EB-2017-0049
BLC COMPENDIUM
PANEL 7

the total bill impact for a typical DGen customer to no more than 10%. This is the same approach proposed, and approved by the Board, in Hydro One's 2016 and 2017 Draft Rate Orders (EB-2015-0079 and EB-2016-0081). The increase in revenue collected from the DGen class is offset by decreasing the revenue collected from USL and Seasonal classes, which have the highest R/C ratios above 1.

Table 5: Revenue-to-Cost Ratios and Class Revenue Recovery – 2017 to 2018

Rate Class	2017		2018				Board Range
	R/C	Revenue Requirement ($ M)	R/C		Revenue Requirement ($ M)		R/C (%)
			CAM	After Rate Design	CAM	After Rate Design	
UR	1.10	87.6	1.05	1.05	96.2	96.2	85 - 115
R1	1.10	310.9	1.07	1.07	323.5	323.5	85 - 115
R2	0.95	519.4	0.95	0.95	529.4	529.4	85 - 115
Seasonal	1.04	113.4	1.09	1.09	114.1	113.9	85 - 115
GSe	0.99	160.6	1.01	1.01	160.5	160.5	80 - 120
UGe	0.95	21.8	1.02	1.02	22.7	22.7	80 - 120
GSd	0.95	145.5	0.97	0.97	143.5	143.5	80 - 120
UGd	0.95	30.3	0.95	0.95	29.8	29.8	80 - 120
St Lgt	0.95	12.1	0.93	0.93	12.5	12.5	80 - 120
Sen Lgt	0.95	7.3	1.03	1.03	6.4	6.4	80 - 120
USL	1.10	3.2	1.15	1.09	3.4	3.2	80 - 120
DGen	0.61	4.6	0.57	0.63	3.7	4.1	80 - 120*
ST	0.95	51.0	0.98	0.98	54.2	54.2	85 - 115
TOTAL		1,467.6			1,499.9	1,499.9	

** Assume same as for GS, as previously approved in EB-2013-0416*

R/C Ratio from 2018 to 2020

Table 6 and Table 7 show how the R/C ratio and revenue requirement by class are adjusted by the 2019 and 2020 rate design process. Hydro One proposes to continue increasing the DGen class R/C ratio from 0.63 in 2018 to 0.76 in 2019, which limits the total bill impact for a typical DGen customer to no more than 10% per year. The increase in revenue from the DGen class is made up by decreasing the revenue collected from the

UNDERTAKING – JT 3.23

Undertaking

With reference to Interrogatory Exhibit I, Tab 49, Schedule BLC 5, Part b, to examine whether a response is doable or if it is not doable; and if not why not.

Response

In response to Undertaking JT 3.23, Hydro One has reviewed the information requested under part b) of I-49-BLC-5 and is providing the requested material in this updated submission. The percentage split of seasonal customers between the UR, R1 and R2 classes is based on the same information as in the Seasonal report previously prepared for proceeding EB-2016-0315, updated to incorporate the results of the recent rate class review, as discussed in Exhibit G1, Tab 02, Schedule 1.

Hydro One also notes that sub-part iii of the question asks that the density factors, weightings, and other factors for the "new" Seasonal class consisting only of R2-Seasonal customers be maintained at the currently proposed values for the combined Seasonal class. This is not appropriate as the new R2-Seasonal class would consist of a substantially different subset of customers than the current Seasonal class that includes both medium and low density seasonal customers. As such, Hydro One completed the requested cost allocation model run using the density factors, weightings, and other factors appropriate for a Seasonal class consisting solely of R2-Seasonal customers. Hydro One has adopted all the R2 class weighting factors for the new "R2-Seasonal" class, with the exception of the Meter Reading weighting factor. The new R2-Seasonal class consists of relatively more water access and dispersed service points than the typical R2 year-round residential customers, and so Hydro One has applied the current, higher, meter reading weight for the existing status-quo Seasonal class to the new R2-seasonal class.

Table 1 in Attachment 1 to this response shows a version of the 2018 Rate Design Sheet similar to Exhibit H1, Tab 1, Schedule 2, page 1, with adjustments described above. This table is also provided in Excel format.

Table 1 – 2018 Rate Design with I-49-BLC-5 part b adjustments

	Number of Customers	GWh	kWs	Revenue	Costs Allocated from Previous Study (2017)		Allocated Costs		Misc Rev	Revenue from Rates	2017 R/C Ratio	R/C Ratio from the CAM	Target 2018 R/C Ratio	Total rev to be collected	Shifted Rev	% Change in revenue from rates	Fixed Charge ($/month)	Revenue from Fixed Charge	Fixed Rev %	Revenue from Volumetric Charge	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)	CSTA Rate Adders ($/kW)	Hopper Foundry Rate Adder ($/kW)	Total Volumetric Charge ($/kW)
				(A)	($)	(%)	(B)	(%)	(C)	(D=A-C)	(E)	(F=A/B)	(G)	(H=BxG)	(I=H-A)	(J=I/D)		(K)		(L=H-C-K)					
UR	226,192	2,048	-	$ 97,201,928	$ 79,598,952	5.42%	$ 92,100,224	6.14%	$ 5,125,181	$ 92,076,747	1.10	1.06	1.06	97,201,928	-	0.0%	$ 27.83	$ 75,532,617	82%	$ 16,544,130	$ 0.0081				
R1	516,794	5,212	-	$ 365,346,901	$ 282,627,936	19.26%	$ 329,291,941	21.95%	$ 14,877,408	$ 350,469,493	1.10	1.11	1.11	365,190,102	(156,799)	0.0%	$ 37.56	$ 232,906,883	66%	$ 117,405,810	$ 0.0225				
R2	328,410	4,539	-	$ 534,664,454	$ 544,114,242	37.07%	$ 560,291,895	37.36%	$ 17,045,784	$ 517,618,671	0.95	0.95	0.95	534,664,454	-	0.0%	$ 88.83	$ 350,081,815	68%	$ 167,536,855	$ 0.0369				
Seasonal R2	78,544	343	-	$ 61,618,419	$ 108,746,448	7.41%	$ 71,571,267	4.77%	$ 2,025,513	$ 59,592,906	1.04	0.86	0.86	61,618,419	-	0.0%	$ 40.77	$ 38,427,812	64%	$ 21,165,094	$ 0.0617				
GSe	88,484	2,104	-	$ 162,061,115	$ 161,477,751	11.00%	$ 159,037,370	10.60%	$ 5,163,683	$ 156,897,462	0.99	1.02	1.02	162,061,115	-	0.0%	$ 29.87	$ 31,710,871	20%	$ 125,186,591	$ 0.0595				
GSd	5,406	2,342	8,025,918	$ 144,916,859	$ 152,368,182	10.38%	$ 149,099,563	9.94%	$ 2,818,413	$ 142,098,447	0.95	0.97	0.97	144,916,859	-	0.0%	$ 103.56	$ 6,717,987	5%	$ 135,380,460		$ 16.8679	$ 0.0637	$ 0.0078	$ 16.9394
UGe	18,074	598	-	$ 22,951,112	$ 22,785,476	1.55%	$ 22,400,661	1.49%	$ 887,474	$ 22,063,637	0.95	1.02	1.02	22,951,112	-	0.0%	$ 24.12	$ 5,231,493	24%	$ 16,832,144	$ 0.0281				
UGd	1,744	1,058	2,832,322	$ 30,114,739	$ 31,755,025	2.16%	$ 31,545,045	2.10%	$ 634,915	$ 29,479,825	0.95	0.95	0.95	30,114,739	-	0.0%	$ 101.75	$ 2,129,760	7%	$ 27,350,064		$ 9.6564	$ 0.0637		$ 9.7201
St Lgt	5,323	121	-	$ 12,627,804	$ 12,719,453	0.87%	$ 13,497,695	0.90%	$ 403,394	$ 12,224,410	0.95	0.94	0.94	12,627,804	-	0.0%	$ 4.11	$ 262,512	2%	$ 11,961,898	$ 0.0986				
Sen Lgt	23,987	20	-	$ 6,465,680	$ 7,616,602	0.52%	$ 6,258,136	0.42%	$ 3,079,639	$ 3,386,041	0.95	1.03	1.03	6,465,680	-	0.0%	$ 3.19	$ 916,903	27%	$ 2,469,138	$ 0.1211				
USL	5,597	24	-	$ 3,385,030	$ 2,953,443	0.20%	$ 2,902,577	0.19%	$ 128,913	$ 3,256,117	1.10	1.17	1.11	3,219,005	(166,025)	-5.1%	$ 35.46	$ 2,381,783	77%	$ 708,310	$ 0.0290				
DGen	1,152	18	184,739	$ 3,740,576	$ 7,407,470	0.50%	$ 6,445,239	0.43%	$ 175,595	$ 3,564,981	0.61	0.58	0.63	4,063,400	322,624	9.1%	$ 196.15	$ 2,712,713	70%	$ 1,175,091		$ 6.3608	$ 0.0637		$ 6.4245
ST	808	15,528	29,977,946	$ 54,787,309	$ 53,453,334	3.64%	$ 55,440,314	3.70%	$ 1,264,602	$ 53,522,707	0.95	0.99	0.99	54,787,309	-	0.0%	N/A **	$ 10,014,219	19%	$ 43,508,488		N/A **			N/A **
	1,300,516	**33,957**	**41,020,926**	**$ 1,499,881,927**	**$ 1,467,624,315**	**100%**	**$ 1,499,881,927**	**100%**	**$ 53,630,485**	**$ 1,446,251,442**					**(0)**			**$ 799,027,367**		**$ 687,224,075**					

** ST rates are calculated on a separate sheet

Total Rev (K+L)	**$ 1,446,251,442**
Misc Rev (C)	**$ 53,630,485**
Total Rev Req	**$ 1,499,881,927**

Rate Class	2017 Current Fixed Charge	2018 All-Fixed Charge	Phase-in Period (Remaining Years)	Annual Increase in Fixed Charge	2018 Proposed Fixed Charge
UR	$ 24.78	$ 33.92	3	$ 3.05	$ 27.83
R1	$ 33.77	$ 56.49	6	$ 3.79	$ 37.56
R2	$ 80.33	$ 131.34	6	$ 8.50	$ 88.83
Seasonal R2	$ 36.28	$ 63.23	6	$ 4.49	$ 40.77

2018 Rate Design Including 3rd Year of Phase-in to All-Fixed Rates

	Number of Customers	GWh	kWs	Revenue	Costs Allocated from Previous Study (2017)		Allocated Costs		Misc Rev	Revenue from Rates	2017 R/C Ratio	R/C Ratio from the CAM	Target 2018 R/C Ratio	Total rev to be collected	Shifted Rev	% Change in revenue from rates	Fixed Charge ($/month)	Revenue from Fixed Charge	Fixed Rev %	Revenue from Volumetric Charge	Volumetric Charge ($/kWh)	Volumetric Charge ($/kW)	CSTA Rate Adders ($/kW)	Hopper Foundry Rate Adder ($/kW)	Total Volumetric Charge ($/kW)
				(A)	($)	(%)	(B)	(%)	(C)	(D=A-C)	(E)	(F=A/B)	(G)	(H=BxG)	(I=H-A)	(J=I/D)		(K)		(L=H-C-K)					
UR	225,944	2,047	-	$ 96,173,150	$ 79,598,952	5.42%	$ 91,807,608	6.12%	$ 5,113,873	$ 91,059,278	1.10	1.05	1.05	96,173,150	-	0.0%	$ 27.71	$ 75,144,268	83%	$ 15,915,009	$ 0.0078				
R1	446,102	4,924	-	$ 323,539,529	$ 282,627,936	19.26%	$ 301,376,300	20.09%	$ 13,762,853	$ 309,776,676	1.10	1.07	1.07	323,539,529	-	0.0%	$ 37.79	$ 202,277,927	65%	$ 107,498,749	$ 0.0218				
R2	328,410	4,539	-	$ 529,368,662	$ 544,114,242	37.07%	$ 557,706,225	37.18%	$ 16,978,792	$ 512,389,870	0.95	0.95	0.95	529,368,662	-	0.0%	$ 88.61	$ 349,210,348	68%	$ 163,179,522	$ 0.0359				
Seasonal	149,485	632	-	$ 114,092,030	$ 108,746,448	7.41%	$ 104,711,041	6.98%	$ 3,251,750	$ 110,840,280	1.04	1.09	1.09	113,925,781	(166,250)	-0.1%	$ 40.52	$ 72,678,702	66%	$ 37,995,328	$ 0.0601				
GSe	88,484	2,104	-	$ 160,456,449	$ 161,477,751	11.00%	$ 158,109,324	10.54%	$ 5,143,910	$ 155,312,539	0.99	1.01	1.01	160,456,449	-	0.0%	$ 29.56	$ 31,390,539	20%	$ 123,922,000	$ 0.0589				
GSd	5,406	2,342	8,025,918	$ 143,462,225	$ 152,368,182	10.38%	$ 148,142,418	9.88%	$ 2,799,207	$ 140,663,018	0.95	0.97	0.97	143,462,225	-	0.0%	$ 102.52	$ 6,650,124	5%	$ 134,012,894	$ -	$ 16.6975	$ 0.0637	$ 0.0077	$ 16.7689
UGe	18,074	598	-	$ 22,725,406	$ 22,785,476	1.55%	$ 22,272,612	1.48%	$ 884,648	$ 21,840,758	0.95	1.02	1.02	22,725,406	-	0.0%	$ 23.88	$ 5,178,646	24%	$ 16,662,112	$ 0.0278				
UGd	1,744	1,058	2,832,322	$ 29,812,914	$ 31,755,025	2.16%	$ 31,348,758	2.09%	$ 630,884	$ 29,182,030	0.95	0.95	0.95	29,812,914	-	0.0%	$ 100.72	$ 2,108,246	7%	$ 27,073,784	$ -	$ 9.5589	$ 0.0637		$ 9.6226
St Lgt	5,323	121	-	$ 12,501,834	$ 12,719,453	0.87%	$ 13,405,033	0.89%	$ 400,910	$ 12,100,924	0.95	0.93	0.93	12,501,834	-	0.0%	$ 4.07	$ 259,860	2%	$ 11,841,064	$ 0.0976				
Sen Lgt	23,987	20	-	$ 6,447,526	$ 7,616,602	0.52%	$ 6,258,629	0.42%	$ 3,095,690	$ 3,351,836	0.95	1.03	1.03	6,447,526	-	0.0%	$ 3.15	$ 907,640	27%	$ 2,444,196	$ 0.1199				
USL	5,597	24	-	$ 3,352,139	$ 2,953,443	0.20%	$ 2,902,765	0.19%	$ 128,914	$ 3,223,225	1.10	1.15	1.09	3,158,213	(193,925)	-6.0%	$ 34.76	$ 2,334,924	77%	$ 694,375	$ 0.0284				
DGen	1,152	18	184,739	$ 3,704,518	$ 7,407,470	0.50%	$ 6,445,207	0.43%	$ 175,550	$ 3,528,969	0.61	0.57	0.63	4,064,693	360,175	10.2%	$ 196.16	$ 2,712,852	70%	$ 1,178,292	$ -	$ 6.3673	$ 0.0637		$ 6.4310
ST	808	15,528	29,977,946	$ 54,245,544	$ 53,453,334	3.64%	$ 55,396,005	3.69%	$ 1,263,504	$ 52,982,040	0.95	0.98	0.98	54,245,544	-	0.0%	N/A **	$ 9,913,059	19%	$ 43,068,981	$ -	N/A **			N/A **
	1,300,516	**33,957**	**41,020,926**	**$ 1,499,881,927**	**$ 1,467,624,315**	**100%**	**$ 1,499,881,927**	**100%**	**$ 53,630,485**	**$ 1,446,251,442**					**(0)**			**$ 760,767,136**		**$ 685,484,306**					

** ST rates are listed in Exhibit H1, Tab 1, Schedule 3

Total Rev (K+L)	$ 1,446,251,442
Misc Rev (C)	$ 53,630,485
Total Rev Req	$ 1,499,881,927

Rate Class	2017 Current Fixed Charge	2018 All-Fixed Charge	Phase-in Period (Remaining Years)	Annual Increase in Fixed Charge	2018 Proposed Fixed Charge
UR	$ 24.76	$ 33.58	3	$ 2.93	$ 27.71
R1	$ 33.77	$ 57.87	6	$ 4.02	$ 37.79
R2	$ 80.33	$ 130.02	6	$ 8.28	$ 88.61
Seasonal	$ 36.28	$ 61.70	6	$ 4.24	$ 40.52

UNDERTAKING – J 4.5

Reference

K4.5

Undertaking

To provide the analysis that was done in January 2017 in support of the proposal with respect to prioritization of customers between the R1 and R2 class and resulting in a conclusion by Hydro One to exclude seasonal customers from the relief they are requesting from the government.

Response

Hydro One's proposal to the Government of Ontario focused on addressing affordability concerns for its most vulnerable customers.

Based on an analysis of overdue receivables for residential customers at 2016 year-end, R1 and R2 residential customers accounted for 84% of the corresponding overdue receivables (approximately $74 million of $88 million), whereas seasonal customers only accounted for approximately 5% of the overdue receivables (approximately $4 million of $88 million).

Since non-seasonal residential customers were experiencing significant challenges with affordability, Hydro One felt that immediately addressing that was the priority.

Of the four proposals outlined to the provincial government in Hydro One's submission, three of them provide benefit to seasonal customers.

Balsam Lake Coalition Interrogatory # 6

Issue:

Issue 49: Are the inputs to the cost allocation model appropriate and are costs appropriately allocated?

Reference:

G1-03-01 Page 5, Table 4
EB-2013-0416/EB-2016-0315 Report on Elimination of the Seasonal Class dated December 1, 2016

Interrogatory:

This reference asserts that the density factors proposed in the application remain unchanged from 2017, including the proposed density factor of 3.6 for the Seasonal Class.

a) Please provide the weighted average density factor for the Seasonal Class that would result from using the 2018 forecast number of UR, R1 and R2 seasonal customers as provided in part a) above, along with the density weighting for each of those classes. By way of example, using the density factors of 1 for UR customers, 1.9 for R1 customers and 48 for R2 customers, and applying those factors to the split of Seasonal Customers as between UR (271) R1 (70,721) and R2 (84,041) as set out in the EB-2013-0416/EB-2016-0315 Report on Elimination of the Seasonal Class dated December 1, 2016, page 5, produces a weighted average density factor of 3.47 for the Seasonal Class.

b) Please explain why Hydro One uses a density factor of 3.6 for the Seasonal Class, when it appears to Balsam Lake that it is possible to calculate a weighted average density factor for the class using the specific density factors attributable to the UR, R1 and R2 Seasonal Customers. Please quantify the impact on the costs allocated to the Seasonal Class if the weighted average density factor calculated in part a) is used in the allocation run as opposed to the proposed factor of 3.6.

Response:

a) The Table below provides the derivation of the weighted average density factor for the Seasonal Class using the requested approach. The 2018 forecast number of Seasonal customers has been assigned to UR, R1 and R2 classes assuming the same split as set out in Hydro One's Report on Elimination of Seasonal Customers filed on December 1, 2016.

Weighted Average Density Factor for the Seasonal Class

Rate Class	2018 Forecast Number of Customers	Density Factors
UR	261	1
R1	68,190	1.9
R2	81,033	4.8
Seasonal	149,485	3.47

b) The 3.6 density factor for the Seasonal class was established using the methodology documented on pages 10-12 of Exhibit G1, Tab 3, Schedule 1 of proceeding EB-2013-0416, which was approved by the Board. As documented in that exhibit, the relationship between weighted average customer density and the density factors for UR, R1 and R2 classes was plotted and a non-linear trend line established to interpolate the density factor for the Seasonal class. The inputs underlying the calculation of the density factors have not changed and so a factor of 3.6 for the Seasonal class continues to be appropriate. The Table below provides the difference in the 2018 costs allocated to the Seasonal class using density factors of 3.6 and 3.47.

Costs allocated to the Seasonal class with density factor of 3.6	$104,711,041
Costs allocated to the Seasonal class with density factor of 3.47	$102,258,795
Difference	-$2,452,246