



PUC Distribution Inc.
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January 27, 2012

Kirsten Walli, Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON
M4P 1E4

Attention: Ms. Walli

Re: PUC Distribution Inc. ("PUC") 2012 3rd Generation IRM Rate Application – Responses to Vulnerable Energy Consumers Coalition (VECC) Interrogatories. Board File No. EB-2011-0101

Please find enclosed PUC's interrogatory responses to VECC in the above noted proceedings. The responses have been electronically filed through the Board's web portal.

Sincerely,

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VECC Question # 1

Reference: Manager's Summary, Page 11

Preamble: PUC seeks an LRAM claim of \$623,790 including carrying charges. The requested LRAM amounts are derived from savings composed of:

- Third Tranche CDM programs implemented in 2005, 2006, 2007 and 2008;
- Ontario Power Authority (OPA) programs implemented in 2006, 2007, 2008, 2009 and 2010. The lost revenues are calculated from the year of introduction through to April 30, 2012.

- a) Please provide a summary of past LRAM claims.
- b) Please confirm that the LRAM amounts PUC is seeking to recover in this application are new amounts not included in past LRAM claims.
- c) When was PUC's load forecast last approved by the Board? Please discuss how the impact of CDM savings have been accounted for in PUC's approved load forecast.

PUC Response

- a) PUC Distribution has not had any LRAM claims in the past.
- b) PUC Distribution confirms the LRAM claims in this application are new claims and PUC has not had any LRAM claims in the past.
- c) The last load forecast approved by the Board was in PUC's 2008 Cost of Service Rate Application. The impact of CDM savings have not been accounted for in PUC's 2008 approved load forecast.

VECC Question # 2

Reference: Exhibit 7, LRAM & SSM 3rd Party Review, IndEco Report

- a) List and confirm OPA's input assumptions for Every Kilowatt Counts (EKC) 2006 including the measure life, unit kWh savings and free ridership for Compact Fluorescent Lights (CFLs) and Seasonal Light Emitting Diodes (LED). Confirm some of these assumptions were changed in 2007 and again in 2009 and compare the values.
- b) Demonstrate that savings for EKC 2006 Mass Market measures 13-15 W Energy Star CFLs & Seasonal LEDs have been removed from the LRAM claim beginning in 2010.
- c) Adjust the LRAM claim for OPA programs as necessary to reflect the measure lives and unit savings for any/all measures that have expired.
- d) Identify all Mass Market Measures (CFLS etc) installed in 2005 and 2006 with measure lives of 4 years or less for which savings have been claimed in any prior claim and confirm the input assumptions used.
- e) Adjust the Third Tranche LRAM claim as necessary to reflect the measure lives (and unit savings) for any/all measures that have expired.

PUC Response

a) Table 1 compares final OPA-verified 2006 EKC results for 2006 EKC CFLs and seasonal light emitting diodes (SLEDs) to the final OPA-verified 2007 EKC results and the 2009 OPA Measures and Assumptions list. Input assumptions for CFLs and SLEDs have changed periodically, including most recently in 2009, as reflected in updates to the generic OPA Measures and Assumptions list.

Table 1 - Comparison of inputs from three different sources for CFLs and SLEDs

Measure	OPA-verified Final 2006 EKC results			OPA-verified Final 2007 EKC results			From 2009 OPA M&A list		
	Measure life	Gross savings (kWh/a)	Free rider rate	Measure life	Gross savings (kWh/a)	Free rider rate	Measure life	Gross savings (kWh/a)	Free rider rate
Energy Star® CFL	4	104	10%	8	43	22%	8	43	30%
SLEDs	30	31	10%	5	14	51%	5	14	30%

- b) In IndEco's third party report, Exhibit 7, Appendix A, Table 9, page 18, CFLs delivered as part of the 2006 EKC Spring and Autumn campaigns are listed as contributing \$59,261 and \$87,867 to the total LRAM claim. These claims are broken down as shown in Table 2.

Table 2 - LRAM claims associated with 2006 EKC CFLs

2006 EKC CFLs	2006	2007	2008	2009	2010	2011	2012	Total
Energy Star® CFL – Spring	\$13,293	\$12,991	\$16,663	\$16,314	\$0	\$0	\$0	\$59,261
Energy Star® CFL - Autumn	\$19,709	\$19,262	\$24,707	\$24,188	\$0	\$0	\$0	\$87,867

As seen in Table 2, savings from 2006 EKC CFLs have been removed from the LRAM claim beginning in 2010.

- c) No adjustments to the current LRAM claim are needed in order to reflect measure lives (and unit savings) for OPA measures that have expired.

The requested LRAM claim already accounts for any measures that have expired before the full span of the LRAM claim. The LRAM claim is based on lost revenue over the span of the LRAM claim, or until the end of each measure's respective measure life, whichever is shorter. For example, if a measure installed in 2009 had a measure life of 1 year, LRAM was only claimed for that measure between January 1 2009 and December 31 2009.

- d) PUC has not claimed LRAM on any previous occasion, including LRAM on any mass market measures installed in 2005 and 2006.
- e) No adjustments to the current LRAM claim are needed in order to reflect measure lives (and unit savings) for third tranche measures that have expired. See response to question 2c.

VECC Question # 3

Reference: Exhibit 7, LRAM & SSM 3rd Party Review, IndEco Report

Preamble: PUC proposes to recover an SSM amount of \$53,663.

- a) Please confirm the scope of the SSM recovery.
- b) Please confirm that the measure life used in the SSM calculation for CFLs was 4 years and unit savings of 104 kWh based on OEB assumptions.
- c) If any SSM claim is to be made in 2010 and beyond under this application, confirm that the 2010 savings for CFLs should be adjusted to recognize the 4 year life for CFLs.
- d) Please adjust the SSM as necessary to account for measures that have expired.
- e) Please provide a copy of IndEco's TRC calculations.

PUC Response

- a) The scope of PUC's SSM claim covers the CDM programs in Table 3. These are all programs launched in 2005, 2006, 2007 and 2008.

Table 3 - Programs for which SSM was claimed

Rate class	Program
Residential	2005 Partnership Programs
Residential	2005 Planning and Coordination
Residential	2006 Partnership Programs
GS < 50 kW	2006 Customer Conservation Program
Residential, GS < 50 kW	2008 Partnership Programs
Residential, GS < 50 kW	2008 Planning and Coordination
Residential, GS < 50 kW, GS > 50 kW	2005 Education and Information
Residential, GS < 50 kW, GS > 50 kW	2006 Education and Information
Residential, GS < 50 kW, GS > 50 kW	2006 Planning and Coordination
Residential, GS < 50 kW, GS > 50 kW	2007 Education and Information
Residential, GS < 50 kW, GS > 50 kW	2007 Partnership Programs
Residential, GS < 50 kW, GS > 50 kW	2007 Planning and Coordination

b) PUC confirms that the measure life used in SSM calculations for CFLs was 4 years and unit savings of 104 kWh based on OEB assumptions.

c) This application requests SSM claims for programs launched in 2005, 2006, 2007 and 2008. It does not include SSM claims for programs launched in 2010 and beyond.

d) The SSM claim is based on savings over the measure life of each applicable measure. No adjustment to the SSM claim as filed is necessary to account for measures that have expired.

e) IndEco's TRC calculations are prepared using a proprietary TRC calculator using the best input assumptions available in the year immediately prior to the program launch year. Assumptions for all measures are provided in the IndEco report, Appendix A Table 8.

The calculations themselves are done internally within the calculator. However, a sample calculation was prepared for 13 W CFLs belonging to the 2006 Partnership program as an example. IndEco can create the same sample calculations for any measure within PUC's SSM claim upon request. TRC inputs needed to calculate SSM for this measure are shown in Table 4.

Table 4 - Inputs to needed for the TRC calculation for the example measure

Program	2006 Partnership program
Efficiency measure	13 W CFL Screw-In
Base measure	60 W incandescent
Energy savings (kWh)	104.4
Summer peak demand savings (kW)	0
Load profile	Lighting
Measure life (years)	4
Free rider rate	10%
Number of units	3,200
Total program cost (including equipment cost)	\$21,902

TRC calculations for this measure are shown in table 5.

Table 5 - TRC calculations for the example measure

	Year	Winter Peak	Winter Mid	Winter Off Peak	Summer Peak	Summer Mid	Summer Off Peak	Shoulder Mid	Shoulder Off
Load profile:		15%	7%	19%	0%	11%	13%	17%	17%
× 104.4 kWh for 4 years									
= energy savings in each period per unit:	2006	15.66	7.308	19.836	0	11.484	13.572	17.748	17.748
	2007	15.66	7.308	19.836	0	11.484	13.572	17.748	17.748
	2008	15.66	7.308	19.836	0	11.484	13.572	17.748	17.748
	2009	15.66	7.308	19.836	0	11.484	13.572	17.748	17.748
× Ontario seasonal average avoided energy cost (\$/kWh):	2006	\$0.1208	\$0.0839	\$0.0454	\$0.1129	\$0.0814	\$0.0475	\$0.0842	\$0.0423
	2007	\$0.1246	\$0.0843	\$0.0452	\$0.1115	\$0.0796	\$0.0459	\$0.0814	\$0.0408
	2008	\$0.1154	\$0.0868	\$0.0489	\$0.1106	\$0.0836	\$0.0501	\$0.0904	\$0.0449
	2009	\$0.1119	\$0.0771	\$0.0489	\$0.1045	\$0.0795	\$0.0476	\$0.0858	\$0.0434
= avoided cost savings per unit:	2006	\$1.89	\$0.61	\$0.90	\$0.00	\$0.93	\$0.64	\$1.49	\$0.75
	2007	\$1.95	\$0.62	\$0.90	\$0.00	\$0.91	\$0.62	\$1.44	\$0.72
	2008	\$1.81	\$0.63	\$0.97	\$0.00	\$0.96	\$0.68	\$1.60	\$0.80
	2009	\$1.75	\$0.56	\$0.97	\$0.00	\$0.91	\$0.65	\$1.52	\$0.77
÷ annual utility discount rate of 7.67%									
= discounted avoided cost per unit:	2006	\$1.89	\$0.61	\$0.90	\$0.00	\$0.93	\$0.64	\$1.49	\$0.75
	2007	\$1.81	\$0.57	\$0.83	\$0.00	\$0.85	\$0.58	\$1.34	\$0.67
	2008	\$1.56	\$0.55	\$0.84	\$0.00	\$0.83	\$0.59	\$1.38	\$0.69
	2009	\$1.40	\$0.45	\$0.78	\$0.00	\$0.73	\$0.52	\$1.22	\$0.62
Total discounted avoided costs per unit:	\$26.04								
× 3,200 units									
with 10% free riders									
=	\$74,985	Total avoided cost (net)							
-	\$21,902	Total program cost							
=	\$53,083	Net TRC benefits							
or	\$2,654	SSM @ 5% of net benefits							