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Burlington Hydro Inc.
LRAM

Third party review:

Burlington Hydro Inc. LRAM claims

This document was prepared for Burlington Hydro Inc. by IndEco Strategic Consulting Inc.

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Executive summary

A third party review of the Conservation and Demand Management (CDM) programs run by Burlington Hydro Inc. (BHI) was required as part of its application to the Ontario Energy Board (OEB) for collection of Lost Revenue Adjustment Mechanism (LRAM) claims.

IndEco Strategic Consulting Inc. (IndEco) acted as third party reviewer by examining the participant rates, equipment specifications, and calculations that enter into the energy savings associated with BHI's CDM portfolio. The review was completed as detailed in the OEB *Guidelines for Electricity Distributor Conservation and Demand Management*.

The third party review included BHI's CDM activities in 2009 and 2010 supported through Ontario Power Authority (OPA) funding. 2009 OPA program LRAM claims are for the period between January 1 2011 and April 30 2012. A previous board-approved LRAM claim found as part of BHI's last IRM (EB-2010-0067) included lost revenue for 2009 programs between January 1 2009 and December 31 2010. 2010 OPA program LRAM claims are for the period between January 1 2010 and April 30 2012.

Lost revenues are calculated using estimated energy savings or monthly peak demand savings using the best available and most current input assumptions. In the span of the LRAM claim, these savings totalled approximately 6 GWh in the residential rate class, 11 GWh in the GS < 50 kW rate class and 6 MW-months in the GS 50-4,999 kW rate class.

IndEco concludes that BHI's electricity rates should be adjusted to reflect an LRAM claim of $273,165. This amount is in addition to BHI's previous board-approved LRAM claims of $705,345 and $413,451 also prepared by IndEco, found as part of OEB case numbers EB-2009-0259 and EB-2010-0067, respectively.

The requested LRAM claim of $273,165 is based on final results from 2010 OPA programs. It updates and replaces the LRAM claim of $367,885 originally filed in OEB case number EB-2011-0155, which was based on estimates of 2010 OPA program results. All other calculations between the LRAM originally filed in EB-2011-0155 and the updated LRAM claim found within this report remain the same.

Introduction

What is the lost revenue adjustment mechanism (LRAM)

Lost Revenue Adjustment Mechanism claims can benefit a local distribution company (LDC) by removing the disincentive for energy conservation.

LRAM is designed to ensure that the LDC does not have a disincentive to promote energy efficiency and energy conservation by compensating the LDC for revenues lost as a result of its conservation initiatives. It requires the calculation of electricity savings over the period between the last rate application, and the time of the application. In turn, this calculation requires information on what the electricity use would have been in the absence of the LDC initiatives, and what it was with the LDC initiative. Some of the inputs to the calculation include: hours the equipment is used, wattage rating of the old and new equipment, and lifetime of the equipment if it is less than the period over which the LRAM is being claimed. Also required are the number of participants, or pieces of equipment installed, and an estimate of the free-rider rate, which is the fraction of the savings that would have occurred anyway, in the absence of the program. These savings are estimated for each rate class, and revenue losses are determined by multiplying those losses by the cost of distribution per unit for each rate class. Carrying charges are calculated using deferral and variance account interest rates prescribed by the OEB.[1]

Sources of information

Although these input data requirements are sometimes measured, they sometimes are values from published sources, or assumptions provided by the Ontario Energy Board, or other reputable agencies. For some types of programs, such as large scale distribution of compact fluorescent bulbs, it would be impractical to measure the hours each bulb is used, for example, and therefore these published sources provide an average value that is typical for this equipment type.

In some cases, estimated values for a particular component of the calculation 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 (e.g. OPA 2010)

2 Information or results from a third-party evaluation of the specific program

[1] For prescribed interest rates, see http://www.oeb.gov.on.ca/OEB/Industry/Rules+and+Requirements/Rules+Codes+Guidelines+and+Forms/Prescribed+Interest+Rates

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 the specific technology installed

5 Information from the OPA's most current measures and assumptions lists (OPA 2011a, OPA 2011b)

6 Information from earlier OPA measures and assumptions lists

7 Information from the OEB's TRC guide list of measures and assumptions (OEB 2008b).

Scope

This review examines the measures, energy savings, and equipment specifications for programs run under contract to the Ontario Power Authority (OPA) in 2009 and 2010. Lost revenues associated with these programs are estimated through April 30 2012.

2009 OPA program LRAM claims are for the period between January 1 2011 and April 30 2012. A previous board-approved LRAM claim found as part of BHI's last IRM (EB-2010-0067) included lost revenue for 2009 programs between January 1 2009 and December 31 2010. 2010 OPA program LRAM claims are for the period between January 1 2010 and April 30 2012.

The requested LRAM claim is based on final results from 2010 OPA programs. It updates and replaces the LRAM claim of $367,885 originally filed in OEB case number EB-2011-0155, which was based on estimates of 2010 OPA program results. All other calculations between the LRAM originally filed in EB-2011-0155 and the updated LRAM claim found within this report remain the same.

Requested LRAM amounts

LRAM inputs

IndEco finds that appropriate measure specifications were used to calculate program energy savings and lost revenues. For the calculation of LRAM claims, the '2006-2009 Final OPA CDM results Burlington Hydro Inc.' and the '2010 Final CDM Results Summary Burlington Hydro Inc.' were used as sources of inputs for OPA funded CDM programs. 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."[2] 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.

A summary list of the assumption sources used for the calculation of the LRAM claim is provided in Table 1.

The measure inputs used to calculate LRAM claims can be found in Table 7 in Appendix A.

Table 2 and Table 3 show the net and gross energy savings or demand reductions of each program by rate class. 2009 OPA program energy savings in Table 2 and Table 3 were acquired directly from spreadsheets provided by the OPA.

Energy savings were converted to LRAM values by using BHI distribution rates. Distribution rates are in Table 4.

The requested LRAM is presented in Table 5.

[2] OEB 2008a. Guidelines for Electricity Distributor Conservation and Demand Management. p.28

Table 1 – Source of information used for the calculation of the LRAM claim

Funding source	Rate class	Program	Source of LRAM inputs
OPA	Residential	2009 Cool Savings Rebate	OPA 2010
OPA	Residential	2009 EKC - Power Savings Event	OPA 2010
OPA	Residential	2009 peaksaver®	OPA 2010
OPA	Residential	2009 The Great Refrigerator Roundup	OPA 2010
OPA	Residential	2010 Cool Savings Rebate	OPA 2011c
OPA	Residential	2010 EKC - Power Savings Event	OPA 2011c
OPA	Residential	2010 peaksaver®	OPA 2011c
OPA	Residential	2010 The Great Refrigerator Roundup	OPA 2011c
OPA	GS < 50kW	2009 High performance new construction	OPA 2010
OPA	GS < 50kW	2009 Power Savings Blitz	OPA 2010
OPA	GS < 50kW	2010 High performance new construction	OPA 2011c
OPA	GS < 50kW	2010 Power Savings Blitz	OPA 2011c
OPA	GS < 50 kW and GS 50-4,999 kW	2009 Electricity Retrofit Incentive Program (ERIP)	OPA 2010
OPA	GS < 50 kW and GS 50-4,999 kW	2010 Electricity Retrofit Incentive Program (ERIP)	OPA 2011c

Table 2 – Cumulative net energy savings and demand savings by rate class through April 30 2012

Funding source	Program	Year	Residential (kWh)	GS < 50kW (kWh)	GS 50-4,999kW (kW-mo)
OPA	Cool Savings Rebate	2009	495,627		
		2010	1,976,345		
	EKC - Power Savings Event	2009	834,135		
		2010	612,218		
	Electricity Retrofit Incentive Program (ERIP)	2009		196,018	2,567
		2010		226,277	4,197
	High performance new construction	2009		156,690	
		2010		961,933	
	Multifamily Energy Efficiency Rebates	2010		3,007,661	
	peaksaver®	2009	8,820		
		2010	3,089		
	Power Savings Blitz	2009		4,735,946	
		2010		1,826,866	
	The Great Refrigerator Roundup	2009	604,988		
		2010	1,484,445		
Total			**6,019,668**	**11,111,391**	**6,764**

1. Rates for general service rate class of customers rated at greater than 50 kW are on a monthly demand basis (kW), not an energy one (kWh). Lost revenue results when the customer's monthly peak demand is lower than it otherwise would be as a result of the CDM initiatives. These are measured in kW-month, which is the reduction within one month of the peak kW demand. Excluded are peak demand reductions associated with demand response programs, which are not anticipated to impact revenues.

Table 3 – Cumulative gross energy savings and peak demand savings by rate class through April 30 2012

Funding source	Program	Year	Residential (kWh)	GS < 50kW (kWh)	GS 50-4,999kW (kW-mo)
OPA	Cool Savings Rebate	2009	877,216		
		2010	4,561,763		
	EKC - Power Savings Event	2009	2,407,317		
		2010	1,323,800		
	Electricity Retrofit Incentive Program (ERIP)	2009		268,518	3,517
		2010		445,972	8,271
	High performance new construction	2009		223,843	
		2010		1,374,191	
	Multifamily Energy Efficiency Rebates	2010		4,083,025	
	peaksaver®	2009	9,800		
		2010	3,398		
	Power Savings Blitz	2009		4,985,207	
		2010		1,831,108	

Funding source	Program	Year	Residential (kWh)	GS < 50kW (kWh)	GS 50-4,999kW (kW-mo)
	The Great Refrigerator Roundup	2009	1,214,836		
		2010	2,783,986		
Total			**13,182,116**	**13,211,863**	**11,788**

Table 4 – Distribution rates per rate class

Rate Class	Units	2010	2011
Residential	$/kWh	0.0166	0.0165
GS < 50kW	$/kWh	0.0136	0.0135
GS 50-4,999kW	$/kW	2.8286	2.8337

Table 5 – Summary of requested LRAM amounts in 2012$[1]

Funding	Program	Year	Residential	GS < 50kW	GS 50-4,999kW	LRAM
OPA	Cool Savings Rebate	2009	$8,278	$0	$0	*$8,278*
		2010	$33,288	$0	$0	*$33,288*
	EKC - Power Savings Event	2009	$13,932	$0	$0	*$13,932*
		2010	$10,312	$0	$0	*$10,312*
	Electricity Retrofit Incentive Program (ERIP)	2009	$0	$2,679	$7,364	*$10,042*
		2010	$0	$3,120	$12,097	*$15,217*
	High performance new construction	2009	$0	$2,141	$0	*$2,141*
		2010	$0	$13,264	$0	*$13,264*
	Multifamily Energy Efficiency Rebates	2010	$0	$41,473	$0	*$41,473*
	peaksaver®	2009	$147	$0	$0	*$147*
		2010	$52	$0	$0	*$52*
	Power Savings Blitz	2009	$0	$64,718	$0	*$64,718*
		2010	$0	$25,191	$0	*$25,191*
	The Great Refrigerator Roundup	2009	$10,105	$0	$0	*$10,105*
		2010	$25,003	$0	$0	*$25,003*
Total			**$101,117**	**$152,587**	**$19,461**	***$273,165***

1. LRAM amounts by program and program year, and program totals are for energy (or demand) reductions for the years 2006 through April 30 2012.

Findings

IndEco has reviewed the input values associated with 2009 and 2010 OPA-funded programs.

IndEco has concluded that sufficient detail and documentation exists to recommend increasing Burlington Hydro Inc.'s distribution rates in order to collect $263,165 in LRAM, allocated by rate class as shown in Table 6.

The requested LRAM claim updates and replaces the LRAM claim of $367,885 originally filed in OEB case number EB-2011-0155, which was based on estimates of 2010 OPA program results.

Table 6 – LRAM amounts by rate class in 2012$

Rate class	**LRAM**
Residential	$101,117
GS < 50kW	$152,587
GS 50-4,999kW	$19,461
Total	**$273,165**

References

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Appendix A. Inputs used for TRC and energy savings calculations

Table 7 – LRAM inputs and contribution to the total LRAM for all measures.

Program	Energy Efficient Measure	Units	Measure life	Free-rider rate	Gross annual energy savings (kWh/a)	LRAM (2012$)	Assumption Source
2009 The Great Refrigerator Roundup	All measures	1,086	5.00	50%	894.9	$10,105	OPA 2010
2009 Cool Savings Rebate	All measures	2,587	15.80	44%	271.3	$8,278	OPA 2010
2009 EKC - Power Savings Event	All measures	53,459	9.10	65%	36.0	$13,932	OPA 2010
2009 peaksaver®	All measures	1,386	13.00	10%	5.7	$147	OPA 2010
2009 Electricity Retrofit Incentive Program (ERIP)	All measures	1	6.40	27%	2,148,145.1	$10,042	OPA 2010
2009 High performance new construction	All measures	1	20.00	30%	179,074.2	$2,141	OPA 2010
2009 Power Savings Blitz	All measures	1	8.60	5%	3,988,165.3	$64,718	OPA 2010
2010 Cool Savings Rebate	All measures	4,014	5.00	57%	505.1	$33,288	OPA 2011c
2010 EKC - Power Savings Event	All measures	8,736	5.00	54%	67.3	$10,312	OPA 2011c
2010 The Great Refrigerator Roundup	All measures	1,129	5.00	47%	1,095.9	$25,003	OPA 2011c
2010 peaksaver®	All measures	621	5.00	9%	2.4	$52	OPA 2011c
2010 Electricity Retrofit Incentive Program (ERIP)	All projects	14	5.00	49%	143,753.3	$15,217	OPA 2011c
2010 High performance new construction	Custom	4	5.00	30%	145,998.8	$13,264	OPA 2011c
2010 Multifamily Energy Efficiency Rebates	Custom	24	5.00	26%	75,154.6	$41,473	OPA 2011c
2010 Power Savings Blitz	All projects	303	5.00	0%	2,682.6	$25,191	OPA 2011c
Total LRAM						**$273,165**	

Table 8 –LRAM contributions and carrying charges

Funding	Program	Year	LRAM	Carrying charges	Total
OPA	Cool Savings Rebate	2009	$8,178	$100	$8,278
		2010	$32,698	$591	$33,288
	EKC - Power Savings Event	2009	$13,763	$169	$13,932
		2010	$10,129	$183	$10,312
	Electricity Retrofit Incentive Program (ERIP)	2009	$9,921	$122	$10,042
		2010	$14,947	$270	$15,217
	High performance new construction	2009	$2,115	$26	$2,141
		2010	$13,029	$235	$13,264
	Multifamily Energy Efficiency Rebates	2010	$40,737	$736	$41,473
	peaksaver®	2009	$146	$2	$147
		2010	$51	$1	$52
	Power Savings Blitz	2009	$63,935	$783	$64,718
		2010	$24,744	$447	$25,191
	The Great Refrigerator Roundup	2009	$9,982	$122	$10,105
		2010	$24,559	$444	$25,003
Total			**$268,934**	**$4,231**	**$273,165**

1. Carrying charges are calculated quarterly, at the measure (not program) level to capture different carrying charge interest rates by quarter, program ramp up, and measure life.

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