## Exhibit 7 - Cost Allocation

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Exhibit 7

## EXHIBIT 7 - COST ALLOCATION

The evidence presented in this exhibit provides information supporting the various elements of CHE's proposed cost allocation. The evidence herein is organized according to the following topics;

1) Cost Allocation

## Tab 1 - Cost Allocation

## E7.T1.S1 Overview of Cost Allocation

CHEI has prepared and is filling a cost allocation information filing consistent with the utility's understanding of the Directions, the Guidelines, the Model and the Instructions issued by the Board back in November of 2006 and all subsequent updates.

The main objectives of the original information filing back in 2006, was to provide information on any apparent cross-subsidization among a distributor's rate classifications and to eventually be used in future rate applications. As part of its 2010 Cost of Service Rate Application, CHEI updated the cost allocation revenue to cost ratios with 2010 base revenue requirement information. The revenue to cost ratios from the 2010 application are presented below.

Table 1: Previously Approved Ratios

|  | $\%$ |
| :--- | :---: |
| Residential | 103.00 |
| GS $<50 \mathrm{~kW}$ | 0.91 |
| GS >50 | 121.00 |
| Street Lighting | 120.00 |
| Unmetered Scattered Load (USL) | 120.00 |

CHEI has prepared a Cost Allocation Study for 2014 based on an allocation of the 2014 test year costs (i.e., the 2014 forecast revenue requirement) to the various customer classes using allocators that are based on the forecast class loads ( kW and kWh ) by class, customer counts, etc.

CHEI has used the updated Board-approved Cost Allocation Model and followed the instructions and guidelines issued by the Board to enter the 2014 data into this model.

CHEI populated the information on Sheet I3, Trial Balance Data with the 2014 forecasted data, Target Net Income, PILs, Deemed interest on long term debt, and the targeted Revenue Requirement and Rate Base.

On Sheet I4, Break-out of Assets, CHEI updated the allocation of the accounts based on 2014 values.

In Sheet I5.1, Miscellaneous data, CHEI updated the deemed equity component of rate base, km of roads where distribution lines exist, working capital allowance, the proportion of pole rent revenue from secondary poles, and the monthly service charges.

In Sheet I5.2, Weighting Factors, CHEI has used LDC specific factors versus the use of default factors as instructed by the Board. The utility has applied service and billing \&collecting weightings for each customer classification. These weightings are based upon costs incurred servicing these particular customer class:

- Residential: weighted for services and for billing and collecting as " 1 " per Cost Allocation instruction sheet
- General Service less than 50 kW : weighted " 1 " for billing \& collecting. CHEI feels that no more time, attention and costs are spent on these customers as the residential class. The weighting factor for services
requires slightly more planning and monitoring for general service class than the residential class.
- The Weighted factor for the General Service greater than 50 kW also resulted in 1 for billing and collecting: These customer are billed from a file and require no more time, effort and cost than any other class. Weighting for services is " 2 " as the time and cost of the installations require additional planning and preparation time due to the complexity of the metering equipment. Additional time is also required to ensure the demand data is programmed and monitored appropriately.
- A Weighting factor of 1 is also used for the billing and collecting of the Streetlighting class and Unmetered Scattered Load as it requires no more time and effort to bill than the residential class. Services Weighting factors is not applicable for each of these classes.

In Sheet I6.1 Revenue has been populated with the 2014 Test year forecast data as well as existing rates.

Sheet I6.2 has been updated with the required Bad Debt and Late Payment revenue data as well as customer/connection number information devices.

CHEI updated the capital cost meter information on Sheet I7.1 and the meter reading information on I7.2 in accordance with the recent update to smart meters.

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Tab 1

On sheet I8, Demand data is based on the output of CHEI's load forecast model.

No Direct Allocations on Sheet I9 were used.

The revenue to cost ratios calculated on Sheet O1 of the Cost Allocation model for the 2014 updated study is provided at the next page.


Sheet OI Revenue to Cost Summary Worksheet - Initial Submission
Instructions: Please see the first tab in this workbook for detailed instructions
Class Revenue, Cost Analysis, and Return on Rate Base

| Rate Base Assets crev mi | Distribution Revenue at Existing Rates Miscellaneous Revenue (mi) | Total | 1 | 2 | 3 | 7 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Residential | GS $\mathbf{~ 5 0}$ | GS>50-Regular | Street Light | Unmetered Scattered Load |
|  |  | $\begin{array}{r} \hline \$ 89,063 \\ \$ 30,281 \end{array}$ | $\begin{array}{r} \hline \$ 601,067 \\ \$ 26,214 \end{array}$ | $\begin{array}{r} \text { \$124,182 } \\ \$ 2,588 \end{array}$ | $\$ 88,600$ $\$ 251$ | $\$ 14,681$ $\$ 1,023$ | $\$ 10,534$ $\$ 204$ |
|  |  | Miscellaneous Revenue Input equals Output |  |  |  |  |  |
|  | Total Revenue at Existing Rates <br> Factor required to recover deficiency (1 + D) Distribution Revenue at Status Quo Rates Miscellaneous Revenue (mi) <br> Total Revenue at Status Quo Rates | \$869,344 | \$627,281 | \$126,770 | \$88,852 | \$15,704 | \$10,738 |
|  |  | 0.9997 |  |  |  |  |  |
|  |  | \$838,797 | \$600,876 | \$124,142 | \$88,572 | \$14,676 | \$10,530 |
|  |  | \$30,281 | \$26,214 | \$2,588 | \$251 | \$1,023 | \$204 |
|  |  | \$869,078 | \$627,090 | \$126,731 | \$88,823 | \$15,699 | \$10,735 |
|  | Expenses |  |  |  |  |  |  |
| di | Distribution Costs (di) | \$53,200 | \$36,593 | \$6,926 | \$7,640 | \$1,927 | \$114 |
| cu | Customer Related Costs (cu) | \$178,174 | \$161,273 | \$13,369 | \$936 | \$1,048 | \$1,549 |
| ad | General and Administration (ad) | \$324,905 | \$277,415 | \$28,631 | \$12,287 | \$4,254 | \$2,319 |
| dep | Depreciation and Amortization (dep) | \$132,428 | \$94,741 | \$17,883 | \$14,661 | \$4,873 | \$270 |
| INPUT | PILS (INPUT) | \$7,944 | \$5,646 | \$1,052 | \$930 | \$299 | \$17 |
|  | Interest | \$68,890 | \$48,962 | \$9,123 | \$8,067 | \$2,592 | \$146 |
|  | Total Expenses | \$765,541 | \$624,630 | \$76,984 | \$44,521 | \$14,992 | \$4,414 |
| N | Direct Allocation | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
|  | Allocated Net Income (NI) | \$103,537 | \$73,586 | \$13,712 | \$12,125 | \$3,895 | \$219 |
|  | Revenue Requirement (includes NI) | \$869,078 | \$698,216 | \$90,695 | \$56,646 | \$18,887 | \$4,633 |
|  |  | Revenue Requirement Input equals Output |  |  | \$0 |  |  |
|  | Rate Base Calculation |  |  |  |  |  |  |
|  | Net Assets |  |  |  |  |  |  |
|  | Distribution Plant - Gross General Plant - Gross | $\begin{array}{r} \$ 4,155,640 \\ \$ 218,673 \end{array}$ | $\$ 2,938,053$ $\$ 155,114$ | $\begin{gathered} \$ 539,998 \\ \$ 28,778 \end{gathered}$ | $\$ 500,392$ $\$ 25,871$ | $\$ 167,821$ $\$ 8,436$ | \$9,376 $\$ 473$ |
|  | Accumulated Depreciation | (\$1,559,384) | (\$1,096,414) | (\$198,319) | (\$193,230) | (\$67,666) | (\$3,755) |
|  | Capital Contribution | (\$442,246) | (\$310,469) | (\$56,264) | (\$55,142) | (\$19,300) | (\$1,071) |
|  | Total Net Plant | \$2,372,683 | \$1,686,285 | \$314,193 | \$277,891 | \$89,291 | \$5,023 |
|  | Directly Allocated Net Fixed Assets | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| COP | Cost of Power (COP) | \$3,364,829 | \$2,319,110 | \$539,141 | \$456,033 | \$40,793 | \$9,752 |
|  | OM\&A Expenses | \$556,279 | \$475,281 | \$48,926 | \$20,863 | \$7,228 | \$3,981 |
|  | Subtotal | \$3,921,108 | \$2,794,391 | \$588,066 | \$476,896 | \$48,022 |  |
|  | Working Capital | \$509,744 | \$363,271 | \$76,449 | \$61,996 | \$6,243 | \$1,785 |
|  | Total Rate Base | \$2,882,427 | \$2,049,556 | \$390,641 | \$339,888 | \$95,534 | \$6,808 |
|  |  | Rate Base Input equals Output |  |  |  |  |  |
|  | Equity Component of Rate Base | \$1,152,971 | \$819,822 | \$156,257 | \$135,955 | \$38,213 | \$2,723 |
|  | Net Income on Allocated Assets | \$103,537 | \$2,460 | \$49,747 | \$44,302 | \$707 | \$6,320 |
|  | Net Income on Direct Allocation Assets | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
|  | Net Income | \$103,537 | \$2,460 | \$49,747 | \$44,302 | \$707 | \$6,320 |
|  |  |  |  |  |  |  |  |

Sheet OI Revenue to Cost Summary Worksheet - Initial Submission
Instructions:
Please see the first tab in this workbook for detailed instructions
Class Revenue, Cost Analysis, and Return on Rate Base

## Rate Base <br> Assets

ratios analysis
revenue to expenses status quo\%
EXISTING REVENUE MINUS ALLOCATED COSTS
STATUS QUO REVENUE MINUS ALLOCATED COSTS RETURN ON EQUITY COMPONENT OF RATE BASE

|  | 1 | 2 | 3 | 7 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total | Residential | GS $<50$ | GS>50-Regular | Street Light | Unmetered Scattered Load |
| 100.00\% | 89.81\% | 139.73\% | 156.81\% | 83.12\% | 231.68\% |
| \$266 | (\$70,935) | \$36,075 | \$32,206 | $(\$ 3,183)$ | \$6,104 |
| Deficiency Input Does Not Equal Output |  |  |  |  |  |
| (\$0) | (\$71,126) | \$36,035 | \$32,178 | $(\$ 3,188)$ | \$6,101 |
| 8.98\% | 0.30\% | 31.84\% | 32.59\% | 1.85\% | 232.08\% |



## 2014 Cost Allocation Model

Sheet O2 Monthly Fixed Charge Min. © Max. Worksheet - Initial Submission
Output sheet showing minimum and maximum level for Monthly Fixed Charge

## Summary

Customer Unit Cost per month - Avoided Cost
Customer Unit Cost per month - Directly Related
Customer Unit Cost per month - Minimum System with PLCC Adjustment

Existing Approved Fixed Charge

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{7}$ | $\mathbf{9}$ |
| :---: | :---: | :---: | :---: | :---: |
| Residential | GS $\mathbf{5 0}$ | GS $>50-$ Regular | Street Light | Unmetered <br> Scattered Load |
| $\$ 7.54$ | $\$ 9.87$ | $\$ 19.50$ | $\$ 0.19$ | $\$ 6.33$ |
| $\$ 16.75$ | $\$ 19.45$ | $\$ 30.47$ | $\$ 0.49$ | $\$ 15.33$ |
| $\$ 19.75$ | $\$ 22.53$ | $\$ 33.59$ | $\$ 3.68$ | $\$ 16.39$ |
| $\$ 13.70$ | $\$ 20.34$ | $\$ 245.27$ | $\$ 1.60$ | $\$ 40.01$ |

Per the Filing Requirements for Transmission and Distribution Applications dated June 22, 2011, CHEI has completed OEB Appendix 2-P with the results of the 2014 cost allocation study and proposed adjustments. The Allocated cost table (2), calculated class revenues (2) and Rebalancing Revenue-to-Cost (R/C) Ratios (3) are summarized at the next few pages.

Table 2: Allocated Costs

| Classes | Costs Allocated from <br> Previous Study | $\%$ | Costs Allocated in <br> Test Year Study <br> (Column 7A) | $\%$ |
| :--- | :---: | :---: | :---: | :---: |
| Residential | $\$ 557,055$ | $67.51 \%$ | $\$ 722,823$ | $83.19 \%$ |
| GS $<50 \mathrm{~kW}$ | $\$ 140,228$ | $16.99 \%$ | $\$ 96,219$ | $11.07 \%$ |
| GS $>50 \mathrm{~kW}$ | $\$ 78,850$ | $9.56 \%$ | $\$ 26,316$ | $3.03 \%$ |
| GS > xxx kW, if applicable |  |  |  | $0.00 \%$ |
| Large User, if applicable |  |  |  | $0.00 \%$ |
| Street Lighting | $\$ 25,794$ | $3.13 \%$ | $\$ 18,880$ | $2.17 \%$ |
| Sentinel Lighting | $\$ 23,212$ | $2.81 \%$ |  | $0.00 \%$ |
| Unmetered Scattered Load (USL) |  |  |  | $0.54 \%$ |
| Other class, if applicable |  |  |  | $0.00 \%$ |
|  | $\$ 825,139$ | $100.00 \%$ | $\$ 868,892$ | $100.00 \%$ |
| Embedded distributor class |  |  |  | $0.00 \%$ |
| Total |  |  |  |  |

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Tab 1

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| Classes | Costs Allocated <br> from Previous <br> Study | $\%$ | Costs Allocated <br> in Test Year <br> Study <br> (Column 7A) | $\%$ |
| :--- | :---: | :---: | :---: | :---: |
| Residential | $\$ 557,055.00$ | $67.51 \%$ | $\$ 698,216.00$ | $80.34 \%$ |
| GS $<50 \mathrm{~kW}$ | $\$ 140,228.00$ | $16.99 \%$ | $\$ 90,695.00$ | $10.44 \%$ |
| GS >50 kW (or $50 \mathrm{~kW}<\mathrm{GS}<$ | $\$ 78,850.00$ | $9.56 \%$ | $\$ 56,646.00$ | $6.52 \%$ |
| xxx kW, if applicable) |  | $0.00 \%$ |  | $0.00 \%$ |
| GS > xxx kW, if applicable |  | $0.00 \%$ |  | $0.00 \%$ |
| Large User, if applicable | $\$ 25,794.00$ | $3.13 \%$ | $\$ 18,887.00$ | $2.17 \%$ |
| Street Lighting |  | $0.00 \%$ |  | $0.00 \%$ |
| Sentinel Lighting | $\$ 23,212.00$ | $2.81 \%$ | $\$ 4,633.00$ | $0.53 \%$ |
| Unmetered Scattered Load (USL) |  | $0.00 \%$ |  | $0.00 \%$ |
| Other class, if applicable |  | $0.00 \%$ |  | $0.00 \%$ |
|  |  | $0.00 \%$ |  | $0.00 \%$ |
| Embedded distributor class |  |  |  | $100.00 \%$ |
| Total | $\$ 825,139.00$ |  | $\$ 869,077.00$ |  |

## Exhibit 7

Tab 1

Table 3: Class Revenues

| Classes (same as previous table) | Column 7B | Column 7C | Column 7D | Column 7E |
| :--- | :---: | :---: | :---: | :---: |
|  | Load Forecast <br> $(\mathbf{L F}) \mathbf{X}$ current <br> approved rates | L.F. X current <br> approved rates X <br> $(\mathbf{1 + d})$ | LF X proposed rates | Miscellaneous <br> Revenue |
|  | $\$ 601,066.66$ | $\$ 600,826.18$ | $\$ 671,725.80$ | $\$ 26,262.00$ |
| GS $<50 \mathrm{~kW}$ | $\$ 124,181.57$ | $\$ 124,131.89$ | $\$ 112,420.64$ | $\$ 2,599.00$ |
| GS $>50 \mathrm{~kW})$ | $\$ 88,600.19$ | $\$ 88,564.75$ | $\$ 31,393.19$ | $\$ 193.00$ |
| GS > xxx kW, if applicable |  |  |  | $\$ 1,023.00$ |
| Large User, if applicable |  |  |  | $\$ 204.00$ |
| Street Lighting | $\$ 14,681.01$ | $\$ 14,675.14$ | $\$ 17,880.49$ |  |
| Sentinel Lighting |  |  |  | $\$ 5,377.76$ |
| Unmetered Scattered Load (USL) | $\$ 10,533.76$ | $\$ 10,529.55$ |  |  |
| Other class, if applicable |  |  |  | $\$ 30,281.00$ |
|  |  |  |  |  |
| Embedded distributor class |  |  |  |  |
| Total | $\$ 839,063.19$ | $\$ 838,727.50$ |  |  |

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| Classes (same as previous table) | Column 7B | Column 7C | Column 7D | Column 7E |
| :--- | :---: | :---: | :---: | :---: |
|  | Load Forecast <br> (LF) X current | L.F. X current <br> approved rates | LF X proposed <br> rates | Miscellaneous <br> Revenue |
| Residential | $\$ 601,066.66$ | $\$ 600,876.59$ | $\$ 671,939.06$ | $\$ 26,262.00$ |
| GS < 50 kW | $\$ 124,181.57$ | $\$ 124,142.30$ | $\$ 88,096.20$ | $\$ 2,599.00$ |
| GS $>50 \mathrm{~kW}$ (or $50 \mathrm{~kW}<\mathrm{GS}<\mathrm{xxx} \mathrm{kW}$, if <br> applicable) | $\$ 88,600.19$ | $\$ 88,572.18$ | $\$ 56,453.13$ | $\$ 193.00$ |
| GS > xxx kW, if applicable |  |  |  |  |
| Large User, if applicable |  |  |  |  |
| Street Lighting | $\$ 14,681.01$ | $\$ 14,676.37$ | $\$ 17,880.49$ | $\$ 1,023.00$ |
| Sentinel Lighting | $\$ 10,533.76$ | $\$ 10,530.43$ | $\$ 4,429.01$ | $\$ 204.00$ |
| Unmetered Scattered Load (USL) |  |  |  |  |
| Other class, if applicable |  |  |  |  |
|  |  |  |  | $\$ 38,797.87$ |
| Embedded distributor class | $\$ 839,063.19$ | $\$ 838,797.87$ |  |  |
| Total |  |  |  |  |

Tab 1

Table 4: Rebalancing Revenue to Cost Ratios

| Class | $\begin{array}{c}\text { Previously } \\ \text { Approved } \\ \text { Ratios }\end{array}$ | $\begin{array}{c}\text { Status Quo } \\ \text { Ratios }\end{array}$ | $\begin{array}{c}\text { Proposed } \\ \text { Ratios }\end{array}$ | $\begin{array}{c}\text { Policy } \\ \text { Range }\end{array}$ |
| :--- | :---: | :---: | :---: | :---: |
|  | $\begin{array}{c}\text { (7C + 7E) / } \\ \mathbf{( 7 A )}\end{array}$ | (7D + 7E) / (7A) |  |  |$]$

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| Class | Previously Approved Ratios | Status Quo Ratios | Proposed Ratios | Policy Range |
| :---: | :---: | :---: | :---: | :---: |
|  | Most Recent Year: 20XX | $(7 \mathrm{C}+7 \mathrm{E}) /(7 \mathrm{~A})$ | $(7 \mathrm{D}+7 \mathrm{E}) /(7 \mathrm{~A})$ |  |
|  | \% | \% | \% | \% |
| Residential | 103.00 | 89.82 | 100.00 | 85-115 |
| GS < 50 kW | 0.91 | 139.74 | 100.00 | 80-120 |
| GS > 50 kW (or $50 \mathrm{~kW}<\mathrm{GS}<x x x \mathrm{~kW}$, if applicable) | 121.00 | 156.70 | 100.00 | 80-120 |
| GS > xxx kW, if applicable |  |  |  | 80-120 |
| Large User, if applicable |  |  |  | 85-115 |
| Street Lighting | 120.00 | 83.12 | 100.09 | 70-120 |
| Sentinel Lighting |  |  |  | 80-120 |
| Unmetered Scattered Load (USL) | 120.00 | 231.70 | 100.00 | 80-120 |
| Other class, if applicable |  |  |  |  |
|  |  |  |  |  |
| Embedded distributor class |  |  |  | , |

Table 5 below provides a breakdown of the proposed revenue allocation based on the results of the updated Cost Allocation Study (Sheet O2). The first column shows the allocated costs from the proposed service revenue requirement while the second column

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shows the per class allocation of the proposed service revenue requirement. The third and fourth column show the breakdown of the revenue offsets as calculated in the cost allocation model. Columns 7-8-9-10 show the results of the cost allocation model and the last column calculates the maximum charge per class.

Tab 1

Table 5: Cost Allocation Results

| Cost Allocation Results | REVENUE ALLOCATION (sheet 01) |  |  |  |  |  |  | CUSTOMER UNIT COST PER MONTH (sheet 02) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Customer Class Name | Servic | ev Req <br> 0) | Misc. R | nue (mi) <br> 9) | Base | Req | $\begin{array}{\|c} \text { Rev2Cost } \\ \text { Expenses \% } \\ \text { (row 80) } \end{array}$ | Avoided Costs (Minimum Charg) | Directly Related | Minimum System with PLCC * adjustment | Maximum Charge |
| Residential | 722,823 | 83.19\% | 26,262 | 86.73\% | 696,561 | 83.06\% | 85.49\% | \$8.27 | \$17.49 | \$20.29 | \$20.29 |
| General Service < 50 kW | 96,219 | 11.07\% | 2,599 | 8.58\% | 93,620 | 11.16\% | 135.53\% | \$10.99 | \$20.58 | \$23.47 | \$23.47 |
| General Service > 50 to 4999 kW | 26,316 | 3.03\% | 193 | 0.64\% | 26,123 | 3.12\% | 359.91\% | \$21.41 | \$32.23 | \$36.19 | \$245.27 |
| Unmetered Scattered Load | 4,654 | 0.54\% | 204 | 0.67\% | 4,450 | 0.53\% | 238.47\% | \$6.58 | \$15.58 | \$16.45 | \$40.01 |
| Street Lighting | 18,880 | 2.17\% | 1,023 | 3.38\% | 17,857 | 2.13\% | 77.93\% | \$0.22 | \$0.51 | \$3.70 | \$3.70 |
| MicroFit |  |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 868,892 | 100.00\% | 30,281 | 100.00\% | 838,611 | 100.00\% |  |  |  |  |  |

Table 6: Cost Allocation of Revenue Requirement
Revenue Reallocation - Service Revenue Requirement

| Customer Class Name | Base Revenue Requirement \% |  |  |  |  |  | Revenue Offsets |  | Service Revenue Requirement \$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cost Allocation Results |  | Existing Rates |  | Proposed Allocation |  | \% | \$ | Cost Allocation | $\begin{gathered} \hline \text { Existing } \\ \text { Rates } \\ \hline \end{gathered}$ | Rate Application |
| Residential | 83.06\% | 696,716 | 71.63\% | 600,826 | 80.08\% | 671,726 | 86.73\% | 26,262 | 722,978 | 627,088 | 697,988 |
| General Service < 50 kW | 11.16\% | 93,641 | 14.80\% | 124,132 | 13.40\% | 112,421 | 8.58\% | 2,599 | 96,240 | 126,731 | 115,020 |
| General Service > 50 to 4999 kW | 3.12\% | 26,129 | 10.56\% | 88,565 | 3.74\% | 31,393 | 0.64\% | 193 | 26,322 | 88,758 | 31,586 |
| Unmetered Scattered Load | 0.53\% | 4,451 | 1.26\% | 10,530 | 0.64\% | 5,378 | 0.67\% | 204 | 4,655 | 10,734 | 5,582 |
| Street Lighting | 2.13\% | 17,861 | 1.75\% | 14,675 | 2.13\% | 17,880 | 3.38\% | 1,023 | 18,884 | 15,698 | 18,903 |
| MicroFit |  |  |  |  |  |  |  |  |  |  |  |
| TOTAL |  | 838,798 |  | 838,728 | 100.00\% | 838,798 |  | 30,281 | 869,079 | 869,009 | 869,079 |

Table 7: Revenue to Cost Ratios
Revenue to Cost Ratio Allocation

|  |  |  |  |
| :--- | :---: | :---: | :---: |
| Customer Class Name | Calculated <br> R/C Ratio | Proposed <br> R/C Ratio | Variance |
| Residential | 0.85 | 0.97 | 0.11 |
| General Service $<50 \mathrm{~kW}$ | 1.36 | 1.20 | -0.16 |
| General Service $>50$ to 4999 kW | 3.60 | 1.20 | -2.40 |
| Unmetered Scattered Load | 2.38 | 1.20 | -1.19 |
| Street Lighting | 0.78 | 1.00 | 0.22 |
| MicroFit |  |  |  |
|  |  |  |  |


| Target Range |  |
| :---: | :---: |
| Floor | Celiling |
| 0.85 | 1.15 |
| 0.80 | 1.20 |
| 0.80 | 1.20 |
| 0.70 | 1.20 |
| 0.70 | 1.20 |
|  |  |
|  |  |

The reason for the significant difference in the calculated ratios and proposed ratios is due to the utility specific weighting factors. The default factors used in the previous cost allocation did not accurately reflect the actual billing, collecting and services at CHEI. How the proposed revenues to cost ratios are used to determine rates is discussed in detail at Exhibit 8.

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| Cost Allocation Results | REVENUE ALLOCATION (sheet 01) |  |  |  |  |  |  | CUSTOMER UNIT COST PER MONTH (sheet O2) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Customer Class Name | Servic (ro | ev Req 40) | Misc. (r | nue (mi) <br> 9) | Bas | Req | Rev2Cost <br> Expenses <br> $\%$ (row 80) | Avoided Costs (Minimum | Directly Related | Minimum System vith PLCC | Maximum Charge |
| Residential | 698,216 | 80.34\% | 26,262 | 86.73\% | 671,954 | 80.11\% | 89.81\% | \$7.54 | \$16.75 | \$19.75 | \$19.75 |
| General Service < 50 kW | 90,695 | 10.44\% | 2,599 | 8.58\% | 88,096 | 10.50\% | 139.73\% | \$9.87 | \$19.45 | \$22.53 | \$22.53 |
| General Service > 50 to 4999 kW | 56,646 | 6.52\% | 193 | 0.64\% | 56,453 | 6.73\% | 156.81\% | \$19.50 | \$30.47 | \$33.59 | \$245.27 |
| Unmetered Scattered Load | 4,633 | 0.53\% | 204 | 0.67\% | 4,429 | 0.53\% | 231.68\% | \$6.33 | \$15.33 | \$16.39 | \$40.01 |
| Street Lighting | 18,887 | 2.17\% | 1,023 | 3.38\% | 17,864 | 2.13\% | 83.12\% | \$0.19 | \$0.49 | \$3.68 | \$3.68 |
| MicroFit |  |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 869,077 | 100.00\% | 30,281 | 100.00\% | 838,796 | 100.00\% |  |  |  |  |  |

Revenue Reallocation - Service Revenue Requirement

| Customer Class Name | Base Revenue Requirement \% |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cost Allocation Results |  |  |  | Existing Rates |  |
| Proposed Allocation |  |  |  |  |  |  |
| Residential | $80.11 \%$ | 671,956 | $71.63 \%$ | 600,826 | $80.11 \%$ | 671,939 |
| General Service < 50 kW | $10.50 \%$ | 88,096 | $14.80 \%$ | 124,132 | $10.50 \%$ | 88,096 |
| General Service >50 to 4999 kW | $6.73 \%$ | 56,453 | $10.56 \%$ | 88,565 | $6.73 \%$ | 56,453 |
| Unmetered Scattered Load | $0.53 \%$ | 4,429 | $1.26 \%$ | 10,530 | $0.53 \%$ | 4,429 |
| Street Lighting | $2.13 \%$ | 17,864 | $1.75 \%$ | 14,675 | $2.13 \%$ | 17,880 |
| MicroFit |  |  |  |  |  |  |
| TOTAL |  | 838,798 |  | 838,728 | $\mathbf{1 0 0 . 0 0 \%}$ | 838,798 |


| Revenue Offsets |  |
| :---: | :---: |
| $\%$ |  |
| $86.73 \%$ | 26,262 |
| $8.58 \%$ | 2,599 |
| $0.64 \%$ | 193 |
| $0.67 \%$ | 204 |
| $3.38 \%$ | 1,023 |
|  |  |
|  | 30,281 |


| Service Revenue Requirement \$ |  |  |
| :---: | :---: | :---: |
| Cost <br> Allocation | Existing <br> Rates | Rate <br> Applicatio |
| 698,218 | 627,088 | 698,201 |
| 90,695 | 126,731 | 90,695 |
| 56,646 | 88,758 | 56,646 |
| 4,633 | 10,734 | 4,633 |
| 18,887 | 15,698 | 18,903 |
|  |  |  |
| 869,079 | 869,009 | 869,079 |

## Revenue to Cost Ratio Allocation

| Customer Class Name | Calculated RIC Ratio | Proposed RIC Ratio | Variance |
| :---: | :---: | :---: | :---: |
| Residential | 0.90 | 1.00 | 0.10 |
| General Service $<50 \mathrm{~kW}$ | 1.40 | 1.00 | -0.40 |
| General Service > 50 to 4999 kW | 1.57 | 1.00 | -0.57 |
| Unmetered Scattered Load | 2.32 | 1.00 | -1.32 |
| Street Lighting | 0.83 | 1.00 | 0.17 |
| MicroFit |  |  |  |
|  |  |  |  |


| Target Range |  |
| :---: | :---: |
| Floor | Celiling |
| 0.85 | 1.15 |
| 0.80 | 1.20 |
| 0.80 | 1.20 |
| 0.70 | 1.20 |
| 0.70 | 1.20 |
|  |  |
|  |  |

The reason for the significant difference in the calculated ratios and proposed ratios is due to the utility specific weighting factors. The default factors used in the previous cost allocation did not accurately reflect the actual billing, collecting and services at CHEI. How the proposed revenues to cost ratios are used to determine rates is discussed in detail at Exhibit 8.


## 

| rate base and oistribution assets |  | BALANCE SHEET TTEMS |  |  |  |  |  |  |  |  | $\begin{array}{lllll} \\ 5705 & & \text { EXPENSE ITEMS } \\ 5710 & \\ 5715 & \\ 5720\end{array}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Account | Description | $\underset{\substack{\text { Break out } \\ \text { functions }}}{\substack{\text { a }}}$ | Break out (\%) | break out (s) | Atter Bo | Contributed Capital-1995 |  |  | $\begin{gathered} \text { Accumulated } \\ \text { Depreciation - } \\ 2120 \end{gathered}$ |  | Amorization Expense Properys and Elant, aquipment | Amortization of Limited Term Electric Plant |  |  |
| 1565 |  | so |  | - |  |  |  |  |  |  |  |  |  |  |
| ${ }^{1805}$ | Land | S50,000 |  | (\$50.000 |  |  |  |  |  |  |  |  |  |  |
| ${ }^{18055-2}$ | Land Staiono 5 So kV |  | 100.00\% | \$55.000 | 50,00 |  |  |  |  | 50.000 |  |  |  |  |
| ${ }_{1}^{18066,1}$ | Land Righs Land fighs Staion 50 kV | so |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Land Rights Staito 50 kV |  | 100.0\% |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{18088}$ | Suilidigs and fixues | so |  |  |  |  |  |  |  |  |  |  |  |  |
| 1808 -2 | Build |  | 100.0\% |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{1818}^{1810.1}$ | Leashold Improvemens | so |  |  |  |  |  |  |  |  |  |  |  |  |
| $1810 \cdot 2$ | Leasshod d mporvemens s 50 kV |  | 100.0\% | so | , |  |  |  |  |  |  |  |  |  |
| 1815 |  | so |  | so | . |  |  |  |  |  |  |  |  |  |
| 1820 |  | ${ }^{5284,888}$ |  | (5284, 888 | - |  |  |  |  | - |  |  |  |  |
| 1820-1 | $\begin{aligned} & \text { Distribution Station Equipment } \\ & \text { Normally Primary below } 50 \mathrm{kV} \\ & \text { (Bulk) } \end{aligned}$ |  |  | so | - |  |  |  |  |  |  |  |  |  |
| 1820.2 | $\begin{aligned} & \text { Distribution Station Equipment } \\ & \text { Normally Primary below } 50 \mathrm{kV} \\ & \text { Primary) } \end{aligned}$ |  | 100.00\% | .888 | 284,888 | (135297) |  |  |  | ${ }^{170,947}$ | 55.180 |  |  |  |
| 1820.3 |  |  | 0.00\% | so | - |  |  |  |  |  |  |  |  |  |
| 1825 | Stiorae eatater Eaivement | so |  | so |  |  |  |  |  |  |  |  |  |  |
| 1825-1 | ${ }^{\text {Storage Batery Equipment }>50}$ |  |  | so | - |  |  |  |  |  |  |  |  |  |
| 1825-2 | ${ }_{\text {SVorad }}^{\text {Ste }}$ |  | 100.0\% | so | . |  |  |  |  |  |  |  |  |  |
| 1830 | Poles, Towers and Fixures | \$677,494 |  | (5677,494) |  |  |  |  |  |  |  |  |  |  |
| 1830-3 |  |  |  | so | - |  |  |  |  |  |  |  |  |  |
| $1830 \cdot 4$ | Poles, Towers and Fixulues. Primay |  | 0.00\% | so | - |  |  |  |  |  |  |  |  |  |
| 1830.5 | Poles, Towers and Fixutres. |  | 100.00\% | s677,494 | 677,44 | (1868522) | so | [222503] |  | 37,639 | s16,97 |  |  |  |
| 1835 | Overead Conductors and Devices | s615,424 |  | (5615,424) |  |  |  |  |  |  |  |  |  |  |
| ${ }^{1835-3}$ | Overhead Conductors and Devices Subtransmission Bulk Delivery |  |  | ${ }^{\text {so }}$ | - |  |  |  |  |  |  |  |  |  |
| 1835.4 | Overhead Conductors and Devices <br> Primary |  | 0.00\% | so |  |  |  |  |  |  |  |  |  |  |
| 1835.5 | Secoronalary Conductors and Devices. |  | 100.00\% | s615,424 | ${ }_{615,424}$ | 1589.148 |  | (2123031) |  | 30,9,95 | s1025 |  |  |  |
| 1840 | Uudeferound Conout - Underguoud Conout - -uik | so |  | ${ }^{50}$ |  |  |  |  |  |  |  |  |  |  |
| $1840 \cdot 3$ | Undergound Condut - Buk |  |  | so | . |  |  |  |  | - |  |  |  |  |
| ${ }^{18840-4}$ | Undefersound Condutit P-Pimary |  | 100.0\% | so |  |  |  |  |  |  |  |  |  |  |
| 1845 | Undergro Devices | \$1,20,387 |  | (s1,20, 387 | - |  |  |  |  |  |  |  |  |  |
| $1845 \cdot 3$ | Underground Conductors and Devices - Bulk Delivery |  |  | so | . |  |  |  |  | - |  |  |  |  |
| 1845 -4 | Underfound Conduciots and |  |  | so |  |  |  |  |  |  |  |  |  |  |
| 1845.5 | Undergound Oonduclios and |  | 100.00\% | 81,209,387 | 1,209,987 | [1529392] |  | (458.993) |  | ${ }^{626,592}$ | ssas5 |  |  |  |
| 1850 | Line Transtomers | \$802,773 |  | so | 802,73 | ${ }^{188897850}$ |  | (2970001 |  | ${ }^{421,0,03}$ | S20068 |  |  |  |
| ${ }_{18}^{1855}$ | ${ }^{\text {Senices }}$ |  |  | so | ${ }_{3}^{190,212}{ }_{3}^{1262}$ |  |  | (100549) |  |  | S4,755 |  |  |  |
| 999 | IFRS Placenolder Account | ${ }_{50}$ |  | so |  |  |  | (377394 |  |  |  |  |  |  |
|  | Toal | \$4,155,640 |  | so | ${ }^{54,155,40}$ | (s400,485) | sol | (s1,42, 1317) | so | 2,34,324 | S113,49 | so | so | so |
|  | SUB TOTAL F Trom 13 | \$4,155,640 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 5705 | 5710 | 5715 | 5720 |

Sheet 14 Break Out Worksheet - Initial Submission



Sheet 14 Break Out Worksheet - Initial Submission




Sheet I6.1 Revenue Worksheet - Initial Submission

| Total kWhs from Load Forecast | $30,899,424$ |
| :---: | ---: |
| Total kWs from Load Forecast | 13,373 |


| Deficiency from RRWF | 68,498 |
| :--- | ---: |
| Miscellaneous Revenue | 30,281 |


| Billing Data |  |  | 1 | 2 | 3 | 7 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ID | Total | Residential | GS <50 | GS $>50$-Regular | Street Light | Unmetered Scattered Load |
|  |  |  |  |  |  |  |  |
| Forecast kWh | CEN | 30,899,424 | 21,296,520 | 4,950,960 | 4,187,781 | 374,609 | 89,554 |
| Forecast kW | CDEM | 13,373 |  |  | 12,372 | 1,001 |  |
| Forecast kW, included in CDEM, of customers receiving line transformer allowance |  |  |  |  |  |  |  |
| 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 | 30,899,424 | 21,296,520 | 4,950,960 | 4,187,781 | 374,609 | 89,554 |


| $\mathrm{kWh}-30$ year weather normalized amount |  | 30,899,424 | 21,296,520 | 4,950,960 | 4,187,781 | 374,609 | 89,554 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Existing Monthly Charge |  |  | \$13.70 | \$20.34 | \$245.27 | \$1.60 | \$40.01 |
| Existing Distribution kWh Rate |  |  | \$0.0128 | \$0.0168 |  |  | \$0.0104 |
| Existing Distribution kW Rate |  |  |  |  | \$4.5445 | \$6.5145 |  |
| Existing TFOA Rate |  |  | \$0.60 | \$0.60 | \$0.60 | \$0.60 | \$0.60 |
| Additional Charges |  |  |  |  |  |  |  |
| Distribution Revenue from Rates |  | \$839,063 | \$601,067 | \$124,182 | \$88,600 | \$14,681 | \$10,534 |
| Transformer Ownership Allowance |  | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Net Class Revenue | CREV | \$839,063 | \$601,067 | \$124,182 | \$88,600 | \$14,681 | \$10,534 |
| Data Mismatch Analysis |  |  |  |  |  |  |  |
| Revenue with 30 year weather normalized kWh |  | 839,063 | 601,067 | 124,182 | 88,600 | 14,681 | 10,534 |

## Weather Normalized Data from Hydro <br> \section*{One}

kWh - 30 year weather normalized amount Loss Factor

| Total | Residential | GS $<\mathbf{5 0}$ | GS $>50$-Regular | Street Light | Unmetered <br> Scattered Load |
| :---: | ---: | ---: | ---: | ---: | ---: |
| $32,948,056$ | $22,708,479$ | $5,279,209$ | $4,465,431$ | 399,446 | 95,491 |
|  | 1.0663 | $\mathbf{1 . 0 6 6 3}$ | $\mathbf{1 . 0 6 6 3}$ | $\mathbf{1 . 0 6 6 3}$ | $\mathbf{1 . 0 6 6 3}$ |

2014 Cost Allocation Model

Sheet 18 Demand Data Worksheet - Initial Submission
This is an input sheet for demand allocators.

| CP TEST RESULTS |  |
| :---: | :---: |
| NCP TEST RESULTS | 4 CP |
| Co-incident Peak |  |
| 1 CP | Indicator |
| 4 CP | CP 1 |
| 12 CP | CP 4 |
| Non-co-incident Peak | CP 12 |
| 1 NCP | Indicator |
| 4 NCP | NCP 1 |
| 12 NCP | NCP 4 |



