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7.0 Cost Allocation

7.1 Cost Allocation

7.1.1 Cost Allocation Study Requirements

Overview

BPI's Cost Allocation filing follows the cost allocation policies outlined in the Board's report of March 31, 2011 *Review of Electricity Distribution Cost Allocation Policy* (EB-2010-0219) (the "Cost Allocation Report").

A completed cost allocation study using the Board approved model (version 3.3) has been filed in MS Excel format (2016_Cost_Allocation_Model_FINAL).

BPI has used the load profiles provided by Hydro One scaled to match the load forecast as it relates to the respective rate classes.

The 2017 weather-normalized forecast has been modeled based on the Hydro One load profiles by rate classification provided for the initial cost allocation study and the coincident and non-coincident peaks for each classification have been recalculated. The financial data is consistent with the 2017 rate application.

The results of the Model for the 2017 Test Year, along with the proposed ratios are presented in this Exhibit, in Attachment 7-A: Cost Allocation – Appendix 2-P, and Attachment 7-B.

For the purpose of this Application, BPI has followed the cost allocation policies outlined in the Cost Allocation Report and used the 2016 version of the Cost Allocation Model. BPI's cost allocation study is based on 2017 test year costs, customer numbers and consumption and demand values. The 2017 demand values are based on the weather-normalized load forecast used to design rates.

7.1.2 Cost Allocation Model Inputs/Weighting Factors

On September 2, 2010 the Board began proceeding EB-2010-0219 with the mandate to review and revise the existing cost allocation policy as needed. On March 31, 2011 the Report of the Board called the *Review of Electricity Distribution Cost Allocation Policy* (the "March 31, 2011 Cost Allocation Report") was released in relation to EB-2010-0219. In the March 31, 2011 Cost Allocation Report, the Board stated, "default weighting factors should now be utilized only in exceptional circumstances". Distributors are therefore now expected to develop their own weighting factors as part of their cost allocation study.

Weighting Factors for Services and Billing and Collecting (Sheet I5.2)

Services (Account 1855)

The services weighting factors were kept consistent with those used in BPI's 2013 Cost of Service Application. The Services Weight Factors was derived by comparing the cost of a typical service drop in each customer class. BPI does not record the cost of service drops for USL, Street Lighting, Sentinel Lighting or Embedded Distributor in account 1855. This practice has resulted in a services weighting factor of 0 for those classes. Further, BPI does not record the cost of service drops on underground General Service assets in 1855. This has been reflected in the services weighting factor calculation for those classes.

For each class, BPI calculated a separate typical service drop cost for overhead and underground assets. The next step consisted of computing the expected proportion of underground and overhead service drops in each customer class. A weighted average cost for each class was evaluated using these factors. As per the suggested methodology on the Cost Allocation instruction sheet, the Residential class was set as a weighting factor of 1. The General Service weighting factors were determined by dividing their respective weighted average service drop cost per customer by the residential weighted average cost on a per customer basis.

Table 7.1-A summarizes the assigned service weighting factors for each rate class.

Table 7.1-A – Weighting Factors for Services

Rate Class	Weighting Factors for Services
Residential	1
GS <50	0.6
GS>50-Regular	0.7
Street Light	0
Sentinel	0
Unmetered Scattered Load	0
Embedded Distributor	0

Billing and Collection (Accounts 5315-5340, excluding 5335)

BPI has applied the same Billing and Collection Weight factors which supported the cost allocation in BPI's 2013 Cost of Service Rate Application (EB-2012-0109). These weighting factors were derived based on internal consultations regarding the level of effort and time necessary for billing and collecting activities for each type of customer. One of the high-cost elements in billing and collecting is the level of effort and time associated with interval accounts, as there is a greater focus on the accuracy of billing.

For rate classes in which a number of accounts may be consolidated on one bill, the weighting factor has been left at 1. This reflects the observation that minimal additional effort is required to consolidate the billing.

The weighting factors applied to Billing and Collecting costs are set out in Table 7.1-B below.

Table 7.1-B – Weighting Factors for Billing and Collecting

Rate Class	Weighting Factors for Billing and Collecting
Residential	1
GS <50	2
GS>50-Regular	8
Street Light	1
Sentinel	1
Unmetered Scattered Load	1
Embedded Distributor	1

Meter Capital (Sheet I7.1)

The purpose of this input is to derive the weighting factors of each customer class for the allocator CMWC (Cost Weighted Meter Capital) which is used to allocate accounts 1860 (Meters), 5065 (Meter Expense), and 5175 (Maintenance).

The meter capital costs per meter were calculated based on the actual installed cost of the meters in BPI's service area.

The meter capital costs per meter are presented below in Table 7.1-C.

Table 7.1-C – Cost per Meter Type

Meter Type	Cost per Meter
Single Phase 200 Amp - Urban	$ 209.00
Central Meter	$ 387.00
Three-phase - No demand	$ 665.00
Smart Meters	$ 159.00
Demand without IT (usually three-phase)	$ 328.00
Demand with IT	$ 1,386.00
Demand with IT and Interval Capability - Secondary	$ 2,698.00
Demand with IT and Interval Capability - Primary	$ 18,220.00
Smart Meters - Network	$ 264.00
Smart Meters - three phase - no demand	$ 900.00
Generator meter, bidirectional	$ 910.00

Meter Reading (Sheet I7.2)

The purpose of this input is to derive the weighting factors for the allocator CWMR (Cost Weighted Meter Reading), which is used only to allocate costs that are recorded in Account 5310 Meter Reading Expenses.

BPI has three methods of meter reading used for its customers. The large majority are Smart Meter reads which are automated and very straight-forward. There are also some conventional meters left in the General Service classes which require in-field reads. These meter reads require relatively greater cost per unit cost than smart meter reads. Lastly, interval reading costs are more costly on per-unit bases than either of the other meter reading types. BPI's weight factors for Meter Reading are based on

an allocation of the costs associated with each type of meter reading (for example, MV90 data collection costs are attributed to the interval-read customers).

The Meter Reading Weighting Factors are set out in Table 7.1-D below

Table 7.1-D – Meter Reading Weighting Factors

Meter Type	Reading Weighting Factor
Smart Meters	1
GS - Vehicle with other Services	7
Interval	23

Direct Allocation (Sheet I9)

BPI has not directly allocated any costs to specific rate classes.

Embedded Distributor Class

BPI does have a separate embedded distributor class which has been included in the cost allocation study and in Appendix 2-P. Energy+ (EN+), formerly Brant County Power Inc. (BCPI or BCP) is an embedded distributor of BPI. BPI charges EN+ the monthly service charge for the three embedded feeder points. The remaining cost allocated to the embedded distributor class is recovered through a distribution volumetric charge.

With respect to rate design, BPI notes the previous rates for Embedded Distributor, approved in the Board's Decision and Order in EB-2012-0109, were designed without factoring in the expected transformer allowance credit on all embedded distribution load. To recover the full revenue requirement allocated to the Embedded Distributor class, variable rates should have been higher by the $0.60/ kW representing the Transformer Allowance credit. Throughout the 2014 to 2016 period, BPI has paid the transformer allowance to its embedded distributor and has had a revenue shortfall commensurate with the transformer allowance paid to this class.

BPI has consulted with its Embedded Distributor, Energy + regarding its Cost Allocation and Rate Design. In the preparation of its load forecast for its Embedded Distributor, BPI has used forecasts provided by

Brant County Power in 2015 related to the joint 115 kV Switches project. BPI has proposed a revenue to cost ratio of 100%, consistent with BPI's past practice in its 2013 Cost of Service Rate Application, and the Board's Decision in case number EB-2009-0063 "The "Brant County Motion", which first established BPI's Embedded Distributor class. While the base revenue requirement allocated to the embedded distributor class has decreased from $272,142 in the 2013 Decision and Order to $251,881 in BPI's 2017 proposal, the proposed Embedded Distributor rates have increased to make up for the transformer allowance shortfall. BPI has communicated this change to Energy +. Attachment 7-C is the formal letter sent to Energy+ regarding BPI's Cost Allocation inputs. The Chief Financial Officer of Energy+ replied on April 27, 2016 via e-mail with the following statement:

> *"Further to our discussions, Energy + has reviewed the information provided by BPI regarding its proposed cost allocation for the Embedded Distributor class, including the transformer allowance issue.*
>
> *Energy+ would prefer the investigation of a direct allocation methodology for future cost allocation exercises, but otherwise supports the cost allocation proposed by BPI, as the allocation methodology is consistent with the approach approved in EB-2009-0063."*

Unmetered Loads (unmetered Scattered Load, Sentinel Lighting and Street Lighting)

In accordance with the Report of the Board: *Review of the Board's Cost allocation Policy for Unmetered Loads* (EB-2012-0383) issued on December 19, 2013 and with the Distribution System Code amendment issued on May 14, 2014, BPI has reviewed and updated its Conditions of Service effective January 1, 2015 to include the following items in relation to unmetered loads:

- The rights and obligations of unmetered load customers and BPI in relation to each other.
- The process by which unmetered load customers are to file updated data and evidence necessary to validate the data.
- The process by which unmetered load customers billing updates will take place.
- Communication and engagement with unmetered load customers in relation to the preparation of cost allocation studies, load profile studies or other rate related materials which may materially affect unmetered load customers.

In March 2016, BPI sent a letter reminding customers in the Unmetered Scattered Load and Sentinel Light classes of the changes to BPI's Conditions of Service, and soliciting the unmetered load customers' input and comments regarding the activities currently in progress with respect to BPI's cost allocations, load profiles, and other rate-related undertakings. A copy of the letter can be found as Attachment 7-D of the exhibit. BPI received responses from four of its customers. As a result of this consultation, BPI and the customers together identified 34 connections which needed to be cancelled altogether, and an additional 67 lights which had been replaced with LED lights and needed updated billing determinants. BPI updated the billings for these customers accordingly, and has made changes to its load forecast data so that the 2016 and 2017 number of connections and total load reflects the updates provided by these customers.

BPI has also consulted with its only Street lighting customer, the City of Brantford, regarding the Cost Allocation and Billing inputs to its Cost Allocation. As a result of this consultation, BPI engineering staff, with input from representatives from the City of Brantford, determined a corrected and updated estimate of the number of street lighting connections (6,351) and devices (9,770) in BPI's service territory. BPI has included the updated number of connections in its load forecast and rate design, and has based its cost allocation on the updated number of connections and devices.

On June 12, 2015 the Board issued a letter, *Issuance of New Cost Allocation Policy for Street Lighting Rate Class* ("the Letter"), outlining its new cost allocation policy for the street lighting rate class. In the Letter it was noted a new "street lighting adjustment factor" will be used to allocate costs to the street lighting rate class for primary and line transformer assets. BPI has used the updated Cost Allocation Model in this application which incorporates use of the new factors.

MicroFIT class

In accordance with the Chapter 2 Filing Requirements updated July 16, 2015, the microFIT class has not been included as a separate class in the cost allocation model. The model produced the calculation of unit costs for the Board to use to update the uniform microFIT rate at a future date.

BPI is requesting to maintain the uniform Board approved rate of $5.40 until the Board updates the uniform microFIT rate at a future date.

Standby Rates

At this time BPI's Standby Rate has been deemed interim per the board's March 21, 2006 Decision in EB-2005-0529 which addressed the development of a standardized methodology for setting Standby Rates. BPI does not propose to change its interim Standby Rate, or to have it deemed final. Therefore, this rate class has not been included in the Cost Allocation Study. BPI expects to treat its standby customer(s) in accordance with any Board Decision or Direction resulting from future consultations. The expected revenue from Standby rates has been included as distribution revenue offset in USoA account 4080-2.

New Customer Classes

BPI is not requesting new customer classes in this Application.

Eliminated Customer Classes

BPI is not requesting to eliminate or combine customer classes in this Application.

Summary of Results and Proposed Changes

BPI is filing a completed cost allocation study using the Board approved methodology. This filing reflects 2017 proposed test year loads and costs.

The data used in the updated cost allocation study is consistent with BPI's cost data supporting the proposed 2017 revenue requirement outlined in this Application. Consistent with the Guidelines, BPI's assets were broken out into primary and secondary distribution functions using breakout percentages consistent with the original cost allocation information filing. The breakout of assets, capital contributions, depreciation, accumulated depreciation, customer data and load data by primary, line transformer and secondary categories were developed from the best data available to BPI, its engineering records and, its customer and financial information systems. An Excel version of the updated Cost Allocation Study has been included with the filed application material. In addition, Attachment 7-B outlines input sheets I-6 and I-8 and output sheets O-1 and O-2.

Capital contributions, depreciation and accumulated depreciation by USoA are consistent with the information provided in the 2017 continuity Statement shown in Exhibit 2. The rate class customer data

used in the updated cost allocation study is consistent with the 2017 customer forecast outlined in Exhibit 3.

Load profiles of the classes are the same as those used in the Cost Allocation Informational Filing, but have been scaled to match the 2017 load forecast.

Table 7.1-E outlines the scaling factors by rate class.

Table 7.1-E – Load Profiling Scaling Factors

Rate Class	2004 Weather Normal Values used in Information Filing (kWh)	2017 Weather Normal Values (kWh)	Scaling Factor
Residential	284,000,199	291,567,897	102.7%
GS <50	102,044,553	99,837,652	97.8%
GS>50-Regular	559,706,033	477,408,179	85.3%
Street Light	6,528,516	7,460,329	114.3%
Sentinel	398,304	382,297	96.0%
Unmetered Scattered Load	2,833,799	1,405,154	49.6%
Embedded Distributor	77,273,703	51,013,084	66.0%

7.2 Class Revenue Requirements

7.2.1 Class Revenue Requirements

The allocated cost by rate class for the 2013 Cost of Service filing and the 2017 updated study are provided in Table 7.2-A which is consistent with Appendix 2-P

Table 7.2-A – Allocated Costs

Rate Class	Costs Allocated from Previous Study	%	Costs Allocated in Test Year Study	%
Residential	10,821,187	60.57%	12,626,965	62.37%
GS <50	2,088,907	11.69%	2,301,429	11.37%
GS>50-Regular	4,357,784	24.39%	4,598,489	22.71%
Street Light	137,888	0.77%	315,446	1.56%
Sentinel	84,146	0.47%	61,477	0.30%
Unmetered Scattered Load	79,639	0.45%	81,750	0.40%
Embedded Distributor	295,051	1.65%	260,280	1.29%
Total	**17,864,602**	**100%**	**20,245,835**	**100.00%**

The following table, Table 7.2-B, provides information on calculated class revenue which is consistent with Appendix 2-P. The resulting 2017 Proposed Base Revenue will be the amount used in Exhibit 8 to design the proposed distribution charges in this application.

Table 7.2-B – Calculated Class Revenue

Rate Class	2017 Base Revenue at Existing Rates	2017 Proposed Base Revenue allocated at Existing Rates Proportion	2017 Proposed Base Revenue	Miscellaneous Revenue
Residential	$ 9,607,740	$ 11,153,627	$ 11,153,627	$ 951,795
GS <50	$ 1,590,044	$ 1,845,883	$ 1,845,883	$ 140,929
GS>50-Regular	$ 4,684,378	$ 5,438,095	$ 5,282,238	$ 199,769
Street Light	$ 118,415	$ 137,468	$ 228,441	$ 23,916
Sentinel	$ 51,959	$ 60,320	$ 60,320	$ 3,563
Unmetered Scattered Load	$ 76,184	$ 88,442	$ 88,442	$ 6,633
Embedded Distributor	$ 161,080	$ 186,998	$ 251,881	$ 8,398
Total	**$ 16,289,800**	**$ 18,910,832**	**$ 18,910,832**	**$ 1,335,003**

7.3 Revenue to Cost Ratios

7.3.1 Revenue to Cost Ratios

The results of the Cost Allocation Study are typically presented in the form of Revenue to Cost Ratios. The ratio is shown by rate classification and is the percentage of distribution Revenue collected by rate classification compared to the costs allocated to the classification. The percentage identifies the rate classifications being subsidized and those over contributing. A percentage of less than 100% means the rate classification is under contributing and is being subsidized by other classes of customers. A percentage of greater than 100% indicates the rate classification is over contributing and is subsidizing other classes of customers.

The Board's March 31, 2011 Report, on Cost Allocation, section 2.9.4, outlines the range of acceptable ratios. Per the Board's June 12, 2015 letter, the Board narrowed the revenue to cost ratio policy range for the street lighting rate class from 70-120% to 80-120%. Table 7.3-A provides BPI's Revenue to Cost Ratios from the previous Cost of Service Application, the status quo 2017 ratios, and the proposed 2017 Cost Allocation. To bring the ratios within the appropriate policy ranges, BPI has proposed to keep the remaining ratios equal to the status quo, but has made changes to the Street Light, Embedded Distributor and GS>50 class ratios. The Street Light proposed ratio has been brought up to the Board's minimum target of 80%. As discussed previously, BPI has proposed a revenue-to-cost ratio of 100% for its Embedded Distributor class, consistent with BPI's past rate design. BPI has also included an adjustment to the General Service 50 to 4,999 kW to balance the revenue requirement, and to bring that ratio below the Board's target maximum.

Table 7.3-A – Revenue to Cost Ratios

Rate Class	2013 Cost of Service Ratios	Status Quo 2017 Ratios	2017 Proposed Ratios
Residential	95.11%	95.87%	95.87%
GS <50	84.35%	86.33%	86.33%
GS>50-Regular	119.19%	122.60%	119.21%
Street Light	119.90%	51.16%	80.00%
Sentinel	80.00%	103.91%	103.91%
Unmetered Scattered Load	114.48%	116.30%	116.30%
Embedded Distributor	100.00%	75.07%	100.00%

List of Attachments

Attachment 7-A

Chapter 2 Appendix 2-P – Cost Allocation

File Number:	0
Exhibit:	
Tab:	
Schedule:	
Page:	
Date:	

Appendix 2-P
Cost Allocation

Please complete the following four tables.

A) Allocated Costs

Classes	**Costs Allocated from Previous Study**	**%**	**Costs Allocated in Test Year Study (Column 7A)**	%
Residential	$ 10,821,187	60.57%	$ 12,626,965	62.37%
GS < 50 kW	$ 2,088,907	11.69%	$ 2,301,429	11.37%
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	$ 4,357,784	24.39%	$ 4,598,489	22.71%
GS > xxx kW, if applicable		0.00%		0.00%
Large User, if applicable		0.00%		0.00%
Street Lighting	$ 137,888	0.77%	$ 315,446	1.56%
Sentinel Lighting	$ 84,146	0.47%	$ 61,477	0.30%
Unmetered Scattered Load (USL)	$ 79,639	0.45%	$ 81,750	0.40%
Other class, if applicable		0.00%		0.00%
		0.00%		0.00%
Embedded distributor class	$ 295,051	1.65%	$ 260,280	1.29%
Total	$ 17,864,602	100.00%	$ 20,245,835	100.00%

B) Calculated Class Revenues

1.160900181

Classes (same as previous table)	**Column 7B** **Load Forecast (LF) X current approved rates**	**Column 7C** **L.F. X current approved rates X (1 + d)**	**Column 7D** **LF X proposed rates**	**Column 7E** **Miscellaneous Revenue**
Residential	$ 9,607,740	$ 11,153,627.35	$ 11,153,627	$ 951,795
GS < 50 kW	$ 1,590,044	$ 1,845,883	$ 1,845,883	$ 140,929
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	$ 4,684,378	$ 5,438,095	$ 5,282,238	$ 199,769
GS > xxx kW, if applicable				
Large User, if applicable				
Street Lighting	$ 118,415	$ 137,468	$ 228,441	$ 23,916
Sentinel Lighting	$ 51,959	$ 60,320	$ 60,320	$ 3,563
Unmetered Scattered Load (USL)	$ 76,184	$ 88,442	$ 88,442	$ 6,633
Other class, if applicable				
Embedded distributor class	$ 161,080	$ 186,998	$ 251,881	$ 8,398
Total	$ 16,289,800	$ 18,910,832	$ 18,910,832	$ 1,335,003

C) Rebalancing Revenue-to-Cost (R/C) Ratios

Class	Previously Approved Ratios Most Recent Year: 2013	Status Quo Ratios (7C + 7E) / (7A)	Proposed Ratios (7D + 7E) / (7A)	Policy Range
	%	%	%	%
Residential	95.11	95.87	95.87	85 - 115
GS < 50 kW	84.35	86.33	86.33	80 - 120
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	119.19	122.60	119.21	80 - 120
GS > xxx kW, if applicable				80 - 120
Large User, if applicable				85 - 115
Street Lighting	119.90	51.16	80.00	80 - 120
Sentinel Lighting	80.00	103.91	103.91	80 - 120
Unmetered Scattered Load (USL)	114.48	116.30	116.30	80 - 120
Other class, if applicable				
Embedded distributor class	100.00	75.07	100.00	

D) Proposed Revenue-to-Cost Ratios

Class	Proposed Revenue-to-Cost Ratios			Policy Range
	2016	2017	2018	
	%	%	%	%
Residential	95.87			85 - 115
GS < 50 kW	86.33			80 - 120
GS > 50 kW (or 50 kW < GS < xxx kW, if applicable)	119.21			80 - 120
GS > xxx kW, if applicable				80 - 120
Large User, if applicable				85 - 115
Street Lighting	80.00			80 - 120
Sentinel Lighting	103.91			80 - 120
Unmetered Scattered Load (USL)	116.30			80 - 120
Other class, if applicable				0
				0
Embedded distributor class	100.00			

Note:

1 The applicant should complete Table D if it is applying for approval of a revenue to cost ratio in 2014 that is outside the Board's policy range for any customer class. Table (d) will show the information that the distributor would likely enter in the IRM model) in 2016. In 2017 Table (d), enter the planned ratios for the classes that will be 'Change' and 'No Change' in 2016 (in the current Revenue Cost Ratio Adjustment Workform, Worksheet C1.1 'Decision – Cost Revenue Adjustment', column d), and enter TBD for class(es) that will be entered as 'Rebalance'.

Attachment 7-B

Cost Allocation Model – Specific Input and Output Sheets

(I6.1, I6.2, I8, O1, O2)

Ontario Energy Board

2016 Cost Allocation Model

EB-2016-XXXX

Sheet I6.1 Revenue Worksheet -

Total kWhs from Load Forecast	935,866,969
Total kWs from Load Forecast	1,405,097
Deficiency/sufficiency (RRWF 8. cell F51)	- 2,621,032
Miscellaneous Revenue (RRWF 5. cell F48)	1,335,003

			1	2	3	7	8	9	10
	ID	**Total**	**Residential**	**GS <50**	**GS>50-Regular**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**	**Embedded Distributor**
Billing Data									
Forecast kWh	**CEN**	935,866,969	291,567,897	99,837,652	484,200,556	7,460,329	382,297	1,405,154	51,013,084
Forecast kW	**CDEM**	1,405,097			1,241,682	22,796	1,181		139,437
Forecast kW, included in CDEM, of customers receiving line transformer allowance		747,861			608,424				139,437
Optional - Forecast kWh, included in CEN, from customers that receive a line transformation allowance on a kWh basis. In most cases this will not be applicable and will be left blank.		321,359		321,359					
KWh excluding KWh from Wholesale Market Participants	**CEN EWMP**	878,061,508	291,567,897	99,837,652	477,408,179	7,460,329	382,297	1,405,154	-
Existing Monthly Charge			$14.64	$26.46	$232.03	$0.69	$4.05	$12.84	$286.50
Existing Distribution kWh Rate			$0.0110	$0.0069				$0.0076	
Existing Distribution kW Rate					$3.0605	$2.8877	$19.4167		$1.7059

Existing TOA Rate			$0.60	$0.0017	$0.60	$0.60	$0.60	$0.60	$0.60
Additional Charges									
Distribution Revenue from Rates		$16,739,059	$9,607,740	$1,590,586	$5,049,432	$118,415	$51,959	$76,184	$244,742
Transformer Ownership Allowance		$449,258	$0	$541	$365,054	$0	$0	$0	$83,662
Net Class Revenue	**CREV**	$16,289,800	$9,607,740	$1,590,044	$4,684,378	$118,415	$51,959	$76,184	$161,080

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Ontario Energy Board

2016 Cost Allocation Model

EB-2016-XXXX

Sheet I6.2 Customer Data Worksheet -

			1	2	3	7	8	9	10
	ID	Total	Residential	GS <50	GS>50-Regular	Street Light	Sentinel	Unmetered Scattered Load	Embedded Distributor
Billing Data									
Bad Debt 3 Year Historical Average	BDHA	$288,684	$243,281	$23,901	$21,502	$0	$0	$0	$0
Late Payment 3 Year Historical Average	LPHA	$152,831	$ 110,638.17	$ 15,857.34	$ 26,208.35	$0	$ 26.72	$ 100.42	$0
Number of Bills	CNB	482,316	437,192	34,078.08	5,384.07	12.00	442	5,196	12
Number of Devices	CDEV					9,770	597	425	
Number of Connections (Unmetered)	CCON	7,373				6,351	597	425	
Total Number of Customers	CCA	40,747	36,433	2,840	449	1	597	425	2
Bulk Customer Base	CCB	40,747	36,433	2,840	449	1	597	425	2
Primary Customer Base	CCP	41,923	36,433	2,840	449	1,178	597	425	2
Line Transformer Customer Base	CCLT	41,853	36,433	2,838	383	1,178	597	425	-
Secondary Customer Base	CCS	40,724	36,433	2,839	429	1	597	425	-
Weighted - Services	CWCS	38,436	36,433	1,703	300	-	-	-	-
Weighted Meter -Capital	CWMC	9,279,557	5,928,873	1,894,700	1,455,984	-	-	-	-
Weighted Meter Reading	CWMR	47,646	36,455	3,391	7,800	-	-	-	-
Weighted Bills	CWNB	554,083	437,192	68,156	43,073	12	442	5,196	12

Bad Debt Data

Historic Year:	2012	298,114	231,346	25,229	41,538				
Historic Year:	2013	264,108	246,538	15,727	1,843				
Historic Year:	2014	303,832	251,958	30,748	21,126				
Three-year average		**288,684**	**243,281**	**23,901**	**21,502**	**-**	**-**	**-**	**-**

Ontario Energy Board

2016 Cost Allocation Model

EB-2016-XXXX

Sheet I8 Demand Data Worksheet -

This is an input sheet for demand allocators.

CP TEST RESULTS	12 CP
NCP TEST RESULTS	4 NCP

Co-incident Peak	Indicator
1 CP	CP 1
4 CP	CP 4
12 CP	CP 12

Non-co-incident Peak	Indicator
1 NCP	NCP 1
4 NCP	NCP 4
12 NCP	NCP 12

Customer Classes		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor
CO-INCIDENT PEAK									
1 CP									
Transformation CP	TCP1	171,890	63,246	20,390	78,997	-	-	139	9,118
Bulk Delivery CP	BCP1	171,890	63,246	20,390	78,997	-	-	139	9,118
Total Sytem CP	DCP1	171,890	63,246	20,390	78,997	-	-	139	9,118
4 CP									
Transformation CP	TCP4	639,179	245,380	68,523	290,118	311	15	553	34,280
Bulk Delivery CP	BCP4	639,179	245,380	68,523	290,118	311	15	553	34,280
Total Sytem CP	DCP4	639,179	245,380	68,523	290,118	311	15	553	34,280
12 CP									
Transformation CP	TCP12	1,738,921	622,903	193,459	818,000	6,797	285	1,738	95,738
Bulk Delivery CP	BCP12	1,738,921	622,903	193,459	818,000	6,797	285	1,738	95,738
Total Sytem CP	DCP12	1,738,921	622,903	193,459	818,000	6,797	285	1,738	95,738
NON CO_INCIDENT PEAK									
1 NCP									
Classification NCP from Load Data Provider	DNCP1	188,911	69,507	23,215	83,985	2,118	154	242	9,691
Primary NCP	PNCP1	188,911	69,507	23,215	83,985	2,118	154	242	9,691
Line Transformer NCP	LTNCP1	166,849	69,506.87	23,198.49	71,630.86	2,118	154	242	-
Secondary NCP	SNCP1	175,468	69,506.87	23,206.67	80,241.41	2,118	154	242	-
4 NCP									
Classification NCP from Load Data Provider	DNCP4	713,435	260,077	87,950	317,308	8,408	531	917	38,243
Primary NCP	PNCP4	713,435	260,077	87,950	317,308	8,408	531	917	38,243
Line Transformer NCP	LTNCP4	628,454	260,076.95	87,888.21	270,632.15	8,408	531	917	-
Secondary NCP	SNCP4	661,017	260,076.95	87,919.18	303,164.10	8,408	531	917	-
12 NCP									
Classification NCP from Load Data Provider	DNCP12	1,934,737	678,735	224,425	896,894	23,533	1,259	2,397	107,494
Primary NCP	PNCP12	1,934,737	678,735	224,425	896,894	23,533	1,259	2,397	107,494
Line Transformer NCP	LTNCP12	1,695,151	678,735.10	224,267.05	764,960.45	23,533	1,259	2,397	-
Secondary NCP	SNCP12	1,787,184	678,735.10	224,346.08	856,914.25	23,533	1,259	2,397	-

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Sheet O1 Revenue to Cost Summary Worksheet -

Instructions:
Please see the first tab in this workbook for detailed instructions

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor	
crev	Distribution Revenue at Existing Rates	$16,289,800	$9,607,740	$1,590,044	$4,684,378	$118,415	$51,959	$76,184	$161,080	
mi	Miscellaneous Revenue (mi)	$1,335,003	$951,795	$140,929	$199,769	$23,916	$3,563	$6,633	$8,398	
		Miscellaneous Revenue Input equals Output								1335003.049
	Total Revenue at Existing Rates	**$17,624,803**	**$10,559,535**	**$1,730,973**	**$4,884,147**	**$142,331**	**$55,522**	**$82,817**	**$169,478**	
	Factor required to recover deficiency (1 + D)	1.1609								
	Distribution Revenue at Status Quo Rates	$18,910,832	$11,153,627	$1,845,883	$5,438,095	$137,468	$60,320	$88,442	$186,998	
	Miscellaneous Revenue (mi)	$1,335,003	$951,795	$140,929	$199,769	$23,916	$3,563	$6,633	$8,398	
	Total Revenue at Status Quo Rates	**$20,245,835**	**$12,105,422**	**$1,986,812**	**$5,637,864**	**$161,384**	**$63,883**	**$95,075**	**$195,396**	
	Expenses									
di	Distribution Costs (di)	$2,843,728	$1,760,523	$263,583	$692,596	$57,843	$10,812	$8,366	$50,003	
cu	Customer Related Costs (cu)	$3,501,830	$2,707,337	$430,280	$339,766	$253	$1,909	$22,234	$51	
ad	General and Administration (ad)	$4,149,949	$2,905,040	$454,243	$688,977	$39,414	$8,540	$19,869	$33,865	
dep	Depreciation and Amortization (dep)	$3,696,567	$2,051,920	$459,647	$1,025,658	$78,639	$14,789	$11,373	$54,540	
INPUT	PILs (INPUT)	$697,822	$369,114	$79,960	$213,423	$16,057	$2,931	$2,295	$14,042	
INT	Interest	$2,105,255	$1,113,577	$241,232	$643,874	$48,442	$8,842	$6,923	$42,364	
	Total Expenses	**$16,995,150**	**$10,907,511**	**$1,928,947**	**$3,604,294**	**$240,648**	**$47,824**	**$71,060**	**$194,866**	
	Direct Allocation	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
NI	Allocated Net Income (NI)	$3,250,685	$1,719,454	$372,482	$994,194	$74,798	$13,653	$10,690	$65,414	
	Revenue Requirement (includes NI)	**$20,245,835**	$12,626,965	$2,301,429	$4,598,489	$315,446	$61,477	$81,750	$260,280	
		Revenue Requirement Input equals Output								($0)
	Rate Base Calculation									
	Net Assets									
dp	Distribution Plant - Gross	$113,782,752	$60,952,651	$13,185,446	$33,965,077	$2,761,873	$500,405	$386,882	$2,030,419	$113,782,752
gp	General Plant - Gross	$18,414,143	$9,749,779	$2,101,274	$5,624,009	$438,610	$78,856	$61,550	$360,065	$18,414,143
accum dep	Accumulated Depreciation	($46,702,445)	($25,407,015)	($5,542,422)	($13,498,662)	($1,151,650)	($211,825)	($161,825)	($729,047)	($46,702,445)
co	Capital Contribution	($6,529,446)	($3,519,668)	($702,499)	($1,945,427)	($220,824)	($34,658)	($26,188)	($80,182)	($6,529,446)
	Total Net Plant	**$78,965,004**	**$41,775,747**	**$9,041,800**	**$24,144,998**	**$1,828,009**	**$332,777**	**$260,418**	**$1,581,255**	**$78,965,004**
	Directly Allocated Net Fixed Assets	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
COP	Cost of Power (COP)	$115,703,812	$38,353,572	$13,056,682	$62,412,938	$1,024,208	$54,634	$186,811	$614,968	$115,837,446
	OM&A Expenses	$10,495,506	$7,372,900	$1,148,107	$1,721,339	$97,510	$21,262	$50,469	$83,919	$ 10,361,872.82
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0	$0	
	Subtotal	***$126,199,319***	***$45,726,472***	***$14,204,789***	***$64,134,277***	***$1,121,718***	***$75,895***	***$237,280***	***$698,887***	$126,199,319
	Working Capital	**$9,464,949**	**$3,429,485**	**$1,065,359**	**$4,810,071**	**$84,129**	**$5,692**	**$17,796**	**$52,417**	**$9,464,949**
	Total Rate Base	**$88,429,953**	**$45,205,233**	**$10,107,159**	**$28,955,068**	**$1,912,138**	**$338,469**	**$278,214**	**$1,633,672**	**$88,429,953**
		Rate Base Input equals Output								
	Equity Component of Rate Base	**$35,371,981**	**$18,082,093**	**$4,042,864**	**$11,582,027**	**$764,855**	**$135,388**	**$111,286**	**$653,469**	35371981.35
	Net Income on Allocated Assets	**$3,250,685**	**$1,197,912**	**$57,865**	**$2,033,570**	**($79,264)**	**$16,059**	**$24,014**	**$530**	**2105254.859**
	Net Income on Direct Allocation Assets	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
	Net Income	**$3,250,685**	**$1,197,912**	**$57,865**	**$2,033,570**	**($79,264)**	**$16,059**	**$24,014**	**$530**	2105254.859
	RATIOS ANALYSIS									
	REVENUE TO EXPENSES STATUS QUO%	**100.00%**	**95.87%**	**86.33%**	**122.60%**	**51.16%**	**103.91%**	**116.30%**	75.07%	
	EXISTING REVENUE MINUS ALLOCATED COSTS	**($2,621,032)**	($2,067,430)	($570,456)	$285,658	($173,115)	($5,955)	$1,066	($90,801)	(2,621,032)
		Deficiency Input equals Output								

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Sheet O1 Revenue to Cost Summary Worksheet -

Instructions:
Please see the first tab in this workbook for detailed instructions

Class Revenue, Cost Analysis, and Return on Rate Base

Rate Base Assets		Total	1 Residential	2 GS <50	3 GS>50-Regular	7 Street Light	8 Sentinel	9 Unmetered Scattered Load	10 Embedded Distributor
	STATUS QUO REVENUE MINUS ALLOCATED COSTS	$0	($521,543)	($314,617)	$1,039,376	($154,062)	$2,406	$13,324	($64,884)
	RETURN ON EQUITY COMPONENT OF RATE BASE	9.19%	6.62%	1.43%	17.56%	-10.36%	11.86%	21.58%	0.08%

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Sheet O2 Monthly Fixed Charge Min. & Max. Worksheet -

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary

	1	2	3	7	8	9	10
	Residential	**GS <50**	**GS>50-Regular**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**	**Embedded Distributor**
Customer Unit Cost per month - Avoided Cost	$4.49	$12.78	$62.13	$0.00	$0.12	$2.13	-$15.89
Customer Unit Cost per month - Directly Related	$6.99	$18.67	$94.42	$0.00	$0.21	$3.57	-$15.15
Customer Unit Cost per month - Minimum System with PLCC Adjustment	$21.05	$35.39	$138.02	$3.30	$8.52	$12.74	-$8.28
Existing Approved Fixed Charge	$14.64	$26.46	$232.03	$0.69	$4.05	$12.84	$286.50

Attachment 7-C

Letter to Energy+ - Embedded Distributor Communication

Sarah Hughes, CPA, CA
Chief Financial Officer
Energy+ Inc.

April 21, 2016

Sent via Email

Dear Ms. Hughes

As you are aware, BPI is currently preparing its Cost of Service Rate Application for distribution rates effective January 1, 2017. Under Chapter 2 of the OEB's Filing Requirements for Electricity Distribution Rate Applications, BPI is required to show that it has consulted with its embedded distributor regarding the inputs to its cost allocation model.

Load Forecast Assumptions:
We have relied on the Brant County Power Load Forecast from December 2015, provided in communications regarding the Connection Cost Agreement - 115kV Switching Facility at Brant TS. BCP indicated in that communication that it plans to transfer load from BPI's PM1 feeder to its own PM5 feeder beginning in 2016. AS a result, BPI has reduced the forecast embedded distribution connections from three to two. Additionally, BPI removed any forecasted embedded load from the PM1 feeder completely. Lastly, BPI applied the annual growth in peak demand from BCP's forecast at the two remaining embedded feeder locations to the 2015 billing kW for each of these two locations to establish a forecast for 2016 and 2017.

Billing Statistics					
		PM1	**64M24+64M27**	**Total**	
	2010	20,163.41	137,951.75	158,115.16	
	2011	20,584.56	136,254.70	156,839.26	
	2012	18,711.52	134,598.94	153,310.46	
	2013	18,000.29	141,285.42	159,285.71	
	2014	18,548.57	145,775.87	164,324.44	
	2015	17,330.40	124,873.02	142,203.42	
Per BCP Forecast - Peak Load per Feeder; provided on December 24, 2015					
		64M25	**64M27**	**64M Total**	**64 M Growth**
	2015	3,068.00	8,258.00	11,326.00	
	2016	3,614.00	8,382.00	11,996.00	1.059155924
	2017	4,160.00	8,487.00	12,647.00	1.054268089
Forecast Billing Statistics					
		PM1 kW	**64 M kW**	**Transformer Allowance kW**	**Transformer Allowance**
	2016	0	132,260.00	132,260.00	$ 79,356.00
	2017	0	139,437.50	139,437.50	$ 83,662.50

Cost Allocation Inputs:
Please see the attached load forecast model. BPI updated the HONI load profiles for each rate class in its Cost Allocation. The Embedded Distributor class appears as a separate class in the Cost Allocation Model. The revenue to cost ratio calculated in the model is 74.71%. BPI has designed its rates to achieve a revenue to cost ratio of 100% for the Embedded Distributor class. No costs or assets were directly allocated to the Embedded Distributor class.

Rate Impacts:
BPI's rate proposals are outlined in the table below.

Embedded Distributor Rates		
	Current Rates (2016)	**Proposed Rates (2017)**
Monthly	$ 286.50	$ 454.32
Volumetric (kW)	$ 1.7059	$ 2.3537
	Test Year on Existing Rates	**Test Year on Proposed F**
Total Proposed Revenues (reduced by TA)	$ 161,080	$ 255,435

In accordance with the Filing Requirements, BPI needs to to provide a statement indicating whether its embedded distributor supports its proposal. Can you please review the attached and provide us with a statement whether Energy + supports the proposed cost allocation?

Thank you in advance,

Oana Stefan

Oana Stefan
Senior Regulatory Analyst
Brantford Power Inc.
Box 308, Brantford, Ontario N3T 5N8
Phone 519-751-3522 ext. 5477
www.brantfordpower.com

Attachment 7-D

Communication to Unmetered Scatter Load Customers

March 3, 2016

After a period of public consultation, Brantford Power Inc. revised its Conditions of Service to reflect amendments made to the Ontario Energy Board's Distribution System Code and regulatory requirements for unmetered load customers effective January 1, 2015. These changes outline:

- The rights and obligations of unmetered load customers and Brantford Power Inc.;
- The process for filing updated data with Brantford Power Inc. and the evidence that may be required of unmetered load customers to validate their data;
- The process Brantford Power Inc. will follow to update the billing for an unmetered load customer; and;
- The ways in which Brantford Power Inc. will communicate with unmetered load customers regarding the preparation of rate applications, cost allocation studies, load profile studies or other rate-related materials that may materially impact these customers.

Brantford Power Inc.'s Conditions of Service and content specific to unmetered load customers can be accessed online at www.brantfordpower.com.

In accordance with these revisions, Brantford Power Inc. will continue to monitor the consumption of unmetered load connections and will make adjustments to billing arrangements where necessary. We also welcome your input and comments regarding the activities currently in progress for Brantford Power Inc.'s upcoming application for 2017 rates such as cost allocation, load and connection forecasts, and other rate-related undertakings.

If you would like to discuss these activities, please contact me directly at 519.751.3522 ext. 5681 no later than March 24, 2016.

Sincerely,

Susan Tulloch
Vice President, Customer Service and Conservation