

November 16, 2015

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

RE: Application for Disposition of LRAMVA

Dear Ms. Walli:

Niagara Peninsula Energy Inc. ("NPEI") hereby submits its Application for the Disposition of the Lost Revenue Adjustment Mechanism Variance Account ("LRAMVA").

An electronic copy of the application has been submitted to the Board through the RESS system. Two hard copies will be delivered to the OEB office by courier.

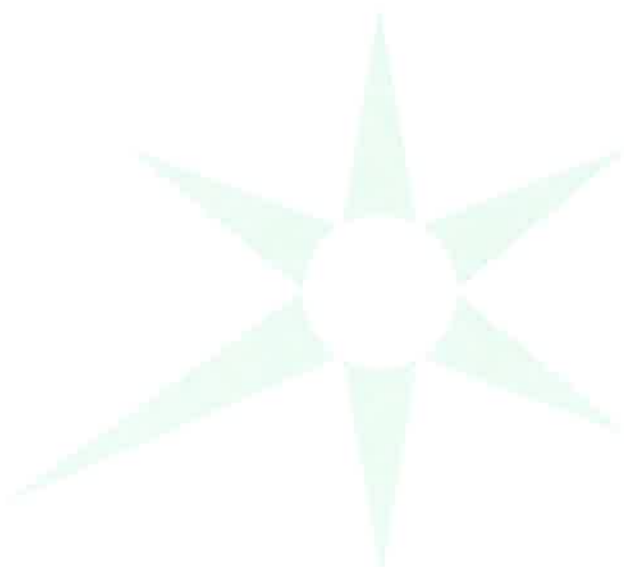
This document is being filed pursuant to the Board's e-filing service.

Please contact myself should anything further be required, I can be reached at 905-353-6004.

Yours truly,
NIAGARA PENINSULA ENERGY INC.



Suzanne Wilson, CPA, CA
Vice-President, Finance
Niagara Peninsula Energy Inc.
(905) 353-6004
Suzanne.Wilson@npei.ca



IN THE MATTER OF the Ontario Energy Board Act, 1998, being Schedule B to the Energy Competition Act, 1998, S.O. 1998, c.15;

AND IN THE MATTER OF an Application by Niagara Peninsula Energy Inc. to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates relating to the Lost Revenue Adjustment Mechanism Variance Account, to be effective May 1, 2016.

Title of Proceeding: An application by Niagara Peninsula Energy Inc. for an Order or Orders approving or fixing just and reasonable distribution rates relating to the Lost Revenue Adjustment Mechanism Variance Account, effective May 1, 2016.

Applicant's Name: Niagara Peninsula Energy Inc.

Applicant's Address for Service: 7447 Pin Oak Drive
Box 120
Niagara Falls, Ontario L2E 6S9

Attention: Suzanne Wilson, VP Finance
Telephone: (905) 353-6004
Suzanne.Wilson@npei.ca

Application

Introduction

The Applicant is Niagara Peninsula Energy Inc. (referred to in this Application as the “Applicant” or “NPEI”). The Applicant is a corporation incorporated pursuant to the Ontario Business Corporations Act with its head office in the City of Niagara Falls. The Applicant carries on the business of distributing electricity within the City of Niagara Falls, the Town of Lincoln, the Township of West Lincoln and the Town of Pelham. NPEI hereby applies to the Ontario Energy Board (the “OEB” or “Board”) pursuant to Section 78 of the Ontario Energy Board Act, 1998 (the “OEB Act”) for approval of its proposed adjustments to its distribution rates and other charges, effective May 1, 2016, relating to the Lost Revenue Adjustment Mechanism Variance Account.

Background

The Conservation and Demand Management Code for Electricity Distributors (the “CDM Code”) sets out the obligations and requirements with which electricity distributors must comply in relation to the CDM targets set out in their licences. The CDM code also sets out the conditions and rules that licensed electricity distributors are required to follow if they choose to apply for Board-Approved CDM programs to meet the CDM targets.

The CDM Code was created in response to a Directive dated March 31, 2010 by the Minister of Energy and Infrastructure (the “Directive”) pursuant to sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*.

On April 26, 2012, the Board issued the *Guidelines for Electricity Distributor Conservation and Demand Management (EB-2012-0003)* (the “CDM Guidelines”). In the CDM Guidelines, the Board approved Account 1568 – Lost Revenue Adjustment Mechanism Variance Account (“LRAMVA”) to capture, at the customer rate-class level, the difference between the following:

- i. The results of actual, verified impacts of authorized CDM activities undertaken by electricity distributors between 2011-2014 for both Board-Approved CDM programs and OPA-Contracted Province-Wide CDM programs in relation to activities undertaken by

- the distributor and/or delivered for the distributor by a third party under contract (in the distributor's franchise area); and
- ii. The level of CDM program activities included in the distributor's load forecast (i.e. the level embedded into rates).

The CDM Guidelines further indicate that distributors will generally be expected to include a CDM component in their load forecast in cost of service proceedings to ensure that its customers are realizing the true effects of conservation at the earliest date possible and to mitigate the variance between forecasted revenue losses and actual revenue losses. If the distributor has included a CDM load reduction forecast in its distribution rates, the amount of the forecast that was adjusted for CDM at the rate class level would be compared to the actual CDM results verified by an independent third party for each year of the CDM program (i.e. 2011 to 2014) in accordance with the OPA's EM&V Protocols as set out in Section 6.1 of the CDM Code. The variance calculated from this comparison will result in a credit or debit to the ratepayers at the customer class level in the LRAMVA.

LRAM & Shared Savings Mechanism ("SSM") for Pre-CDM Code Activities

The CDM Guidelines indicate:

"The Board notes that the Filing requirements for Transmission and Distribution Applications state the following:

Distributors intending to file an LRAM or SSM application for CDM Programs funded through distribution rates, or a LRAM application for CDM Programs funded by the OPA between 2005 and 2010, shall do so as part of their 2012 rate application filings, either cost-of-service or IRM. If a distributor does not file for the recovery of LRAM or SSM amounts in its 2012 rate application, it will forego the opportunity to recover LRAM or SSM for this legacy period of CDM activity."

NPEI and its predecessor LDCs (Niagara Falls Hydro Inc. and Peninsula West Utilities Ltd.) have been running OPA CDM programs since 2006. NPEI did not file for LRAM or SSM recovery for 2006 to 2010 programs in any previous rate application. NPEI confirms that no pre-2011 CDM activities have been included in this current Application.

2011 – 2014 CDM

On November 12, 2010, the Board issued its *Decision and Order* (EB-2010-0215; EB-2010-0216) in relation to the Minister's Directive issued by the Minister of Energy, which included the amendment of all electricity distributor licences to include CDM targets. In this *Decision and Order*, NPEI's CDM targets were set as follows:

- 2014 Net Annual Peak Demand Savings Target = 15.490 MW
- 2011 – 2014 Net Cumulative Energy Savings Target = 58.040 GWh.

On November 26, 2010, NPEI filed its 2011 Cost of Service ("COS") Rate Application with the Board (EB-2010-0138). In its *Decision on Partial Settlement and Procedural Order No. 3*, issued May 16, 2011, the Board approved a Partial Settlement Agreement in this proceeding.

The EB-2010-0138 approved Partial Settlement Agreement includes the following:

"The 1,286,014,423 kWhs assumes kWh consumption has been reduced by one tenth (1/10th) of NPEI's OEB/OPA directed CDM target of 58 million kWhs.

*The Parties have agreed that the CDM Target of 5,800,000 kWhs (i.e. 1/10th of 58 million kWhs), is the appropriate baseline for any future LRAM application in accordance with the Board's standard rules for LRAM."*¹

On September 23, 2014, NPEI filed its 2015 COS Rate Application with the Board (EB-2014-0096). In its *Decision and Order*, issued May 14, 2015, the Board approved a Partial Settlement Agreement in this proceeding.

The EB-2014-0096 approved Partial Settlement Agreement includes the following:

"The Parties agree that the Board should not make a determination on the clearance of the LRAMVA in this proceeding. NPEI agrees to file a separate application to clear the LRAMVA,

¹ NPEI, EB-2010-0138, Partial Settlement Agreement, Filed May 4, 2011, Issue 3.1

*covering the period from 2011 to 2014, in 2015 once the 2014 OPA Final Verified results are received.*²

The 2014 OPA Final Verified Results were issued in September 2015. Accordingly, NPEI hereby submits its Application for LRAMVA recovery relating to 2011 – 2014 CDM activity.

2011 – 2014 LRAMVA

NPEI engaged IndEco Strategic Consulting Inc. to prepare an LRAMVA Report for NPEI's 2011 – 2014 CDM results. This report is included as Attachment A to this Application.

Based on IndEco's analysis, NPEI is requesting disposition of \$467,812.35 plus carrying charges of \$14,991.84 (including forecast carrying charges to April 30, 2016), for a total LRAMVA balance of \$482,804.19. NPEI proposes to recover this amount through class-specific volumetric rate riders, to be in effect for a one year period beginning May 1, 2016.

A summary of actual lost revenue amounts and carrying charges, by rate class, is provided in Table 1 below.

Table 1 – Summary of Lost Revenue Balances by Rate Class

Rate Class	Lost Revenue Adjustments	Carrying Charges Calculated to April 30, 2016	Total
Residential	44,216.72	248.18	44,464.91
General Service < 50 kW	134,785.47	4,796.10	139,581.57
General Service > 50 kW	288,810.16	9,947.55	298,757.71
Unmetered Scattered Load	-	-	-
Sentinel Lighting	-	-	-
Streetlighting	-	-	-
Total	467,812.35	14,991.84	482,804.19

² NPEI, EB-2014-0096, Partial Settlement Agreement – Amended, Filed March 24, 2015, Issue 4.2

The total LRAMVA requested of \$482,804.19 includes the lost revenues and carrying charges related to the following:

- Lost revenues in 2011 related to programs offered in 2011,
- Lost revenues in 2012 related to programs offered in 2011,
- Lost revenues in 2012 related to programs offered in 2012,
- Lost revenues in 2013 related to programs offered in 2011,
- Lost revenues in 2013 related to programs offered in 2012,
- Lost revenues in 2013 related to programs offered in 2013,
- Lost revenues in 2014 related to programs offered in 2011,
- Lost revenues in 2014 related to programs offered in 2012,
- Lost revenues in 2014 related to programs offered in 2013, and
- Lost revenues in 2014 related to programs offered in 2014.

LRAMVA Calculations

The LRAMVA balance is calculated by determining, by rate class, the difference between actual CDM results (kW and kWh) as reported by the OPA, and the CDM results included in NPEI's load forecast. The kW / kWh differences for each year are then multiplied by the Board-approved distribution rates that are in effect for that year.

As mentioned above, NPEI filed a COS Application for 2011 rates (EB-2010-0138). NPEI filed its next COS Application for 2015 rates (EB-2014-0096). Therefore, since NPEI did not rebase during the years 2012 – 2014, the level of CDM results included in the 2011 load forecast of 5.8 million kWh also applies to 2012, 2013 and 2014. Table 2 below shows the 5.8 million kWh CDM reduction by rate class, as well as the corresponding kW for the GS > 50 kW class, as allocated in NPEI's 2011 Load Forecasting Model.

Table 2 – CDM Results included in 2011 Load Forecast

Rate Class	CDM kWh Included in 2011 Load Forecast	kW to kWh Ratio Used in 2011 Load Forecast	CDM kW Included in 2011 Load Forecast
Residential	2,292,141		
General Service < 50 kW	605,894		
General Service > 50 kW	2,901,964	0.2895%	8,402
Total	5,800,000		8,402

A summary of actual CDM results for each year 2011 – 2014, by rate class, is given in Table 3 below. The details of NPEI's Final Verified CDM results are provided in the IndEco report (Attachment A) as follows:

- CDM Results for 2011 – 2014 as reported by the OPA (now IESO) – Appendix A of the IndEco Report
- CDM Results breakdown by rate class – Appendix B of the IndEco Report

As indicated in the IndEco Report (Attachment A, page 3), NPEI's CDM results as provided by the OPA include the calculation of demand reduction due to the Demand Response 3 ("DR3") program in a manner that is consistent with other recent LRAMVA dispositions applications, which have been accepted by the Board³.

³ See PowerStream Inc., EB-2014-0108, Decision and Rate Order, issued December 4, 2014, pages 5-6 and Cambridge and North Dumfries Hydro Inc., EB-2014-0060, Decision and Order, issued March 19, 2015, page 8.

Table 3 – Actual CDM Results by Year

Year	Residential kWh	GS < 50 kW kWh	GS > 50 kW kW
2011	1,194,955	1,346,484	9,964
2012	1,969,867	2,427,588	23,869
2013	2,916,800	3,835,586	29,967
2014	5,819,441	4,802,381	38,851

Table 4 below shows NPEI's average volumetric distribution rates that were in effect for each calendar year. Since NPEI's rate year does not correspond to a calendar year, the calendar year rate is calculated by weighting the number of months each rate is in effect during that year. Further details are provided in the IndEco Report (Attachment A) at page 4 and also Table C-1 of the IndEco Report.

Table 4 – Average Volumetric Distribution Rates by Calendar Year

Year	Residential (\$ / kWh)	GS < 50 kW (\$ / kWh)	GS > 50 kW (\$ / kW)
2011	0.0152	0.0131	4.0571
2012	0.0157	0.0134	4.1726
2013	0.0158	0.0135	4.1691
2014	0.0159	0.0136	4.2045

Table 5 provides the calculation, by rate class, of the lost revenue (excluding carrying charges) for each year 2011 – 2014.

Table 5 – Calculation of Lost Revenue

Year	Component of Lost Revenue	Reference	Residential	GS < 50 kW	GS > 50 kW	Total
2011	Actual CDM Result	A (From Table 3)	1,194,955	1,346,484	9,964	
	CDM Result in Load Forecast	B (From Table 2)	2,292,141	605,894	8,402	
	Difference	C = A - B	(1,097,186)	740,590	1,563	
	Volumetric Distribution Rate	D (From Table 4)	0.0152	0.0131	4.0571	
	Revenue Impact (\$)	E = C * D	\$ (16,677.23)	\$ 9,701.73	\$ 6,339.29	\$ (636.21)
2012	Actual CDM Result	A (From Table 3)	1,969,867	2,427,588	23,869	
	CDM Result in Load Forecast	B (From Table 2)	2,292,141	605,894	8,402	
	Difference	C = A - B	(322,274)	1,821,694	15,467	
	Volumetric Distribution Rate	D (From Table 4)	0.0157	0.0134	4.1726	
	Revenue Impact (\$)	E = C * D	\$ (5,059.70)	\$ 24,410.69	\$ 64,539.25	\$ 83,890.24
2013	Actual CDM Result	A (From Table 3)	2,916,800	3,835,586	29,967	
	CDM Result in Load Forecast	B (From Table 2)	2,292,141	605,894	8,402	
	Difference	C = A - B	624,659	3,229,692	21,565	
	Volumetric Distribution Rate	D (From Table 4)	0.0158	0.0135	4.1691	
	Revenue Impact (\$)	E = C * D	\$ 9,869.60	\$ 43,600.84	\$ 89,907.72	\$ 143,378.16
2014	Actual CDM Result	A (From Table 3)	5,819,441	4,802,381	38,851	
	CDM Result in Load Forecast	B (From Table 2)	2,292,141	605,894	8,402	
	Difference	C = A - B	3,527,300	4,196,487	30,449	
	Volumetric Distribution Rate	D (From Table 4)	0.0159	0.0136	4.2045	
	Revenue Impact (\$)	E = C * D	\$ 56,084.05	\$ 57,072.21	\$ 128,023.89	\$ 241,180.16
2011 - 2014	Total Revenue Impact (\$)		\$ 44,216.72	\$ 134,785.47	\$ 288,810.16	\$ 467,812.35

In order to calculate the carrying charges on the LRAMVA balances, the annual CDM savings are assumed to be distributed equally over the year. NPEI notes that this same approach of allocating the lost revenues evenly through the year has been approved by the Board in other recent LRAMVA dispositions⁴. Table 6 below provides the lost revenue amounts, excluding carrying charges, by month.

⁴ For example, see Cambridge and North Dumfries Hydro Inc., EB-2014-0060, Response to Interrogatory VECC-3, and the EB-2014-0060 Decision and Order, issued March 19, 2015.

Table 6 – Lost Revenue by Month

Month	Residential	GS < 50 kW	GS > 50 kW	Total
Jan-11	(1,389.77)	808.48	528.27	(53.02)
Feb-11	(1,389.77)	808.48	528.27	(53.02)
Mar-11	(1,389.77)	808.48	528.27	(53.02)
Apr-11	(1,389.77)	808.48	528.27	(53.02)
May-11	(1,389.77)	808.48	528.27	(53.02)
Jun-11	(1,389.77)	808.48	528.27	(53.02)
Jul-11	(1,389.77)	808.48	528.27	(53.02)
Aug-11	(1,389.77)	808.48	528.27	(53.02)
Sep-11	(1,389.77)	808.48	528.27	(53.02)
Oct-11	(1,389.77)	808.48	528.27	(53.02)
Nov-11	(1,389.77)	808.48	528.27	(53.02)
Dec-11	(1,389.77)	808.48	528.27	(53.02)
Jan-12	(421.64)	2,034.22	5,378.27	6,990.85
Feb-12	(421.64)	2,034.22	5,378.27	6,990.85
Mar-12	(421.64)	2,034.22	5,378.27	6,990.85
Apr-12	(421.64)	2,034.22	5,378.27	6,990.85
May-12	(421.64)	2,034.22	5,378.27	6,990.85
Jun-12	(421.64)	2,034.22	5,378.27	6,990.85
Jul-12	(421.64)	2,034.22	5,378.27	6,990.85
Aug-12	(421.64)	2,034.22	5,378.27	6,990.85
Sep-12	(421.64)	2,034.22	5,378.27	6,990.85
Oct-12	(421.64)	2,034.22	5,378.27	6,990.85
Nov-12	(421.64)	2,034.22	5,378.27	6,990.85
Dec-12	(421.64)	2,034.22	5,378.27	6,990.85
Jan-13	822.47	3,633.40	7,492.31	11,948.18
Feb-13	822.47	3,633.40	7,492.31	11,948.18
Mar-13	822.47	3,633.40	7,492.31	11,948.18
Apr-13	822.47	3,633.40	7,492.31	11,948.18
May-13	822.47	3,633.40	7,492.31	11,948.18
Jun-13	822.47	3,633.40	7,492.31	11,948.18
Jul-13	822.47	3,633.40	7,492.31	11,948.18
Aug-13	822.47	3,633.40	7,492.31	11,948.18
Sep-13	822.47	3,633.40	7,492.31	11,948.18
Oct-13	822.47	3,633.40	7,492.31	11,948.18
Nov-13	822.47	3,633.40	7,492.31	11,948.18
Dec-13	822.47	3,633.40	7,492.31	11,948.18
Jan-14	4,673.67	4,756.02	10,668.66	20,098.35
Feb-14	4,673.67	4,756.02	10,668.66	20,098.35
Mar-14	4,673.67	4,756.02	10,668.66	20,098.35
Apr-14	4,673.67	4,756.02	10,668.66	20,098.35
May-14	4,673.67	4,756.02	10,668.66	20,098.35
Jun-14	4,673.67	4,756.02	10,668.66	20,098.35
Jul-14	4,673.67	4,756.02	10,668.66	20,098.35
Aug-14	4,673.67	4,756.02	10,668.66	20,098.35
Sep-14	4,673.67	4,756.02	10,668.66	20,098.35
Oct-14	4,673.67	4,756.02	10,668.66	20,098.35
Nov-14	4,673.67	4,756.02	10,668.66	20,098.35
Dec-14	4,673.67	4,756.02	10,668.66	20,098.35
Total	44,216.72	134,785.47	288,810.16	467,812.35

Carrying charges on the LRAMVA balances were calculated using the Board's prescribed interest rates. The 4th quarter rate for 2015 of 1.1% was used to forecast the carrying charges to April 30, 2016. The quarterly interest rates used in the carrying charge calculation are provided in Table 7, and the carrying charges by rate class and month are given in Table 8.

Table 7 – Quarterly Interest Rates Used for Carrying Charges

Quarter	Board Prescribed Rate	Estimated	Used in calculations
2011 Q1	1.47%		1.47%
2011 Q2	1.47%		1.47%
2011 Q3	1.47%		1.47%
2011 Q4	1.47%		1.47%
2012 Q1	1.47%		1.47%
2012 Q2	1.47%		1.47%
2012 Q3	1.47%		1.47%
2012 Q4	1.47%		1.47%
2013 Q1	1.47%		1.47%
2013 Q2	1.47%		1.47%
2013 Q3	1.47%		1.47%
2013 Q4	1.47%		1.47%
2014 Q1	1.47%		1.47%
2014 Q2	1.47%		1.47%
2014 Q3	1.47%		1.47%
2014 Q4	1.47%		1.47%
2015 Q1	1.47%		1.47%
2015 Q2	1.10%		1.10%
2015 Q3	1.10%		1.10%
2015 Q4	1.10%		1.10%
2016 Q1		1.10%	1.10%
2016 Q2		1.10%	1.10%

Table 8 – Carrying Charges by Month

Month	Residential	GS < 50 kW	GS > 50 kW	Total
Jan-11	-	-	-	-
Feb-11	(1.70)	0.99	0.65	(0.06)
Mar-11	(3.40)	1.98	1.29	(0.13)
Apr-11	(5.11)	2.97	1.94	(0.19)
May-11	(6.81)	3.96	2.59	(0.26)
Jun-11	(8.51)	4.95	3.24	(0.32)
Jul-11	(10.21)	5.94	3.88	(0.39)
Aug-11	(11.92)	6.93	4.53	(0.45)
Sep-11	(13.62)	7.92	5.18	(0.52)
Oct-11	(15.32)	8.91	5.82	(0.58)
Nov-11	(17.02)	9.90	6.47	(0.65)
Dec-11	(18.73)	10.89	7.12	(0.71)
Jan-12	(20.43)	11.88	7.77	(0.78)
Feb-12	(20.95)	14.38	14.35	7.78
Mar-12	(21.46)	16.87	20.94	16.35
Apr-12	(21.98)	19.36	27.53	24.91
May-12	(22.50)	21.85	34.12	33.48
Jun-12	(23.01)	24.34	40.71	42.04
Jul-12	(23.53)	26.84	47.30	50.60
Aug-12	(24.05)	29.33	53.88	59.17
Sep-12	(24.56)	31.82	60.47	67.73
Oct-12	(25.08)	34.31	67.06	76.29
Nov-12	(25.59)	36.80	73.65	84.86
Dec-12	(26.11)	39.30	80.24	93.42
Jan-13	(26.63)	41.79	86.83	101.99
Feb-13	(25.62)	46.24	96.00	116.62
Mar-13	(24.61)	50.69	105.18	131.26
Apr-13	(23.61)	55.14	114.36	145.90
May-13	(22.60)	59.59	123.54	160.53
Jun-13	(21.59)	64.04	132.72	175.17
Jul-13	(20.58)	68.49	141.89	189.81
Aug-13	(19.58)	72.94	151.07	204.44
Sep-13	(18.57)	77.40	160.25	219.08
Oct-13	(17.56)	81.85	169.43	233.71
Nov-13	(16.55)	86.30	178.61	248.35
Dec-13	(15.55)	90.75	187.79	262.99
Jan-14	(14.54)	95.20	196.96	277.62
Feb-14	(8.81)	101.02	210.03	302.24
Mar-14	(3.09)	106.85	223.10	326.87
Apr-14	2.64	112.68	236.17	351.49
May-14	8.36	118.50	249.24	376.11
Jun-14	14.09	124.33	262.31	400.73
Jul-14	19.81	130.16	275.38	425.35
Aug-14	25.54	135.98	288.45	449.97
Sep-14	31.26	141.81	301.52	474.59
Oct-14	36.99	147.63	314.59	499.21
Nov-14	42.71	153.46	327.65	523.83
Dec-14	48.44	159.29	340.72	548.45
Jan-15	54.17	165.11	353.79	573.07
Feb-15	54.17	165.11	353.79	573.07
Mar-15	54.17	165.11	353.79	573.07
Apr-15	40.53	123.55	264.74	428.83
May-15	40.53	123.55	264.74	428.83
Jun-15	40.53	123.55	264.74	428.83
Jul-15	40.53	123.55	264.74	428.83
Aug-15	40.53	123.55	264.74	428.83
Sep-15	40.53	123.55	264.74	428.83
Oct-15	40.53	123.55	264.74	428.83
Nov-15	40.53	123.55	264.74	428.83
Dec-15	40.53	123.55	264.74	428.83
Jan-16	40.53	123.55	264.74	428.83
Feb-16	40.53	123.55	264.74	428.83
Mar-16	40.53	123.55	264.74	428.83
Apr-16	40.53	123.55	264.74	428.83
Total	248.18	4,796.10	9,947.55	14,991.84

LRAMVA Disposition

NPEI is requesting disposition of \$467,812.35 plus carrying charges of \$14,991.84 (including forecast carrying charges to April 30, 2016), for a total LRAMVA balance of \$482,804.19. NPEI proposes to recover this amount through class-specific volumetric rate riders, to be in effect for a one year period beginning May 1, 2016.

In reviewing LRAMVA disposition requests filed by other LDCs, NPEI notes that the Board has approved rate riders that were calculated based on the most recent actual billing determinants⁵. In other cases, the Board has approved LRAMVA rate riders that were calculated based on the most recent Board-approved volumetric forecast⁶.

Table 9 below shows NPEI's 2014 actual billing determinants, as per NPEI's 2014 RRR Filings, and NPEI's 2015 Board-approved volumetric forecast, as approved in NPEI's 2015 COS Application (EB-2014-0096).

⁵ See PowerStream Inc., EB-2014-0108, page 13 of 24.

⁶ See Cambridge and North Dumfries Hydro Inc., EB-2014-0060, page 22 of 49.

Table 9 – Billing Determinants

2014 Actual Billing Determinants per 2014 RRR Filing			
Rate Class	Unit	Total Metered kWh	Total Metered kW
Residential	kWh	416,585,049	-
General Service < 50 kW	kWh	129,969,466	-
General Service > 50 kW	kW	639,303,434	1,662,695
Unmetered Scattered Load	kWh	1,851,221	-
Sentinel Lighting	kW	256,092	676
Streetlighting	kW	7,429,625	20,750
Total		1,195,394,887	1,684,121
2015 Board Approved Billing Determinants			
Rate Class	Unit	Total Metered kWh	Total Metered kW
Residential	kWh	407,092,792	-
General Service < 50 kW	kWh	121,037,129	-
General Service > 50 kW	kW	669,981,013	1,771,675
Unmetered Scattered Load	kWh	2,215,047	-
Sentinel Lighting	kW	259,459	705
Streetlighting	kW	7,477,962	21,184
Total		1,208,063,402	1,793,564
Difference (2014 Actual - 2015 Board Approved)			
Rate Class	Unit	Total Metered kWh	Total Metered kW
Residential	kWh	9,492,257	-
General Service < 50 kW	kWh	8,932,337	-
General Service > 50 kW	kW	(30,677,579)	(108,980)
Unmetered Scattered Load	kWh	(363,826)	-
Sentinel Lighting	kW	(3,367)	(29)
Streetlighting	kW	(48,337)	(434)
Total		(12,668,515)	(109,443)

Table 10 below provides the resulting rate rider calculations, using both NPEI's 2014 actual billing determinants and the 2015 Board-approved billing determinants.

Table 10 – Rate Rider Calculations

Rate Riders based on 2014 Actual kW/kWh	Residential	GS < 50 kW	GS > 50 kW
Total Lost Revenue Adjustment plus Carrying Charges	\$ 44,464.91	\$ 139,581.57	\$ 298,757.71
Billing Determinants (kW/kWh)	416,585,049	129,969,466	1,662,695
Number of Years for Disposition	1	1	1
Rate Rider (\$ per kWh or \$ per kW)	0.0001	0.0011	0.1797
Rate Riders based on 2015 Board-Approved kW/kWh	Residential	GS < 50 kW	GS > 50 kW
Total Lost Revenue Adjustment plus Carrying Charges	\$ 44,464.91	\$ 139,581.57	\$ 298,757.71
Billing Determinants (kW/kWh)	407,092,792	121,037,129	1,771,675
Number of Years for Disposition	1	1	1
Rate Rider (\$ per kWh or \$ per kW)	0.0001	0.0012	0.1686

On July 16, 2015, the Board issued *Chapter 3 Incentive Rate Applications of the Filing Requirements for Electricity Distribution Applications – 2015 Edition for 2016 Rate Applications*. Section 3.2.5 states:

“Effective for 2016 rates, the IRM rate generator will calculate the DVA disposition threshold using the last full year of actual load data as reported through the RRR. The default billing determinants used in the calculation of the Group 1 DVA rate riders will also be based on recent load data. The use of recent actuals should reduce residual variances by reflecting changes in customer class composition.”

In NPEI's view, similar reasoning should apply to the disposition of the LRAMVA balance.

Further, an analysis of NPEI's 2015 actual billing determinants year-to-date (i.e. January to October 2015) indicates that 2015 actual is trending closer to the 2014 actual billing determinants than the 2015 Board-approved forecast. Therefore, NPEI proposes LRAMVA rate riders based on its 2014 actual billing determinants as shown in Table 11 below, which is consistent with the IRM Guidelines.

Table 11 – Rate Riders Requested

Rate Class	Rate Rider Requested	Unit
Residential	0.0001	\$ per kWh
GS < 50 kW	0.0011	\$ per kWh
GS > 50 kW	0.1797	\$ per kW

Bill Impacts

On September 28, 2015, NPEI filed its 2016 IRM Rate Application (EB-2015-0090), which is currently before the Board. NPEI has calculated monthly bill impacts for typical Residential, GS < 50 kW and GS > 50 kW customers which shows the impact of the proposed LRAMVA rate riders using the rates as requested in NPEI's 2016 IRM Application. The Bill Impacts are included as Attachment B. Table 12 below provides a summary of the impact of the proposed LRAMVA rate riders.

Table 12 – Summary of Monthly Bill Impacts for Typical Customers

Rate Class	Typical kWh	Typical kW	Subtotal A - Distribution		Total Monthly Bill	
			\$ Impact	% Impact	\$ Impact	% Impact
Residential	800		0.08	0.25%	0.09	0.06%
GS < 50 kW	2,000		2.20	3.65%	2.49	0.68%
GS > 50 kW	65,000	180	32.35	6.33%	36.55	0.37%

NPEI notes that proposed LRAMVA rate riders do not results in a total monthly bill impact of greater than 10% to any affected customer class. Therefore, in NPEI's view, no bill mitigation is necessary.

All of which is respectfully submitted.

Attachment A

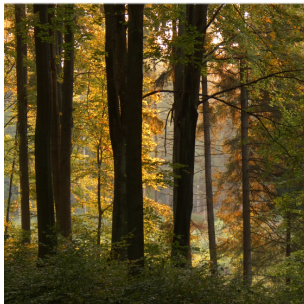
NPEI 2011-2014 LRAMVA Report

Prepared by

IndEco Strategic Consulting Inc.



NPEI 2011-2014 LRAMVA



Niagara Peninsula Energy Inc. lost revenue related to Conservation and Demand Management

2011-2014



This document was prepared for Niagara Peninsula Energy Inc. by IndEco Strategic Consulting Inc.

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Introduction

The Lost Revenue Adjustment Mechanism (LRAM) was developed to remove a disincentive to electricity local distribution companies (LDCs) may have to promote conservation and demand management (CDM) programs. CDM programs are designed to provide energy savings and peak demand reductions for the customers of LDCs, which directly impacts the LDC's revenue. The LRAM allows LDCs to be compensated for lost revenue that may have resulted from CDM programs the LDC offered to its customers.

For the 2011-2014 CDM period, the Ontario Energy Board (OEB) has authorized LDCs to establish an LRAM variance account (LRAMVA) to capture the impact of CDM programs on the revenue of LDCs. The variance in the LRAMVA is between the lost revenue due to independently verified load impacts of CDM and the lost revenue from any CDM impacts an LDC included in the LDC's load forecast.¹

Niagara Peninsula Energy Inc. contracted with the Ontario Power Authority (OPA, which has now been merged into the Independent Electricity System Operator) to offer a suite of CDM programs to customers in a variety of rate classes for the 2011-2014 period. Appendix A of the CDM Guidelines shows that LDCs are entitled to claim lost revenues from 2014 programs and persisting losses from 2011–2013 programs in 2014 as part of their 2016 rate applications.

Niagara Peninsula Energy Inc. has not submitted a claim for lost revenues from 2011–2014 CDM programs. This report determines the variance account balance for the following revenue losses:

- Lost revenues in 2011 related to programs offered in 2011,
- Lost revenues in 2012 related to programs offered in 2011,
- Lost revenues in 2012 related to programs offered in 2012,
- Lost revenues in 2013 related to programs offered in 2011,
- Lost revenues in 2013 related to programs offered in 2012,
- Lost revenues in 2013 related to programs offered in 2013,
- Lost revenues in 2014 related to programs offered in 2011,
- Lost revenues in 2014 related to programs offered in 2012,
- Lost revenues in 2014 related to programs offered in 2013, and
- Lost revenues in 2014 related to programs offered in 2014.

The carrying charges on the above lost revenues through April 2016 are also reported.

¹ *Guidelines for Electricity Distributor Conservation and Demand Management*. Ontario Energy Board. April 26, 2012 (EB-2012-0003).

Methodology

In principle, the determination of lost revenues is a simple calculation:

$$LR = (\text{CDM results} - \text{CDM results in the load forecast}) * \text{rate}$$

In practice, it is somewhat more complicated than that because of the limitations of the information available to calculate CDM results, the different time periods of results data and the rate year, and the need to determine carrying charges on the lost revenues.

CDM results

From 2011 through 2014, Niagara Peninsula Energy Inc. offered provincial programs in partnership with the Independent Electricity System Operator (IESO). Niagara Peninsula Energy Inc. did not offer custom programs beyond the IESO programs.

IESO evaluation results

The IESO performs evaluations of all of its programs, which examine gross energy savings from the programs, and the net-to-gross ratio (NTGR), and then from those calculates net energy savings by initiative within program group (residential, business, industrial and low-income). Peak load reductions are also calculated, and reported in the same way.

Provincial results are allocated to individual LDCs based on each LDC's individual performance where possible, or through an allocation process.

The IESO reports energy savings and peak demand reductions, by initiative in the current year, adjustments to the previous year, based on updated validation, and contribution to total savings or reductions to the end of the 2011 to 2014 period. The savings and demand reductions for a particular year for a number of programs persist in the following years up to and including 2014. The savings and demand reductions for demand response programs do not persist beyond the year in which those particular savings and demand reductions occur.

For some programs, savings or demand reductions in a particular year persist into subsequent years, but do not persist fully through 2014. In these cases, the IESO was requested to provide estimates by year of the persistence of savings or reductions in each year.

These are the best, most definitive and defensible estimates of results associated with these programs, and incorporate the most appropriate estimates of results from the measures installed.

However, these data have some limitations, and require some adjustments for use in lost revenue calculations.

Allocating results to rate classes

The IESO reports results by ‘program’, within four main programs: residential, business, industrial and low-income. These only partially map onto rate classes. For initiatives that apply to more than one rate class, Niagara Peninsula Energy Inc. staff estimated the split by rate class, drawing on participant-specific information where available.

Application of Reported Results

As previously mentioned, the IESO reports both energy savings and reductions in demand. Depending on the rate class, distribution revenue is based on either kilowatt-hours used, or the customer’s monthly peak kilowatt use. For rate classes where the customer is charged for distribution by energy use (kWh), the IESO reported energy savings are used to calculate lost revenues related to CDM results.

For customer classes where the LDC charges for distribution based on the customer’s peak monthly demand (kW), the demand reductions in the IESO report may not be realized in every month. For initiatives like lighting upgrades in businesses operating during normal business hours the demand savings are likely to be maintained throughout the year, including during the customer’s monthly peaks. In the case of demand response programs, in particular Demand Response 3 (DR3), the demand reduction may only apply to certain months in the year. These considerations have been factored into the lost revenue calculations.

There have been arguments advanced around the uncertainty regarding the impact of DR3 program results on LDC revenues. However, the OEB has considered these arguments and has been consistent in recent rate cases in ruling that the IESO’s analyses with respect to CDM results may be used to estimate lost revenues, including those related to DR3 programs.²

Load reductions accounted for in the load forecast

In recent years, LDCs have tried to account for load losses due to CDM programs in their load forecasts, submitted as part of their Cost of Service applications. These forecasted reductions need to be deducted from load losses attributable to CDM programs, to determine the final impact of CDM on revenues. That is, the impact is the *variance* between the results accounted for in the load forecast and the results attributable to the programs.

Overall impact of CDM on load, by rate class

The overall impact of CDM energy savings and demand reductions on load is calculated from the IESO energy savings and peak demand reductions, allocated by rate class. Finally the difference is calculated between the overall estimated impact on loads and the load reductions

² See PowerStream 2014 rate decision, EB-2014-0108, pp. 5-6.

attributable to CDM that were captured in the most recent load forecast.

Distribution rates

Revenue impacts to the LDC associated with CDM are calculated using the distribution volumetric rate. Most other rate components (e.g. service charges, global adjustment, transmission charges) are either fixed charges, or are just pass-throughs for the utility, so do not affect the LDC's revenues. An exception is for certain rate riders related to taxes, and these are added to the distribution volumetric rates for lost revenue calculations, where applicable.

For most electricity distribution utilities in Ontario, including Niagara Peninsula Energy Inc., distribution rates are set for the period from 1 May to 30 April of the next year. CDM results are reported for the calendar year, so average rates for the calendar year need to be calculated. For simplicity, the average rate is estimated based on the rate being four twelfths of the previous year's rate (for January through April), and eight twelfths of the current year's rate (for May through December).

Lost revenues variance

Lost revenues in a particular rate class are the product of the savings or demand reductions in that class, less what was accounted for in the load forecast, multiplied by the average rate for that class in the calendar year for which the energy savings or demand reductions were reported.³ The variance is the difference between these lost revenues and the quantity of CDM in the load forecast.

Because these revenues are lost throughout the year, and are only recovered through rate riders in subsequent years, the Ontario Energy Board has permitted the LDCs to claim carrying charges on these lost revenues at a rate prescribed by the OEB, and published on the Board's website. The carrying charges are simple interest, not compounded and are calculated on the monthly lost revenue balance. Because the IESO final results estimates are reported annually, and monthly estimates are not available, the incremental results are assumed to be equally distributed across the months. So 1/12 of the annual results are allocated to each month of the year.

Carrying charges accrue from the time of the results, until disposition.

These lost revenues are reported by the LDC in its financial statements in Account 1568, and the associated rate class-specific sub-accounts.

³ Where distribution rates are monthly rates for the peak kW in that month, the annual loss of revenue is the monthly rate times the number of months it applies to – usually twelve.

Results

Following the methodology described above, lost revenues were calculated for Niagara Peninsula Energy Inc.

CDM results

IESO evaluation results

CDM results reported by the IESO are in Appendix A. The Appendix consists of the following tables:

- The verified final 2011, 2012, 2013, and 2014 results for Niagara Peninsula Energy Inc. are shown in Table 1; and
- The adjustments to verified final 2011, 2012, and 2013 results for Niagara Peninsula Energy Inc. are shown in Table 2.⁴

The gross results were provided by the IESO, but are not included in this report, as only net results are relevant for the purposes of estimating lost revenues.

Table A-1 in Appendix A shows the persistence of 2011 results into future years. Table A-2 in Appendix A shows the persistence of 2012 results into future years. Table A-3 in Appendix A shows the persistence of 2013 results through 2014. Table A-4 in Appendix A shows the persistence of 2011 adjustments into future years. Table A-5 in Appendix A shows the persistence of 2012 adjustments into future years. Table A-6 in Appendix A shows the persistence of 2013 adjustments through 2014.

The IESO has provided Niagara Peninsula Energy Inc. with persistence data for 2011-2014 results and 2011-2013 adjustments. Persistence values for some programs were missing for the 2012 and 2013 adjustments. The missing values were estimated by applying the persistence decline rate for the same program during the same year. Thus, the persistence of 2013 adjustments into 2014 was estimated by multiplying the 2013 adjustment by the persistence decline rate of 2013 results for the same program into 2014.

Allocating results to rate classes

Niagara Peninsula Energy Inc. provided information on the allocation of results to rate classes. In most cases, the allocation is straightforward. Initiatives that can span multiple rate classes include Retrofit, Building Commissioning, New Construction, Energy Audit, Demand Response 3, Process & Systems Upgrades, Monitoring & Targeting, Energy Manager, Electricity Retrofit Incentive Program and High Performance New

⁴ *Verified 2011-2014 Final Results Report for Niagara Peninsula Energy Inc. Independent Electricity System Operator.* September 1, 2015.

Construction. No allocation was provided for programs for which Niagara Peninsula Energy Inc. has no program results.

Niagara Peninsula Energy Inc. bills customers in different rate classes using different volumetric units, either kilowatt hours (kWh), or customer peak monthly kilowatts (kW). The rate classes (and billing units) for Niagara Peninsula Energy Inc. are:

- Residential (kWh)
- GS <50 kW(kWh)
- GS 50-4,999 kW (kW)
- Unmetered scattered load (kWh)
- Sentinel lighting (kW)
- Street lighting (kW)
- MicroFIT generator (N/A)

Table B-1 in Appendix B shows the percentage allocation by rate class for 2011 results and adjustments. Table B-2 in Appendix B shows the percentage allocation by rate class for 2012 results and adjustments. Table B-3 in Appendix B shows the percentage allocation by rate class for 2013 results and adjustments. Table B-4 in Appendix B shows the percentage allocation by rate class for 2014 results.

Load reductions accounted for in the load forecast

Niagara Peninsula Energy Inc.'s last cost of service application was filed for the 2011 rate year. The load forecast associated with that application did account for load losses from 2011 – 2014 CDM programs. Table B-5 in Appendix B shows the estimates of load reductions, by rate class that were included at the time of the load forecast.

Overall impact of CDM on load, by rate class

Multiplying the adjusted energy savings or demand reduction reported for Niagara Peninsula Energy Inc. for each program by the allocation by rate class provides the impact on load of that CDM program within the appropriate rate class. The sum of the energy savings and demand reductions for all of the programs for each rate class provides the overall impact of CDM on load by rate class. The overall load impact for each calendar year includes the results for the CDM programs in that year, any adjustments to the results, and the persistence of the results and adjustments from previous years into that calendar year.

Table B-6 in Appendix B shows the overall impact of CDM on load, by rate class for 2011. This includes the 2011 CDM program results and adjustments to the 2011 results allocated by rate class.

Table B-7 in Appendix B shows the overall impact of CDM on load, by rate class for 2012. This includes the 2012 CDM program results and adjustments to the 2012 results plus the persistence of the 2011 program results and adjustments in 2012 allocated by rate class.

Table B-8 in Appendix B shows the overall impact of CDM on load, by rate class for 2013. This includes the 2013 CDM program results and adjustments to the 2013 results plus the persistence of the 2011 and 2012 program results and adjustments in 2013 allocated by rate class.

Table B-9 in Appendix B shows the overall impact of CDM on load, by rate class for 2014. This includes the 2014 CDM program results plus the persistence of the 2011 to 2013 program results and adjustments in 2014 allocated by rate class.

Distribution rates

The distribution rates that are used to calculate the CDM impact on distributor revenue for each rate class for Niagara Peninsula Energy Inc. are shown in Table C-1 in Appendix C. The distribution rates for the period from 1 May of each year to 30 April of the next year are pro-rated by number of months to each calendar year in the 2011 to 2014 time period.

Lost revenues

The lost revenues for each year by rate class for Niagara Peninsula Energy Inc. calculated from final CDM program results are shown in Table C-2 in Appendix C. The lost revenue for each year is based on the load impact for each rate class in that year multiplied by the rate for that rate class in that year.

The lost revenue for 2011-2014 is based on final verified results provided by the IESO.

The amounts shown on Table C-2 account for the lost revenue due to CDM that has already been incorporated into the load forecast. The impact on Niagara Peninsula Energy Inc.'s revenue is the variance between what is calculated from final CDM program results and what has already been accounted for in the load forecast.

Carrying charges

The monthly carrying charges by rate class on Niagara Peninsula Energy Inc.'s lost revenue variance are shown on Table C-3 in Appendix C. The carrying charges are reported monthly, from the time the lost revenues resulted, through to April 30, 2016.

Conclusions

The LRAMVA balance at the end of December 2014 for Niagara Peninsula Energy Inc. that includes results from 2011-2014 CDM programs and adjustments to 2011 to 2013 results is \$467,812.35. The total carrying charges on this LRAMVA balance accumulated to April 30, 2016 are \$14,991.84. These balances are attributable to individual rate classes according to the following table:

Rate class	LRAMVA	Carrying charges	Total
Residential	\$44,216.72	\$248.18	\$44,464.91
GS < 50 kW	\$134,785.47	\$4,796.10	\$139,581.57
GS 50 to 4,999 kW	\$288,810.16	\$9,947.55	\$298,757.71
Totals	\$467,812.35	\$14,991.84	\$482,804.19

NOTE: There are no LRAMVA or carrying charge values associated with rate classes not included in this table.

Where negative values are shown, that indicates that the actual reduction in load from CDM programs was less than the amount included in the load forecast.

Appendix A.CDM results reported by the IESO

Table A-1: Persistence of 2011 results through future years for Niagara Peninsula Energy Inc.

	CDM impact on 2011 load		Persistence of 2011 results					
	2011		2012		2013		2014	
	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program								
Appliance Retirement	30	214,685	30	214,685	30	214,685	30	213,977
Appliance Exchange	4	4,714	4	4,714	4	4,714	1	1,891
HVAC Incentives	282	504,642	282	504,642	282	504,642	282	504,642
Conservation Instant Coupon Booklet	15	272,325	15	272,325	15	272,325	15	272,325
Bi-Annual Retailer Event	17	292,245	17	292,245	17	292,245	17	292,245
Retailer Co-op Residential Demand Response	26							
Residential New Construction								
Business Program								
Retrofit	168	927,120	168	927,120	168	927,120	168	927,120
Direct Install Lighting Building Commissioning New Construction Energy Audit	333	903,623	333	903,623	308	826,410	197	517,708
Small Commercial Demand Response	3							
Demand Response 3	106	4,146						
Industrial Program								
Process & System Upgrades Monitoring & Targeting Energy Manager								
Retrofit	2	13,815	2	13,815	2	13,815	2	13,815
Demand Response 3	63	3,710						
Home Assistance Program								
Home Assistance Program	0	9,137	0	9,137	0	9,137	0	9,137
Pre-2011 Programs completed in 2011								
Electricity Retrofit Incentive Program	263	1,480,972	263	1,480,972	263	1,480,972	263	1,480,972
High Performance New Construction	77	395,844	77	395,844	77	395,844	77	395,844
Totals	1,391	5,026,977	1,193	5,019,121	1,168	4,941,908	1,053	4,629,675

Note: Persistence of results is as reported by the IESO.

Table A-2: Persistence of 2012 results through future years for Niagara Peninsula Energy Inc.

	CDM impact on 2012 load		Persistence of 2012 results			
	2012		2013		2014	
	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program						
Appliance Retirement	20	135,814	20	135,814	20	135,814
Appliance Exchange	8	14,737	8	14,737	8	14,737
HVAC Incentives	151	253,365	151	253,365	151	253,365
Conservation Instant Coupon Booklet	2	13,904	2	13,904	2	13,904
Bi-Annual Retailer Event	15	266,332	15	266,332	15	266,332
Retailer Co-Op Residential Demand Response (switch/pstat)						
Residential Demand Response (IHD)						
Residential New Construction						
Business Program						
Retrofit	767	3,486,336	753	3,439,821	742	3,404,263
Direct Install Lighting Building Commissioning New Construction	177	712,848	177	712,848	174	697,268
Energy Audit	41	201,410	41	201,410	41	201,410
Small Commercial Demand Response (switch/pstat)						
Small Commercial Demand Response (IHD)						
Demand Response 3	106	1,548				
Industrial Program						
Process & System Upgrades Monitoring & Targeting Energy Manager Retrofit						
Demand Response 3	65	1,578				
Home Assistance Program						
Home Assistance Program	5	54,743	5	53,731	5	53,731
Pre-2011 Programs completed in 2011						
Electricity Retrofit Incentive Program						
High Performance New Construction	136	643,518	136	643,518	136	643,518
Totals	1,495	5,786,134	1,309	5,735,481	1,295	5,684,342

Note: Persistence of results is as reported by the IESO.

Table A-3: Persistence of 2013 results through 2014 for Niagara Peninsula Energy Inc.

	CDM impact on 2013 load		Persistence of 2013 results	
	2013		2014	
	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program				
Appliance Retirement	11	67,743	11	67,743
Appliance Exchange	8	14,778	8	14,778
HVAC Incentives	150	253,570	150	253,570
Conservation Instant	5	76,648	5	76,648
Coupon Booklet				
Bi-Annual Retailer	12	170,846	12	170,846
Event				
Retailer Co-Op				
Residential Demand	175	208		
Response (switch/pstat)				
Residential Demand				
Response (IHD)				
Residential New				
Construction				
Business Program				
Retrofit	520	2,142,104	520	2,140,581
Direct Install Lighting	176	620,149	176	620,149
Building				
Commissioning				
New Construction				
Energy Audit	9	48,451	9	48,451
Small Commercial				
Demand Response	3	5		
(switch/pstat)				
Small Commercial				
Demand Response				
(IHD)				
Demand Response 3	95	1,500		
Industrial Program				
Process & System				
Upgrades				
Monitoring & Targeting				
Energy Manager				
Retrofit				
Demand Response 3	472	10,747		
Home Assistance Program				
Home Assistance	15	181,895	15	181,123
Program				
Other				
Program Enabled	4	93,443	4	93,443
Time-of-Use Savings				
Totals	1,655	3,682,087	910	3,667,331

Note: Persistence of results is as reported by the IESO.

Table A-4: Persistence of 2011 adjustments through future years for Niagara Peninsula Energy Inc.

	2011 adjustments		Persistence of 2011 adjustments					
	2011		2012		2013		2014	
	Net Incremental Peak Demand Savings (kW)	Net Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program								
Appliance Retirement								
Appliance Exchange								
HVAC Incentives	-47	-85,312	-47	-85,312	-47	-85,312	-47	-85,312
Conservation Instant	0	2,741	0	2,741	0	2,741	0	2,741
Coupon Booklet								
Bi-Annual Retailer	1	21,713	1	21,713	1	21,713	1	21,713
Event								
Retailer Co-Op								
Residential Demand								
Response								
(switch/pstat)								
Residential Demand								
Response (IHD)								
Residential New								
Construction								
Business Program								
Retrofit	4	30,127	4	30,127	4	30,127	4	30,127
Direct Install Lighting	32	91,276	32	91,276	31	88,078	22	58,951
Building								
Commissioning								
New Construction								
Energy Audit	5	26,398	5	26,398	5	26,398	5	26,398
Small Commercial								
Demand Response								
(switch/pstat)								
Small Commercial								
Demand Response								
(IHD)								
Demand Response 3								
Industrial Program								
Process & System								
Upgrades								
Monitoring &								
Targeting								
Energy Manager								
Retrofit								
Demand Response 3								
Home Assistance Program								
Home Assistance								
Program								
Pre-2011 Programs completed in 2011								
Electricity Retrofit								
Incentive Program								
High Performance	-1	-255,067	-1	-255,067	-1	-255,067	-1	-255,067
New Construction								
Other								
Program Enabled	329	2,310,596	329	2,310,596	329	2,310,596	329	2,310,596
Savings								
Time-of-Use Savings								
Totals	323	2,142,472	323	2,142,472	322	2,139,275	313	2,110,147

Note: Persistence of adjustments is as reported by the IESO.

Table A-5: Persistence of 2012 adjustments through future years for Niagara Peninsula Energy Inc.

	2012 adjustments		Persistence of 2012 adjustments			
	2012		2013		2014	
	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program						
Appliance Retirement						
Appliance Exchange						
HVAC Incentives	4	8,601	4	8,601	4	8,601
Conservation Instant Coupon Booklet						
Bi-Annual Retailer Event						
Retailer Co-Op						
Residential Demand Response (switch/pstat)						
Residential Demand Response (IHD)						
Residential New Construction						
Business Program						
Retrofit	104	423,970	104	423,970	104	423,970
Direct Install Lighting Building Commissioning						
New Construction	2	12,172	2	12,172	2	12,172
Energy Audit	7	32,863	7	32,009	7	32,009
Small Commercial Demand Response (switch/pstat)						
Small Commercial Demand Response (IHD)						
Demand Response 3						
Industrial Program						
Process & System Upgrades						
Monitoring & Targeting						
Energy Manager						
Retrofit						
Demand Response 3						
Home Assistance Program						
Home Assistance Program	5	53,613	5	52,622	5	52,622
Other						
Program Enabled Savings	172	2,072,243	172	2,072,243	172	2,072,243
Time-of-Use Savings						
Totals	295	2,603,462	294	2,601,617	294	2,601,617

Note: Persistence of adjustments is as reported by the IESO.

Table A-6: Persistence of 2013 adjustments through 2014 for Niagara Peninsula Energy Inc.

	2013 adjustments		Persistence of 2013 adjustments	
	2013		2014	
	Net Incremental Peak Demand Savings (kW)	Net Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program				
Appliance Retirement				
Appliance Exchange				
HVAC Incentives	8	14,415	8	14,415
Conservation Instant Coupon Booklet	0	234	0	234
Bi-Annual Retailer Event				
Retailer Co-Op				
Residential Demand Response (switch/pstat)				
Residential Demand Response (IHD)				
Residential New Construction	1	9,652	1	9,652
Business Program				
Retrofit	56	238,983	56	238,983
Direct Install Lighting Building Commissioning				
New Construction				
Energy Audit	0	32	0	32
Small Commercial Demand Response (switch/pstat)				
Small Commercial Demand Response (IHD)				
Demand Response 3				
Industrial Program				
Process & System Upgrades				
Monitoring & Targeting				
Energy Manager	0	10,468	0	10,468
Retrofit				
Demand Response 3				
Home Assistance Program				
Home Assistance Program	2	26,110	2	26,000
Totals	67	299,894	67	299,783

Note: Persistence of adjustments is as reported by the IESO.

Appendix B. CDM results breakdown by rate class

Table B-1: Percentage allocation by rate class for 2011 results and adjustments for Niagara Peninsula Energy Inc.

Initiative	Residential	GS < 50 kW	GS 50 to 4,999 kW	Unmetered Scattered Load	Sentinel Lighting	Street Lighting	MicroFIT Generator
Consumer Program							
Appliance Retirement	100%						
Appliance Exchange	100%						
HVAC Incentives	90%	10%					
Conservation Instant Coupon Booklet	100%						
Bi-Annual Retailer Event	100%						
Retailer Co-op	100%						
Residential Demand Response	100%						
Residential New Construction	100%						
Business Program							
Retrofit		13%	86%				
Direct Install Lighting Building		100%					
Commissioning New Construction							
Energy Audit			100%				
Small Commercial Demand Response		100%					
Demand Response 3			100%				
Industrial Program							
Process & System Upgrades							
Monitoring & Targeting							
Energy Manager							
Retrofit			100%				
Demand Response 3			100%				
Home Assistance Program							
Home Assistance Program	100%						
Pre-2011 Programs completed in 2011							
Electricity Retrofit Incentive Program		13%	86%				
High Performance New Construction			100%				
Other							
Program Enabled Savings			100%				
Time-of-Use Savings							

Source: Niagara Peninsula Energy Inc.. Rate class allocation percentage totals may not add up to 100% in cases where kWh savings are allocated to rate classes billed by kWh and kW demand reductions are allocated to rate classes billed by kW.

Table B-2: Percentage allocation by rate class for 2012 results and adjustments for Niagara Peninsula Energy Inc.

Initiative	Residential	GS < 50 kW	GS 50 to 4,999 kW	Unmetered Scattered Load	Sentinel Lighting	Street Lighting	MicroFIT Generator
Consumer Program							
Appliance Retirement	100%						
Appliance Exchange	100%						
HVAC Incentives	90%	10%					
Conservation Instant Coupon Booklet	100%						
Bi-Annual Retailer Event	100%						
Retailer Co-Op	100%						
Residential Demand Response (switch/pstat)	100%						
Residential Demand Response (IHD)	100%						
Residential New Construction	100%						
Business Program							
Retrofit		9%	92%				
Direct Install Lighting		100%					
Building Commissioning							
New Construction			100%				
Energy Audit			100%				
Small Commercial Demand Response (switch/pstat)							
Small Commercial Demand Response (IHD)							
Demand Response 3			100%				
Industrial Program							
Process & System Upgrades							
Monitoring & Targeting							
Energy Manager							
Retrofit							
Demand Response 3			100%				
Home Assistance Program							
Home Assistance Program	100%						
Pre-2011 Programs completed in 2011							
Electricity Retrofit Incentive Program							
High Performance New Construction			100%				
Other							
Program Enabled Savings			100%				
Time-of-Use Savings							

Source: Niagara Peninsula Energy Inc.. Rate class allocation percentage totals may not add up to 100% in cases where kWh savings are allocated to rate classes billed by kWh and kW demand reductions are allocated to rate classes billed by kW.

Table B-3: Percentage allocation by rate class for 2013 results and adjustments for Niagara Peninsula Energy Inc.

Initiative	Residential	GS < 50 kW	GS 50 to 4,999 kW	Unmetered Scattered Load	Sentinel Lighting	Street Lighting	MicroFIT Generator
Consumer Program							
Appliance Retirement	100%						
Appliance Exchange	100%						
HVAC Incentives	90%	10%					
Conservation Instant	100%						
Coupon Booklet	100%						
Bi-Annual Retailer Event	100%						
Retailer Co-Op	100%						
Residential Demand	100%						
Response (switch/pstat)	100%						
Residential Demand	100%						
Response (IHD)	100%						
Residential New	100%						
Construction	100%						
Business Program							
Retrofit	7%	36%	71%				
Direct Install Lighting		100%					
Building Commissioning							
New Construction							
Energy Audit			100%				
Small Commercial							
Demand Response		100%					
(switch/pstat)							
Small Commercial							
Demand Response (IHD)							
Demand Response 3			100%				
Industrial Program							
Process & System							
Upgrades							
Monitoring & Targeting							
Energy Manager			100%				
Retrofit							
Demand Response 3			100%				
Home Assistance Program							
Home Assistance	100%						
Program	100%						
Other							
Program Enabled Savings			100%				
Time-of-Use Savings							

Source: Niagara Peninsula Energy Inc.. Rate class allocation percentage totals may not add up to 100% in cases where kWh savings are allocated to rate classes billed by kWh and kW demand reductions are allocated to rate classes billed by kW.

Table B-4: Percentage allocation by rate class for 2014 results for Niagara Peninsula Energy Inc.

Initiative	Residential	GS < 50 kW	GS 50 to 4,999 kW	Unmetered Scattered Load	Sentinel Lighting	Street Lighting	MicroFIT Generator
Consumer Program							
Appliance Retirement	100%						
Appliance Exchange	100%						
HVAC Incentives	90%	10%					
Conservation Instant Coupon Booklet	100%						
Bi-Annual Retailer Event	100%						
Retailer Co-Op	100%						
Residential Demand Response	100%						
(switch/pstat)							
Residential Demand Response (IHD)	100%						
Residential New Construction	100%						
Business Program							
Retrofit	8%	23%	74%				
Direct Install Lighting Building		100%					
Commissioning							
New Construction			100%				
Energy Audit			100%				
Small Commercial Demand Response		100%					
(switch/pstat)							
Small Commercial Demand Response							
(IHD)							
Demand Response 3			100%				
Industrial Program							
Process & System Upgrades			100%				
Monitoring & Targeting							
Energy Manager			100%				
Retrofit							
Demand Response 3			100%				
Home Assistance Program							
Home Assistance Program	100%						

Source: Niagara Peninsula Energy Inc.. Rate class allocation percentage totals may not add up to 100% in cases where kWh savings are allocated to rate classes billed by kWh and kW demand reductions are allocated to rate classes billed by kW.

Table B-5: Estimates of CDM load reductions included in load forecast for 2011 cost of service application for Niagara Peninsula Energy Inc.

Forecast year	Residential kWh	GS < 50 kW kWh	GS 50 to 4,999 kW kW	Unmetered	Sentinel Lighting kW	Street Lighting kW	MicroFIT Generator NA
				Scattered Load kWh			
2011	2,292,141	605,894	8,402				
2012	2,292,141	605,894	8,402				
2013	2,292,141	605,894	8,402				
2014	2,292,141	605,894	8,402				

Note: Allocation provided by Niagara Peninsula Energy Inc.

Table B-6: Impact of CDM on load by rate class for 2011 for Niagara Peninsula Energy Inc.

Initiative	Residential kWh	GS < 50 kW kWh	GS 50 to 4,999 kW kW	Unmetered Scattered Load kWh	Sentinel Lighting kW	Street Lighting kW	MicroFIT Generator NA
Consumer Program							
Appliance Retirement	214,685						
Appliance Exchange	4,714						
HVAC Incentives	377,397	41,933					
Conservation Instant	275,066						
Coupon Booklet							
Bi-Annual Retailer Event	313,958						
Retailer Co-op							
Residential Demand							
Response							
Residential New							
Construction							
Business Program							
Retrofit		121,570	1,774				
Direct Install Lighting		994,899					
Building Commissioning							
New Construction							
Energy Audit			65				
Small Commercial Demand							
Response							
Demand Response 3			318				
Industrial Program							
Process & System Upgrades							
Monitoring & Targeting							
Energy Manager							
Retrofit			24				
Demand Response 3			190				
Home Assistance Program							
Home Assistance Program	9,137						
Pre-2011 Programs completed in 2011							
Electricity Retrofit Incentive		188,083	2,734				
Program							
High Performance New			917				
Construction							
Other							
Program Enabled Savings			3,942				
Time-of-Use Savings							
Totals	1,194,955	1,346,484	9,964				

Note: Values are the product of the results by program from Table 1 plus adjustments from Table 2 multiplied by the allocation in Table B-1. Monthly kW values are multiplied by the number of months they are estimated to apply to for determining annual load impacts.

Table B-7: Impact of CDM on load by rate class for 2012 for Niagara Peninsula Energy Inc.

Initiative	Residential kWh	GS < 50 kW kWh	GS 50 to 4,999 kW kW	Unmetered Scattered Load kWh	Sentinel Lighting kW	Street Lighting kW	MicroFIT Generator NA
Consumer Program							
Appliance Retirement	350,499						
Appliance Exchange	19,450						
HVAC Incentives	613,166	68,130					
Conservation Instant Coupon Booklet	288,970						
Bi-Annual Retailer Event	580,289						
Retailer Co-Op							
Residential Demand Response (switch/pstat)							
Residential Demand Response (IHD)							
Residential New Construction							
Business Program							
Retrofit		463,628	11,370				
Direct Install Lighting		1,707,747					
Building Commissioning							
New Construction			23				
Energy Audit			643				
Small Commercial Demand Response (switch/pstat)							
Small Commercial Demand Response (IHD)							
Demand Response 3			319				
Industrial Program							
Process & System Upgrades							
Monitoring & Targeting							
Energy Manager							
Retrofit			24				
Demand Response 3			196				
Home Assistance Program							
Home Assistance Program	117,493						
Pre-2011 Programs completed in 2011							
Electricity Retrofit Incentive Program		188,083	2,734				
High Performance New Construction			2,550				
Other							
Program Enabled Savings			6,008				
Time-of-Use Savings							
Totals	1,969,867	2,427,588	23,869				

Note: Values are the product of the results by program from Table 1 plus adjustments from Table 2 multiplied by the allocation in Table B-2 plus the persistence of results and adjustments from previous years in Tables A-1 and A-4 multiplied by the allocation in Table B-1. Monthly kW values are multiplied by the number of months they are estimated to apply to for determining annual load impacts.

Table B-8: Impact of CDM on load by rate class for 2013 for Niagara Peninsula Energy Inc.

Initiative	Residential kWh	GS < 50 kW kWh	GS 50 to 4,999 kW kW	Unmetered Scattered Load kWh	Sentinel Lighting kW	Street Lighting kW	MicroFIT Generator NA
Consumer Program							
Appliance Retirement	418,242						
Appliance Exchange	34,228						
HVAC Incentives	854,352	94,928					
Conservation Instant	365,853						
Coupon Booklet							
Bi-Annual Retailer Event	751,135						
Retailer Co-Op							
Residential Demand Response (switch/pstat)	208						
Residential Demand Response (IHD)							
Residential New Construction	9,652						
Business Program							
Retrofit	159,635	1,305,085	16,129				
Direct Install Lighting		2,247,485					
Building Commissioning							
New Construction			23				
Energy Audit			747				
Small Commercial Demand Response (switch/pstat)		5					
Small Commercial Demand Response (IHD)							
Demand Response 3			284				
Industrial Program							
Process & System Upgrades							
Monitoring & Targeting							
Energy Manager			2				
Retrofit			24				
Demand Response 3			1,416				
Home Assistance Program							
Home Assistance Program	323,495						
Pre-2011 Programs completed in 2011							
Electricity Retrofit Incentive Program		188,083	2,734				
High Performance New Construction			2,550				
Other							
Program Enabled Savings			6,058				
Time-of-Use Savings							
Totals	2,916,800	3,835,586	29,967				

Note: Values are the product of the results by program from Table 1 plus adjustments from Table 2 multiplied by the allocations in Table B-3 plus the persistence of results and adjustments from previous years in Tables A-1 to A-2 and A-4 to A-5 multiplied by the allocations in Table B-1 and B-2. Monthly kW values are multiplied by the number of months they are estimated to apply to for determining annual load impacts.

Table B-9: Impact of CDM on load by rate class for 2014 for Niagara Peninsula Energy Inc.

Initiative	Residential kWh	GS < 50 kW kWh	GS 50 to 4,999 kW kW	Unmetered Scattered Load kWh	Sentinel Lighting kW	Street Lighting kW
Consumer Program						
Appliance Retirement	486,981					
Appliance Exchange	45,074					
HVAC Incentives	1,168,309	129,812				
Conservation Instant Coupon Booklet	664,490					
Bi-Annual Retailer Event	1,973,347					
Retailer Co-Op						
Residential Demand Response (switch/pstat)						
Residential Demand Response (IHD)						
Residential New Construction	606,972					
Business Program						
Retrofit	437,876	2,139,590	21,663			
Direct Install Lighting		2,344,896				
Building Commissioning						
New Construction			418			
Energy Audit			1,869			
Small Commercial Demand Response (switch/pstat)						
Small Commercial Demand Response (IHD)						
Demand Response 3			277			
Industrial Program						
Process & System Upgrades			1,924			
Monitoring & Targeting						
Energy Manager			2			
Retrofit			24			
Demand Response 3			1,332			
Home Assistance Program						
Home Assistance Program	436,391					
Pre-2011 Programs completed in 2011						
Electricity Retrofit Incentive Program		188,083	2,734			
High Performance New Construction			2,550			
Other						
Program Enabled Savings			6,058			
Time-of-Use Savings						
Totals	5,819,441	4,802,381	38,851			

Note: Values are the product of the results by program from Table 1 plus adjustments from Table 2 multiplied by the allocations in Table B-4 plus the persistence of results and adjustments from previous years in Tables A-1 to A-6 multiplied by the allocations in Table B-1 to B-3. Monthly kW values are multiplied by the number of months they are estimated to apply to for determining annual load impacts.

Appendix C. Lost revenue

Table C-1: Distribution rates that impact lost revenue for each rate class for Niagara Peninsula Energy Inc.

Rate class	Billing unit	2011	2012	2013	2014
Residential	kWh	0.0152	0.0157	0.0158	0.0159
GS < 50 kW	kWh	0.0131	0.0134	0.0135	0.0136
GS 50 to 4,999 kW	kW	4.0571	4.1726	4.1691	4.2045
Unmetered Scattered Load	kWh	0.0130	0.0132	0.0133	0.0135
Sentinel Lighting	kW	5.3762	10.8059	14.3840	15.6290
Street Lighting	kW	2.3493	3.4291	4.1375	4.4074
MicroFIT Generator	NA				

Notes: Distribution rates are from OEB approved rate schedules averaged from the rate year to the calendar year. Only the Distribution Volumetric Rate and the Rate Rider for Application of Tax Change (2012-2014) are used.

The different rates for the Niagara Falls Hydro and Peninsula West Utilities rate zones in the 2010 rate year were averaged based on the billed kWh for each rate zone in the months of 2011 that the 2010 rates were effective.

Table C-2: Lost revenues for each year by rate class for Niagara Peninsula Energy Inc.

Year	Component of lost revenue	Residential	GS < 50 kW	GS 50 to 4,999 kW	Total
2011	Current year load losses	1,194,955	1,346,484	9,964	2,551,404
	Forecast load losses	2,292,141	605,894	8,402	2,906,437
	Net load losses	-1,097,186	740,590	1,563	-355,034
	Revenue impact (\$)	-\$16,677.23	\$9,701.73	\$6,339.30	-\$636.21
2012	Current year load losses	1,969,867	2,427,588	23,869	4,421,324
	Forecast load losses	2,292,141	605,894	8,402	2,906,437
	Net load losses	-322,274	1,821,693	15,467	1,514,887
	Revenue impact (\$)	-\$5,059.70	\$24,410.69	\$64,539.25	\$83,890.24
2013	Current year load losses	2,916,800	3,835,586	29,967	6,782,353
	Forecast load losses	2,292,141	605,894	8,402	2,906,437
	Net load losses	624,658	3,229,692	21,565	3,875,915
	Revenue impact (\$)	\$9,869.60	\$43,600.84	\$89,907.72	\$143,378.16
2014	Current year load losses	5,819,441	4,802,381	38,851	10,660,672
	Forecast load losses	2,292,141	605,894	8,402	2,906,437
	Net load losses	3,527,299	4,196,486	30,449	7,754,235
	Revenue impact (\$)	\$56,084.05	\$57,072.21	\$128,023.89	\$241,180.16
Total	Revenue impact (\$)	\$44,216.72	\$134,785.47	\$288,810.16	\$467,812.35

Notes: Load losses are from Tables B-6 to B-9 and include persistence from previous years
Forecast losses are from Table B-5
Revenue impact is net load loss multiplied by distribution rates from Table C-1
There is no lost revenue associated with rate classes not included in this table.

Table C-3: Monthly carrying charges by rate class for Niagara Peninsula Energy Inc.

	Residential	GS < 50 kW	GS 50 to 4,999 kW	Total
Jan-11				
Feb-11	-\$1.70	\$0.99	\$0.65	-\$0.06
Mar-11	-\$3.40	\$1.98	\$1.29	-\$0.13
Apr-11	-\$5.11	\$2.97	\$1.94	-\$0.19
Opening balance for rate year 2011	-\$10.21	\$5.94	\$3.88	-\$0.39
May-11	-\$6.81	\$3.96	\$2.59	-\$0.26
Jun-11	-\$8.51	\$4.95	\$3.24	-\$0.32
Jul-11	-\$10.21	\$5.94	\$3.88	-\$0.39
Aug-11	-\$11.92	\$6.93	\$4.53	-\$0.45
Sep-11	-\$13.62	\$7.92	\$5.18	-\$0.52
Oct-11	-\$15.32	\$8.91	\$5.82	-\$0.58
Nov-11	-\$17.02	\$9.90	\$6.47	-\$0.65
Dec-11	-\$18.73	\$10.89	\$7.12	-\$0.71
Jan-12	-\$20.43	\$11.88	\$7.77	-\$0.78
Feb-12	-\$20.95	\$14.38	\$14.35	\$7.78
Mar-12	-\$21.46	\$16.87	\$20.94	\$16.35
Apr-12	-\$21.98	\$19.36	\$27.53	\$24.91
Opening balance for rate year 2012	-\$197.18	\$127.86	\$113.30	\$43.98
May-12	-\$22.50	\$21.85	\$34.12	\$33.48
Jun-12	-\$23.01	\$24.34	\$40.71	\$42.04
Jul-12	-\$23.53	\$26.84	\$47.30	\$50.60
Aug-12	-\$24.05	\$29.33	\$53.88	\$59.17
Sep-12	-\$24.56	\$31.82	\$60.47	\$67.73
Oct-12	-\$25.08	\$34.31	\$67.06	\$76.29
Nov-12	-\$25.59	\$36.80	\$73.65	\$84.86
Dec-12	-\$26.11	\$39.30	\$80.24	\$93.42
Jan-13	-\$26.63	\$41.79	\$86.83	\$101.99
Feb-13	-\$25.62	\$46.24	\$96.00	\$116.62
Mar-13	-\$24.61	\$50.69	\$105.18	\$131.26
Apr-13	-\$23.61	\$55.14	\$114.36	\$145.90
Opening balance for rate year 2013	-\$492.07	\$566.30	\$973.11	\$1,047.34
May-13	-\$22.60	\$59.59	\$123.54	\$160.53
Jun-13	-\$21.59	\$64.04	\$132.72	\$175.17
Jul-13	-\$20.58	\$68.49	\$141.89	\$189.81
Aug-13	-\$19.58	\$72.94	\$151.07	\$204.44
Sep-13	-\$18.57	\$77.40	\$160.25	\$219.08
Oct-13	-\$17.56	\$81.85	\$169.43	\$233.71
Nov-13	-\$16.55	\$86.30	\$178.61	\$248.35
Dec-13	-\$15.55	\$90.75	\$187.79	\$262.99
Jan-14	-\$14.54	\$95.20	\$196.96	\$277.62
Feb-14	-\$8.81	\$101.02	\$210.03	\$302.24
Mar-14	-\$3.09	\$106.85	\$223.10	\$326.87
Apr-14	\$2.64	\$112.68	\$236.17	\$351.49
Opening balance for rate year 2014	-\$668.44	\$1,583.41	\$3,084.67	\$3,999.64
May-14	\$8.36	\$118.50	\$249.24	\$376.11
Jun-14	\$14.09	\$124.33	\$262.31	\$400.73
Jul-14	\$19.81	\$130.16	\$275.38	\$425.35
Aug-14	\$25.54	\$135.98	\$288.45	\$449.97
Sep-14	\$31.26	\$141.81	\$301.52	\$474.59
Oct-14	\$36.99	\$147.63	\$314.59	\$499.21
Nov-14	\$42.71	\$153.46	\$327.65	\$523.83
Dec-14	\$48.44	\$159.29	\$340.72	\$548.45
Jan-15	\$54.17	\$165.11	\$353.79	\$573.07
Feb-15	\$54.17	\$165.11	\$353.79	\$573.07
Mar-15	\$54.17	\$165.11	\$353.79	\$573.07
Apr-15	\$40.53	\$123.55	\$264.74	\$428.83
Opening balance for rate year 2015	-\$238.20	\$3,313.46	\$6,770.64	\$9,845.90
May-15	\$40.53	\$123.55	\$264.74	\$428.83
Jun-15	\$40.53	\$123.55	\$264.74	\$428.83
Jul-15	\$40.53	\$123.55	\$264.74	\$428.83
Aug-15	\$40.53	\$123.55	\$264.74	\$428.83
Sep-15	\$40.53	\$123.55	\$264.74	\$428.83
Oct-15	\$40.53	\$123.55	\$264.74	\$428.83
Nov-15	\$40.53	\$123.55	\$264.74	\$428.83
Dec-15	\$40.53	\$123.55	\$264.74	\$428.83
Jan-16	\$40.53	\$123.55	\$264.74	\$428.83
Feb-16	\$40.53	\$123.55	\$264.74	\$428.83
Mar-16	\$40.53	\$123.55	\$264.74	\$428.83
Apr-16	\$40.53	\$123.55	\$264.74	\$428.83
Total to April 30, 2016	\$248.18	\$4,796.10	\$9,947.55	\$14,991.84

Notes: Carrying charges are simple interest (not compound) calculated using rates specified by the OEB.<http://www.ontarioenergyboard.ca/OEB/Industry/Rules+and+Requirements/Rules+Codes+Guidelines+and+Forms/Prescribed+Interest+Rates>
Annual savings are assumed to be distributed equally over the year and carrying charges are applied to the balance in the account each month.
There are no carrying charges associated with rate classes not included in this table.



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Attachment B

Monthly Bill Impacts

Bill Impacts

Customer Class: **Residential**

TOU / non-TOU: **TOU**

Consumption **800** kWh

	Charge Unit	Rates as Proposed in 2016 IRM Application			Rates as Proposed in 2016 IRM Application + LRAMVA Rate Rider			Impact	
		Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	Monthly	\$ 22.0400	1	\$ 22.04	\$ 22.0400	1	\$ 22.04	\$ -	
Smart Meter Rate Adder	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Distribution Volumetric Rate	kWh	\$ 0.0141	800	\$ 11.28	\$ 0.0141	800	\$ 11.28	\$ -	
Rate Rider for Disposition of Residual Hi	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Disposition of Accounts 1575/1576	kWh	\$ 0.0030	800	\$ 2.40	\$ 0.0030	800	\$ 2.40	\$ -	
LRAMVA Rate Rider	kWh	\$ -	800	\$ -	\$ 0.0001	800	\$ 0.08	\$ 0.08	
Stranded meter recovery	Monthly	\$ 0.9317	1	\$ 0.93	\$ 0.9317	1	\$ 0.93	\$ -	
Sub-Total A (excluding pass through)				\$ 31.85			\$ 31.93	\$ 0.08	0.25%
Rate Rider for Deferral/Variance Account Disposition	kWh		800	\$ -		800	\$ -	\$ -	
Rate Rider for Deferral/Variance Account Disposition	kWh	\$ -	800	\$ -	\$ -	800	\$ -	\$ -	
Rate Rider for Application of Tax Change	kWh	\$ -	800	\$ -	\$ -	800	\$ -	\$ -	
Rate Rider for Application of Tax Change	kWh	\$ -	800	\$ -	\$ -	800	\$ -	\$ -	
Low Voltage Service Charge	kWh	\$ 0.0005	800	\$ 0.40	\$ 0.0005	800	\$ 0.40	\$ -	
Line Losses on Cost of Power	kWh	\$ 0.1021	38.3393	\$ 3.91	\$ 0.1021	38.3393	\$ 3.91	\$ -	
Smart Meter Entity Charge	Monthly	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)				\$ 36.96			\$ 37.04	\$ 0.08	0.22%
RTSR - Network	kWh	\$ 0.0074	838	\$ 6.20	\$ 0.0074	838	\$ 6.20	\$ -	
RTSR - Line and Transformation Connection	kWh	\$ 0.0053	838	\$ 4.44	\$ 0.0053	838	\$ 4.44	\$ -	
Sub-Total C - Delivery (including Sub-Total B)				\$ 47.60			\$ 47.68	\$ 0.08	0.17%
Wholesale Market Service Charge (WMSC)	kWh	\$ 0.0044	838	\$ 3.69	\$ 0.0044	838	\$ 3.69	\$ -	
Rural and Remote Rate Protection (RRRP)	kWh	\$ 0.0013	838	\$ 1.09	\$ 0.0013	838	\$ 1.09	\$ -	
Standard Supply Service Charge		\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	
TOU - Off Peak	kWh	\$ 0.0800	512	\$ 40.96	\$ 0.0800	512	\$ 40.96	\$ -	
TOU - Mid Peak	kWh	\$ 0.1220	144	\$ 17.57	\$ 0.1220	144	\$ 17.57	\$ -	
TOU - On Peak	kWh	\$ 0.1610	144	\$ 23.18	\$ 0.1610	144	\$ 23.18	\$ -	
Non-RPP Average Price	kWh	\$ 0.0954	800	\$ 76.32	\$ 0.0954	800	\$ 76.32	\$ -	
Total Bill on TOU (before Taxes)				\$ 134.34			\$ 134.42	\$ 0.08	0.06%
HST		13%		\$ 17.46	13%		\$ 17.48	\$ 0.01	0.06%
Total Bill (including HST)				\$ 151.81			\$ 151.90	\$ 0.09	0.06%
Total Bill on TOU				\$ 151.81			\$ 151.90	\$ 0.09	0.06%
Total Bill on Non-RPP (before Taxes)				\$ 128.95			\$ 129.03	\$ 0.08	0.06%
HST		13%		\$ 16.76	13%		\$ 16.77	\$ 0.01	0.06%
Total Bill (including HST)				\$ 145.72			\$ 145.81	\$ 0.09	0.06%
Total Bill on Non-RPP				\$ 145.72			\$ 145.81	\$ 0.09	0.06%

Loss Factor (%)

4.79%

4.79%

Bill Impacts

Customer Class: **General Service < 50 kW**

TOU / non-TOU: **TOU**

Consumption **2,000** kWh

Non-Residential

	Charge Unit	Rates as Proposed in 2016 IRM Application			Rates as Proposed in 2016 IRM Application + LRAMVA Rate Rider			Impact	
		Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	Monthly	\$ 38.2500	1	\$ 38.25	\$ 38.2500	1	\$ 38.25	\$ -	
Smart Meter Rate Adder	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Distribution Volumetric Rate	kWh	\$ 0.0140	2000	\$ 28.00	\$ 0.0140	2000	\$ 28.00	\$ -	
Rate Rider for Disposition of Residual Hi	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Disposition of Accounts 1575/1576	kWh	-\$ 0.0030	2000	-\$ 6.00	-\$ 0.0030	2000	-\$ 6.00	\$ -	
LRAMVA Rate Rider	kWh		2000	\$ -	\$ 0.0011	2000	\$ 2.20	\$ 2.20	
Stranded meter recovery	Monthly		1	\$ -		1	\$ -	\$ -	
Sub-Total A (excluding pass through)				\$ 60.25			\$ 62.45	\$ 2.20	3.65%
Rate Rider for Deferral/Variance Account Disposition	kWh		2000	\$ -		2000	\$ -	\$ -	
Rate Rider for Deferral/Variance Account Disposition	kWh	\$ -	2000	\$ -	\$ -	2000	\$ -	\$ -	
Rate Rider for Application of Tax Change	kWh	\$ -	2000	\$ -	\$ -	2000	\$ -	\$ -	
Rate Rider for Application of Tax Change	kWh	\$ -	2000	\$ -	\$ -	2000	\$ -	\$ -	
Low Voltage Service Charge	kWh	\$ 0.0004	2000	\$ 0.80	\$ 0.0004	2000	\$ 0.80	\$ -	
Line Losses on Cost of Power	kWh	\$ 0.1021	95.8481	\$ 9.79	\$ 0.1021	95.8481	\$ 9.79	\$ -	
Smart Meter Entity Charge	Monthly	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)				\$ 71.63			\$ 73.83	\$ 2.20	3.07%
RTSR - Network	kWh	\$ 0.0066	2096	\$ 13.83	\$ 0.0066	2096	\$ 13.83	\$ -	
RTSR - Line and Transformation Connection	kWh	\$ 0.0046	2096	\$ 9.64	\$ 0.0046	2096	\$ 9.64	\$ -	
Sub-Total C - Delivery (including Sub-Total B)				\$ 95.10			\$ 97.30	\$ 2.20	2.31%
Wholesale Market Service Charge (WMSC)	kWh	\$ 0.0044	2096	\$ 9.22	\$ 0.0044	2096	\$ 9.22	\$ -	
Rural and Remote Rate Protection	kWh	\$ 0.0013	2096	\$ 2.72	\$ 0.0013	2096	\$ 2.72	\$ -	
Standard Supply Service Charge		\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	
Debt Retirement Charge (DRC)	kWh	\$ 0.0070	2000	\$ 14.00	\$ 0.0070	2000	\$ 14.00	\$ -	
TOU - Off Peak	kWh	\$ 0.0800	1280	\$ 102.40	\$ 0.0800	1280	\$ 102.40	\$ -	
TOU - Mid Peak	kWh	\$ 0.1220	360	\$ 43.92	\$ 0.1220	360	\$ 43.92	\$ -	
TOU - On Peak	kWh	\$ 0.1610	360	\$ 57.96	\$ 0.1610	360	\$ 57.96	\$ -	
Non-RPP Average Price	kWh	\$ 0.0954	2000	\$ 190.80	\$ 0.0954	2000	\$ 190.80	\$ -	
Total Bill on TOU (before Taxes)				\$ 325.58			\$ 327.78	\$ 2.20	0.68%
HST		13%		\$ 42.32	13%		\$ 42.61	\$ 0.29	0.68%
Total Bill (including HST)				\$ 367.90			\$ 370.39	\$ 2.49	0.68%
Total Bill on TOU (including OCEB)				\$ 367.90			\$ 370.39	\$ 2.49	0.68%
Total Bill on Non-RPP (before Taxes)				\$ 312.10			\$ 314.30	\$ 2.20	0.70%
HST		13%		\$ 40.57	13%		\$ 40.86	\$ 0.29	0.70%
Total Bill (including HST)				\$ 352.67			\$ 355.15	\$ 2.49	0.70%
Total Bill on Non-RPP				\$ 352.67			\$ 355.15	\$ 2.49	0.70%

Loss Factor (%) **4.79%**

4.79%

Bill Impacts

Customer Class: **General Service > 50**

TOU / non-TOU: **non-TOU**

Consumption **65,000** kWh

Non-Residential

	Charge Unit	Rates as Proposed in 2016 IRM Application			Rates as Proposed in 2016 IRM Application + LRAMVA Rate Rider			Impact	
		Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	Monthly	\$ 103.6400	1	\$ 103.64	\$ 103.6400	1	\$ 103.64	\$ -	
Smart Meter Rate Adder	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Distribution Volumetric Rate	kWh	\$ 3.4066	180	\$ 613.19	\$ 3.4066	180	\$ 613.19	\$ -	
Rate Rider for Disposition of Residual Hi	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Disposition of Accounts 1575/1576	kWh	\$ 1.1427	180	\$ 205.69	\$ 1.1427	180	\$ 205.69	\$ -	
LRAMVA Rate Rider	kWh	\$ -	180	\$ -	\$ 0.1797	180	\$ 32.35	\$ 32.35	
Stranded meter recovery	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Sub-Total A (excluding pass through)				\$ 511.14			\$ 543.49	\$ 32.35	6.33%
Rate Rider for Deferral/Variance	kWh	\$ -	65000	\$ -	\$ -	65000	\$ -	\$ -	
Account Disposition	kWh	\$ -	180	\$ -	\$ -	180	\$ -	\$ -	
Rate Rider for Deferral/Variance	kWh	\$ -	65000	\$ -	\$ -	65000	\$ -	\$ -	
Account Disposition	kWh	\$ -	180	\$ -	\$ -	180	\$ -	\$ -	
Rate Rider for Application of Tax	kWh	\$ -	65000	\$ -	\$ -	65000	\$ -	\$ -	
Change	kWh	\$ -	180	\$ -	\$ -	180	\$ -	\$ -	
Rate Rider for Application of Tax	kWh	\$ -	180	\$ -	\$ -	180	\$ -	\$ -	
Change	kWh	\$ 0.1612	180	\$ 29.02	\$ 0.1612	180	\$ 29.02	\$ -	
Low Voltage Service Charge	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Smart Meter Entity Charge	Monthly	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)				\$ 540.16			\$ 572.50	\$ 32.35	5.99%
RTSR - Network	kWh	\$ 2.7281	180	\$ 491.06	\$ 2.7281	180	\$ 491.06	\$ -	
RTSR - Line and Transformation	kWh	\$ 1.8478	180	\$ 332.60	\$ 1.8478	180	\$ 332.60	\$ -	
Connection									
Sub-Total C - Delivery (including Sub-Total B)				\$ 1,363.82			\$ 1,396.17	\$ 32.35	2.37%
Wholesale Market Service Charge (WMSC)	kWh	\$ 0.0044	68114	\$ 299.70	\$ 0.0044	68114	\$ 299.70	\$ -	
Rural and Remote Rate Protection	kWh	\$ 0.0013	68114	\$ 88.55	\$ 0.0013	68114	\$ 88.55	\$ -	
Standard Supply Service Charge	kWh	\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	
Debt Retirement Charge (DRC)	kWh	\$ 0.0070	65000	\$ 455.00	\$ 0.0070	65000	\$ 455.00	\$ -	
TOU - Off Peak	kWh	\$ 0.0800	43593	\$ 3,487.44	\$ 0.0800	43593	\$ 3,487.44	\$ -	
TOU - Mid Peak	kWh	\$ 0.1220	12260	\$ 1,495.77	\$ 0.1220	12260	\$ 1,495.77	\$ -	
TOU - On Peak	kWh	\$ 0.1610	12260	\$ 1,973.92	\$ 0.1610	12260	\$ 1,973.92	\$ -	
Non-RPP Average Price	kWh	\$ 0.0954	68114	\$ 6,498.08	\$ 0.0954	68114	\$ 6,498.08	\$ -	
Total Bill on TOU (before Taxes)				\$ 9,164.45			\$ 9,196.80	\$ 32.35	0.35%
HST		13%		\$ 1,191.38		13%	\$ 1,195.58	\$ 4.20	0.35%
Total Bill (including HST)				\$ 10,355.83			\$ 10,392.38	\$ 36.55	0.35%
Total Bill on TOU				\$ 10,355.83			\$ 10,392.38	\$ 36.55	0.35%
Total Bill on Non-RPP (before Taxes)				\$ 8,705.40			\$ 8,737.74	\$ 32.35	0.37%
HST		13%		\$ 1,131.70		13%	\$ 1,135.91	\$ 4.20	0.37%
Total Bill (including HST)				\$ 9,837.10			\$ 9,873.65	\$ 36.55	0.37%
Total Bill on Non-RPP				\$ 9,837.10			\$ 9,873.65	\$ 36.55	0.37%

Loss Factor (%)

4.79%

4.79%