

January 16, 2012

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
Toronto ON, M4P 1E4

RE: Brant County Power Inc. – 2012 3rd Generation IRM Application (EB-2011-0154)
Response to VECC Interrogatories

Brant County Power is providing responses to VECC Interrogatories.

If there are any questions with the application, please contact me directly.

Sincerely



Ed Glasberger
CFO – Brant County Power Inc.
519-442-2215 ext. 734
eglasbergen@brantcountypower.com

Brant County Power Inc.
Response to Interrogatory from Vulnerable Energy Consumers Coalition
Questions 1 to 4

VECC Question # 1

Reference: Overview, Page 6, Lost Revenue Adjustment Mechanism (LRAM) Cost Claims

Preamble: Brant County Power seeks an LRAM claim of \$21,561 including carrying charges for 2010 OPA CDM Programs.

- a. Please provide a summary of past LRAM claims including the type (OPA and/or 3rd Tranche) and year of CDM programs included in each claim and the corresponding recovery period for lost revenue.**

BCP Response

LRAM has been claimed by BCP once only as part of its 2011 COS application EB-2010-0125. The total LRAM claim amount was \$251,022 including carrying charges of \$9,834. This LRAM claim was for lost revenue between January 1 2005 and December 31 2010 for Third Tranche programs launched in 2005 to 2008, as well as OPA programs launched in 2006 to 2009. The LRAM claim was recovered using a one-year rate rider.

- b. Please confirm that the LRAM amounts Brant County Power is seeking to recover in this application are new amounts not included in past LRAM claims.**

BCP Response

BCP confirms that the LRAM amounts it is seeking to recover in this application are new amounts not included in past LRAM recoveries. The figure below illustrates the claim periods of both the previous and current LRAM claims. It shows that the current LRAM claim is for lost revenue that was not included in the previous LRAM claim.

	2005	2006	2007	2008	2009	2010	2011	Jan 1 to Apr 30 2012
2005 programs	Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim		
2006 programs		Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim		
2007 programs			Past LRAM claim	Past LRAM claim	Past LRAM claim	Past LRAM claim		
2008 programs				Past LRAM claim	Past LRAM claim	Past LRAM claim		
2009 programs					Past LRAM claim	Past LRAM claim		
2010 programs						Current LRAM claim	Current LRAM claim	Current LRAM claim

The current LRAM claim amount as originally filed was \$21,561. Upon review, BCP has found that the \$21,561 claim as filed inadvertently omitted LRAM associated with lost revenue from 2010 OPA programs in 2010. As such, BCP submits a revised LRAM claim for \$34,568, including carrying charges of \$600. All other energy savings, measure inputs and calculations are unchanged from the originally filed LRAM claim. This updated claim amount now adequately accounts for lost revenue between January 1 2010 and April 30 2012 associated with 2010 OPA programs. A revised report prepared by IndEco detailing this LRAM claim is attached.

The revised LRAM claim is broken down into rate class as shown in the table below.

Rate class	LRAM
Residential	\$11,882
GS < 50 kW	\$19,199
GS 50 -4,999 kW	\$3,577
Total	\$34,658

Updated rate riders are shown below.

Customer class	LRAM amounts	Loss adjusted billing determinants	Proposed LRAM rate rider	
Residential	\$11,882	90,449,643	\$0.0001	per kWh (rounded to 4 decimal places)
GS < 50 kW	\$19,199	40,398,655	\$0.0005	per kWh (rounded to 4 decimal places)
GS 50 to 4,999 kW (all sub-classes)	\$3,577	340,236	\$0.0105	per kW (rounded to 4 decimal places)

The Residential and GS 50 to 4,999 kW rate riders remain unchanged from those as originally filed. The GS < 50 rate rider increased from \$0.0003/kWh to \$0.0005/kWh.

- c. When was Brant County Power's load forecast last approved by the Board? Please discuss how any CDM savings have been accounted for in Brant County Power's approved load forecast.**

BCP Response

Please see attached load forecast from Burman Energy Consultants used for BCP's 2010 CoS filing. For further clarification we have provided questions and answers which arose as a result of a technical conference – i.e. undertakings.



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Brant County Power Inc. Load Forecasting Methodology

Summary

The purpose of this report is to present the process used by Burman Energy Consultants Group to prepare the normalized load forecast used for the purpose of rate application for Brant County Power. Burman Energy reviewed various processes used by the 2008 and 2009 cost of service applicants on the OEB database and is proposing to adopt weather normalization forecasting (WNF). This method is the one approved by the Ontario Energy Board for Toronto Hydro Electric System Ltd in its 2008, 2009 and 2010 rate application (EB-2007-0680).

Burman Energy has used a widely accepted multivariate regression analysis methodology which is used by various distributors in Ontario. The regression analysis establishes purchased kWh as the independent variable against a number of dependent variables. The dependant variables are considered contributors to the determination of load and energy. There is a very high correlation between the historical and forecasted model data which demonstrates the effectiveness of this tool.

Load Forecast and Methodology

- Burman Energy's weather normalized load forecast is developed in a multi-step process.
 - First, the total system weather normalized purchased energy forecast is developed based on a multivariate regression model that incorporates weather, historical load and economic data.
 - Next, the purchased energy forecast is adjusted by a historical loss factor to produce a weather normalized billed energy forecast.
 - Then using the billed energy forecast, the rate class billed energy (kWh) is developed based on a forecast of customer numbers and historical usage patterns per customer.
 - The billed energy forecast for classes that are weather sensitive, is adjusted to ensure that the total billed energy forecast by class correlates to the total weather normalized billed energy forecast.

- Finally a geometric analysis is conducted in order to forecast the customers from the different classes. For classes that use kW for the distribution volumetric billing determinant, an adjustment factor is applied to class energy forecast based on the historical relationship between kW and kWh.

Regression Analysis Model Equation:

BECGI has developed coefficients for the following dependant variables used in the regression model:

- weather (heating and cooling degree days)
- Ontario economic output (GDP)
- Conservation and Demand Management (CDM) activity
- Calendar variables (days in month)
- A 'Constant' used for change in purchased kWh in 2006

Dependant Variables:

- Weather impacts on load are apparent in both the winter heating season, and in the summer cooling season. For that reason, both Heating Degree Days ("HDD" i.e. a measure of coldness in winter) and Cooling Degree Days ("CDD" i.e. a measure of summer heat) are modeled.
 - Due to the recent global activity surrounding climate change historical weather data is showing that there is a warming of the global climate system.
 - In this regard, Burman Energy has reviewed the impact of weather on the energy usage starting from January 1990 to July 2010. This is done to determine weather-normalized forecast. A sensitivity analysis was done showing the impact on the 2010 and 2011 purchased kWh weather normalized forecast based on 10-year and a 20-year weather trend data.
- Economic output – which encompasses customer trends in the Brant County Power service area as well as general economic conditions; this is captured in the model using the Ontario Real Gross Domestic Product (GDP) as an index of economic output.
- CDM activity is another driver which impacts the load forecast and thus, historical CDM activity reported by the OPA as well as the Minister's Directive for CDM activity for 2011-2014 target numbers for Brant County Power have been used in the regression analysis model as part of the equation.

- **Calendar variable** is another factor in determining energy use in the monthly model. For example, the number of days in a particular month will impact energy use.
- A 'Constant' was used for the purchased kWh in 2006 due to higher kWh consumption towards the end of 2006 onwards.

Determination of coefficients:

- **Monthly Purchased kWh** and values of the dependant variables from January 2005 to December 2009 resulted in 60 data points.. This is done in order to obtain the coefficients of the regression model equation.

Purchased kWh Prediction Model Equation:

The following outlines the equation of the predication model used to predict weather normal kWh purchases.

$$\begin{aligned} \text{Purchased kWh}_{\text{predicted}} &= (\text{HDD}_{\text{coefficient}} * \text{HDD}) + (\text{CDD}_{\text{coefficient}} * \text{CDD}) \\ &+ (\text{GS} > 50\text{kW Flag}_{\text{coefficient}} * \text{'Constant'}) \\ &+ (\text{Number of Days in a Month}_{\text{coefficient}} * \text{Number of days in a month}) \\ &+ (\text{Ontario real GDP}_{\text{coefficient}} * \text{GDP}) + (\text{CDM Activity}_{\text{coefficient}} \\ &* \text{CDM activity}) \end{aligned}$$

A table at the end of the report illustrate the resulting outcome of the predicted kWh and is compared to the actual kWh.

The sources of data for the various data points are:

1. Environment Canada website for monthly heating degree day and cooling degree information. Data for the Brantford/Brant County weather station was used.
2. The 2003, 2008 and 2009 Ontario Economic Outlooks from the Ontario Ministry of Finance provided the Ontario real GDP index.
3. The calendar provided information related to number of days in the month.

Billed energy (kWh) Forecast:

To determine the total weather normalized energy billed forecast, the total system weather normalized purchased forecast is adjusted by a historical loss factor. As outlined in the table below, historically the Brant County Power loss factor on average has been 6.80%. This loss factor was used in load forecast for the prediction of billed kWh.

Year	Purchased kWh Actual	Billed kWh Actual	Loss Factor
2005	236,756,080	221,102,367	7.080%
2006	244,309,195	221,505,841	10.288%
2007	306,747,610	287,791,044	6.587%
2008	297,492,850	281,426,082	5.709%
2009	285,044,124	271,297,515	5.067%
		Average	6.945%

With this average loss factor the total weather normalized billed energy (kWh) will be:

$$\left(\text{Purchased kWh}_{\text{Predicted}} / \text{Loss Factor}_{\text{Average}} \right)$$

Billed Demand Usage (kW) Forecast:

As Brant County has classes which are not weather sensitive and the cost of power is based on kW (demand) use, the energy forecast for these classes needs to be converted to a kW basis. The forecast of kW for these classes is based on a review of the historical ratio of kW to kWh and applying the average ratio to the forecasted kWh to produce the required kW. This approach was done for the GS>50 kW, Streetlights and Sentinel lights classes.

The following is the historical billed kW and predicted kW for 2010 and 2011.

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Annual Ratio of kW to kWh			
Year	GS>50 kW	Street Lights	Sentinel Lights
2005	0.31810%	0.28689%	0.26667%
2006	0.31599%	0.28202%	0.26667%
2007	0.20789%	0.28119%	0.26667%
2008	0.21486%	0.28026%	0.26667%
2009	0.22320%	0.28117%	0.26667%
Average	0.25601%	0.28231%	0.26667%

Annual Billed kW				
Year	GS>50 kW	Street Lights	Sentinel Lights	Total
2005	321,664	4,685	560	326,909
2006	332,145	4,779	555	337,479
2007	356,488	4,779	524	361,790
2008	353,530	4,770	500	358,800
2009	342,070	4,770	481	347,322
2010	425,205	4,792	459	430,455
2011	451,104	4,794	437	456,335

Results of Prediction Model:

The prediction formula from the regression analysis has the following statistical result which generally indicates the formula has a very good fit to the actual data set.

Regression Statistics	
Multiple R	0.95
R Square	0.91
Adjusted R Square	0.90
Observations	60

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	t Stat
Intercept	-1
Heating Degree Days	9
Cooling Degree Days	10
GS>50kW Flag for 2006	9
Number of Days in Month	3
Ontario Real GDP Monthly %	2
CDM Activity	-1.8

Prediction Results and Actual Data Comparison:

The annual results of the above prediction formula compared to the actual annual purchases from 2005 to 2009 are shown in the table below.

Brant County Power-Weather Normalized Load Forecast							
	2005	2006	2007	2008	2009	2010	2011
Actual kWh Purchases	236,756,080	242,722,450	306,747,610	297,492,850	285,044,124		
Predicted kWh Purchases	237,105,183	241,529,155	303,227,205	298,065,175	288,836,397	293,500,326	292,363,223
% Difference	0.147%	-0.492%	-1.148%	0.1924%	1.330%		
Billed kWh	221,115,207	221,518,681	287,802,804	281,438,922	271,310,355	274,447,754	273,384,466

The weather normalized forecast amount for 2010 and 2011 is determined by using dependant variables in the prediction formula on a monthly basis.

	Actual
	Predicted

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Follow up to VECC TC 3d

UNDERTAKING NO. JT1.1: TO EXPLAIN WHETHER CDM VARIABLE USED IN REGRESSION ANALYSIS REPRESENTED MONTHLY SAVINGS FROM PROGRAMS IMPLEMENTED FOR THE YEAR IN QUESTION, OR WHETHER IT WAS MONTHLY SAVINGS FOR THE PROGRAMS PLUS CARRY-OVER OF PERSISTING PROGRAMS FROM PREVIOUS YEARS, AND IF IT REPRESENTED ONLY YEAR IN QUESTION, EXPLAIN WHY IT IS MORE APPROPRIATE THAN ONE REPRESENTING ALL SAVINGS ACHIEVED TO DATE.

The annual CDM results shown in the table below is obtained from the OPA file for the year 2006 to 2010. These are final results which consider carry-over amounts from CDM programs of persisting previous years as well as results from the year in question. For example, 2007 Annual CDM results considers 2006 results plus 2007 to give 1,407,266.18

For CDM Activity Calculation-Using most up-to-date OPA file					
Month	CDM Activity Variable	Month	CDM Activity Variable	Month	CDM Activity Variable
Jan-06	10,675.48	Jan-07	126,439.09	Jan-08	127,851.45
Feb-06	21,350.97	Feb-07	124,772.38	Feb-08	147,597.63
Mar-06	32,026.45	Mar-07	123,105.67	Mar-08	167,343.82
Apr-06	42,701.93	Apr-07	121,438.96	Apr-08	187,090.00
May-06	53,377.42	May-07	119,772.25	May-08	206,836.18
Jun-06	64,052.90	Jun-07	118,105.54	Jun-08	226,582.36
Jul-06	74,728.38	Jul-07	116,438.83	Jul-08	246,328.54
Aug-06	85,403.87	Aug-07	114,772.12	Aug-08	266,074.72
Sep-06	96,079.35	Sep-07	113,105.40	Sep-08	285,820.90
Oct-06	106,754.83	Oct-07	111,438.69	Oct-08	305,567.08
Nov-06	117,430.32	Nov-07	109,771.98	Nov-08	325,313.26
Dec-06	128,105.80	Dec-07	108,105.27	Dec-08	345,059.45
Jan-09	360,614.76	Jan-10	506,870.78	Jan-11	216,725.18
Feb-09	376,170.08	Feb-10	482,018.29	Feb-11	199,956.96
Mar-09	391,725.40	Mar-10	457,165.80	Mar-11	183,188.75
Apr-09	407,280.72	Apr-10	432,313.31	Apr-11	166,420.54
May-09	422,836.04	May-10	407,460.82	May-11	149,652.32
Jun-09	438,391.36	Jun-10	382,608.33	Jun-11	132,884.11
Jul-09	453,946.67	Jul-10	357,755.84	Jul-11	116,115.89
Aug-09	469,501.99	Aug-10	332,903.35	Aug-11	99,347.68
Sep-09	485,057.31	Sep-10	308,050.86	Sep-11	82,579.46
Oct-09	500,612.63	Oct-10	283,198.37	Oct-11	65,811.25
Nov-09	516,167.95	Nov-10	258,345.88	Nov-11	49,043.04
Dec-09	531,723.27	Dec-10	233,493.39	Dec-11	32,274.82
Year	TOTAL ANNUAL CDM RESULTS	Increase over Previous year (kWh)	Rate	Year	Value
2006	832,687.71	832,687.70990	10,675.48	2006	1,537,269.62
2007	1,407,266.18	- 130,003.44	- 1,666.71	2007	1,297,263.27
2008	2,837,465.40	1,540,202.12	19,746.18	2008	4,140,713.35
2009	5,354,028.19	1,213,314.84	15,555.32	2009	6,380,679.20
2010	4,442,185.01	- 1,938,494.19	- 24,852.49	2010	2,801,920.70
2011-2014 (GWh)	9.85	-	-	2011	387,297.87
2011	1,494,000.00	- 1,307,920.70	- 16,768.21		
CDM Results for 2006-2009 is obtained from OPA Conservation file provided by Brant County Power.					
The Rate is obtained by taking the value in 'Increase over previous year (kWh)' x 'Constan Number (=78					
'Increase over previous year (kWh)' is obtained by taking the 'Total Annual CDM Results' - 'value'					
For example, 2007 'Increase over previous year (kWh)' = 2007 'Total Annual CDM Results' - 2006 'Value'					

Follow up to VECC TC 3d

UNDERTAKING NO. JT1.2: TO EXPLAIN WHETHER UPDATED TABLE IN PART (D) SHOWS ACTUAL SAVINGS ACHIEVED OR WHETHER IT SHOWS EXPECTED ANNUALIZED VALUE IF PROGRAMS HAD BEEN IN PLACE FOR THE FULL YEAR.

THE TABLE IN PART (D) OF THE VECC TC3D RESPONSE SHOWS THE ACTUAL REPORTED FINAL SAVINGS OF THE CDM PROGRAMS FOR THE YEAR IN QUESTION. FOR EXAMPLE, THE 2006 RESULTS OF 832,687.71 IS ACTUAL OPA CDM FINAL RESULTS.

Follow up to VECC TC 3h

UNDERTAKING NO. JT1.3: TO RECONCILE UPDATED CDM SAVINGS WITH AMOUNTS FROM BRANT COUNTY POWER INC. CONSERVATION DEMAND MANAGEMENT 2011 TO 2014 STRATEGY FILING.

For CDM Activity Calculation-Using most up-to-date OPA file					
Month	CDM Activity Variable	Month	CDM Activity Variable	Month	CDM Activity Variable
Jan-06	10,675.48	Jan-07	126,439.09	Jan-08	127,851.45
Feb-06	21,350.97	Feb-07	124,772.38	Feb-08	147,597.63
Mar-06	32,026.45	Mar-07	123,105.67	Mar-08	167,343.82
Apr-06	42,701.93	Apr-07	121,438.96	Apr-08	187,090.00
May-06	53,377.42	May-07	119,772.25	May-08	206,836.18
Jun-06	64,052.90	Jun-07	118,105.54	Jun-08	226,582.36
Jul-06	74,728.38	Jul-07	116,438.83	Jul-08	246,328.54
Aug-06	85,403.87	Aug-07	114,772.12	Aug-08	266,074.72
Sep-06	96,079.35	Sep-07	113,105.40	Sep-08	285,820.90
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Nov-06	117,430.32	Nov-07	109,771.98	Nov-08	325,313.26
Dec-06	128,105.80	Dec-07	108,105.27	Dec-08	345,059.45
Jan-09	360,614.76	Jan-10	506,870.78	Jan-11	216,725.18
Feb-09	376,170.08	Feb-10	482,018.29	Feb-11	199,956.96
Mar-09	391,725.40	Mar-10	457,165.80	Mar-11	183,188.75
Apr-09	407,280.72	Apr-10	432,313.31	Apr-11	166,420.54
May-09	422,836.04	May-10	407,460.82	May-11	149,652.32
Jun-09	438,391.36	Jun-10	382,608.33	Jun-11	132,884.11
Jul-09	453,946.67	Jul-10	357,755.84	Jul-11	116,115.89
Aug-09	469,501.99	Aug-10	332,903.35	Aug-11	99,347.68
Sep-09	485,057.31	Sep-10	308,050.86	Sep-11	82,579.46
Oct-09	500,612.63	Oct-10	283,198.37	Oct-11	65,811.25
Nov-09	516,167.95	Nov-10	258,345.88	Nov-11	49,043.04
Dec-09	531,723.27	Dec-10	233,493.39	Dec-11	32,274.82
Year	TOTAL ANNUAL CDM RESULTS	Increase over Previous year (kWh)	Rate	Year	Value
2006	832,687.71	832,687.70990	10,675.48	2006	1,537,269.62
2007	1,407,266.18	- 130,003.44	- 1,666.71	2007	1,297,263.27
2008	2,837,465.40	1,540,202.12	19,746.18	2008	4,140,713.35
2009	5,354,028.19	1,213,314.84	15,555.32	2009	6,380,679.20
2010	4,442,185.01	- 1,938,494.19	- 24,852.49	2010	2,801,920.70
2011-2014 (GWh)	9.85	-	-	2011	387,297.87
2011	1,494,000.00	- 1,307,920.70	- 16,768.21		

CDM Results for 2006-2009 is obtained from OPA Conservation file provided by Brant County Power.

The Rate is obtained by taking the value in 'Increase over previous year (kWh)' x 'Constan Number (=78
'Increase over previous year (kWh)' is obtained by taking the 'Total Annual CDM Results' - 'value'

For example, 2007 'Increase over previous year (kWh)' = 2007 'Total Annual CDM Results' - 2006 'Value'

UNDERTAKING NO. JT1.3

Year	Month	Heating Degree Days	Cooling Degree Days	Ontario Real GDP Monthly %	Number of Days/Month	GS>50kW Flag for 2006	CDM Activity Variable	Predicted Purchase kWh	Total Predicted Purchase kWh
2010	Jan	742	0	135	31	1	506,871	25,888,450	293,705,148
	Feb	667	0	135	28	1	482,018	24,308,562	
	Mar	560	0	136	31	1	457,166	24,967,566	
	Apr	332	0	136	30	1	432,313	23,302,655	
	May	179	9	137	31	1	407,461	23,259,308	
	June	37	56	137	30	1	382,608	24,103,029	
	July	5	90	137	31	1	357,756	25,786,506	
	Aug	12	72	138	31	1	332,903	25,148,773	
	Sep	63	19	138	30	1	308,051	22,872,723	
	Oct	261	3	138	31	1	283,198	23,826,587	
	Nov	413	0	139	30	1	258,346	24,262,187	
	Dec	627	0	139	31	1	233,493	25,978,803	
2011	Jan	742	0	139	31	1	216,725	26,695,748	302,006,799
	Feb	667	0	140	28	1	199,957	25,094,927	
	Mar	560	0	140	31	1	183,189	25,732,978	
	Apr	332	0	140	30	1	166,421	24,047,096	
	May	179	9	140	31	1	149,652	23,982,756	
	June	37	56	141	30	1	132,884	24,805,466	
	July	5	90	141	31	1	116,116	26,467,911	
	Aug	12	72	141	31	1	99,348	25,809,126	
	Sep	63	19	142	30	1	82,579	23,512,004	
	Oct	261	3	142	31	1	65,811	24,444,776	
	Nov	413	0	142	30	1	49,043	24,859,263	
	Dec	627	0	142	31	1	32,275	26,554,748	

THIS A NEW QUESTION WHICH SHOULD HAVE BEEN SENT TO YOU PREVIOUSLY – OUR APOLOGIES

UNDERTAKING NO. JT1.5: TO PROVIDE RESPONSE TO VECC TECHNICAL CONFERENCE QUESTION NO. 11(D). PROVIDE A REVISED LOAD FORECAST CDM REDUCTION CALCULATION FOR THE HISTORIC PERIOD (I.E., UPDATE RESPONSE TO VECC #4 E))(ORIGINAL IRS), RE-ESTIMATE THE REGRESSION MODEL AND REVISE THE LOAD FORECAST USING THE NEW MODEL. PLEASE INDICATE THE INPUT ASSUMPTIONS USED FOR 2010 AND 2011 FOR GDP FOR PURPOSES OF THE RESPONSE.

UNDERTAKING NO. JT1.5

NOTE: THE CDM ACTIVITY VARIABLE SHOWN IN THE TABLE BELOW HAS BEEN REVISED TO REFLECT THE 2011-2014 CDM STRATEGY.

THE GDP ASSUMPTIONS USED FOR 2010 AND 2011 ARE THOSE PROVIDED BY ENERGY PROBE IN THE INITIAL RESPONSE.

For CDM Activity Calculation-Using most up-to-date OPA file					
Month	CDM Activity Variable	Month	CDM Activity Variable	Month	CDM Activity Variable
Jan-06	10,675.48	Jan-07	126,439.09	Jan-08	127,851.45
Feb-06	21,350.97	Feb-07	124,772.38	Feb-08	147,597.63
Mar-06	32,026.45	Mar-07	123,105.67	Mar-08	167,343.82
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May-09	422,836.04	May-10	407,460.82	May-11	149,652.32
Jun-09	438,391.36	Jun-10	382,608.33	Jun-11	132,884.11
Jul-09	453,946.67	Jul-10	357,755.84	Jul-11	116,115.89
Aug-09	469,501.99	Aug-10	332,903.35	Aug-11	99,347.68
Sep-09	485,057.31	Sep-10	308,050.86	Sep-11	82,579.46
Oct-09	500,612.63	Oct-10	283,198.37	Oct-11	65,811.25
Nov-09	516,167.95	Nov-10	258,345.88	Nov-11	49,043.04
Dec-09	531,723.27	Dec-10	233,493.39	Dec-11	32,274.82
Year	TOTAL ANNUAL CDM RESULTS	Increase over Previous year (kWh)	Rate	Year	Value
2006	832,687.71	832,687.70990	10,675.48	2006	1,537,269.62
2007	1,407,266.18	- 130,003.44	- 1,666.71	2007	1,297,263.27
2008	2,837,465.40	1,540,202.12	19,746.18	2008	4,140,713.35
2009	5,354,028.19	1,213,314.84	15,555.32	2009	6,380,679.20
2010	4,442,185.01	- 1,938,494.19	- 24,852.49	2010	2,801,920.70
2011-2014 (GWh)	9.85	-	-	2011	387,297.87
2011	1,494,000.00	- 1,307,920.70	- 16,768.21		

CDM Results for 2006-2009 is obtained from OPA Conservation file provided by Brant County Power.

The Rate is obtained by taking the value in 'Increase over previous year (kWh)' x 'Constan Number (=78
'Increase over previous year (kWh)' is obtained by taking the 'Total Annual CDM Results' - 'value'
For example, 2007 'Increase over previous year (kWh)' = 2007 'Total Annual CDM Results' - 2006 'Value

UNDERTAKING NO. JT1.5

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.9542478							
R Square	0.910588865							
Adjusted R Square	0.900466849							
Standard Error	956102.0214							
Observations	60							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	6	4.93418E+14	8.224E+13	89.96122	5.33054E-26			
Residual	53	4.84489E+13	9.141E+11					
Total	59	5.41867E+14						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-2064695.368	11585405.96	-0.1782152	0.859233	-25302076.44	21172685.7	-25302076.4	21172685.7
Heating Degree Days	5825.392603	667.7952961	8.7233208	7.97E-12	4485.964893	7164.820313	4485.964893	7164.820313
Cooling Degree Days	42160.67453	4519.827082	9.3279397	9.05E-13	33095.04967	51226.29939	33095.04967	51226.29939
Ontario Real GDP Monthly %	46935.78587	80405.36067	0.5837395	0.561872	-114336.9406	208208.5123	-114336.941	208208.5123
Number of Days/Month	405042.1252	153616.9016	2.6367029	0.01096	96925.64714	713158.6032	96925.64714	713158.6032
GS>50kW Flag for 2006	5794767.126	606422.085	9.5556664	4.02E-13	4578438.486	7011095.766	4578438.486	7011095.766
CDM Activity Variable	-2.089978377	1.166028143	-1.792391	0.078779	-4.4287346	0.248777847	-4.4287346	0.248777847

Year	Month	Heating Degree Days	Cooling Degree Days	Ontario Real GDP Monthly %	Number of Days/Month	GS>50kW Flag for 2006	CDM Activity Variable	Predicted Purchase kWh	Total Predicted Purchase kWh
2010	Jan	742	0	135	31	1	506,871	25,888,450	293,705,148
	Feb	667	0	135	28	1	482,018	24,308,562	
	Mar	560	0	136	31	1	457,166	24,967,566	
	Apr	332	0	136	30	1	432,313	23,302,655	
	May	179	9	137	31	1	407,461	23,259,308	
	June	37	56	137	30	1	382,608	24,103,029	
	July	5	90	137	31	1	357,756	25,786,506	
	Aug	12	72	138	31	1	332,903	25,148,773	
	Sep	63	19	138	30	1	308,051	22,872,723	
	Oct	261	3	138	31	1	283,198	23,826,587	
	Nov	413	0	139	30	1	258,346	24,262,187	
	Dec	627	0	139	31	1	233,493	25,978,803	
2011	Jan	742	0	139	31	1	216,725	26,695,748	302,006,799
	Feb	667	0	140	28	1	199,957	25,094,927	
	Mar	560	0	140	31	1	183,189	25,732,978	
	Apr	332	0	140	30	1	166,421	24,047,096	
	May	179	9	140	31	1	149,652	23,982,756	
	June	37	56	141	30	1	132,884	24,805,466	
	July	5	90	141	31	1	116,116	26,467,911	
	Aug	12	72	141	31	1	99,348	25,809,126	
	Sep	63	19	142	30	1	82,579	23,512,004	
	Oct	261	3	142	31	1	65,811	24,444,776	
	Nov	413	0	142	30	1	49,043	24,859,263	
	Dec	627	0	142	31	1	32,275	26,554,748	

UNDERTAKING NO. JT1.6: TO PROVIDE CDM VALUES USED TO MAKE ADJUSTMENT FOR BULLET POINT NUMBER 1, VECC TECHNICAL CONFERENCE QUESTION NO. 4 (A).

For CDM Activity -Using LRAM Calculation							
Month	CDM Activity Variable	Month	CDM Activity Variable	Month	CDM Activity Variable	Month	CDM Activity Variable
Jan-05	9,830.72	Jan-06	154,498.91	Jan-07	556,937.09	Jan-08	607,610.11
Feb-05	19,661.44	Feb-06	191,029.20	Feb-07	557,542.09	Feb-08	651,628.15
Mar-05	29,492.15	Mar-06	227,559.49	Mar-07	558,147.09	Mar-08	695,646.19
Apr-05	39,322.87	Apr-06	264,089.78	Apr-07	558,752.09	Apr-08	739,664.23
May-05	49,153.59	May-06	300,620.07	May-07	559,357.09	May-08	783,682.27
Jun-05	58,984.31	Jun-06	337,150.36	Jun-07	559,962.08	Jun-08	827,700.31
Jul-05	68,815.03	Jul-06	373,680.64	Jul-07	560,567.08	Jul-08	871,718.35
Aug-05	78,645.74	Aug-06	410,210.93	Aug-07	561,172.08	Aug-08	915,736.39
Sep-05	88,476.46	Sep-06	446,741.22	Sep-07	561,777.08	Sep-08	959,754.43
Oct-05	98,307.18	Oct-06	483,271.51	Oct-07	562,382.08	Oct-08	1,003,772.47
Nov-05	108,137.90	Nov-06	519,801.80	Nov-07	562,987.08	Nov-08	1,047,790.51
Dec-05	117,968.62	Dec-06	556,332.09	Dec-07	563,592.07	Dec-08	1,091,808.55
Jan-09	1,101,419.62	Jan-10	1,078,378.41	Jan-11	-466,777.21		
Feb-09	1,111,030.69	Feb-10	949,615.44	Feb-11	-595,540.18		
Mar-09	1,120,641.76	Mar-10	820,852.47	Mar-11	-724,303.15		
Apr-09	1,130,252.83	Apr-10	692,089.51	Apr-11	-853,066.11		
May-09	1,139,863.90	May-10	563,326.54	May-11	-981,829.08		
Jun-09	1,149,474.97	Jun-10	434,563.57	Jun-11	-1,110,592.05		
Jul-09	1,159,086.03	Jul-10	305,800.60	Jul-11	-1,239,355.02		
Aug-09	1,168,697.10	Aug-10	177,037.63	Aug-11	-1,368,117.99		
Sep-09	1,178,308.17	Sep-10	48,274.66	Sep-11	-1,496,880.96		
Oct-09	1,187,919.24	Oct-10	-80,488.30	Oct-11	-1,625,643.92		
Nov-09	1,197,530.31	Nov-10	-209,251.27	Nov-11	-1,754,406.89		
Dec-09	1,207,141.38	Dec-10	-338,014.24	Dec-11	-1,883,169.86		
Year	TOTAL ANNUAL CDM RESULTS	Increase over Previous year (kWh)	Rate	Year	Value		
2005	766,796	766,796	9,830.72	2005	1,415,623.38		
2006	4,264,986.00	2,849,362.61538	36,530.29	2006	6,763,104.88		
2007	6,723,175.00	47,189.86	605.00	2007			
2008	10,196,512.00	3,433,407.12	44,018.04	2008	13,101,702.64		
2009	13,851,366.00	749,663.36	9,611.07	2009	14,485,696.54		
2010	4,442,185.01	10,043,511.52	128,762.97	2010	4,056,170.89		
2011-2014 (GWh)	9.85			2011	22,598,038.32		
2011	2,462,500.00	6,518,670.89	83,572.70				
CDM Results for 2005-2009 is obtained from LRAM file provided by Brant County Power.							
The Rate is obtained by taking the value in 'Increase over previous year (kWh)' x 'Constan Number (=78)'							
'Increase over previous year (kWh)' is obtained by taking the 'Total Annual CDM Results' - 'value'							
For example, 2007 'Increase over previous year (kWh)' = 2007 ` Total Annual CDM Results` - 2006 `Value`							

Follow up to EP TC 9

UNDERTAKING NO. JT1.10: TO RERUN EQUATION IN RESPONSE TO ENERGY PROBE QUESTION NO. 9, EXCLUDING CDM VARIABLE, AND PROVIDE COEFFICIENTS AND 2011 FORECAST BASED ON HIGHER GDP FIGURES FROM ENERGY PROBE QUESTIONS.

Year	Month	Heating Degree Days	Cooling Degree Days	Ontario Real GDP Monthly %	Number of Days/Month	GS>50kW Flag for 2006	Predicted Purchase kWh (With New Economic Growth Rate)	Total Predicted kWh Purchase
2010	Jan	741.59	0.00	135.11	31	1	26,312,592.39	295,550,662.59
	Feb	667.16	0.00	135.47	28	1	24,718,459.44	
	Mar	559.87	0.00	135.83	31	1	25,265,656.18	
	Apr	331.77	0.00	136.19	30	1	23,507,433.81	
	May	179.17	8.81	136.55	31	1	23,383,567.75	
	June	37.40	56.39	136.91	30	1	24,254,223.71	
	July	5.24	89.51	137.28	31	1	25,943,625.13	
	Aug	12.11	71.80	137.64	31	1	25,240,833.70	
	Sep	63.37	18.70	138.01	30	1	22,860,365.19	
	Oct	261.30	2.73	138.38	31	1	23,800,581.62	
	Nov	413.47	0.00	138.75	30	1	24,262,188.41	
	Dec	626.73	0.00	139.12	31	1	26,001,135.26	
2011	Jan	741.59	0.00	139.39	31	1	26,734,663.94	300,046,632.78
	Feb	667.16	0.00	139.66	28	1	25,132,050.59	
	Mar	559.87	0.00	139.94	31	1	25,670,725.54	
	Apr	331.77	0.00	140.21	30	1	23,903,939.81	
	May	179.17	8.81	140.49	31	1	23,771,468.70	
	June	37.40	56.39	140.76	30	1	24,633,477.76	
	July	5.24	89.51	141.04	31	1	26,314,190.29	
	Aug	12.11	71.80	141.31	31	1	25,602,667.81	
	Sep	63.37	18.70	141.59	30	1	23,213,425.97	
	Oct	261.30	2.73	141.87	31	1	24,144,826.61	
	Nov	413.47	0.00	142.15	30	1	24,597,575.02	
	Dec	626.73	0.00	142.43	31	1	26,327,620.74	

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.951403747							
R Square	0.90516909							
Adjusted R Square	0.89638845							
Standard Error	975493.6493							
Observations	60							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	5	4.90481E+14	9.81E+13	103.0869	2.3336E-26			
Residual	54	5.13857E+13	9.52E+11					
Total	59	5.41867E+14						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-8750164.897	11191025.95	-0.78189	0.437694	-31186820.89	13686491.1	-31186820.89	13686491.09
Heating Degree Days	6152.111092	655.4660626	9.385858	6.14E-13	4837.980767	7466.24142	4837.980767	7466.241416
Cooling Degree Days	44093.38851	4478.344207	9.845913	1.18E-13	35114.84902	53071.928	35114.84902	53071.928
Ontario Real GDP Monthly %	98608.03041	76581.86386	1.287616	0.203371	-54929.36128	252145.422	-54929.36128	252145.4221
Number of Days/Month	390562.6944	156515.6894	2.495358	0.015671	76767.63255	704357.756	76767.63255	704357.7562
GS>50kW Flag for 2006	5070275.59	461238.4446	10.99274	2.16E-15	4145548.191	5995002.99	4145548.191	5995002.988

VECC Question # 2

Reference: Appendix F, LRAM Filing, IndEco Report

- a. Confirm that savings for EKC 2006 Mass Market measures 13-15 W Energy Star CFLs & Seasonal LEDs are not included in the LRAM claim.**

BCP Response

BCP confirms that savings for EKC 2006 Mass Market measures 13-15 W Energy Star CFLs & Seasonal LEDs are not included in the LRAM claim.

- b. Adjust the LRAM claim as necessary to reflect the measure lives and unit savings for any/all measures that have expired beginning in 2010.**

BCP Response

No adjustments to the current LRAM claim are needed in order to reflect measure lives (and unit savings) for measures that have expired starting in 2010.

The current LRAM claim already accounts for any measures that have expired before the full span of the LRAM claim. LRAM is calculated over the individual measures lives of each measure. For example, if a measure installed in 2010 had a measure life of only 1 year, LRAM was only claimed for that measure for 2010.

- c. Please revise Table 2 to show the cumulative net program energy savings and demand savings by rate class for each year.**

BCP Response

Table 2 in IndEco's report was been revised to include net energy and demand savings by rate class for each year of the LRAM claim. Note that while energy and demand savings are claimed in 2011 and the first third of 2012, these savings are persistent savings from programs launched in 2010, not from programs launched in 2011 or 2012.

Program	Savings occurring in:	Residential (kWh)	GS < 50 kW (kWh)	GS > 50 kW (kW-mo)
2010 Cool Savings Rebate	2010	58,066		
	2011	58,066		
	Jan 1 to Apr 30 2012	19,355		
2010 Electricity Retrofit Incentive Program (ERIP)	2010		108,341	364
	2011		108,341	364
	Jan 1 to Apr 30 2012		36,114	91
2010 Every Kilowatt Counts Power Savings Event	2010	40,493		
	2011	40,493		
	Jan 1 to Apr 30 2012	13,498		
2010 Great Refrigerator Roundup	2010	120,748		
	2011	120,748		
	Jan 1 to Apr 30 2012	40,249		
2010 High Performance New Construction	2010		77,033	
	2011		77,033	
	Jan 1 to Apr 30 2012		25,678	
2010 Multifamily Energy Efficiency Rebates	2010		8,611	
	2011		8,611	
	Jan 1 to Apr 30 2012		2,870	
2010 peaksaver®	2010	254		
	2011	254		
	Jan 1 to Apr 30 2012	85		
2010 Power Savings Blitz	2010		284,082	
	2011		284,082	
	Jan 1 to Apr 30 2012		94,694	
Total		512,309	1,115,490	820

- d. Please revise Table 5 to show the summary of requested LRAM amounts by rate class for each year.

BCP Response

Table 5 in IndEco's report has been revised to include LRAM claims by rate class for each year of the LRAM claim. Note that while LRAM is claimed in 2011 and the first third of 2012, these LRAM claims arise from persistent savings from programs launched in 2010, not from programs launched in 2011 or 2012. The revised table below reflects the updated LRAM claim amount of \$34,658.

Program	Lost revenue occurring in:	Residential (kWh)	GS < 50 kW (kWh)	GS > 50 kW (kW-mo)
2010 Cool Savings Rebate	2010	\$1,286		
	2011	\$1,396		
	Jan 1 to Apr 30 2012	\$461		
2010 Electricity Retrofit Incentive Program (ERIP)	2010		\$1,866	\$1,963
	2011		\$1,868	\$1,214
	Jan 1 to Apr 30 2012		\$617	\$401
2010 Every Kilowatt Counts Power Savings Event	2010	\$897		
	2011	\$973		
	Jan 1 to Apr 30 2012	\$321		
2010 Great Refrigerator Roundup	2010	\$2,674		
	2011	\$2,902		
	Jan 1 to Apr 30 2012	\$959		
2010 High Performance New Construction	2010		\$1,327	
	2011		\$1,328	
	Jan 1 to Apr 30 2012		\$439	
2010 Multifamily Energy Efficiency Rebates	2010		\$148	
	2011		\$148	
	Jan 1 to Apr 30 2012		\$49	
2010 peaksaver®	2010	\$5		
	2011	\$6		
	Jan 1 to Apr 30 2012	\$2		
2010 Power Savings Blitz	2010		\$4,893	
	2011		\$4,897	
	Jan 1 to Apr 30 2012		\$1,618	
Total		\$11,882	\$19,199	\$3,577

VECC Question # 3

Reference: Appendix F, LRAM Filing, IndEco Report

Preamble: The most recently published OPA 2010 Final CDM Results Summary released September 16, 2011 were used to calculate LRAM amounts.

- a. When does Brant County Power expect to receive the OPA 2010 Final CDM Results Detailed that provides the input assumptions at the measure level?**
- b. How will these results impact the LRAM claim?**

BCP Response

BCP has received the OPA 2010 Final CDM results – a copy of which is attached. It is expected that the impact to the LRAM claim are immaterial.

VECC Question # 4

Reference: Appendix F, LRAM Filing, IndEco Report

- a. Please provide the rationale for seeking an LRAM claim for lost revenue for 2010 OPA CDM programs from January 1, 2011 to April 30, 2012 given that OPA verified results are not available for 2011 or 2012.**

BCP Response

The requested lost revenues in 2011 and the first four months of 2012 are associated with verified savings arising from programs that were delivered in 2010. BCP is **not** requesting recovery of lost revenue associated with unverified programs delivered in 2011, or unverified programs delivered between January 1 and April 30 2012. BCP is requesting LRAM for the period in question in order to remain revenue neutral with respect to 2010 programs.

A distinction must be made between lost revenue in 2011 due to programs delivered in 2011, and lost revenue in 2011 due to programs delivered in earlier years. A program will lead to energy savings, and thus lost revenues, that will persist over the lifetime of the program's measures. For example, if a 2010 program consists of a measure with a lifetime of two years, the program will lead to lost revenues each year until the end of 2011. This would be unrelated to lost revenue due to a program delivered in 2011.

The use of a program's verified results extending over multiple years is standard for the calculation of an LRAM claim. This approach is consistent with numerous Board-approved LRAM claims, including Burlington Hydro Inc.'s previous LRAM claims (Decision on EB-2010-0067 dated March 17, 2011; Decision on EB-2009-0259 dated March 1, 2010), as well as decisions on other LRAM claims (Decision on Middlesex Power Distribution's LRAM claim EB-2010-0098 dated March 17, 2011; Decision on Norfolk Power Distribution's LRAM claim EB-2011-0046 dated May 6, 2011; Decision on Hydro One Brampton's LRAM claim EB-2010-0132 dated April 4, 2011).

b. Please update the LRAM rate riders for lost revenue to the end of 2010.

BCP Response

- a. Rate riders reflecting an LRAM claim for lost revenue only up to the end of 2010 are provided below. BCP does not believe that these rate riders are appropriate since they do not account for revenue lost from 2010 OPA program between January 1 2011 and April 30 2012. As such, the rate riders would not keep BCP revenue neutral with respect to 2010 OPA programs.

Customer class	LRAM amounts	Loss adjusted billing determinants	Proposed LRAM rate rider	
Residential	\$4,862	90,449,643	\$0.0001	per kWh (rounded to 4 decimal places)
GS < 50 kW	\$8,235	40,398,655	\$0.0002	per kWh (rounded to 4 decimal places)
GS 50 to 4,999 kW (all sub-classes)	\$1,963	340,236	\$0.0058	per kW (rounded to 4 decimal places)