

BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF )  
OKLAHOMA GAS AND ELECTRIC COMPANY )  
FOR AN ORDER OF THE COMMISSION )  
AUTHORIZING APPLICANT TO MODIFY ITS )  
RATES, CHARGES, AND TARIFFS FOR RETAIL )  
ELECTRIC SERVICE IN OKLAHOMA )

CAUSE NO. PUD 201500273

**FILED**  
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CORPORATION COMMISSION  
OF OKLAHOMA

Rebuttal Testimony

of

William H. Wai

on behalf of

Oklahoma Gas and Electric Company

April 11, 2016

William H. Wai  
*Rebuttal Testimony*

1 Q. **Please state your name and business address.**

2 A. My name is William H. Wai. My business address is 321 North Harvey, Oklahoma City,  
3 Oklahoma 73102.

4  
5 Q. **Are you the same William Wai that previously filed direct testimony in this  
6 proceeding?**

7 A. Yes.

8  
9 Q. **What is the purpose of your testimony?**

10 A. The purpose of my testimony is to rebut claims by Attorney General (“AG”) witness  
11 Daniel and Federal Executive Agencies (“FEA”) witness Michael Gorman. Specifically,  
12 I will address customer impacts and perceived inconsistencies between my testimony and  
13 that of OG&E witness Rowlett included in witness Daniel’s responsive testimony, and  
14 rate design issues raised by both witness.

15  
16 Customer Impacts

17 Q. **Is OG&E’s bill impact calculation misleading because it is based on the customer’s  
18 total bill?**

19 A. No. On page 27, line 19 – 23 of his responsive testimony, AG witness Daniel asserts that  
20 OG&E’s bill impact calculation is misleading because it is based on the customer’s total  
21 bill, rather than on just the base rate portion of the bill. Mr. Daniel made a further claim  
22 on this issue on page 28, lines 2-4, that including the FAC in the bill impact analysis  
23 diminishes the magnitude of the base rate bill impact, in terms of percentage change. I  
24 disagree with Mr. Daniel’s assertion. First, the Company believes that total bill is what  
25 its customers care about the most, not just any single part of it. Second, the Company is  
26 accustomed to presenting changes to the total bill as the main measure of customer  
27 impact to the Commission and the general public. Third, the Company clearly explains  
28 the basis for and the definitions of the data presented. Finally, it is inappropriate to use  
29 the method described by Mr. Daniel, which excludes the FCA rider, because OG&E is

1 proposing to recover certain rider revenue requirements, (those attributable to production  
2 tax credits and fuel related O&M which are currently included in the base rate) through  
3 the FCA rider in this proceeding.  
4

5 **Q. Is OG&E's customer impact calculation representing an average residential bill**  
6 **misleading?**

7 A. No. On page 27, lines 17-19 of his responsive testimony, AG witness Daniel asserts that  
8 the Company's "average" residential bill impact calculation is misleading because the  
9 "average" residential customer used by OG&E is not representative of full range of  
10 residential customers. I disagree. First, OG&E's "average" residential bill impact  
11 calculation is transparent, fully explained, and well documented. The Company never  
12 labels or intends to label the "average" residential bill impact information as a complete  
13 and comprehensive customer bill impact study. Second, the Company believes it is a  
14 standard industry practice to use the "average" residential bill impact information in its  
15 rate case filings and presented the numbers in a similar manner. In fact, this is also  
16 common practice not only in Oklahoma but also in Arkansas. In addition, OG&E also  
17 performs separate comprehensive customer impact analyses to investigate rate impacts of  
18 different customer segments. Rebuttal Exhibit WHW-1 shows the Company's written  
19 response to data request AG 1-2, which includes the outcomes from the comprehensive  
20 customer impact analyses for the residential customers on respective rates.  
21

22 **Q. Is the overall average impact calculation the same type of analysis as the**  
23 **comprehensive customer impact analysis you describe above?**

24 A. No. The comprehensive customer impact analysis is a study OG&E performs using actual  
25 customer data. In contrast, the overall average impact calculation utilizes a normalized  
26 approach for electricity rates, rider factors, billing determinants, and other information.  
27

28 **Q. Is the total number of customers used for your comprehensive customer impact**  
29 **analyses for R-1 residential customers the same as the number of customers in W/P**  
30 **M-4 Proof of Revenue Statement for R-1 standard residential customers?**

1 A. No. They are different for the reasons I stated above. On page 30, line 17 – page 31, line  
2 5 of Mr. Daniel’s responsive testimony, he appears to confuse the historical test year  
3 individual customer usage information with the final billing determinants in the  
4 Company’s W/P M-4 Proof of Revenue Statement.

5  
6 **Q. Please explain the differences between your customer impact analysis and the  
7 similar analysis of OG&E witness Rowlett.**

8 A. As seen in my Rebuttal Exhibit WHW-2, the overall average impact to R-1 standard  
9 residential customer bills is 7.3% or \$8.05 per month per customer. R-1 standard is only  
10 a portion of the total residential class making up the average residential customer per  
11 month increase proposed by witness Rowlett.

12 Specifically, witness Rowlett’s calculation includes not only R-1 but all other  
13 residential rates including Time-of-Use and Variable Peak Pricing tariff.

14  
15 **Q. Did Mr. Daniel correctly utilize Table 2 in my Direct Testimony?**

16 A. No. On page 29, lines 9-10, Mr. Daniel’s states, “*As compared to Mr. Rowlett’s \$8.02*  
17 *per month bill impact, Mr. Wai calculates an average standard residential customer bill*  
18 *impact of \$117.6 per year, or \$9.8 per month (Wai Direct Testimony, Page 10, Table 2).*  
19 *This difference is significant.*” While it is understandable that \$9.8 per month is quite  
20 different from \$8.02 per month, I believe these two numbers are totally irrelevant in the  
21 Cause. Neither OG&E witness Rowlett, nor I, provided the two bill impact numbers used  
22 by witness Daniel noted above.

23 The only number in Table 2: Comparison of Unit Costs and Proposed Rate for  
24 Residential Customers, on page 10 of my direct testimony, that witness Daniel quoted,  
25 \$117.6, is NOT a customer impact calculation. With regard to “*Mr. Rowlett’s \$8.02 per*  
26 *month bill impact*”, the Company does not know where Mr. Daniel gets this figure.

27  
28 **Q. Do you agree with witness Daniel’s residential bill impact analysis as presented on  
29 page 30 of his responsive testimony?**

30 A. No. On page 30, lines 9-13 of his responsive testimony, witness Daniel states that page 1  
31 of his Exhibit JWD-7 shows the base rate revenue impacts and page 2 shows the total

1 revenue impacts. I find the information shown on the two pages misleading. On both  
 2 pages of Exhibit JWD-7, Mr. Daniel calculates an average dollar change and an average  
 3 percentage change for a total of 412,252 customers. These averages are misleading  
 4 because:

5 1) Witness Daniel calculated an average of averages. On each page of his exhibit,  
 6 every average for group 1 through 41 is denominated by 10,000 customers;  
 7 however, group 42 has only 2,252 customers. A simple average puts an equal  
 8 weight on all groups and therefore is misleading when being presented as an  
 9 average of the whole group. For example, a group of 400,001 customers  
 10 subdivided into two groups; one group has 400,000 customers, and the other has  
 11 only 1 customer. If there is a case that all 400,000 customer of the first group has  
 12 no increase for their bills but the one in its own group has 10% increases, the  
 13 average change computed using witness Daniel's calculation will be 5% increase.  
 14 The resulting 5% increase carries little to no weight and is very misleading if  
 15 being presented at a group level; and

16 2) As shown in my example below, Mr. Daniel's method is calculating an average  
 17 percentage change and incorrectly applying that change to the total class and  
 18 thereby incorrectly assessing changes to discrete groups within the class. In my  
 19 example below, Mr. Daniel's method would result in all groups in the class  
 20 receiving a 50.5% increase while using the Company's method would be a 2.9%  
 21 increase.

**Table 1**

<b>Current Bill</b>	<b>Proposed Bill</b>	<b>Daniel's Average</b>	<b>OG&amp;E Average</b>
\$2.00	\$4.00	100.0%	
\$100.00	\$101.00	1.0%	
<u>\$102.00</u>	<u>\$105.00</u>	<u>50.5%</u>	2.9%

22 It should also be noted that witness Daniel used the same method in exhibits JWD-8 and  
 23 JWD-9.

1 Q. **Do you have any additional comments regarding Mr. Daniel's exhibits?**

2 A. Yes. In addition, witness Daniel's Exhibit JWD-7 is hard to follow. When looking at the  
3 version that was filed on Thursday, March 31, 2016, I noticed many irreconcilable  
4 differences. On the Friday, April 8, 2016, one business day before Rebuttal Testimony  
5 was due, the Company received an update of these exhibits in Mr. Daniel's Errata  
6 Responsive Testimony showing completely different numbers. With the additional  
7 analysis needed, I reserve the right to supplement my testimony prior to hearing.

8  
9 Rate Design

10 Q. **Do you agree with witness Daniel's proposed R-1 rate structure?**

11 A. Not entirely. Witness Daniel's proposed R-1 rate structure is generally consistent with  
12 OG&E's proposed three-part rate structure. I agree with witness Daniel that a demand  
13 charge needs to be added to OG&E's current rate structure.

14  
15 Q. **Do you agree with witness Daniel's proposed R-1 respective rates?**

16 A. No. Witness Daniel's R-1 rate proposal does not produce his stated amount of revenue.  
17 The first and most important step in developing revised pricing is to make sure the  
18 proposed rates produce the target revenue. Only after the proposed pricing revisions  
19 produce the target revenue should the impact analysis be finalized. Witness Daniel has  
20 not provided this analysis for his proposed pricing changes; there is no documentation of  
21 what revenue would be produced by his recommendations. Therefore, the proposed  
22 prices are meaningless numbers without completion of this step.

23 The next steps are to compare the proposed prices with unit cost data and with  
24 other performance objectives (e.g. impact subscription goals for optional rates,  
25 comparison with other tariffs) and then to analyze customer impacts. Witness Daniel  
26 fails to perform these steps.

27  
28 Q. **Do you agree with witness Daniel's residential bill impact analysis as presented on  
29 pages 31- 32, and Exhibits JWD-8 and JWD-9 of his responsive testimony?**

30 A. As previously discussed in the customer impact section above, the Company believes the  
31 information presented on witness Daniel's Exhibits JWD-8 and JWD-9 is misleading.

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Q. **What rate design issue does FEA witness Michael Gorman raise?**

A. On page 9, lines 19-21 of witness Gorman’s testimony, he takes issue with LPL-TOU SL-1 rate design proposed by the Company, pointing out that distribution costs for SL-1 are *de minimis* as opposed to larger revenue requirements for other service levels. Mr. Gorman makes a baseless claim that load characteristics between SL-1 and SL-2 are not materially different, and therefore the significant discrepancy in pricing for capacity and energy as proposed is not reasonable.<sup>1</sup> Based on his incorrect conclusion that OG&E’s proposed pricing is not reasonable, Mr. Gorman takes issue with the demand billing units for the LPL-TOU rates, as stated on page 13, line 20 of his responsive testimony. The remainder of witness Gorman’s testimony focuses on the presumed “problem” billing units before he recommends the demand charge difference between SL-1 and SL-2 be reversed back close to current marginal differences along with an equalized on-peak energy charge for the two service levels, and proposes an increase to LPL-TOU SL-3 and SL-4 to recover the lost revenue due to changes made to LPL-TOU SL-1 and SL-2.

Q. **Do you agree with witness Gorman’s claims on LPL-TOU rate design?**

A. No. I disagree with witness Gorman’s claims. While OG&E witness David Smith is addressing Mr. Gorman’s testimony from the cost of service perspective, my testimony will address Mr. Gorman’s claim on the billing units.

Q. **Are OG&E’s demand units used in the cost of service study (“COSS”) the same as the billing demand units in the company’s proof revenue statement?**

A. No. Demand units used in the Company’s COSS are results of the test year load analysis, while the billing demand units are the Company’s official billing determinants derived directly from its accounting records with required adjustments. The required adjustments are included in W/P H-2 filed in this Cause, and explained in detail by Company witness Gwin Cash in his direct testimony. Possible differences may be attributed to the following:

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<sup>1</sup> Gorman Responsive Testimony Page 13, Lines 12-14.  
Rebuttal Testimony of William H. Wai  
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- 1           1) **Billing Month versus Calendar Month** – The Company does not bill all of its  
2           customers at the same time. Customers are billed on various cycles; each cycle  
3           becomes a billing month. Billing determinants are derived from the Company’s  
4           accounting records for the applicable billing month. However, demand units utilized  
5           for the Company’s COSS are based on a calendar month.
- 6           2) **Power Factor Adjustment** – Billing determinants of LPL-TOU customers are  
7           adjusted for power factors dictated by the LPL-TOU tariff. However, demand units  
8           utilized for the Company’s COSS are not adjusted for power factor.
- 9           3) **Determination Adjustment** – Billing determinants of LPL-TOU customers are  
10          subject to the “Determination of Maximum Billing Demand” clause in the tariff.  
11          However, demand units utilized for the Company’s COSS are not adjusted for this  
12          clause.
- 13          4) **Billing Determinants** – Billing determinates are based on a 15-minute demand;  
14          however, demand units utilized in the Company’s COSS are a 60-minute demand.

15

16 Q.    **Do you agree with witness Gorman’s recommended changes on LPL-TOU rate**  
17    **design?**

18 A.    No. I disagree. Witness Gorman’s recommended changes on LPL-TOU rate design are  
19    baseless because his changes do not reflect any cost data presented in this Cause.

20

21 Q.    **Does this conclude your rebuttal testimony?**

22 A.    Yes.

Rebuttal Exhibit WHW-1

Standard Residential									
kWh Group	Customer Count	Range (Annual Energy kWh)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month			
1	41,214	Less than 5,218 kWh	132,114,493	3,206	34.08%	\$ 12.96			
2	41,233	Between 5,218 kWh and 7,209 kWh	258,970,619	6,281	18.69%	\$ 11.62			
3	41,219	Between 7,209 kWh and 8,752 kWh	329,527,839	7,995	13.21%	\$ 9.94			
4	41,227	Between 8,752 kWh and 10,224 kWh	391,239,932	9,490	9.85%	\$ 8.49			
5	41,225	Between 10,224 kWh and 11,747 kWh	452,361,497	10,973	7.41%	\$ 7.15			
6	41,215	Between 11,747 kWh and 13,455 kWh	518,431,284	12,579	5.63%	\$ 6.04			
7	41,231	Between 13,455 kWh and 15,593 kWh	597,106,692	14,482	4.07%	\$ 4.87			
8	41,233	Between 15,593 kWh and 18,546 kWh	699,802,103	16,972	2.78%	\$ 3.78			
9	41,226	Between 18,546 kWh and 23,598 kWh	856,793,941	20,783	1.80%	\$ 2.86			
10	41,229	Greater than 23,598 kWh	1,334,638,429	32,371	-2.03%	\$ (4.72)			
<b>Total</b>	<b>412,252</b>		<b>5,570,986,829</b>	<b>13,514</b>	<b>5.66%</b>	<b>\$ 6.30</b>			
Load Factor Group									
kWh Group	Customer Count	Range (Annual Max kW Demand)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month			
1	30,989	Less than 5 kW	136,296,871	4,398	14.76%	\$ 6.86			
2	34,874	Between 5 kW and 7 kW	264,202,268	7,576	8.34%	\$ 5.92			
3	32,633	Between 7 kW and 8 kW	283,238,678	8,680	8.64%	\$ 6.89			
4	45,169	Between 8 kW and 9 kW	443,415,774	9,817	7.65%	\$ 6.76			
5	49,350	Between 9 kW and 10 kW	551,790,887	11,181	6.28%	\$ 6.18			
6	44,418	Between 10 kW and 11 kW	558,821,005	12,581	5.15%	\$ 5.56			
7	35,788	Between 11 kW and 12 kW	494,255,727	13,811	4.68%	\$ 5.44			
8	48,757	Between 12 kW and 14 kW	766,148,496	15,714	4.17%	\$ 5.34			
9	48,747	Between 14 kW and 18 kW	929,845,456	19,075	4.26%	\$ 6.26			
10	41,527	Greater than 18 kW	1,142,971,667	27,524	4.11%	\$ 8.08			
<b>Total</b>	<b>412,252</b>		<b>5,570,986,829</b>	<b>13,514</b>	<b>5.66%</b>	<b>\$ 6.30</b>			
Load Factor Group									
Customer Count	Range (Annual kWh/Annual Max kW/8670)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month				
40,928	Less than 7.94% %	232,955,090	5,692	31.19%	\$ 17.36				
40,930	Between 7.94% % and 9.82% %	365,951,388	8,941	18.70%	\$ 14.73				
40,927	Between 9.82% % and 11.25% %	432,274,584	10,562	13.67%	\$ 12.36				
40,930	Between 11.25% % and 12.56% %	485,270,869	11,856	10.24%	\$ 10.22				
40,933	Between 12.56% % and 13.84% %	530,699,836	12,965	7.58%	\$ 8.17				
40,922	Between 13.84% % and 15.19% %	575,914,907	14,073	5.27%	\$ 6.10				
40,937	Between 15.19% % and 16.76% %	625,126,328	15,270	3.14%	\$ 3.90				
40,927	Between 16.76% % and 18.76% %	683,541,802	16,701	0.98%	\$ 1.31				
40,931	Between 18.76% % and 22.01% %	755,694,490	18,463	-1.48%	\$ (2.17)				
40,931	Greater than 22.01% %	879,702,180	21,492	-5.58%	\$ (9.29)				
<b>409,296*</b>		<b>5,567,131,474</b>	<b>13,602</b>	<b>5.60%</b>	<b>\$ 6.27</b>				

\* For the load factor related analysis, customers with undefined load factor resulting from no positive kW demand are excluded

Rebuttal Testimony of William H. Wai  
Cause No. PUD 201500273

Rebuttal Exhibit WHW-1

Residential Variable Peak Pricing									
kWh Group	Customer Count	Range (Annual Energy kWh)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month			
1	8,538	Less than 6,549 kWh	42,209,438	4,944	20.02%	\$	9.64		
2	8,535	Between 6,549 kWh and 8,272 kWh	63,626,274	7,455	11.74%	\$	7.74		
3	8,538	Between 8,272 kWh and 9,708 kWh	76,861,132	9,002	8.63%	\$	6.58		
4	8,539	Between 9,708 kWh and 11,134 kWh	88,954,782	10,417	6.52%	\$	5.56		
5	8,542	Between 11,134 kWh and 12,670 kWh	101,572,366	11,891	4.85%	\$	4.55		
6	8,533	Between 12,670 kWh and 14,386 kWh	115,171,946	13,497	3.36%	\$	3.46		
7	8,543	Between 14,386 kWh and 16,534 kWh	131,673,909	15,413	1.89%	\$	2.14		
8	8,539	Between 16,534 kWh and 19,545 kWh	153,268,330	17,949	0.30%	\$	0.38		
9	8,538	Between 19,545 kWh and 24,650 kWh	186,071,177	21,793	-1.58%	\$	(2.32)		
10	8,539	Greater than 24,650 kWh	277,577,611	32,507	-4.77%	\$	(9.73)		
<b>Total</b>	<b>85,384</b>		<b>1,236,986,965</b>	<b>14,487</b>	<b>2.63%</b>	<b>\$</b>	<b>2.80</b>		
Load Factor Group									
kWh Group	Customer Count	Range (Annual Max kW Demand)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month			
1	7,208	Less than 7 kW	50,282,597	6,976	13.27%	\$	8.15		
2	6,184	Between 7 kW and 8 kW	53,524,477	8,655	9.46%	\$	6.93		
3	9,932	Between 8 kW and 9 kW	96,614,997	9,728	7.70%	\$	6.18		
4	11,591	Between 9 kW and 10 kW	128,104,682	11,052	5.94%	\$	5.25		
5	10,273	Between 10 kW and 11 kW	129,453,649	12,601	4.29%	\$	4.19		
6	14,423	Between 11 kW and 13 kW	212,680,311	14,746	2.48%	\$	2.72		
7	8,552	Between 13 kW and 15 kW	150,675,802	17,619	0.55%	\$	0.69		
8	8,614	Between 15 kW and 19 kW	180,425,510	20,946	-1.30%	\$	(1.83)		
9	8,607	Greater than 19 kW	235,224,940	27,329	-3.84%	\$	(6.65)		
<b>Total</b>	<b>85,384</b>		<b>1,236,986,965</b>	<b>14,487</b>	<b>2.63%</b>	<b>\$</b>	<b>2.80</b>		
Load Factor-Group									
Customer Count	Range (Annual kWh/Annual Max kW/8670)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month				
8,530	Less than 8.54% %	64,130,137	7,518	11.92%	\$	7.56			
8,532	Between 8.54% and 10.22% %	85,972,898	10,077	7.20%	\$	5.74			
8,530	Between 10.22% and 11.5% %	97,711,438	11,455	5.39%	\$	4.78			
8,533	Between 11.5% and 12.68% %	106,227,021	12,449	4.33%	\$	4.11			
8,532	Between 12.68% and 13.84% %	115,755,528	13,567	3.30%	\$	3.36			
8,531	Between 13.84% and 15.06% %	124,279,735	14,568	2.50%	\$	2.70			
8,529	Between 15.06% and 16.47% %	135,494,170	15,886	1.59%	\$	1.83			
8,534	Between 16.47% and 18.25% %	145,502,833	17,050	0.89%	\$	1.09			
8,533	Between 18.25% and 21.03% %	162,871,829	19,087	-0.18%	\$	(0.23)			
8,532	Greater than 21.03% %	198,986,264	23,322	-1.93%	\$	(3.02)			
<b>Total</b>	<b>85,316*</b>		<b>1,236,931,853</b>	<b>14,498</b>	<b>2.62%</b>	<b>\$</b>	<b>2.79</b>		

\* For the load factor related analysis, customers with undefined load factor resulting from no positive kWh demand are excluded

Rebuttal Exhibit WHW-1

Residential Time of Use										
kWh Group	Customer Count	Range (Annual Energy kWh)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month
1	316	Less than 6,291 kWh	1,344,203	4,254	26.70%	\$	11.91			
2	315	Between 6,291 kWh and 8,514 kWh	2,331,993	7,403	16.28%	\$	11.02			
3	315	Between 8,514 kWh and 10,301 kWh	2,971,946	9,435	12.59%	\$	10.29			
4	314	Between 10,301 kWh and 11,940 kWh	3,488,340	11,109	10.70%	\$	9.93			
5	316	Between 11,940 kWh and 13,731 kWh	4,049,571	12,815	9.22%	\$	9.55			
6	316	Between 13,731 kWh and 15,387 kWh	4,589,174	14,523	7.76%	\$	8.72			
7	315	Between 15,387 kWh and 17,711 kWh	5,206,191	16,528	6.49%	\$	8.08			
8	315	Between 17,711 kWh and 21,079 kWh	6,052,864	19,215	4.75%	\$	6.57			
9	315	Between 21,079 kWh and 27,133 kWh	7,441,347	23,623	3.06%	\$	4.99			
10	316	Greater than 27,133 kWh	11,792,558	37,318	0.06%	\$	0.14			
<b>Total</b>	<b>3,153</b>		<b>49,268,187</b>	<b>15,626</b>	<b>6.94%</b>	<b>\$</b>	<b>8.12</b>			
kWh Group	Customer Count	Range (Annual Max kW Demand)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month
1	305	Less than 7 kW	1,982,482	6,500	18.80%	\$	11.23			
2	236	Between 7 kW and 8 kW	2,147,084	9,098	13.52%	\$	10.59			
3	319	Between 8 kW and 9 kW	3,269,787	10,250	12.04%	\$	10.42			
4	369	Between 9 kW and 10 kW	4,206,960	11,401	10.69%	\$	10.06			
5	643	Between 10 kW and 12 kW	8,814,188	13,708	8.66%	\$	9.40			
6	248	Between 12 kW and 13 kW	4,222,577	17,027	6.33%	\$	8.05			
7	343	Between 13 kW and 15 kW	6,309,932	18,396	5.55%	\$	7.46			
8	370	Between 15 kW and 19 kW	8,427,916	22,778	3.14%	\$	4.93			
9	320	Greater than 19 kW	9,887,261	30,898	0.34%	\$	0.69			
<b>Total</b>	<b>3,153</b>		<b>49,268,187</b>	<b>15,626</b>	<b>6.94%</b>	<b>\$</b>	<b>8.12</b>			
Load Factor Group	Customer Count	Range (Annual kWh/Annual Max kW/8670)	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month	kWh	Average kWh	Revenue Change Percentage	Revenue Change /Customer/Month
1	315	Less than 8.55% %	2,152,136	6,832	17.03%	\$	10.29			
2	314	Between 8.55% % and 10.5% %	3,297,116	10,500	10.57%	\$	8.90			
3	315	Between 10.5% % and 12.03% %	3,758,301	11,931	9.45%	\$	8.92			
4	314	Between 12.03% % and 13.31% %	4,227,427	13,463	8.26%	\$	8.67			
5	315	Between 13.31% % and 14.69% %	4,593,999	14,584	7.57%	\$	8.47			
6	314	Between 14.69% % and 16.11% %	4,838,802	15,410	7.33%	\$	8.62			
7	315	Between 16.11% % and 17.63% %	5,394,675	17,126	6.33%	\$	8.09			
8	314	Between 17.63% % and 19.45% %	5,686,210	18,109	5.87%	\$	7.84			
9	315	Between 19.45% % and 22.57% %	6,558,678	20,821	4.73%	\$	7.06			
10	315	Greater than 22.57% %	8,754,216	27,791	2.26%	\$	4.24			
<b>Total</b>	<b>3,146*</b>		<b>49,261,560</b>	<b>15,658</b>	<b>6.92%</b>	<b>\$</b>	<b>8.11</b>			

\* For the load factor related analysis, customers with undefined load factor resulting from no positive kW demand are excluded

Rebuttal Testimony of William H. Wai  
Cause No. PUD 201500273

