab 7 Indeco Report, pages 3-4 and Table 1

a) When (year and date) did the OPA change its Input assumptions (unit savings and free ridership) for CFLs under the Every Kilowatt Counts Campaigns?
b) Provide a copy of the SeeLine EKC calculators before and after the change.
c) Confirm/Show how the EKC assumptions used in this claim compare to post (2006?) OPA EKC calculator change and to the latest OPA Mass Market Measures and Input Assumptions.
d) What is meant by OPA 2009? Does this refer to OPA LDC Program evaluations? If so provide the Letter with the date of this evaluation and the detailed extract(s) for Burlington Hydro OPA Residential Programs.
e) What persistence factors have been applied to the 2006 EKC programs and Measures, specifically CFLs and SLEDs?

---

**Response:**

a) The table below lists the CFLs found in each of the three EKC campaigns (2006, 2007 and 2008). It is clear from the table that the OPA changed input assumptions for CFLs under the EKC campaigns between each of the 2006, 2007 and 2008 campaigns.

| Measure type | Program Year | Energy Efficiency Measure | Measure life | Gross annual energy savings (kWh/yr) | LRAM Free Ridership |
|---|---|---|---|---|---|
| CFLs | 2006 Fall | Energy Star® CFL | 4.0 | 104 | 10% |
| CFLs | 2006 Spring | Energy Star® CFL | 4.0 | 104 | 10% |
| CFLs | 2007 | 15 W CFL | 8.0 | 43 | 22% |
| CFLs | 2007 | 20 W+ CFLs | 8.0 | 62 | 22% |
| CFLs | 2008 | Energy Star® Qualified CFLs | 8.0 | 53 | 48% |
| CFLs | 2009 | Standard CFL (single pack) | 8.0 | 53 | 24% |
| CFLs | 2009 | Standard CFL (multi (6) pack) | 8.0 | 258 | 24% |
| Flood CFLs | 2007 | Project Porchlight CFLs | 8.0 | 43 | 24% |
| Flood CFLs | 2008 | Energy Star® Qualified Compact Fluorescent Floods (Indoor & Outdoor) | 7.0 | 88 | 63% |
| Other CFLs | 2008 | ENERGY STAR Decorative CFLs | 4.0 | 30 | 61% |
| Other CFLs | 2008 | ENERGY STAR Dimmable CFLs | 6.0 | 98 | 62% |
| Other CFLs | 2009 | Energy Star Specialty CFL | 6.0 | 63 | 24% |

b) Copies of the SeeLine EKC calculators for the 2006 Fall and Spring EKC Campaigns are appended. We do not have EKC calculators for 2007, 2008, and 2009.

c) The EKC assumptions used in BHI's 2009-2010 LRAM claim are those provided in the '2006-8 Final+2009 Preliminary OPA CDM Results Burlington Hydro Inc.' provided by the OPA on 13 August 2010. These assumptions are the same as those listed in the table found in response to VECC IR Question #1a. A comparison to the latest OPA Mass Market Measures and Input Assumptions, released by the OPA on 1 January 2010 is provided in the table below. Free-rider rates are not provided by the OPA 2010 Measures and Assumptions list.

The table below indicates that the lifetime energy savings (which consider both the annual energy savings and the measure life) calculated using either set of assumptions are similar.

| | | As provided by the OPA on 13 August 2010 in the '2006-8 Final+2009 Preliminary OPA CDM Results Burlington Hydro Inc.' and used for the LRAM claim | | | As provided by the OPA on 1 January 2010 in the 2010 Measures and Assumptions list | | |
|---|---|---|---|---|---|---|---|
| **Program Year** | **Energy Efficiency Measure** | **Measure life** | **Gross annual energy savings (kWh/yr)** | **LRAM Free Ridership** | **Measure life** | **Gross annual energy savings (kWh/yr)** | **LRAM Free Ridership** |
| 2006 Fall | Energy Star® CFL | 4 | 104.4 | 10% | 8 | 44.35 | NA |
| 2006 Spring | Energy Star® CFL | 4 | 104.4 | 10% | 8 | 44.35 | NA |
| 2007 | 15 W CFL | 8 | 43.0 | 22% | 8 | 44.35 | NA |
| 2007 | 20 W+ CFLs | 8 | 62.1 | 22% | 8 | 62.8 | NA |
| 2007 | Project Porchlight CFLs | 8 | 43.0 | 24% | 8 | 44.35 | NA |
| 2008 | Energy Star® Qualified CFLs | 8 | 53.0 | 48% | 8 | 54 | NA |
| 2008 | Energy Star® Qualified Compact Fluorescent Floods (Indoor & Outdoor) | 7 | 87.6 | 63% | 7 | 87.6 | NA |
| 2008 | ENERGY STAR Decorative CFLs | 4 | 30.4 | 61% | 5 | 31.23 | NA |
| 2008 | ENERGY STAR Dimmable CFLs | 6 | 97.8 | 62% | 5 | 91.98 | NA |
| 2009 | Standard CFL (single pack) | 8 | 53 | 24% | 8 | 54 | NA |
| 2009 | Standard CFL (multi (6) pack) | 8 | 258 | 24% | NA | NA | NA |
| 2009 | Energy Star Specialty CFL | 6 | 63 | 24% | NA | NA | NA |

Notes:

1. An average value of the energy savings for 20W, 23W, 25W and 27W CFLs found in the 2010 M&A list was used for the comparison to the 20W+ CFLs found in the 2007 EKC program.
2. An average value of the energy savings for 11W, 15W, 20W, 23W, 25W and 27W CFLs found in the 2010 M&A list was used for the comparison to the Energy Star Qualified CFLs found in the 2008 EKC program.

d) OPA 2009 refers to the Excel spreadsheet containing the final 2006-2008 OPA Conservation Program results for Burlington Hydro. This spreadsheet was provided by the OPA to Burlington Hydro in an email from Raegan Bunker (OPA) dated 10 November 2009.

e) Persistence factors of 100% were applied to the 2006 EKC programs and measures, including CFLs and SLEDs. This is consistent with the program-specific persistence factors contained in the '2006-8 Final+2009 Preliminary OPA CDM Results Burlington Hydro Inc.' provided by the OPA on 13 August 2010.

**Instructions for Calculating Total Resource Cost Test Results**
**2006 Fall Every KiloWatt Counts Campaign**

**Part 1**

a. Enter Discount Rate (refer to page 5 of the Ontario Energy Board Total Resource Cost Test Guide, Revised October 2, 2006.)

| | |
|---|---|
| **Discount Rate** | **4.00%** |

b. Enter number of coupons redeemed by technology.

| Products | Number of Coupons |
|---|---|
| **Baseboard Programmable Thermostats** | **7503** |
| **Dimmers** | **24900** |
| **Energy Star CFL's** | **538753** |
| **Motion Sensor Light Switch** | **8931** |
| **Programmable Thermostat** | **50430** |
| **Seasonal LED Lights** | **477143** |

c. Enter program dollars (refer to page 10 of the Ontario Energy Board Total Resource Cost Test Guide, Revised October 2, 2006.)

| | | |
|---|---|---|
| **Program Costs:** | **$** | **5,089,954** |

**Part 2**
**Program Total Resource Cost Test Results**

*Calculation of Program TRC Benefits*
Sum of TRC Benefits for all technologies

*Calculation of Program TRC Costs*
Sum of TRC Costs for all technologies plus Program Costs

*Calculation of Program TRC Net Benefits*
= TRC Benefits - TRC Costs

| Fall EKC | | |
|---|---|---|
| Technology | Number of Participants | Free Ridership |
| Compact Fluorescent Bulbs | 1540834 | 10.00% |
| LED Christmas Lights (indoor or outdoor) Replacing 5w Christmas Lights C-7 (25 Lights) | 238572 | 5.00% |
| LED Christmas Lights (indoor or outdoor) Replacing Incandescent Mini Lights | 238572 | 5.00% |
| Programmable Thermostat - Space Heating, Existing Single Family Detached | 8724 | 10.00% |
| Programmable Thermostat - Space Cooling, Existing Single Family Detached | 22694 | 10.00% |
| pStat Baseboard | 1876 | 10.00% |
| Dimmer | 24900 | 10.00% |
| Motion Sensor | 8931 | 10.00% |

| Fall EKC | | | | | |
|---|---|---|---|---|---|
| Technology | Summer Peak kW Savings | Winter Peak kW Savings | Annual kWh Savings in Year | Measure Life | Lifecycle kWh Savings |
| Compact Fluorescent Bulbs | 0 | 31895.26 | 144,776,723 | 4 | 579,106,892.71 |
| LED Christmas Lights (indoor or outdoor) Replacing 5w Christmas Lights C-7 (25 Lights) | 0.00 | 4306.22 | 9554788.58 | 30 | 286,643,657.25 |
| LED Christmas Lights (indoor or outdoor) Replacing Incandescent Mini Lights | 0.00 | 1586.50 | 3650143.95 | 30 | 109,504,318.50 |
| Programmable Thermostat - Space Heating, Existing Single Family Detached | 0.00 | 1358.39 | 11513315.75 | 18 | 207,239,683.52 |
| Programmable Thermostat - Space Cooling, Existing Single Family Detached | 3329.14 | 0.00 | 3249482.27 | 18 | 58,490,680.77 |
| pStat Baseboard | 0.00 | 1688.18 | 2475371.00 | 18 | 44,556,678.05 |
| Dimmer | 0.00 | 2016.90 | 3114990.00 | 10 | 31,149,900.00 |
| Motion Sensor | | 1085.12 | 1679921.10 | 20 | 33,598,422.00 |
| | | | | | |
| **Total** | **3329.14** | **43936.55** | **180,014,736** | | **1,350,290,233** |

| Fall EKC | | | | | |
|---|---|---|---|---|---|
| Technology | TRC Benefits | Incremental Equipment Costs | Program Costs | TRC Net Benefits | TRC B/C Ratio |
| Compact Fluorescent Bulbs | $34,383,833.38 | $2,496,150.40 | | $31,887,683 | 13.77 |
| LED Christmas Lights (indoor or outdoor) Replacing 5w Christmas Lights C-7 (25 Lights) | $17,309,646 | $453,286 | | $16,856,360 | 38.19 |
| LED Christmas Lights (indoor or outdoor) Replacing Incandescent Mini Lights | $6,596,632 | $453,286 | | $6,143,346 | 14.55 |
| Programmable Thermostat - Space Heating, Existing Single Family Detached | $11,994,681 | $471,117 | | $11,523,564 | 25.46 |
| Programmable Thermostat - Space Cooling, Existing Single Family Detached | $5,998,031 | $1,225,449 | | $4,772,582 | 4.89 |
| pStat Baseboard | $2,804,393 | $101,291 | | $2,703,102 | 27.69 |
| Dimmer | $1,927,894 | $448,200 | | $1,479,694 | 4.30 |
| Motion Sensor | $1,283,000 | $56,265 | | $1,226,735 | 22.80 |
| | | | | | |
| Utility Program Costs | | | $ 5,089,954.38 | | |
| **Total** | **$82,298,110** | **$5,705,044** | **$5,089,954** | **$71,503,112** | **16.17** |

**Instructions for Calculating Total Resource Cost Test Results**
**2006 Summer Every KiloWatt Counts Campaign**

**Part 1**

a. Enter Discount Rate (refer to page 5 of the Ontario Energy Board Total Resource Cost Test Guide, Revised October 2, 2006.)

b. Enter number of coupons redeemed by technology.

c. Enter program dollars (refer to page 10 of the Ontario Energy Board Total Resource Cost Test Guide, Revised October 2, 2006.)

**Part 2**
**Total Resource Cost Test Results by Technology**

Where applicable technology savings assumptions were generated using the Ontario Energy Board Measures List data.
A composite technology savings estimate was derived based on various products eligible for coupon redemption and electricity market share.
For a full discussion of the derivation of the estimates, contact the Ontario Power Authority.
Savings and equipment cost are adjusted in the TRC calculation by the free ridership rate.

| | Energy Savings Winter Peak (kW.h) | Energy Savings Winter Mid (kW.h) | Energy Savings Winter Off Peak (kW.h) | Energy Savings Summer Peak (kW.h) | Energy Savings Summer Mid (kW.h) | Energy Savings Summer Off Peak (kW.h) | Energy Savings Shoulder Mid (kW.h) | Energy Savings Shoulder Off (kW.h) | Summer On Peak (kW) | Free Ridership | EE Technology Life | Incremental Equipment Cost, $ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *CFL* | *15.43* | *7.71* | *20.27* | *0.00* | *11.71* | *13.90* | *17.40* | *17.63* | *0* | *10%* | *4* | *$ 2.50* |
| *Ceiling Fan* | *9.66* | *11.04* | *25.91* | *8.38* | *12.57* | *26.05* | *20.95* | *26.05* | *0.014* | *10%* | *20* | *$ 25.00* |
| *Timer* | *27.06* | *13.53* | *35.56* | *0.00* | *20.53* | *24.39* | *30.52* | *30.91* | *0* | *10%* | *20* | *$ 12.50* |
| *Programmable Thermostat* | *23.9* | *25.4* | *59.6* | *14.8* | *9.7* | *30.6* | *24.1* | *30.0* | *0.050* | *10%* | *18* | *$ 65.00* |

*Calculation of TRC Benefits*
= energy/demand savings X avoided cost X participants X (1-free ridership)

*Calculation of TRC Costs*
= equipment cost X participants X (1-free ridership)

*Calculation of TRC Net Benefits*
= TRC Benefits - TRC Costs

**Part 3**
**Program Total Resource Cost Test Results**

*Calculation of Program TRC Benefits*
Sum of TRC Benefits for all technologies

*Calculation of Program TRC Costs*
Sum of TRC Costs for all technologies plus Program Costs

*Calculation of Program TRC Net Benefits*
= TRC Benefits - TRC Costs

SeeLine Group Ltd.


# TOTAL RESOURCE COST TEST CALCULATOR

## 2006 Summer Every KiloWatt Counts Campaign

**Part 1. Enter Data Here** (in yellow shaded area: cells C22 and C26:C30)

| *LDC Information* | |
|---|---|
| **Discount Rate** | 4.00% |

| *Products Sold* | |
|---|---|
| **CFLs** | 1,338,276 |
| **Ceiling Fans** | 12,415 |
| **Timers** | 37,518 |
| **Program Thermostats** | 16,320 |
| **Program Costs** | $5,318,155 |

**Part 2. Results by Technology**

| *Total Resource Cost Test Results by Technology (2007 $'s)* | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Technology* | *TRC Benefits* | *TRC Costs* | *TRC Net Benefits* | *TRC Benefit Cost Ratio* | *Summer Peak kW Savings* | *Net Annual kWh Savings* | *Net Lifecycle kWh Savings* |
| **CFLs** | $29,746,946 | $2,710,009 | $27,036,937 | 10.98 | - | 125,325,265 | 501,301,060 |
| **Ceiling Fans** | $1,963,957 | $279,338 | $1,684,620 | 7.03 | 159.41 | 1,570,994 | 31,419,882 |
| **Timers** | $7,424,336 | $422,078 | $7,002,258 | 17.59 | - | 6,162,332 | 123,246,630 |
| **Programmable Thermostats** | $4,071,010 | $954,720 | $3,116,290 | 4.26 | 734.40 | 3,202,080 | 57,637,436 |

**Part 3. Program Results**

| *Total Resource Cost Test Results for Program (2007 $'s)* | |
|---|---|
| **TRC Benefits** | $43,206,249 |
| **TRC Costs** | $9,684,299 |
| **TRC Net Benefits** | $33,521,950 |
| **Benefit Cost Ratio** | 4.46 |
| **Total Summer Peak kW Savings** | 893.81 |
| **Total Annual kWh Savings** | 136,260,670 |
| **Total Lifecycle kWh Savings** | 713,605,008 |

SeeLine Group Ltd.

# Burlington Hydro Inc.
# Response to Interrogatory from Vulnerable Energy Consumers Coalition
# Question 2

**Question:**

LRAM
References: Tab 7 Indeco Report, page 3 and Appendix A
Preamble: IndEco finds that appropriate measure specifications were used to calculate program energy savings. For the calculation of LRAM claims, values provided by the 2010 OPA Measures and Assumptions list were used for prescriptive measures (OPA 2010a).

a) For LRAM the OEB Guidelines and Policy Letter of January 27, 2009 specify that LRAM
*The input assumptions used for the calculation of LRAM should be the best available at the time of the third party assessment referred to in section 7.5. For example, if any input assumptions change in 2007, those changes should apply for LRAM purposes from the beginning of 2007 onwards until changed again.…..*
Confirm/discuss how the claim is in conformity with this Guideline.
b) Confirm the Input Assumptions used by IndEco for the following 3rd tranche and post third tranche CDM programs:
   - Residential EKC 2006 and 2007 – list of measures, # units and unit kwh savings, lifetime and free ridership for each of 2009-2010.
   - 2005 Public Education and Outreach program – list of measures, # units and unit kwh savings, lifetime and free ridership for each of 2009-2010.

   If any of the Input assumptions have changed from BHs OEB approved LRAM Claim 2005-2008 please indicate the change(s).
c) For each of the above measures in the current claim, provide the comparable input values from the OPA 2010 Mass Market Measures and Assumptions List.
d) For CFLs installed in 2005/2006 explain why the unit savings is maintained at 104 kwh and the free-ridership is maintained at 10% in the current claim (for 2009 and 2010).

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**Response:**

a) The claim is in conformity with this Guideline. It uses the best available input assumptions for each measure of each program. In some cases, input assumptions for a particular measure are available from multiple sources. In these cases, information is taken from the sources highest in the information hierarchy. The information hierarchy (from greatest to least confidence) for LRAM calculations is:

   1. Information or results from an OPA conducted or sponsored evaluation of the specific program
   2. Information or results from a third-party evaluation of the specific program
   3. Information or results from a site-specific assessment of the application of the technology, including on-site measurement or survey of the specific customer
   4. Manufacturer specifications for energy use/demand of a specific technology installation
   5. Information from the OPA's most current measures and assumptions lists
   6. Information from earlier OPA measures and assumptions lists
   7. Information from the OEB's TRC guide list of measures and assumptions.

Where there is a program specific evaluation, as there is for each of the OPA's programs, that evaluation provides more specific and appropriate input values than the generic ones in the measures and assumptions lists. As noted by the OPA, the results provided in their report are in accordance with OPA practices and policies for reporting progress against the provincial conservation goals.

b) The table below contains the requested input assumptions used by IndEco for the 2006 and 2007 Residential EKC programs, as well as for the 2005 Public Education and Outreach program. The same input assumptions were used for these measures to calculate the LRAM claims in both 2009 and 2010.

No input assumptions were changed from BHI's OEB-approved LRAM Claim 2005-2008.

| Program | Energy Efficient Measure | Number of units | Measure life | Free-rider rate | Gross annual energy savings (kWh/a) |
|---|---|---|---|---|---|
| 2006 EKC | Energy Star® Compact Fluorescent Light Bulb | 18,328 | 4.00 | 10% | 104.4 |
| 2006 EKC | Electric Timers | 514 | 20.00 | 10% | 183.0 |
| 2006 EKC | Programmable Thermostats | 224 | 15.00 | 10% | 216.0 |
| 2006 EKC | Energy Star® Ceiling Fans | 170 | 20.00 | 10% | 141.0 |
| 2006 EKC | Energy Star® Compact Fluorescent Light Bulb | 27,176 | 4.00 | 10% | 104.4 |
| 2006 EKC | SLEDs | 6,541 | 30.00 | 10% | 30.8 |
| 2006 EKC | Programmable Thermostats | 431 | 18.00 | 10% | 522.1 |
| 2006 EKC | Dimmers | 341 | 10.00 | 10% | 139.0 |
| 2006 EKC | Indoor Motion Sensors | 122 | 20.00 | 10% | 209.0 |
| 2006 EKC | Baseboard PStat | 26 | 18.00 | 10% | 1,466.3 |
| 2007 EKC | 15 W CFL | 32,784 | 8.00 | 22% | 43.0 |
| 2007 EKC | 20 W+ CFLs | 5,337 | 8.00 | 22% | 62.1 |
| 2007 EKC | Project Porchlight CFLs | 6,899 | 8.00 | 24% | 43.0 |
| 2007 EKC | Energy Star Ceiling Fan | 264 | 10.00 | 45% | 89.8 |
| 2007 EKC | Solar Lights | 4,209 | 5.00 | 87% | 32.8 |
| 2007 EKC | Outdoor Motion Sensor | 421 | 10.00 | 45% | 159.8 |
| 2007 EKC | Dimmer Switch | 268 | 10.00 | 45% | 23.7 |
| 2007 EKC | Energy Star Light Fixtures | 127 | 16.00 | 45% | 122.9 |
| 2007 EKC | SLEDs | 8,686 | 5.00 | 51% | 13.7 |
| 2007 EKC | T8 | 250 | 18.00 | 23% | 37.2 |
| 2007 EKC | Programmable Thermostat | 257 | 15.00 | 45% | 75.1 |
| 2007 EKC | Power Bar with Timer | 116 | 10.00 | 23% | 72.4 |
| 2007 EKC | Lighting Control Devices | 1,349 | 10.00 | 45% | 72.2 |
| 2005 Public education and outreach | 15W CFL | 3,159 | 8.00 | 30% | 44.4 |
| 2005 Public education and outreach | LED Christmas lights | 659 | 5.00 | 30% | 13.5 |
| 2005 Public education and outreach | LED Christmas lights | 658 | 5.00 | 30% | 4.8 |
| 2005 Public education and outreach | PStat - Space Heating, Existing Single Family Detached | 67 | 11.00 | 30% | 2,151.0 |
| 2005 Public education and outreach | PStat - Space Cooling, Existing Single Family Detached | 175 | 11.00 | 30% | 203.0 |
| 2005 Public education and outreach | Timer - Outdoor - Light | 120 | 10.00 | 30% | 68.1 |
| 2005 Public education and outreach | Timer - Indoor - Light | 36 | 10.00 | 30% | 64.0 |
| 2005 Public education and outreach | Timer - Indoor - Air conditioners | 36 | 20.00 | 30% | 97.9 |
| 2005 Public education and outreach | Ceiling Fan | 74 | 10.00 | 30% | 122.6 |

c) The table below shows a list of input values for the above measures taken from the OPA 2010 Mass Market Measures and Assumptions List. The 2010 OPA Measures and Assumption list does not provide free-rider rates.

The final OPA results of the evaluations of the 2006 and 2007 EKC program provide little or no information on the measures found within these programs. Consequently, for some measures, particularly programmable thermostats, it was difficult to respond to VECC's IR #2c to compare the inputs used with the values in the OPA Measures and Assumptions list. Assumptions had to be made on the basis of the limited information provided in the OPA results, the program, and the measures found in the Measures and Assumptions list. We do not have confidence in considering the input values listed below as being comparable to the inputs used in the claim, and consider the values from the OPA evaluation to be more meaningful than the assumed values from the Measures and Assumptions list.

| Program | Energy Efficient Measure | Measure life | Free-rider rate | Gross annual energy savings (kWh/a) |
|---|---|---|---|---|
| 2006 EKC | Energy Star® CFLs | 8 | NA | 44.35 |
| 2006 EKC | Electric Timers | 10 | NA | 143.54 |
| 2006 EKC | Programmable Thermostats | 11 | NA | 203 |
| 2006 EKC | Energy Star® Ceiling Fans | 10 | NA | 122.58 |
| 2006 EKC | Energy Star® CFLs | 8 | NA | 44.35 |
| 2006 EKC | SLEDs | 5 | NA | 13.5 |
| 2006 EKC | Programmable Thermostats | 11 | NA | 2151 |
| 2006 EKC | Dimmers | 10 | NA | 23.65 |
| 2006 EKC | Indoor Motion Sensors | 10 | NA | 63.95 |
| 2006 EKC | Baseboard PStat | 11 | NA | 63.15 |
| 2007 EKC | 15 W CFL | 8 | NA | 44.35 |
| 2007 EKC | 20 W+ CFLs | 8 | NA | 62.8225 |
| 2007 EKC | Project Porchlight CFLs | 8 | NA | 44.35 |
| 2007 EKC | Energy Star Ceiling Fan | 10 | NA | 122.58 |
| 2007 EKC | Solar Lights | 5 | NA | 4.8 |
| 2007 EKC | Outdoor Motion Sensor | 10 | NA | 159.38 |
| 2007 EKC | Dimmer Switch | 10 | NA | 23.65 |
| 2007 EKC | Energy Star Light Fixtures | 16 | NA | 166.37 |
| 2007 EKC | SLEDs | 5 | NA | 13.5 |
| 2007 EKC | T8 | 18 | NA | 27.92 |
| 2007 EKC | Programmable Thermostat | 11 | NA | 63.15 |
| 2007 EKC | Power Bar with Timer | 10 | NA | 53.39 |
| 2007 EKC | Lighting Control Devices | 10 | NA | 106.812 |
| 2005 Public Education and outreach | 15W CFL | 8 | NA | 44.35 |
| 2005 Public Education and outreach | LED Christmas lights | 5 | NA | 13.5 |
| 2005 Public Education and outreach | LED Christmas lights | 5 | NA | 4.8 |
| 2005 Public Education and outreach | PStat - Space Heating, Existing Single Family Detached | 11 | NA | 2151 |
| 2005 Public Education and outreach | PStat - Space Cooling, Existing Single Family Detached | 11 | NA | 203 |
| 2005 Public Education and outreach | Timer - Outdoor - Light | 10 | NA | 68.1 |
| 2005 Public Education and outreach | Timer - Indoor - Light | 10 | NA | 64 |
| 2005 Public Education and outreach | Timer - Indoor - Air conditioners | NA | NA | NA |
| 2005 Public Education and outreach | Ceiling Fan | 10 | NA | 122.6 |

d) No CFLs installed in 2005 had unit savings of 104 kWh or free-ridership of 10%. CFLs installed in 2006 with unit savings of 104 kWh and free-ridership of 10% were only those found in the 2006 Spring and Fall EKC campaign. Assumptions for these CFLs were taken from the OPA's final program evaluation results reported in the '2006-8 OPA Conservation program results'. These evaluated results have been adopted in accordance with Board recommendations that "The Board would consider an evaluation by the OPA or a third party designated by the OPA to be sufficient." OPA advises that these estimates are prepared in a manner consistent with OPA current practice, and are the same values used to report progress against provincial conservation targets.

# Burlington Hydro Inc.
# Response to Interrogatory from Vulnerable Energy Consumers Coalition
# Question 3

**Question:**

LRAM
References: i) Managers Summary Page 6 line 21 (Table)
ii) Sheet J2.5 LRAM
iii) IndEco Report Tables 3 and 7

a) Using as the only source of assumptions for the residential sector third tranche and post third tranche program, the OPA 2010 Mass Market Measures and Assumptions adopted by the Board in January 2009, provide a calculation of the residential sector 2009-2010 LRAM claim and supporting LRAM schedules (for 3rd tranche and post third tranche programs) (including Carrying charges) and recalculate the rate riders.
b) Amend the residential rate riders as necessary.

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**Response:**

a) There were 6 residential third tranche/post-third tranche programs in BHI's claim: 2005 Public Education and Outreach; 2007 Public Education and Outreach; 2007 Staff Development; 2007 Municipal Building Retrofit; 2006 EKC; and 2007 EKC.

The 2009-2010 residential LRAM claim filed by BHI for the first four programs listed already used the OPA 2010 Mass Market Measures and Assumptions as the sole source of input assumptions. The 2006 and 2007 EKC programs used the inputs found in the final program results reported by the OPA in the 2006-2008 OPA Conservation Program results for Burlington Hydro.

The table below shows the 2009-2010 residential LRAM claim (including carrying charges) resulting from the use of the OPA 2010 Mass Market Measures and Assumptions for all six residential third tranche/post-third tranche programs.

| | LRAM claim as filed | LRAM claim using only the 2010 M&A list for third tranche/post-third tranche programs |
|---|---|---|
| OPA programs | $114,217 | $114,217 |
| Third tranche programs | $7,087 | $7,087 |
| Post-third tranche programs | $118,707 | $101,394 |
| Total residential LRAM claim | $240,011 | $222,699 |

b) The changes suggested by VECC in IR question #3a would not change the proposed three-year residential rate rider.

| | Amount | Billing units (kWh) | Proposed three-year rate rider |
|---|---|---|---|
| Residential LRAM claim as filed | $240,011 | 555,923,716 | 0.0001 |
| Residential LRAM claim using only the 2010 M&A list for third tranche and post-third tranche programs | $222,699 | 555,923,716 | 0.0001 |

# Burlington Hydro Inc.
# Response to Interrogatory from Vulnerable Energy Consumers Coalition
# Question 4

**Question:**

REVENUE TO COST RATIO ADJUSTMENTS
References: i) Revenue Cost Ratio Adjustment Work Form, Sheet C1.1
ii) Manager's Summary, page 3
iii) 2010 Draft Rate Order, Appendix C, page 3

a) Please reconcile the approved 2010 Revenue to Cost ratios by customer class as shown in Sheet C1.1 and the Manager's Summary with the 2010 values set out in the 2010 Draft Rate Order dated March 15, 2010.

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**Response:**

a) The 2010 Draft Rate Order dated March 15, 2010 was the preliminary Draft Rate Order completed by Burlington Hydro Inc. ("BHI"). Once this document was provided to participants in the 2010 Cost of Service Application, BHI received a number of comments and items for clarification. These items were incorporated and included in the updated Draft Rate Order filed by BHI and dated March 23, 2010. The revenue to cost ratios included in Sheet C1.1 and the Manager's Summary are consistent with those filed in the updated Draft Rate Order, Appendix C, page 3.