

**Fred James**

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February 14, 2019

Mr. Patrick Wruck  
Commission Secretary and Manager  
Regulatory Support  
British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

**RE: British Columbia Utilities Commission (BCUC or Commission)  
British Columbia Hydro and Power Authority (BC Hydro)  
F2017 Fully Allocated Cost of Service (FACOS) Study**

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BC Hydro writes to file our F2017 FACOS study reflecting fiscal 2017 actual results pursuant to Commission Directive No. 2 of the 2007 Rate Design Application (**2007 RDA**) Decision<sup>1</sup>.

BC Hydro filed our last annual FACOS study on March 15, 2018, based on fiscal 2016 actual revenue and load data. BC Hydro is now filing our F2017 FACOS study based on actual fiscal 2017 revenue and load data. This filing is being made for information only.

BC Hydro's fully allocated cost of service study methodology was the subject of a Negotiated Settlement Process Regarding BC Hydro's F2016 Cost of Service Study, included as Appendix A to Commission Order No. G-47-16 (**NSA**). This compliance filing incorporates changes to methodology described in the settlement to the NSA, as did our prior FACOS filing of March 15, 2018.

BC Hydro has undertaken further examination of the topic areas raised in the NSA. BC Hydro will file a Cost of Service Study Application before March 31, 2019, presenting this further examination and proposing changes to the methodology as applicable, for use in future FACOS filings.

The table below shows Revenue-to-Cost (**R/C**) ratios for all rate classes as compared to prior results. The F2014 FACOS were based on actual revenue and customer load data. The F2015 FACOS was not completed due to BC Hydro's 2015 Rate Design Application being underway. BC Hydro's 2015 Rate Design Application relied on an F2016 Forecast FACOS, and therefore two results are presented for fiscal 2016. The F2016 Forecast

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<sup>1</sup> [https://www.bcuc.com/Documents/Proceedings/2007/DOC\\_17004\\_10-26\\_BCHydro-Rate-Design-Phase-1-Decision.pdf](https://www.bcuc.com/Documents/Proceedings/2007/DOC_17004_10-26_BCHydro-Rate-Design-Phase-1-Decision.pdf)

cost of service study was based on forecast revenue and load data and was the subject of the NSA. The F2016 FACOS was based on actual revenue and load data and incorporates the methodology changes agreed to in the NSA. The F2017 FACOS is also based on actual revenue and load data, and uses the same methodology as was used in the F2016 FACOS.

Rate Class	Revenue to Cost Ratios				
	F2014 Actual (%)	F2016 Forecast (%)	F2016 Actual (%)	F2017 Actual (%)	Percentage Point Change (F2016 Actual to F2017 Actual) (%)
Residential	92.9	93.3	90.8	93.2	2.4
GS < 35 kW	123.5	111.9	122.6	123.6	1.0
MGS	119.5	117.2	123.5	115.1	-8.4
LGS	101.5	101.3	103.9	103.9	0.0
Irrigation	90.3	87.6	95.1	89.5	-5.6
Street Lighting – BC Hydro Owned	129.4	173.6	183.6	198.4	14.8
Street Lighting – Customer Owned		104.8	101.8	95.1	-6.7
Transmission	97.3	102.6	98.8	95.4	-3.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

There are a number of factors giving rise to the variances between F2017 Actual results and results of prior years, including:

- Residential Rate Class revenues were higher in fiscal 2017 largely because the winter of fiscal 2017 was colder than the winters of the other years presented above. For example, in fiscal 2017, seven per cent of days were below zero degrees Celsius, compare to an average of three per cent for fiscal 2014 and fiscal 2016. All else being equal, higher revenues from a rate class will increase its Revenue to Cost Ratio. Increased revenues due to the colder winter were a contributing factor to the change in the Residential Rate Class R/C ratio in fiscal 2017 relative to fiscal 2016;
- Cost of energy was higher in fiscal 2017 than in fiscal 2016. The increase in cost of energy was due to an increase in load as well as reductions in offsets to energy related generation functionalized costs such as surplus sales and other utility revenue. All else being equal, an increase in cost of energy without a corresponding increase in revenue will lower the R/C ratio for an individual rate class. Increased cost of energy, combined with little change to revenues, were the main reasons for

the change in the Transmission Rate Class R/C ratio in fiscal 2017 relative to fiscal 2016;

- A slight decrease in revenue and moderate increase of cost allocated to the MGS Rate Class resulted in a lower R/C ratio in fiscal 2017 relative to fiscal 2016 and;
- Improvements to the quality of load data collection on the Street Lighting and Irrigation Rate Classes resulted in an increase in demand related costs being assigned to Street Lighting - Customer Owned and Irrigation Rate Classes, and a decrease in demand related cost allocated to Street Lighting - BC Hydro Owned Rate Class. Although these changes in demand related costs were small in absolute value, they resulted in meaningful changes to the R/C ratios for these three rate classes. Variability in the R/C ratios is to be expected for smaller rate classes.

For further information, please contact Anthea Jubb at 604-623-3545 or by email at [bchydroregulatorygroup@bchydro.com](mailto:bchydroregulatorygroup@bchydro.com).

Yours sincerely,



Fred James  
Chief Regulatory Officer

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Enclosure

Copy to: BCUC Project No. 3698781 (2015 RDA) Registered Intervener Distribution List.

**F2017 Cost of Service - Actual Cost**

**Table of Contents**

Schedule	Description	Page
1.0	Functionalization Details	2
2.0	Classification of Generation Function	3
2.1	Classification of Transmission Function	4
2.2	Classification of Distribution Function	5
2.3	Classification of Customer Care	6
3.0	Allocation of Generation to Rate Classes	7
3.1	Allocation of Transmission to Rate Classes	8
3.2	Allocation of Distribution to Rate Classes	9
3.3	Allocation of Customer Care Costs	10
4.0	Summary of Costs by Function & R/C Ratios	11
4.1	Summary of Costs by Classification	12
4.2	Summary of Costs by Allocators	13
5.0	Energy Allocators	14
5.1	Demand Allocators	15
5.2	Allocator by Customer, Bill, Revenue, and Customer Care	16
6.0	Distribution Classification by Sub-Functionalization	17

Note: All costs are in \$ X 1 million unless otherwise noted.

**F2017 Cost of Service - Actual Cost  
Functionalization Details**

Revenue Requirement Schedule (F2017 Actual) <sup>1</sup>

		F2017 Revenue Requirement	Generation	Transmission	Distribution	Customer Care
<b>Cost of Energy</b>						
Sched 4, L37 + L99	IPPs and Long-term Purchases commitment	1,286.0	1,286.0	0.0	0.0	0.0
Sched 4, L 41	Domestic Transmission (Non-Heritage)	0.0	0.0	0.0	0.0	0.0
Sched 4, L 39	NIA Generation	25.0	25.0	0.0	0.0	0.0
Sched 4, L 40	Gas Transportation	11.7	11.7	0.0	0.0	0.0
Sched 4, L 26 + L36	Water Rentals	387.0	387.0	0.0	0.0	0.0
Sched 4, L 28 + L35 + L27	Market Purchases	3.4	3.4	0.0	0.0	0.0
Sched 4, L 29	Natural gas for thermal generation	9.5	9.5	0.0	0.0	0.0
Sched 4, L 30	Domestic Transmission (Heritage)	50.8	0.0	50.8	0.0	0.0
Sched 4, L 31	Non-treaty storage agreement	-23.3	-23.3	0.0	0.0	0.0
Sched 4, L 32 + L 33	Other and Surplus Sales	-174.1	-174.1	0.0	0.0	0.0
Sched 4, L 42	Net purchases (sales) from Powerex	2.3	2.3	0.0	0.0	0.0
Sched 4, L 46	HDA Additions	31.0	31.0	0.0	0.0	0.0
Sched 4, L 47	NHDA Additions	17.2	17.2	0.0	0.0	0.0
Sched 4, L 52	Deferred Operating HDA	-0.1	-0.1	0.0	0.0	0.0
Sched 4, L 53	Deferred Operating NHDA	-8.9	-8.9	0.0	0.0	0.0
Sched 4, L 54	Deferred Amortization NHDA	-3.3	-3.3	0.0	0.0	0.0
Sched 4, L 55	Deferred Taxes NHDA	-0.4	-0.4	0.0	0.0	0.0
Sched 4, L 57	Heritage Deferral Account Recoveries	-4.7	-4.7	0.0	0.0	0.0
Sched 4, L 58	Non-Heritage Deferral Account Recoveries	179.4	179.4	0.0	0.0	0.0
<b>Total</b>		<b>1,788.6</b>	<b>1,737.8</b>	<b>50.8</b>	<b>0.0</b>	<b>0.0</b>
<b>O M &amp; A Expenses</b> (updated according to organization structure change in F2017)						
Sched 5.0, L132	Training, Development and Generation	163.5	140.0	10.1	11.6	1.8
Sched 5.0, L133 to 134	Transmission, Distribution and Customer Services	672.2	35.3	248.8	269.9	118.3
Sched 5.0, L136	Capital Infrastructure Project Delivery	90.7	64.4	50.1	-25.7	1.9
Sched 5.0, L137+ L139, - Sched 5.1, L22.	Operations Support	36.4	-49.8	39.4	28.4	18.4
<b>Total</b>		<b>962.8</b>	<b>189.9</b>	<b>348.3</b>	<b>284.1</b>	<b>140.4</b>
<b>Depreciation &amp; Amortization</b>						
Sched 7, L 61	Generation	276.0	276.0	0.0	0.0	0.0
Sched 7, L 62	Transmission	211.3	0.0	211.3	0.0	0.0
Sched 7.0, L 63	Distribution	189.4	0.0	0.0	189.4	0.0
Sched 7.0, L 64 - L23	Customer Care	0.0	0.0	0.0	0.0	0.0
Sched 7, L57	Business Support	167.1	35.1	108.6	23.4	0.0
<b>Total</b>		<b>843.8</b>	<b>311.1</b>	<b>319.9</b>	<b>212.8</b>	<b>0.0</b>
<b>Taxes</b>						
Sched 6, L 32	Generation	40.5	40.5	0.0	0.0	0.0
Sched 6, L 33	Transmission	137.9	0.0	137.9	0.0	0.0
Sched 6, L34	Distribution	26.8	0.0	0.0	26.8	0.0
Sched 6, L 35 less L12	Customer Care	0.0	0.0	0.0	0.0	0.0
Sched 6, L 36	Business Support	15.7	3.1	10.5	2.0	0.0
<b>Total</b>		<b>220.9</b>	<b>43.6</b>	<b>148.4</b>	<b>28.8</b>	<b>0.0</b>
<b>Finance Charges</b>						
Sched 8,	Generation	300.2	300.2	0.0	0.0	0.0
Sched 8,	Transmission	256.1	0.0	256.1	0.0	0.0
Sched 8,	Distribution	165.8	0.0	0.0	165.8	0.0
Sched 8,	Customer Care	0.0	0.0	0.0	0.0	0.0
	Business Support	0.0	0.0	0.0	0.0	0.0
Sched 8.0, L 31	Interest on Regulatory Accounts	-75.3	-54.2	-5.3	-15.8	0.0
	Regulatory Account Recoveries	-167.9	-69.8	-59.5	-38.6	0.0
<b>Total</b>		<b>478.9</b>	<b>176.2</b>	<b>191.2</b>	<b>111.5</b>	<b>0.0</b>
<b>Allowed Net Income</b>						
Sched 9, L 65	Generation	284.2	284.2	0.0	0.0	0.0
Sched 9, L 66	Transmission	242.4	0.0	242.4	0.0	0.0
Sched 9, L 67	Distribution	157.0	0.0	0.0	157.0	0.0
Sched 9, L 68	Customer Care	0.0	0.0	0.0	0.0	0.0
Sched 9, L 69	Business Support	0.0	0.0	0.0	0.0	0.0
<b>Total</b>		<b>683.5</b>	<b>284.2</b>	<b>242.4</b>	<b>157.0</b>	<b>0.0</b>
<b>Miscellaneous Revenues</b>						
Sched 15, L 5, 13, 17, 25	Non Tariff Revenue (Functionalized)	-123.6	-2.3	-44.1	-52.7	-24.6
Sched 15, L 32	Corporate Miscellaneous Revenue	-19.5	-0.4	-6.9	-8.3	-3.9
Sched 15, L36	Regulatory Account Additions	-0.3	0.0	0.0	0.0	-0.3
<b>Total</b>		<b>-143.4</b>	<b>-2.6</b>	<b>-51.0</b>	<b>-61.0</b>	<b>-28.7</b>
<b>Revenue Offsets &amp; Other</b>						
Sched 1, L17	Subsidiary Net Income	-68.4	-68.4	0.0	0.0	0.0
Sched 1.0, L24	Other Utility Revenue	-13.0	-13.0	0.0	0.0	0.0
Sched 3.0, L80	liquefied Natural Gas Revenue	-0.4	-0.4	0.0	0.0	0.0
Sched 1.0, L21	Deferral Rider Revenue	-223.7	-223.7	0.0	0.0	0.0
Sched 1.0, L8	Intersegment revenues	-56.9	-3.0	-53.9	0.0	0.0
Sched 3.4, L11 (L9, L10)	Internal Allocations (GRTA, SDA)	0.0	43.3	-168.9	125.6	0.0
<b>Total</b>		<b>-362.4</b>	<b>-265.2</b>	<b>-222.8</b>	<b>125.6</b>	<b>0.0</b>
<b>Total Revenue Requirement</b>		<b>4,472.6</b>	<b>2,474.9</b>	<b>1,027.3</b>	<b>858.7</b>	<b>111.7</b>

1. As included in Attachment 2 of Section 6 of BC Hydro's Annual Financial Report to Commission dated September 14, 2017.

**Classification of Generation Function**  
(Functionalized Costs from Schedule 1.0)

	Functionalized Costs	Demand Related	Energy Related	Demand Costs	Energy Costs
<b>Cost of Energy</b>					
IPPs and Long-term Purchases commitment	1,286.0	7.00%	93.00%	90.02	1,195.94
Domestic Transmission (Non-Heritage)	-	0.00%	100.00%	-	-
NIA Generation	25.0	0.00%	100.00%	-	24.97
Gas Transportation	11.7	0.00%	100.00%	-	11.68
Water Rentals	387.0	10.00%	90.00%	38.70	348.34
Market Purchases	3.4	0.00%	100.00%	-	3.39
Natural gas for thermal generation	9.5	0.00%	100.00%	-	9.51
Domestic Transmission (Heritage)	-	100.00%	0.00%	-	-
Non-treaty storage agreement	(23.3)	0.00%	100.00%	0.0	(23.32)
Other and Surplus Sales	(174.1)	0.00%	100.00%	-	(174.07)
Net purchases (sales) from Powerex	2.3	0.00%	100.00%	-	2.32
HDA Additions	31.0	8.43%	91.57%	2.62	28.43
NHDA Additions	17.2	8.43%	91.57%	1.45	15.71
Deferred Operating HDA	(0.1)	8.43%	91.57%	(0.01)	(0.09)
Deferred Operating NHDA	(8.9)	8.43%	91.57%	(0.75)	(8.16)
Deferred Operating NHDA	(3.3)	8.43%	91.57%	(0.27)	(2.99)
Deferred Amortization NHDA	(0.4)	8.43%	91.57%	(0.03)	(0.35)
Heritage Deferral Account Recoveries	(4.7)	8.43%	91.57%	(0.39)	(4.29)
Non-Heritage Deferral Account Recoveries	179.4	8.43%	91.57%	15.12	164.30
	1,737.8	8.43%	91.57%	146.44	1,591.34
<b>O M &amp; A Expenses</b>					
Training, Development and Generation	126.6	55.00%	45.00%	69.63	56.97
Burrard	6.8	100.00%	0.00%	6.84	-
Fort Nelson	6.0	26.00%	74.00%	1.56	4.43
Prince Rupert	0.6	40.00%	60.00%	0.25	0.37
Thermal Generation	13.4	64.26%	35.74%	8.64	4.81
Transmission, Distribution and Customer Services	35.3	55.00%	45.00%	19.40	15.87
Capital Infrastructure Project Delivery	64.4	55.00%	45.00%	35.40	28.96
Operations Support	(49.8)	55.00%	45.00%	(27.37)	(22.40)
<b>Total</b>	189.9			105.69	84.21
<b>Depreciation &amp; Amortization</b>					
Amort on March 2016 Assets	191.0	55.00%	45.00%	105.02	85.93
Amortization on Additions	4.9	55.00%	45.00%	2.70	2.21
DSM Amortization	80.2	26.99%	73.01%	21.64	58.54
Generation	276.0	46.86%	53.14%	129.36	146.68
Transmission	-	55.00%	45.00%	-	-
Distribution	-	55.00%	45.00%	-	-
Customer Care	-	55.00%	45.00%	-	-
Business Support	35.1	55.00%	45.00%	19.30	15.79
<b>Total</b>	311.1			148.65	162.46
<b>Taxes</b>					
Generation	40.5	55.00%	45.00%	22.28	18.23
Transmission	-	55.00%	45.00%	-	-
Distribution	-	55.00%	45.00%	-	-
Customer Care	-	55.00%	45.00%	-	-
Business Support	3.1	55.00%	45.00%	1.70	1.39
<b>Total</b>	43.6			23.98	19.62
<b>Finance Charges</b>					
Generation	300.2	55.00%	45.00%	165.11	135.09
Transmission	-	55.00%	45.00%	-	-
Distribution	-	55.00%	45.00%	-	-
Customer Care	-	55.00%	45.00%	-	-
Interest on Deferral Accounts	(29.6)	8.43%	91.57%	(2.49)	(27.10)
Interest on Regulatory Accounts	(24.7)	55.00%	45.00%	(13.56)	(11.09)
Regulatory Account Recoveries	(69.8)	55.00%	45.00%	(38.39)	(31.41)
<b>Total</b>	176.2			110.67	65.49
<b>Allowed Net Income</b>					
Generation	284.2	55.00%	45.00%	156.28	127.87
Transmission	-	55.00%	45.00%	-	-
Distribution	-	55.00%	45%	-	-
Business Support	-	55.00%	45.00%	-	-
<b>Total</b>	284.2			156.28	127.87
<b>Miscellaneous Revenues</b>					
Non Tariff Revenue (Functionalized)	(2.3)	55.00%	45.00%	(1.25)	(1.02)
Corporate Miscellaneous Revenue	(0.36)	55.00%	45.00%	(0.20)	(0.16)
Regulatory Account Additions	-	55.00%	45.00%	-	-
<b>Total</b>	(2.6)			(1.45)	(1.18)
<b>Revenue Offsets &amp; Other</b>					
Subsidiary Net Income	(68.4)	26.99%	73.01%	(18.46)	(49.93)
Other Utility Revenue	(13.0)	55.00%	45.00%	(7.18)	(5.87)
liquefied Natural Gas Revenue	(0.4)	0.00%	100.00%	-	(0.36)
Deferral Rider Revenue	(223.7)	8.43%	91.57%	(18.85)	(204.82)
Intersegment revenues	(3.0)	55.00%	45.00%	(1.65)	(1.35)
Internal Allocations (GRTA, SDA)	43.3	55.00%	45.00%	23.82	19.49
<b>Total</b>	(265.2)			(22.3)	(242.9)
<b>Total Generation Costs</b>	<b>2,474.9</b>	<b>26.99%</b>	<b>73.01%</b>	<b>667.95</b>	<b>1806.96</b>

## Classification of Transmission Function

(Functionalized Costs from Schedule 1.0)

	Functionalized Costs	Demand Related	Demand Costs
<b>Cost of Energy</b>			
IPPs and Long-term Purchases commitment	-	100.00%	-
Domestic Transmission (Non-Heritage)	-	100.00%	-
NIA Generation	-	100.00%	-
Gas Transportation	-	100.00%	-
Water Rentals	-	100.00%	-
Market Purchases	-	100.00%	-
Natural gas for thermal generation	-	100.00%	-
Domestic Transmission (Heritage)	50.8	100.00%	50.83
Other and Surplus Sales	-		-
<b>Total</b>	<b>50.8</b>		<b>50.83</b>
<b>O M &amp; A Expenses</b>			
Training, Development and Generation	10.1	100.00%	10.07
Transmission, Distribution and Customer Service	248.8	100.00%	248.76
Capital Infrastructure Project Delivery	50.1	100.00%	50.10
Operations Support	39.4	100.00%	39.41
<b>Total</b>	<b>348.3</b>		<b>348.34</b>
<b>Depreciation &amp; Amortization</b>			
Generation	-	100.00%	-
Transmission	211.3	100.00%	211.29
Distribution	-	100.00%	-
Customer Care	-	100.00%	-
Business Support	108.6	100.00%	108.59
<b>Total</b>	<b>319.9</b>		<b>319.88</b>
<b>Taxes</b>			
Generation	-	100.00%	-
Transmission	137.9	100.00%	137.90
Distribution	-	100.00%	-
Customer Care	-	100.00%	-
Business Support	10.5	100.00%	10.54
<b>Total</b>	<b>148.4</b>		<b>148.44</b>
<b>Finance Charges</b>			
Generation	-	100.00%	-
Transmission	256.1	100.00%	256.05
Distribution	-	100.00%	-
Customer Care	-	100.00%	-
Interest on Regulatory Accounts	(5.3)	100.00%	(5.27)
Regulatory Account Recoveries	(59.5)	100.00%	(59.54)
<b>Total</b>	<b>191.2</b>		<b>191.25</b>
<b>Allowed Net Income</b>			
Generation	-	100.00%	-
Transmission	242.4	100.00%	242.37
Distribution	-	100.00%	-
Customer Care	-	100.00%	-
<b>Total</b>	<b>242.4</b>		<b>242.37</b>
<b>Miscellaneous Revenues</b>			
Non Tariff Revenue (Functionalized)	(44.1)	100.00%	(44.06)
Corporate Miscellaneous Revenue	(6.9)	100.00%	(6.94)
Regulatory Account Additions	-	100.00%	-
<b>Total</b>	<b>(51.0)</b>		<b>(51.00)</b>
<b>Revenue Offsets &amp; Other</b>			
Subsidiary Net Income	-	100.00%	-
Other Utility Revenue	-	100.00%	-
Deferral Rider Revenue	-	100.00%	-
Intersegment revenues	(53.9)	100.00%	(53.93)
Internal Allocations (GRTA, SDA)	(168.9)	100.00%	(168.88)
<b>Total</b>	<b>(222.8)</b>		<b>(222.81)</b>
<b>Total Transmission Costs</b>	<b>1,027.3</b>		<b>1,027.3</b>

**Classification of Distribution Function**  
(Functionalized Costs from Schedule 1.0)

	Functionalized Costs	Demand Related	Customer Related	SMI Energy Related	Streetlighting Costs (Direct Assigned)	Demand Costs	Customer Costs
<b>Cost of Energy</b>							
IPPs and Long-term Purchases commitment	-					-	-
Domestic Transmission (Non-Heritage)	-					-	-
NIA Generation	-					-	-
Gas Transportation	-					-	-
Water Rentals	-					-	-
Market Purchases	-					-	-
Natural gas for thermal generation	-					-	-
Domestic Transmission (Heritage)	-					-	-
Non-treaty storage agreement	-					-	-
Other and Surplus Sales	-					-	-
Net purchases (sales) from Powerex	-					-	-
Heritage Deferral Account Recoveries	-					-	-
Non-Heritage Deferral Account Recoveries	-					-	-
<b>Total</b>	-					-	-
<b>O M &amp; A Expenses</b>							
Training, Development and Generation	11.6	79%	21%			9.13	2.43
Transmission, Distribution and Customer Services	269.9	79%	21%		1.32	212.16	56.40
Capital Infrastructure Project Delivery	(25.7)	79%	21%			(20.30)	(5.40)
Operations Support	28.4	79%	21%			22.41	5.96
<b>Total</b>	284.1				1.32	223.39	59.38
<b>Depreciation &amp; Amortization</b>							
Generation	-	79%	21%			-	-
Transmission	-	79%	21%			-	-
Distribution	189.4	79%	21%		0.93	148.88	39.58
Customer Care	-	79%	21%			-	-
Business Support	23.4	79%	21%			18.48	4.91
<b>Total</b>	212.8				0.93	167.35	44.49
<b>Taxes</b>							
Generation	-	79%	21%			-	-
Transmission	-	79%	21%			-	-
Distribution	26.8	79%	21%		0.13	21.06	5.60
Customer Care	-	79%	21%			-	-
Business Support	2.0	79%	21%			1.62	0.43
<b>Total</b>	28.8				0.13	22.68	6.03
<b>Finance Charges</b>							
Generation	-	79%	21%			-	-
Transmission	-	79%	21%			-	-
Distribution	165.8	79%	21%		0.81	130.38	34.66
Customer Care	-	79%	21%			-	-
Interest on Regulatory Accounts	(15.8)	79%	21%			(12.50)	(3.32)
Regulatory Account Recoveries	(38.6)	79%	21%			(30.46)	(8.10)
<b>Total</b>	111.5				0.81	87.41	23.24
<b>Allowed Net Income</b>							
Generation	-	79%	21%			-	-
Transmission	-	79%	21%			-	-
Distribution	157.0	79%	21%		0.77	123.41	32.81
Business Support	-	79%	21%			-	-
<b>Total</b>	157.0				0.77	123.41	32.81
<b>Miscellaneous Revenues</b>							
Non Tariff Revenue (Functionalized)	(52.7)	79%	21%			(41.63)	(11.07)
Corporate Miscellaneous Revenue	(8.3)	79%	21%			(6.56)	(1.74)
Regulatory Account Additions	-	79%	21%			-	-
<b>Total</b>	(61.0)					(48.19)	(12.81)
<b>Revenue Offsets &amp; Other</b>							
Subsidiary Net Income	-	79%	21%			-	-
Other Utility Revenue	-	79%	21%			-	-
Deferral Rider Revenue	-	79%	0.2			-	-
Intersegment revenues	-	79%	21%			-	-
Internal Allocations (GRTA, SDA)	125.6	100%	0%			125.58	-
<b>Total</b>	125.6					125.58	-
<b>Total Distribution Costs</b>	<b>858.7</b>	<b>81.7%</b>	<b>17.8%</b>		<b>3.95</b>	<b>701.63</b>	<b>153.13</b>



## Classification of Customer Care Function

(Functionalized Costs from Schedule 1.0)

	Functionalized Costs	Demand Related	Customer Related	Demand Costs	Customer Costs
<b>Cost of Energy</b>					
IPPs and Long-term Purchases commitment	-	0%	100%	-	-
Domestic Transmission (Non-Heritage)	-	0%	100%	-	-
NIA Generation	-	0%	100%	-	-
Gas Transportation	-	0%	100%	-	-
Water Rentals	-	0%	100%	-	-
Market Purchases	-	0%	100%	-	-
Natural gas for thermal generation	-	0%	100%	-	-
Domestic Transmission (Heritage)	-	0%	100%	-	-
Other and Surplus Sales	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>O M &amp; A Expenses</b>					
Training, Development and Generation	1.8	0%	100%	-	1.80
Transmission, Distribution and Customer Service	118.3	0%	100%	-	118.35
Capital Infrastructure Project Delivery	1.9	0%	100%	-	1.91
Operations Support	18.4	0%	100%	-	18.37
<b>Total</b>	140.4			-	140.43
<b>Depreciation &amp; Amortization</b>					
Generation	-	0%	100%	-	-
Transmission	-	0%	100%	-	-
Distribution	-	0%	100%	-	-
Customer Care	-	0%	100%	-	-
Business Support	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>Taxes</b>					
Generation	-	0%	100%	-	-
Transmission	-	0%	100%	-	-
Distribution	-	0%	100%	-	-
Customer Care	-	0%	100%	-	-
Business Support	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>Finance Charges</b>					
Generation	-	0%	100%	-	-
Transmission	-	0%	0%	-	-
Distribution	-	0%	100%	-	-
Customer Care	-	0%	100%	-	-
Interest on Regulatory Accounts	-	0%	100%	-	-
Regulatory Account Recoveries	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>Allowed Net Income</b>					
Generation	-	0%	100%	-	-
Transmission	-	0%	100%	-	-
Distribution	-	0%	100%	-	-
Business Support	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>Miscellaneous Revenues</b>					
Non Tariff Revenue (Functionalized)	(24.6)	0%	100%	-	(24.57)
Corporate Miscellaneous Revenue	(3.9)	0%	100%	-	(3.87)
Regulatory Account Additions	(0.3)	0%	100%	-	(0.31)
<b>Total</b>	(28.7)			-	(28.75)
<b>Revenue Offsets &amp; Other</b>					
Subsidiary Net Income	-	0%	100%	-	-
Other Utility Revenue	-	0%	100%	-	-
Deferral Rider Revenue	-	0%	100%	-	-
Intersegment revenues	-	0%	100%	-	-
Internal Allocations (GRTA, SDA)	-	0%	100%	-	-
<b>Total</b>	-			-	-
<b>Total Customer Care Costs</b>	<b>111.7</b>			<b>-</b>	<b>111.7</b>

**Allocation of Generation Costs**

(Classified Costs from Schedule 2.0)

<b>Cost Classification</b>	Generation Demand	Generation Demand-Related Costs	Generation Energy	Generation Energy Related Costs
<b>Allocation Basis</b>	4 CP Demand including losses (Sched 5.1)	667.95	Energy Including Loss (Sched 5.0)	1,806.96
Residential	46.22%	308.71	35.72%	645.47
GS Under 35 kW	7.53%	50.28	8.10%	146.29
MGS < 150 kW	6.21%	41.49	6.83%	123.44
LGS > 150 kW	18.58%	124.07	22.19%	401.03
Irrigation	0.01%	0.05	0.16%	2.85
Street Lighting BCH	0.15%	1.00	0.10%	1.74
Street Lighting Cust	0.44%	2.96	0.36%	6.54
Transmission	20.87%	139.38	26.54%	479.60
<b>Total</b>	100.0%	667.95	100.0%	1,806.96

**Allocation of Transmission Costs**

(Classified Costs from Schedule 2.1)

<b>Cost Classification</b>	Transmission Demand	Demand Related Costs (Sched 2.1)
<b>Allocation Basis</b>	4 CP demand including losses (Sched 5.1)	1,027.30
Residential	46.22%	474.79
GS Under 35 kW	7.53%	77.34
MGS < 150 kW	6.21%	63.81
LGS > 150 kW	18.58%	190.82
Irrigation	0.01%	0.08
Street Lighting BCH	0.15%	1.54
Street Lighting Cust	0.44%	4.54
Transmission	20.87%	214.37
<b>Total</b>	100.0%	1,027.30

**Allocation of Distribution Costs**  
(Classified Costs from Schedule 2.2)

<b>Cost Classification</b>	Distribution Demand Related	Distribution Demand-Related	Distribution Secondary Demand Related	Distribution Secondary Demand-Related	Distribution Transformer Related	Distribution Transformer Related	Distribution Customer Related	Distribution Customer Related	Distribution Metering Related	Distribution Metering Related	Street Light Customer	Street Light Customer Related
<b>Allocation Basis</b>	NCP (Sched 5.1)	557.04	NCP w/o Primary (Sched 5.1)	68.28	Transformer Allocator (Sched 5.4)	152.64	Customer Count (Sched 5.2)	66.00	Metering Allocator (Sched 5.2)	10.81	Street Light Direct Assignment	3.95
Residential	57.09%	318.03	70.67%	48.25	65.51%	99.99	88.92%	58.69	77.40%	8.37	0.00%	0.00
GS Under 35 kW	10.02%	55.79	12.40%	8.46	16.80%	25.65	9.20%	6.07	16.01%	1.73	0.00%	0.00
MGS < 150 kW	8.35%	46.49	8.14%	5.56	10.74%	16.40	0.84%	0.56	4.40%	0.48	0.00%	0.00
LGS > 150 kW	23.43%	130.49	7.41%	5.06	5.41%	8.25	0.36%	0.24	1.90%	0.21	0.00%	0.00
Irrigation	0.42%	2.32	0.52%	0.35	0.54%	0.82	0.17%	0.11	0.29%	0.03	0.00%	0.00
Street Lighting BCH	0.19%	1.04	0.23%	0.16	0.33%	0.51	0.24%	0.16	0.00%	0.00	100.00%	3.95
Street Lighting Cust	0.51%	2.87	0.64%	0.43	0.67%	1.02	0.27%	0.18	0.00%	0.00	0.00%	0.00
Transmission	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00
<b>Total</b>	100.0%	557.04	100.0%	68.28	100.0%	152.64	100.0%	66.00	100.0%	10.81	100.0%	3.95

**Allocation of Customer Care Costs**

(Classified Costs from Schedule 2.3)

<b>Cost Classification</b>	Customer Care Demand	Customer Care Demand Related Costs	Customer Care Customer	Customer Care Customer Related Costs
<b>Allocation Basis</b>	NCP Sched 5.1	0.00	Blended Customer Count & Revenue Sched 5.3	111.68
Residential	57.09%	0.00	83.02%	92.72
GS Under 35 kW	10.02%	0.00	9.20%	10.27
MGS < 150 kW	8.35%	0.00	2.26%	2.53
LGS > 150 kW	23.43%	0.00	2.65%	2.96
Irrigation	0.42%	0.00	0.06%	0.07
Street Lighting BCH	0.19%	0.00	0.47%	0.53
Street Lighting Cust	0.51%	0.00	0.52%	0.58
Transmission	0.00%	0.00	1.81%	2.02
<b>Total</b>	100.0%	0.00	100.0%	111.68

**Summary of Costs by Function and Revenue to Cost Ratios**

Rate Class	Generation Costs	Transmission Costs	Distribution Costs	Customer Care Costs	Total Cost	Total Revenue	Revenue - Cost (\$ million)	Revenue:Cost Ratios	R/C Ratios last filed (F2016)	R/C Ratio change from last filed
Residential	954.18	474.79	533.33	92.72	2,055.02	1,916.21	-138.8	93.2%	90.8%	2.4%
GS Under 35 kW	196.58	77.34	97.71	10.27	381.89	472.14	90.2	123.6%	122.6%	1.0%
MGS < 150 kW	164.93	63.81	69.48	2.53	300.75	346.04	45.3	115.1%	123.5%	-8.4%
LGS > 150 kW	525.10	190.82	144.25	2.96	863.13	896.47	33.3	103.9%	103.9%	0.0%
Irrigation	2.90	0.08	3.63	0.07	6.69	5.99	-0.7	89.5%	95.1%	-5.6%
Street Lighting BCH	2.73	1.54	5.82	0.53	10.62	21.08	10.5	198.4%	183.6%	14.8%
Street Lighting Cust	9.49	4.54	4.50	0.58	19.12	18.17	-0.9	95.1%	101.8%	-6.7%
Transmission	618.99	214.37	0.00	2.02	835.38	796.87	-38.5	95.4%	98.8%	-3.4%
<b>Total</b>	<b>2,474.91</b>	<b>1,027.30</b>	<b>858.72</b>	<b>111.68</b>	<b>4,472.61</b>	<b>4,472.97</b>	<b>0.4</b>	<b>100.0%</b>		

*Note: The 0.36 \$M discrepancy between total revenues and total costs apparent in the table above arises from the treatment of revenues and costs associated with electricity sales to liquefied natural gas (LNG) customers. Costs associated with LNG customer load were omitted in compliance with The Direction Respecting Natural Gas Customers, B.C. Reg 150/2016 and the Domestic Long Term Sales Contracts Regulation, B.C. Reg 201/2014 which was in effect in F2017. Note that on October 2, 2018, Order in Council 512 was issued that repealed the above noted Regulations.*

*(<https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/electric-tariff/091%20ts-91.pdf>)*

**Summary of Costs by Classification**

Rate Class	Energy Related Costs	Generation Demand Related Costs	Transmission Demand Related Costs	Distribution Demand Related Costs	Total Demand Related Costs	Customer Related Costs	Total
Residential	645.5	308.7	474.8	416.3	1,199.8	209.8	2,055.0
GS Under 35 kW	146.3	50.3	77.3	77.1	204.7	30.9	381.9
MGS < 150 kW	123.4	41.5	63.8	60.3	165.6	11.8	300.8
LGS > 150 kW	401.0	124.1	190.8	139.7	454.6	7.5	863.1
Irrigation	2.9	0.1	0.1	3.1	3.2	0.6	6.7
Street Lighting BCH	1.7	1.0	1.5	1.5	4.0	4.9	10.6
Street Lighting Cust	6.5	3.0	4.5	3.8	11.3	1.3	19.1
Transmission	479.6	139.4	214.4	0.0	353.8	2.0	835.4
<b>Total</b>	<b>1,807.0</b>	<b>668.0</b>	<b>1,027.3</b>	<b>701.6</b>	<b>2,396.9</b>	<b>268.8</b>	<b>4,472.6</b>

**Percent of Costs by Allocator**

Rate Class	Generation Energy (kWh)	Generation & Transmission Demand (4CP)	Distribution Demand (NCP)	Customer (Various)
Residential	31%	38%	20%	10%
GS Under 35 kW	38%	33%	20%	8%
MGS < 150 kW	41%	35%	20%	4%
LGS > 150 kW	46%	36%	16%	1%
Irrigation	43%	2%	46%	9%
Street Lighting BCH	16%	24%	14%	46%
Street Lighting Cust	34%	39%	20%	7%
Transmission	57%	42%	0%	0%
<b>Total</b>	40%	38%	16%	6%



**Energy Allocators**

Rate Class	Energy @ Customer Meter	Distribution Loss Factor	Energy @ Transmission Interface	Transmission Loss Factor	Energy @ Generation Interface	Energy by Rate Class	Energy at Generator Allocation Factor
	(MWh)		(MWh)		(MWh)		
Residential	18,067,745	6.00%	19,151,810	6.00%	20,300,918	20,300,918	35.72%
GS Under 35 kW	4,094,959	6.00%	4,340,657	6.00%	4,601,096	4,601,096	8.10%
MGS < 150 kW Primary	87,981	3.44%	91,007	6.00%	96,468		
MGS < 150 kW Secondary	3,369,302	6.00%	3,571,460	6.00%	3,785,748		
MGS						3,882,216	6.83%
LGS > 150 kW Primary	7,863,645	3.44%	8,134,154	6.00%	8,622,204		
LGS > 150 kW Secondary	3,551,627	6.00%	3,764,724	6.00%	3,990,608		
LGS						12,612,811	22.19%
Irrigation	79,793	6.00%	84,581	6.00%	89,655	89,655	0.16%
Street Lighting BCH	48,569	6.00%	51,483	6.00%	54,572	54,572	0.10%
Street Lighting Cust	182,990	6.00%	193,970	6.00%	205,608	205,608	0.36%
Transmission	14,230,201	0.00%	14,230,201	6.00%	15,084,013	15,084,013	26.54%
<b>Total</b>	51,576,812		53,614,047		56,830,890	56,830,890	100.00%

## Demand Allocators

Rate Class	4 CP	NCP w/o T	NCP w/o Prim
Residential	46.22%	57.09%	70.67%
GS Under 35 kW	7.53%	10.02%	12.40%
MGS < 150 kW	6.21%	8.35%	8.14%
LGS > 150 kW	18.58%	23.43%	7.41%
Irrigation	0.01%	0.42%	0.52%
Street Lighting BCH	0.15%	0.19%	0.23%
Street Lighting Cust	0.44%	0.51%	0.64%
Transmission	20.87%	0.00%	0.00%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

<b>F2017 Cost of Service - Actual Cost Allocator by Customer, Bill and Revenue</b>				
Total BC Hydro - F17				
Rate Class	Actual Number of Accounts F17	Annual bills per account	Annual bills per rate class	# of Bills Allocator
Residential	1,776,503	6	10,659,018	87.49%
GS Under 35 kW	183,708	6	1,102,248	9.05%
MGS < 150 kW	16,818	12	201,816	1.66%
LGS > 150 kW	7,276	12	87,312	0.72%
Irrigation	3,356	2	6,712	0.06%
Street Lighting BCH	4,817	12	57,799	0.47%
Street Lighting Cust	5,390	12	64,685	0.53%
Transmission	301	12	3,612	0.03%
<b>Total</b>	<b>1,998,169</b>		<b>12,183,202</b>	<b>100.00%</b>

Rate Class	Actual Number of Accounts F17	Distribution Customer Count	Distribution Customer Allocator
Residential	1,776,503	1,776,503	88.92%
GS Under 35 kW	183,708	183,708	9.20%
MGS < 150 kW	16,818	16,818	0.84%
LGS > 150 kW	7,276	7,276	0.36%
Irrigation	3,356	3,356	0.17%
Street Lighting BCH	4,817	4,817	0.24%
Street Lighting Cust	5,390	5,390	0.27%
Transmission	301	301	0.00%
<b>Total</b>	<b>1,998,169</b>	<b>1,998,169</b>	<b>100.00%</b>

Rate Class	Actual Number of Accounts F17	Distribution Customer Count	Distribution Metering Allocator
Residential	1,776,503	1,776,503	77.40%
GS Under 35 kW	183,708	183,708	16.01%
MGS < 150 kW	16,818	16,818	4.40%
LGS > 150 kW	7,276	7,276	1.90%
Irrigation	3,356	3,356	0.29%
Street Lighting BCH	4,817	4,817	0.00%
Street Lighting Cust	5,390	5,390	0.00%
Transmission	301	301	0.00%
<b>Total</b>	<b>1,998,169</b>	<b>1,998,169</b>	<b>100.00%</b>

Rate Class	Revenue (\$millions)	Revenue Allocator
Residential	\$1,916	42.84%
GS Under 35 kW	\$472	10.56%
MGS < 150 kW	\$346	7.74%
LGS > 150 kW	\$896	20.04%
Irrigation	\$6	0.13%
Street Lighting BCH	\$21	0.47%
Street Lighting Cust	\$18	0.41%
Transmission	\$797	17.82%
<b>Total</b>	<b>\$4,473</b>	<b>100.00%</b>

Rate Class	90% # of Bills Allocator	10% Revenue Allocator	Blended Customer Care Allocator
Residential	78.74%	4.28%	83.02%
GS Under 35 kW	8.14%	1.06%	9.20%
MGS < 150 kW	1.49%	0.77%	2.26%
LGS > 150 kW	0.64%	2.00%	2.65%
Irrigation	0.05%	0.01%	0.06%
Street Lighting BCH	0.43%	0.05%	0.47%
Street Lighting Cust	0.48%	0.04%	0.52%
Transmission	0.03%	1.78%	1.81%
<b>Total</b>			<b>100.00%</b>

**Distribution Classification by Sub-Functionalization**

Sub-Function	F17 Year-End Assets (NBV)	% of assets (excluding Substation)	% of assets without Streetlighting	Demand-related %	Customer-related %	Demand % of Total Costs	Customer % of Total Costs	% of total Demand costs	% of total Customer costs
Primary	2,909.9	58.5%	58.8%	100%	0%	58.8%	0.0%	74.8%	0.0%
Secondary/Services	926.2	18.6%	18.7%	50%	50%	9.4%	9.4%	11.9%	43.9%
Meters	74.5	1.5%	1.5%	0%	100%	0.0%	1.5%	0.0%	7.1%
Transformers	1,035.3	20.8%	20.9%	50%	50%	10.5%	10.5%	13.3%	49.1%
Substation	418.5			100%	0%				
Streetlighting	24.3	0.49%							
<b>Total</b>	<b>5,388.7</b>	<b>100%</b>	<b>100%</b>			<b>78.7%</b>	<b>21.3%</b>	<b>100.0%</b>	<b>100.0%</b>