EXHIBIT 7 – COST ALLOCATION

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EXHIBIT 7 – COST ALLOCATION

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7.1 Cost Allocation Study Requirements

7.1.1 The 2021 Cost Allocation Model

London Hydro is filing a cost allocation study based on the model provided by the Board for distributors filing 2022 cost of service applications released on June 24, 2021. London Hydro has used the allocators prescribed in worksheet E-4 of the model in all instances. The cost allocation model is included in live Excel format as part of London Hydro's pre-filed evidence.

London Hydro proposes to retain the existing rate class definitions. With the exception of Co-Generation and Backup/Standby, each load customer and distributed generation customer is assigned to a single class. Distributed generation entities are not treated as a class because there is no allocation of capital or O&M cost to these entities.

Table 7-1 below is submitted per the Board's requirement to file RRWF Sheet 11 Cost Allocation, Table A (see London Hydro EB-2021-0041 2022 RRWF). In the table, the 2022 class revenue requirements are shown, along with those approved in London Hydro's previous 2017 cost-of-service rate application EB-2016-0091. The table also shows each class revenue requirement as a proportion of the whole revenue requirement. The changes in these proportions parallel the changing shares of electricity consumption amongst London Hydro's customers, as described in Exhibit 3. The changed proportions can also be traced to the changing structure of London Hydro's costs, particularly increased automation of meter-reading and billing. Finally, London Hydro is submitting load data that is updated significantly compared to that used in the 2017 cost allocation study.

Table 7-1: 2017 Approved and 2021 Proposed Class Revenue Requirements

Stage in Application Process: ***Initial Application***

A) Allocated Costs

	Name of Customer Class [3]	Costs Allocated from Previous Study [1]	%	Allocated Class Revenue Requirement [1]	%
	From Sheet 10. Load Forecast			(7A)	
1	Residential	$ 45,669,060	64.01%	$ 58,034,156	68.01%
2	General Service Less Than 50 kW	$ 9,075,447	12.72%	$ 9,414,605	11.03%
3	General Service 50 to 4,999 kW	$ 13,928,003	19.52%	$ 14,784,586	17.33%
4	General Service 1,000 To 4,999 kW (cc	$ 282,766	0.40%	$ 286,873	0.34%
5	Standby Power	$ 401,694	0.56%	$ 568,560	0.67%
6	Large Use	$ 622,123	0.87%	$ 769,857	0.90%
7	Street Lighting	$ 1,083,750	1.52%	$ 1,171,696	1.37%
8	Sentinel Lighting	$ 83,063	0.12%	$ 75,359	0.09%
9	Unmetered Scattered Load	$ 200,507	0.28%	$ 224,343	0.26%
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
	Total	$ 71,346,413	100.00%	**$ 85,330,034**	100.00%
			Service Revenue Requirement (from Sheet 9)	**$ 85,330,033.78**	

7.1.2 Functionalization of USoA Accounts

The values of the various allocators shown in worksheet E-2 are continued unchanged from the 2017 COS. Most allocators are 100%. The model requires that four accounts be split according to voltage level (above and below 750V) in worksheet I-4 “Break-Out Assets”. The purpose of these splits is to accurately allocate primary system costs to all distribution customers while allocating secondary system costs only to those customer classes that receive their power at the lower voltages. Table 7-2 below shows the proportions of each of the four accounts in the respective sub-accounts.

Table 7-2: Split according to voltage level (above and below 750V)

Account	Description	BO %
1830	**Poles, Towers and Fixtures - Subtransmission**	
1830-4	Poles, Towers and Fixtures - Primary	60%
1830-5	Poles, Towers and Fixtures - Secondary	40%
1835	**Overhead Conductors and Devices - Subtransmission**	
1835-4	Overhead Conductors and Devices - Primary	74%
1835-5	Overhead Conductors and Devices - Secondary	26%
1840	**Underground Conduit**	
1840-4	Underground Conduit - Primary	88%
1840-5	Underground Conduit - Secondary	12%
1845	**Underground Conductors and Devices**	
1845-4	Underground Conductors and Devices - Primary	92%
1845-5	Underground Conductors and Devices - Secondary	8%

The proportion of Pole Rental attributed to primary and secondary voltage matches USoA account 1830. The model attributes the revenue offset to the customer classes in the corresponding proportions.

7.1.3 Weighting Factors

Services & Billing and Collecting: London Hydro has maintained its costs for typical connections in each rate class. In addition, there has not been any significant change in billing and collecting activity. London Hydro proposes to continue the weighting factors as shown in Table 7-3 below.

Table7-3: 2022 Cost Allocation Inputs Services - Weighting Factors

Classes	Insert Weighting Factor for Services Account 1855	Insert Weighting Factor for Billing and Collecting
Residential	1.0	1.0
GS <50	2.5	1.3
GS > 50 to 4,999	7.5	1.3
CoGen	7.5	23.0
Standby	7.5	23.0
Large Use >5MW	15.0	60.5
Street Light	0.6	0.0
Sentinel	0.6	0.6
Unmetered Scattered Load	0.4	1.3

Meter Capital: The numbers of each type of meter forecast for mid-2022 are shown in worksheet I-7.1 in the Cost Allocation Model. As described in Exhibit 2, London Hydro's investment in meters has remained relatively stable since its previous rebasing, except for the replacement of demand meters with interval meters in the GS>50 kW class. The number of the latter have now leveled off as the replacement program is completed. The weighting factors in Table 7-4 are derived from the 2022 meter numbers and installed costs.

Table 7-4: Cost Allocation Inputs - Meter Capital Cost Weighting Factors

	Meter Capital Cost Relative to Residential	
Classes	2022	2017
Residential	1.00	1
GS <50	1.14	1.07
GS > 50 to 4,999	13.11	11.73
CoGen	68.98	109.83
Standby		
Large Use >5MW	72.69	141.66
Street Light		
Sentinel		
Unmetered Scattered Load		

Meter Reading: Meter reading has been largely replaced by the uploading of data from meters into London Hydro's billing system. The cost of meter reading relative to the monthly

per-customer cost of uploading load data is shown in the model worksheet I-7.2, and the derived weighting factors are shown in Table 7-5.

Table 7-5: Cost Allocation Inputs - Meter Reading Weights

Classes	Meter Read Cost Relative to Residential Average Cost 2022	2017
Residential	1.0	1.0
GS <50	1.0	1.0
GS > 50 to 4,999	9.0	8.7
CoGen	9.0	9.0
Standby		
Large Use >5MW	9.0	9.0
Street Light		
Sentinel		
Unmetered Scattered Load		

7.1.4 Customer and Revenue Data

The amount of cost that is categorized as customer-related, and hence allocated to classes based on customer data, is shown in the cost allocation model at worksheet E-1. The proportion of various rate base accounts that is categorized as customer-related is determined by customer density. London Hydro's forecast total length of distribution line is 2888 km, shown in worksheet I-5.1 'Miscellaneous Data'. With the forecast increase in customer numbers, the customer density will remain above 60 customers per km, leaving the proportion of asset accounts as between customer-related and demand-related costs unchanged from London Hydro's previous cost allocation studies.

The forecast of 2022 electricity consumption and billing quantities for each class is described in Exhibit 3. This information is input to the cost allocation model at worksheet I-6.1 Revenue (see Exhibit 7 Appendix below), along with the currently approved rates. The number of customers and connections in each class is required to calculate the allocators for customer-related costs. The forecast number of customers is described in Exhibit 3 and is entered in worksheet I 6.2 Customer Data (see Exhibit 7 Appendix below) of the model. The forecast number of customer connections and devices is required in worksheet I-6.2 for classes where these do not

correspond one-to-one with the number of customers. For the Street Lighting customer, the forecast of the number of devices (fixtures) has been updated for 2022, while the proportion of connections including daisy-chains has been assumed to remain constant with the information provided in 2017.

Revenue from each class at the current approved rates is calculated at the bottom of worksheet I-6.1. The revenue shown in the microFIT column is the current approved rate of $4.55 per month. Later in the model, the revenue from each class is multiplied by a constant factor to calculate "Distribution Revenue at Status Quo Rates". There is an exception to this procedure in London Hydro's model

7.1.5 Customer Load Profiles

Demand-related costs are the predominant factor in the allocation of costs to customer classes. The input data for the demand-related allocators is found in worksheet I-8 Demand Data (see London Hydro EB-2021-0041 2022_Cost_Allocation_Model) of the model. For its unmetered load customers, London Hydro is using load profiles derived in the same manner as in previous cost of service applications. However, for the great majority of its metered customers, in this application London Hydro is using load profiles based on updated comprehensive hourly load data.

In the Board Report "Application of Cost Allocation for Electricity Distributors " (EB-2007-0667) at p. *5* the Board anticipated that more accurate cost allocation would become possible with the use of Smart Meter data. London Hydro has analyzed the data from all of its interval meters, including Smart Meters, for the year 2020, and is using this information as the basis for its 2022 demand-related allocators. London Hydro believes that using comprehensive interval billing data from its own customers is a significant step forward from the previous practice of using load profiles inferred from a province-wide statistical sample.

The data base comprises hourly consumption during 2020 of Residential, GS<50 kW class, and GS>50 kW class, along with the Large User and Cogeneration/Backup/Standby customers. The GS>50 kW class was substantially transitioned to interval meters prior to 2020 with only a small declining number of GS>50 kW customers to be converted in 2020.

For each class the data is summed for all of the customers and is expressed as an hourly profile.

As in previous applications, a profile is also formed for each class of unmetered loads. London Hydro has used the same profile as it has used in previous applications for Street Lighting and Sentinel Lighting. For the Unmetered Scattered Load class, London Hydro uses a uniform 24-hour loads.

The resulting class load profiles have been prorated to match the load forecast for each class. London Hydro has performed the detailed analysis of these scaled profiles that is necessary to produce the coincident and non-coincident peak load of each class for each month of 2022. The class-by-class loads are found in worksheet I-8 Demand Data (see London Hydro EB-2021-0041 2022_Cost_Allocation_Model) of the cost allocation model.

For most classes, the load data required to allocate line transformer costs is either the entire class load, or zero. For the GS> 50 kW and Co-Generation classes, some customers provide their own transformer while others do not. The proportion of the class total billing demand that does not qualify for the Transformer Ownership Allowance is used to derive transformer non-coincident demand for that class.

London Hydro acknowledges that the load profiles submitted in previous applications were normalized for average weather conditions, and that the profiles used in this application for the metered classes are based on a single year of measured consumption only. In the future it will be possible and desirable to use several years of data to ensure weather-normalized load profiles. London Hydro submits that the interval billing data measured in 2020 yields a reasonably valid basis for the demand-related cost allocators on a placeholder basis. London Hydro recognizes that 2020 was an anomalous year due to Covid-19 and therefore anticipates being afforded the opportunity to update this profile with 2021 values prior to or upon settlement of this decision.

7.2 Class Revenue Requirements

7.2.1 Revenue at Existing Rates

Forecasts of billing quantities of all rate classes can be found in Exhibit 3. London Hydro's existing 2021 distribution rates are entered in the Cost Allocation Model worksheet I-6.1 Revenue (see Exhibit 7 Appendix below), together with the 2022 forecast billing quantities. The resulting forecasts of 2022 revenue if rates were to remain unchanged are found in the cost allocation model in worksheet O-1, row 18.

The forecast of total Miscellaneous Revenue is found in Exhibit 3. London Hydro has followed Board policy with respect to the allocation of the various components of Miscellaneous Revenue, which is to allocate revenue in the same proportion as the corresponding cost drivers. Specifically with respect to revenue from Pole Rental, London Hydro has divided the forecast revenue from Pole Rentals in the same proportion as USoA account 1830 'Poles, Towers, and Fixtures'. The forecast revenue is split between primary and secondary voltage, and then allocated to rate classes using the allocators for sub-accounts 1830-4 and 1830-5 respectively.

7.2.3 Revenue at "Status Quo"

London Hydro's revenue deficiency can be stated as a percentage of its distribution revenue at existing rates. It follows that, if each distribution rate were to be increased by this percentage, the deficiency would be reduced to zero. These hypothetical rates would retain the existing rate structure and are referred to as "Status Quo" rates. The class revenues that would result from these hypothetical rates are calculated in the Cost Allocation model and are shown in the second column of Table 7-6. This column shows revenues with status quo rates increased by the same percentage as distribution rates. The third column shows Miscellaneous Revenue, allocated on a class-by-class basis. Miscellaneous Revenue does not change between the "existing rates" and "status quo rates" scenarios.

The third data column shows the class revenue requirements. The final column shows the ratio of class revenue (including Miscellaneous Revenue) to class revenue requirement. The ratios are referred to as "status quo revenue to cost ratios".

Table 7-6: Revenue at "Status Quo"

Classes	Total Revenue at Current Rates A	Distribution Revenue at Staus Quo B	Allocated Miscellaneous Reveue C	Total Revenue at Status Quo D	Class Revenue E	Allocated Costs F	Revenue To Cost G = F- D	Status Quo Revenue to Cost Ratio H = F / D
Residential	46,839,758	51,947,868	4,116,530	56,064,398	65.7%	58,034,156	1,969,758	96.6%
General Service Less Than 50 kW	9,527,811	10,566,866	675,509	11,242,375	13.2%	9,414,605	(1,827,770)	119.4%
General Service 50 to 4,999 kW	12,150,624	13,475,710	1,014,391	14,490,102	17.0%	14,784,586	294,485	98.0%
General Service 1,000 To 4,999 kW (co-generation)	493,871	547,730	11,894	559,624	0.7%	286,873	(272,751)	195.1%
Standby Power	464,642	515,313	23,652	538,966	0.6%	568,560	29,594	94.8%
Large Use	671,680	744,930	34,717	779,646	0.9%	769,857	(9,790)	101.3%
Street Lighting	1,175,963	1,304,207	104,422	1,408,629	1.7%	1,171,696	(236,933)	120.2%
Sentinel Lighting	48,116	53,363	4,456	57,818	0.1%	75,359	17,541	76.7%
Unmetered Scattered Load	157,755	174,959	13,518	188,477	0.2%	224,343	35,866	84.0%
Total	71,530,218	79,330,946	5,999,088	85,330,034	100.0%	85,330,034	0	100.0%

Exhibit 7 Appendix below is a copy of the Cost Allocation Model worksheet O-1, which is filed per the Board's Filing Requirements. It shows the derivation of the status quo revenue to cost ratios, and also shows the detailed components of the class revenue requirements. Revenue at existing rates and status quo rates are shown at rows 18 and 23 respectively.

It may not seem remarkable that the status quo ratios differ considerably from the previously approved ratios, which are shown in the first column of Table 7-7. While some change is to be expected over the five-year interim, London Hydro believes that the size of the changes in this evidence stem in part from the improved load data described above. The load profile of the Cogeneration/Standby customers has changed somewhat over the interim, also resulting in a higher allocation in 2022 compared to 2017. With cost allocation being a zero-sum game, their inevitable effect on the remaining classes is a larger proportion of total cost, and it follows that status quo revenue-to-cost ratios in the higher revenue classes are somewhat stabilized compared to what was approved in the previous Decision.

Table 7-7: 2017 Approved vs 2022 Status Quo Revenue Cost Ratio

Classes	2013 BA Revenue Cost Ratio	2017 BA Revenue Cost Ratio	2022 Status Quo Revenue Cost Ratio
Residential	109.7%	98.9%	96.6%
General Service Less Than 50 kW	93.8%	117.5%	119.4%
General Service 50 to 4,999 kW	82.7%	92.6%	98.0%
General Service 1,000 To 4,999 kW (co-generation)	109.1%	139.0%	195.1%
Standby Power	64.5%	71.2%	94.8%
Large Use	115.8%	80.9%	101.3%
Street Lighting	81.3%	134.6%	120.2%
Sentinel Lighting	81.1%	72.1%	76.7%
Unmetered Scattered Load	82.0%	86.6%	84.0%

7.3 Revenue-to-Cost Ratios

7.3.1 Revenue Re-balancing

For purposes of this cost allocation exercise London Hydro has determined to maintain the rate classes that have the status quo allocation within the OEB target range to remain in place. For those classes whose status quo ratios fall outside of the OEB target range, London Hydro proposes to phase in adjustments to the floor or ceiling values over the next two-year period or as board directed. It can be seen that in column 2 of Table 7-8 below that the classes whose status quo revenue to cost ratios fall outside the Board's policy range for the following classes: Co-Generation and, Sentinel Lighting.

London Hydro has determined that the General Service less than and greater than 50 kW classes will absorb the allocation adjustments. Hence Table 7-8 shows London Hydro's proposed revenue rebalancing for 2022. The first data column in Table 7-8 shows the 2017 Board Approved Allocation. The second column shows the status quo revenue to cost ratios derived in Table 7-9, and the final two columns in Table 7-8 show the Board's policy range for each rate class.

Table 7-8: Rebalancing Revenue-to-Cost (R/C) Ratios

Rate Class	Previously Approved Ratios Most Recent Year: 2017	Status Quo Ratios (7C + 7E) / (7A)	Proposed Ratios (7D + 7E) / (7A)	Target Range Floor	 Ceiling
Residential	109.7%	96.5%	97.4%	85%	115%
General Service Less Than 50 kW	93.8%	119.3%	117.9%	80%	120%
General Service 50 to 4,999 kW	82.7%	97.6%	96.4%	80%	120%
General Service 1,000 To 4,999 kW (co-gener	109.1%	196.3%	161.6%	80%	120%
Standby Power	64.5%	96.4%	97.6%	80%	120%
Large Use	115.8%	101.0%	91.6%	85%	115%
Street Lighting	81.3%	120.2%	116.5%	80%	120%
Sentinel Lighting	81.1%	76.7%	98.1%	80%	120%
Unmetered Scattered Load	82.0%	84.0%	91.3%	80%	120%

London Hydro reasons that the proposed allocations are reasonable as our first cut at applying the new load profiles using the smart meter and interval data. Table 7-9 shows the impact analysis of our proposed rate class changes.

Table 7-9: Impact Analysis Rate Class Change

Rate Class	Proposed Fixed Service Charge Revenue A	Proposed Distribution Volumetric Revenue B	Proposed Total Revenue C	Current Revenue	Change $ Revenue	Change % Revenue	Status Quo Revenue To Expense %	Proposed Cost Allocation Revenue To Expense %	Target Range Floor	Target Range Ceiling
Residential	52,382,750	0	52,382,750	46,839,758	5,542,992	11.8%	96.5%	97.4%	85.0%	115.0%
General Service Less Than 50 kW	5,901,972	4,586,884	10,488,856	9,527,811	961,045	10.1%	119.3%	118.6%	80.0%	120.0%
General Service 50 to 4,999 kW	3,325,609	10,594,268	13,919,877	12,637,789	1,282,088	10.1%	97.7%	97.1%	80.0%	120.0%
Standby Power	0	636,059	636,059	568,322	67,737	11.9%	96.7%	97.8%	80.0%	120.0%
Large Use	258,211	414,042	672,253	671,680	574	0.1%	101.2%	91.8%	85.0%	115.0%
Street Lighting	870,275	389,788	1,260,063	1,175,963	84,101	7.2%	120.1%	116.5%	80.0%	120.0%
Sentinel Lighting	40,353	29,018	69,370	48,116	21,255	44.2%	76.7%	98.0%	80.0%	120.0%
Unmetered Scattered Load	55,023	136,038	191,060	157,755	33,305	21.1%	83.9%	91.2%	80.0%	120.0%
microFIT	0	0	0	0			0.00%	0.0%	80.0%	120.0%
	62,998,586	17,049,870	80,048,456	72,247,728	7,800,729	10.8%				

As discussed above London Hydro proposes to bring the revenue-to-cost ratios to the boundaries of the ranges applicable to the respective classes. In order to avoid any significant increase in the distribution rates encountered by customers in the classes whose ratios will be increased, London Hydro proposes a phase-in period of four years. The proposed future year revenue to cost ratios adjustments are shown in Table 7-10. London Hydro has however determined that the General Service less than and greater than 50 kW classes will absorb the allocation adjustments.

Table 7-10: Impact Analysis Rate Class Change

Rate Class	Proposed Ratios				Target Range	
	2022	2023	2024	2025	Floor	Ceiling
Residential	97.4%	97.4%	97.4%	97.4%	85%	115%
General Service Less Than 50 kW	117.9%	117.9%	117.9%	117.9%	80%	120%
General Service 50 to 4,999 kW	96.4%	96.4%	96.4%	96.4%	80%	120%
General Service 1,000 To 4,999 kW (co-generation	161.6%	140.0%	120.0%	120.0%	80%	120%
Standby Power	97.6%	97.6%	97.6%	97.6%	80%	120%
Large Use	91.6%	91.6%	91.6%	91.6%	85%	115%
Street Lighting	116.5%	116.5%	116.5%	116.5%	80%	120%
Sentinel Lighting	98.1%	98.1%	98.1%	98.1%	80%	120%
Unmetered Scattered Load	91.3%	91.3%	91.3%	91.3%	80%	120%

7.4 OTHER COST ALLOCATION INFORMATION

Board worksheet I6.1, I6.2, I8, O1, AND O2 are provided in the appendix below,

Per the Filing Requirement the Cost Allocation model has been filed in live Excel format.

- London Hydro EB-2021-0041 2022_Cost_Allocation_Model
- London Hydro EB-2021-0041 CA Load Profile Design
- London Hydro EB-2021-0041 2022 RRWF

7.5 CONFIRMATION OF COMMUNICATION - UNMETERED LOAD

London Hydro acknowledges that the OEB expects distributors to document its communications with unmetered load customers, including street lighting customers, and how the distributor assisted them in understanding the regulatory context in which distributors operate and how it affects unmetered load customers.

London Hydro herein confirms communication with unmetered load customers, street lighting and sentinel lighting customers with respect to notification filing of this application.

7.6 APPENDIX

COST ALLOCATION MODEL – I6.1, I6.2, I8, O1, AND O2

Ontario Energy Board

2022 Cost Allocation Model

EB-2021-0041

Sheet I6.1 Revenue Worksheet - Original Application

Total kWhs from Load Forecast	3,063,348,161
Total kWs from Load Forecast	3,824,191
Deficiency/sufficiency (RRWF 8. cell F51)	- 7,800,729
Miscellaneous Revenue (RRWF 5. cell F48)	5,999,088

			1	2	3	4	5	6	7	8	9
	ID	**Total**	**Residential**	**GS <50**	**GS > 50 to 4,999**	**CoGen**	**Standby**	**Large Use >5MW**	**Street Light**	**Sentinel**	**Unmetered Scattered Load**
Billing Data											
Forecast kWh	**CEN**	3,063,348,161	1,219,995,338	365,492,042	1,336,134,398	30,252,424	-	90,751,530	14,936,832	462,196	5,323,401
Forecast kW	**CDEM**	3,824,191	-	-	3,363,562	72,330	172,800	172,428	41,823	1,248	-
Forecast kW, included in CDEM, of customers receiving line transformer allowance		1,195,850			955,844	67,206	172,800				
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.		-									
KWh excluding KWh from Wholesale Market Participants	**CEN EWMP**	3,053,953,815	1,222,479,172	366,236,161	1,323,400,765	8,935,431	21,347,133	90,833,666	14,936,832	461,254	5,323,401
Existing Monthly Charge			$25.98	$34.18	$166.96	$2,279.47	$0.00	$21,499.20	$1.74	$4.90	$2.46
Existing Distribution kWh Rate			$0.0000	$0.0114	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0211
Existing Distribution kW Rate			$0.0000	$0.0000	$2.8829	$3.9819	$3.2889	$2.3992	$8.6979	$16.1272	$0.0000
Existing TOA Rate			$0.00	$0.00	$0.60	$0.60	$0.60	$0.00	$0.00	$0.00	$0.00
Additional Charges			$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Distribution Revenue from Rates		$72,247,728	$46,839,758	$9,527,811	$12,724,130	$534,194	$568,322	$671,680	$1,175,963	$48,116	$157,755
Transformer Ownership Allowance		$717,510	$0	$0	$573,506	$40,324	$103,680	$0	$0	$0	$0
Net Class Revenue	**CREV**	$71,530,218	$46,839,758	$9,527,811	$12,150,624	$493,871	$464,642	$671,680	$1,175,963	$48,116	$157,755

Ontario Energy Board

2022 Cost Allocation Model

EB-2021-0041

Sheet I6.2 Customer Data Worksheet - Original Application

			1	2	3	4	5	6	7	8	9
	ID	Total	Residential	GS <50	GS > 50 to 4,999	CoGen	Standby	Large Use >5MW	Street Light	Sentinel	Unmetered Scattered Load
Billing Data											
Bad Debt 3 Year Historical Average	BDHA	$875,303	$698,354	$80,498	$96,450	$0	$0	$0	$0	$0	$0
Late Payment 3 Year Historical Average	LPHA	$1,011,441	$639,433	$130,847	$241,161			$0			
Number of Bills	CNB	1,980,384	1,802,916	156,852.00	18,132.00	108.00		12.00	12.00	1,764.00	588.00
Number of Devices	CDEV		150,243	13,071	1,511	9		1	38,898	476	1,539
Number of Connections (Unmetered)	CCON	21,464							19,449	476	1,539
Total Number of Customers	CCA	165,032	150,243	13,071	1,511	9		1	1	147	49
Bulk Customer Base	CCB	165,032	150,243	13,071	1,511	9		1	1	147	49
Primary Customer Base	CCP	166,475	150,243	13,071	1,511	9		1	1,640		
Line Transformer Customer Base	CCLT	166,365	150,243	13,071	1,411				1,640		
Secondary Customer Base	CCS	163,611	150,243	13,071	100				1	147	49
Weighted - Services	CWCS	196,241	150,243	32,678	750	-	-	-	11,669	286	616
Weighted Meter -Capital	CWMC	35,172,699	28,338,045	2,821,096	3,737,524	221,193	-	54,841	-	-	-
Weighted Meter Reading	CWMR	2,124,036	1,802,916	156,852	163,188	972	-	108	-	-	-
Weighted Bills	CWNB	2,035,428	1,802,916	203,908	23,572	2,484	-	726	-	1,058	764

Bad Debt Data

Historic Year:	2018	1,232,380	932,295	143,695	156,389						
Historic Year:	2019	679,494	530,632	52,316	96,546						
Historic Year:	2020	714,034	632,135	45,484	36,416						
Three-year average		**875,303**	**698,354**	**80,498**	**96,450**	-	-	-	-	-	-

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Sheet I8 Demand Data Worksheet - Original Application

This is an input sheet for demand allocators.

CP TEST RESULTS	4 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 to 4,999	4 CoGen	5 Standby	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
		CP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
CO-INCIDENT PEAK											
1 CP											
Transformation CP	TCP1	671,909	322,294	79,021	242,231	3,014	7,200	17,507	35	1	607
Bulk Delivery CP	BCP1	671,909	322,294	79,021	242,231	3,014	7,200	17,507	35	1	607
Total Sytem CP	DCP1	671,909	322,294	79,021	242,231	3,014	7,200	17,507	35	1	607
4 CP											
Transformation CP	TCP4	2,458,806	1,236,098	265,290	863,026	8,952	21,387	61,485	139	5	2,424
Bulk Delivery CP	BCP4	2,458,806	1,236,098	265,290	863,026	8,952	21,387	61,485	139	5	2,424
Total Sytem CP	DCP4	2,458,806	1,236,098	265,290	863,026	8,952	21,387	61,485	139	5	2,424
12 CP											
Transformation CP	TCP12	5,946,716	2,746,112	672,758	2,296,816	15,889	37,960	151,591	17,844	474	7,272
Bulk Delivery CP	BCP12	5,946,716	2,746,112	672,758	2,296,816	15,889	37,960	151,591	17,844	474	7,272
Total Sytem CP	DCP12	5,946,716	2,746,112	672,758	2,296,816	15,889	37,960	151,591	17,844	474	7,272
NON CO_INCIDENT PEAK											
		NCP Sanity Check	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
1 NCP											
Classification NCP from Load Data Provider	DNCP1	719,258	349,229	79,948	248,067	5,887	14,065	17,813	3,491	145	613
Primary NCP	PNCP1	719,258	349,229	79,948	248,067	5,887	14,065	17,813	3,491	145	613
Line Transformer NCP	LTNCP1	683,707	349,229	79,948	231,649	5,498	13,134	-	3,491	145	613
Secondary NCP	SNCP1	451,164	349,229	79,948	16,417	390	931	-	3,491	145	613
4 NCP											
Classification NCP from Load Data Provider	DNCP4	2,651,243	1,278,719	293,381	936,693	16,759	40,038	68,704	13,962	550	2,437
Primary NCP	PNCP4	2,651,243	1,278,719	293,381	936,693	16,759	40,038	68,704	13,962	550	2,437
Line Transformer NCP	LTNCP4	2,516,788	1,278,719	293,381	874,701	15,650	37,388	-	13,962	550	2,437
Secondary NCP	SNCP4	1,654,799	1,278,719	293,381	61,992	1,109	2,650	-	13,962	550	2,437
12 NCP											
Classification NCP from Load Data Provider	DNCP12	6,510,266	2,919,035	750,288	2,506,773	34,542	82,523	166,734	41,761	1,337	7,272
Primary NCP	PNCP12	6,510,266	2,919,035	750,288	2,506,773	34,542	82,523	166,734	41,761	1,337	7,272
Line Transformer NCP	LTNCP12	6,169,882	2,919,035	750,288	2,340,872	32,256	77,062	-	41,761	1,337	7,272
Secondary NCP	SNCP12	3,893,342	2,919,035	750,288	165,902	2,286	5,461	-	41,761	1,337	7,272

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Sheet O1 Revenue to Cost Summary Worksheet - Original Application

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 to 4,999	4 CoGen	5 Standby	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
crev	Distribution Revenue at Existing Rates	$71,530,218	$46,839,758	$9,527,811	$12,150,624	$493,871	$464,642	$671,680	$1,175,963	$48,116	$157,755
mi	Miscellaneous Revenue (mi)	$5,999,088	$4,116,530	$675,509	$1,014,391	$11,894	$23,652	$34,717	$104,422	$4,456	$13,518
		Miscellaneous Revenue Input equals Output									
	Total Revenue at Existing Rates	$77,529,305	$50,956,288	$10,203,319	$13,165,015	$505,764	$488,294	$706,396	$1,280,384	$52,571	$171,273
	Factor required to recover deficiency (1 + D)	1.1091									
	Distribution Revenue at Status Quo Rates	$79,330,946	$51,947,868	$10,566,866	$13,475,710	$547,730	$515,313	$744,930	$1,304,207	$53,363	$174,959
	Miscellaneous Revenue (mi)	$5,999,088	$4,116,530	$675,509	$1,014,391	$11,894	$23,652	$34,717	$104,422	$4,456	$13,518
	Total Revenue at Status Quo Rates	$85,330,034	$56,064,398	$11,242,375	$14,490,102	$559,624	$538,966	$779,646	$1,408,629	$57,818	$188,477
	Expenses										
di	Distribution Costs (di)	$18,915,855	$11,979,598	$2,213,498	$3,873,045	$67,307	$160,453	$226,452	$320,531	$18,400	$56,570
cu	Customer Related Costs (cu)	$7,992,000	$6,793,507	$716,136	$457,620	$17,075	$0	$4,340	$0	$1,928	$1,393
ad	General and Administration (ad)	$17,870,145	$12,419,176	$1,950,926	$2,908,186	$56,424	$108,572	$154,861	$218,323	$13,864	$39,814
dep	Depreciation and Amortization (dep)	$22,148,800	$14,739,305	$2,446,907	$4,100,803	$82,475	$159,708	$202,110	$328,520	$21,823	$67,148
INPUT	PILs (INPUT)	$403,436	$265,313	$45,754	$75,520	$1,394	$3,065	$3,992	$6,671	$424	$1,303
INT	Interest	$5,207,440	$3,424,583	$590,584	$974,790	$17,994	$39,566	$51,525	$86,112	$5,473	$16,813
	Total Expenses	$72,537,677	$49,621,483	$7,963,805	$12,389,963	$242,669	$471,364	$643,282	$960,157	$61,913	$183,040
	Direct Allocation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NI	Allocated Net Income (NI)	$12,792,357	$8,412,673	$1,450,800	$2,394,623	$44,203	$97,196	$126,575	$211,539	$13,446	$41,302
	Revenue Requirement (includes NI)	$85,330,034	$58,034,156	$9,414,605	$14,784,586	$286,873	$568,560	$769,857	$1,171,696	$75,359	$224,343
		Revenue Requirement Input equals Output									
	Rate Base Calculation										
	Net Assets										
dp	Distribution Plant - Gross	$576,127,141	$379,160,973	$64,460,987	$109,165,119	$2,067,372	$4,399,194	$5,535,885	$8,903,385	$594,940	$1,839,287
gp	General Plant - Gross	$93,367,371	$61,332,731	$10,564,437	$17,571,500	$322,646	$717,165	$924,695	$1,528,479	$99,581	$306,137
accum dep	Accumulated Depreciation	($234,637,862)	($154,913,926)	($25,848,928)	($44,793,597)	($887,279)	($1,767,570)	($2,152,874)	($3,330,160)	($229,122)	($714,406)
co	Capital Contribution	($78,246,213)	($51,097,944)	($8,745,917)	($15,138,130)	($270,476)	($635,109)	($778,731)	($1,212,981)	($89,801)	($277,125)
	Total Net Plant	$356,610,437	$234,481,834	$40,430,579	$66,804,893	$1,232,263	$2,713,680	$3,528,975	$5,888,723	$375,597	$1,153,893
	Directly Allocated Net Fixed Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
COP	Cost of Power (COP)	$313,268,716	$125,399,565	$37,567,802	$135,751,908	$916,579	$2,189,748	$9,317,543	$1,532,192	$47,315	$546,064
	OM&A Expenses	$44,778,000	$31,192,282	$4,880,560	$7,238,851	$140,806	$269,025	$385,654	$538,854	$34,192	$97,777
	Directly Allocated Expenses	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Subtotal	*$358,046,716*	*$156,591,847*	*$42,448,362*	*$142,990,759*	*$1,057,385*	*$2,458,773*	*$9,703,197*	*$2,071,046*	*$81,507*	*$643,841*
	Working Capital	$26,853,504	$11,744,389	$3,183,627	$10,724,307	$79,304	$184,408	$727,740	$155,328	$6,113	$48,288
	Total Rate Base	$383,463,940	$246,226,222	$43,614,206	$77,529,200	$1,311,567	$2,898,088	$4,256,714	$6,044,051	$381,710	$1,202,181
		Rate Base Input equals Output									
	Equity Component of Rate Base	$153,385,576	$98,490,489	$17,445,682	$31,011,680	$524,627	$1,159,235	$1,702,686	$2,417,620	$152,684	$480,872
	Net Income on Allocated Assets	$12,792,357	$6,442,915	$3,278,570	$2,100,138	$316,954	$67,602	$136,365	$448,472	($4,095)	$5,436
	Net Income on Direct Allocation Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Net Income	$12,792,357	$6,442,915	$3,278,570	$2,100,138	$316,954	$67,602	$136,365	$448,472	($4,095)	$5,436
	RATIOS ANALYSIS										
	REVENUE TO EXPENSES STATUS QUO%	100.00%	96.61%	119.41%	98.01%	195.08%	94.79%	101.27%	120.22%	76.72%	84.01%
	EXISTING REVENUE MINUS ALLOCATED COSTS	($7,800,728)	($7,077,868)	$788,714	($1,619,571)	$218,892	($80,266)	($63,460)	$108,689	($22,788)	($53,070)
		Deficiency Input equals Output									
	STATUS QUO REVENUE MINUS ALLOCATED COSTS	($0)	($1,969,758)	$1,827,770	($294,485)	$272,751	($29,594)	$9,790	$236,933	($17,541)	($35,866)
	RETURN ON EQUITY COMPONENT OF RATE BASE	8.34%	6.54%	18.79%	6.77%	60.42%	5.83%	8.01%	18.55%	-2.68%	1.13%

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

Output sheet showing minimum and maximum level for Monthly Fixed Charge

Summary	1 Residential	2 GS <50	3 GS > 50 to 4,999	4 CoGen	5 Standby	6 Large Use >5MW	7 Street Light	8 Sentinel	9 Unmetered Scattered Load
Customer Unit Cost per month - Avoided Cost	$4.02	$4.07	$13.96	$318.52	0	$670.69	$0.00	$0.33	$0.07
Customer Unit Cost per month - Directly Related	$6.47	$7.01	$30.20	$453.57	0	$978.90	$0.00	$0.56	$0.12
Customer Unit Cost per month - Minimum System with PLCC Adjustment	$19.14	$25.19	$48.00	$458.08	0	$966.32	$4.22	$13.18	$12.05
Existing Approved Fixed Charge	$25.98	$34.18	$166.96	$2,279.47	$0.00	$21,499.20	$1.74	$4.90	$2.46