BEFORE THE ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF	)	
OKLAHOMA GAS AND ELECTRIC COMPANY	)	
FOR APPROVAL OF A GENERAL CHANGE IN	)	DOCKET NO. 16-052-U
RATES, CHARGES AND TARIFFS	)	

Direct Testimony

of

William H. Wai

on behalf of

Oklahoma Gas and Electric Company

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

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

Q. **By whom are you employed and in what capacity?**

A. I am currently employed by Oklahoma Gas and Electric Company ("OG&E" or "Company") as Manager of Pricing. I am responsible for retail electricity pricing, rate design and tariffs. In that capacity, I direct and supervise the Company's pricing team that develops and supports pricing structures, charges and service provisions of tariffs, product platforms, pilot programs and other retail electricity pricing initiatives. On a normal day, the pricing department collects customer usage and revenue data, analyzes various cost information, researches different regulated retail electricity pricing practices, and studies the impacts of OG&E's pricing practices on customers. My responsibilities also include overseeing implementation of the Company's retail electricity rate and pricing plans.

Q. **Please summarize your educational background and professional qualifications.**

A. I earned my Bachelor of Science in Economics from Guangdong Institute for Nationals in Guangdong, China. I have a Masters of Business Administration from the University of Oklahoma awarded in 2000. My current responsibility includes directing and supervising the research of retail customers, and developing appropriate pricing schedules for incorporation into the retail tariffs. Prior to assuming my current position in OG&E, I have worked with the Company in various positions in Investor Relations, Corporate Risk, and Structured Services. Within Structured Services, I was initially hired as Senior Quantitative Analyst and consequently promoted to be the Director of the department. During the 12 years I worked with the Structured Services group, my responsibilities included valuating and pricing complex commercial transactions across various financial engineering frameworks, and quantifying various financial risk measures in the Company's business management efforts. I am a Financial Risk Manager ("FRM") and

an Energy Risk Professional ("ERP") both certified by the Global Association of Risk Professionals ("GARP"). I also hold the Chartered Financial Analyst ("CFA") designation. I am a member of the Global Association of Risk Professionals ("GARP"), and a member of the Chartered Financial Analyst ("CFA") Oklahoma Society.

Q. **Have you previously filed testimony before the Arkansas Public Service Commission (the "APSC" or "Commission")?**

A. No. However, I have testified before the Oklahoma Corporation Commission in Cause No. PUD 201500273.

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

A. First, I will briefly discuss the process of developing the rates proposed by the Company in this application. Second, I describe structural changes to certain of the Company's existing tariffs. These changes are aimed at attaining the goals addressed by OG&E witness Bryan J. Scott. Third, I show comparisons between the current and proposed rates, and analyze customer impact associated with these changes and updates. Finally, I sponsor OG&E's Schedules H-1 through H-5, including the Analysis of Revenue by Detailed Rate Schedule (Schedule H-2) proposed rate design.

Developing Proposed Rates

Q. **Please generally describe how the Company develops the rates requested in a general rate case.**

A. The major steps in developing new or updated rates are as follows:

1) Develop *pro forma* year data - Actual billing data (revenues and billing determinants[1]) are collected. The information is then adjusted so that rates can be designed based on the revenues and expenses which are expected to occur in a normal year of operations. The results of these normalizing adjustments, as shown in schedule E-11.2, are typically referred to as the *pro forma* year data. The specific adjustments for the test year used in this application are presented in workpaper C1-12 of this filing and addressed in more detail by OG&E Witness Gwin Cash.

[1] Billing determinants are customers' kWh usage, kW demand, and customer count.

2) Determination of revenue in the *pro forma* year from current rates - Current rate revenue is calculated by applying the rates approved in the Company's previous rate case to the billing determinants contained within the *pro forma* year data. Schedule H-2, the Analysis of Revenue by Detailed Rate Schedule, which I sponsor, includes the calculation of current rate revenue for each rate class.

3) Cost of Service Study ("COSS") - The *pro forma* year data along with other inputs are used in the development of the Cost of Service Study ("COSS") as described in the direct testimony of OG&E witness David Smith. Elements of the resulting Cost of Service Study serve as the foundation for rate design. Schedule H-5, which I sponsor, shows the calculation of unit cost by cost component for each rate class.

4) Rate design – The cost of providing service developed in the COSS is compared to the *pro forma* revenue from current rates and a deficiency or surplus is identified. Proposed rates are then designed to recover the appropriate revenue. The COSS provides the revenue requirement by class and are adjusted through the revenue allocation process. OG&E witness Bryan J. Scott describes the revenue allocation process and presents those results in his Direct Testimony.

5) Proof of revenue – The proposed rates are used to calculate the proposed revenue for each rate class. Schedule H-2 shows these calculations, including, the sum of the revenue requested from each rate classes, plus other listed revenue, equaling the total OG&E requested revenue.

Q. **What are the Company's objectives when designing rates?**

A. The Company's rate design is driven by the following objectives:

- promotion of efficient consumption of energy,
- provide pricing product choices that meet customers' pricing preferences, and
- recovery of authorized revenue requirements.

Q. **How does OG&E develop the proposed rates?**

A. As discussed, the proposed rates are designed to incorporate the change in rates that ensure revenues match the deficiency or surplus defined within the revenue allocation process. Major steps of the rate design process include determination of the unit costs for

each rate class, application of the unit costs and marginal costs to create initial price levels, determination of rate structure and final rates through an iterative process to ensure proper recovery of revenue requirements. The iterative process includes the evaluation of proposed rates against rate design objectives through impact and unit cost analyses.

Unit Costs

Q. **What are unit costs?**

A. Unit costs are the cost for the attributes of electric service. Customer costs are those costs associated with metering, billing, customer care, and local distribution facilities. Demand costs are those costs associated with wires (transmission and distribution system) fixed cost, and can also include fixed production costs. Energy costs are costs associated with electricity supply such as fuel and other variable cost. Unit costs are these costs by each billing determinant.

Unit costs are developed from the functionalized and classified cost components in the Cost of Service Study ("COSS") and are calculated by dividing the revenue requirements of these components by the associated billing units (such as demand and time-differentiated kWh) for each class and service level of customers.

Q. **Would it be proper to set prices using only unit costs?**

A. No. While unit costs are very important, other criteria must also be considered when establishing prices and tariff structures. It is important to keep in mind all objectives of rate design. Unit costs provide an embedded cost basis for each rate and represent the simplest division of costs among customer classes; however, this is not always the most comprehensive pricing, since it does little to recognize the variations of costs by time periods which encourage more efficient allocation of resources to customers. OG&E's proposed prices reflect a balance between embedded cost, customer preference, and recovery of the proposed revenue requirement without undue impacts on customers.

Q. **Have you developed a unit cost for each rate class and service level based on the component cost revenue requirements?**

A. Yes. The unit costs for each rate class and service level contained within the Company's cost of service study were calculated in the manner I have described above. As an example, Direct Exhibit WHW-1 illustrates the unit cost calculations for the R-1 and GS-1 class.

Structural Changes to Existing Rates

Q. **Have you provided the proposed tariff changes?**

A. Yes. I have provided the proposed tariff changes in Schedule H-10 of the MFR package, supported by Company witness Cash.

Q. **What structural changes has the Company made for its existing rate structures?**

A. The tariffs proposed in this application include two general changes to the existing rate structures, they are:

1) incorporation of a kW demand charge for the Standard Residential ("R-1") and General Service ("GS-1") tariffs; and,

2) elimination of the block energy pricing for R-1 and GS-1 tariffs.

3) integration of Power and Light Time of Use Demand ("PL-TOU-D") and Power and Light Time of Use Energy ("PL-TOU-E") rates.

Q. **For which rate class did you introduce a kW demand charge?**

A. I introduced a kW demand charge to each of the existing OG&E non-time variable rates which do not currently include a demand component. The proposed R-1, GS-1, will each have a kW demand charge part incorporated into their existing two-part tariffs. The existing rates that already have a kW demand charge will continue as a three-part rate; and their kW demand charges are updated to reflect the latest cost of service information. OG&E chose not to incorporate demand charges for two closed tariff Municipal Pumping ("MP") and Athletic Field Lighting ("AFL").

Q. **For which current rates has this Commission previously approved a kW demand charge?**

A. Power and Light ("PL") and Power and Light-Time of Use ("PL-TOU") tariffs have had demand charges for many years. The proposed rates in this Application simply extend the precision of the three part rate structure to additional customers.

Q. **What structural changes have you made to energy pricing of R-1 and GS-1?**

A. In addition to the introduction of a demand charge to the R-1 and GS-1 rates, I proposed elimination of the block energy pricing at the same time. The proposed energy charges for R-1, GS-1 will be the same for any usage levels in the same month.

Q. **What structural changes have you made to PL-TOU-D and PL-TOU-E?**

A. I have proposed combining the PL-TOU-D and PL-TOU-E rates to establish a proposed PL-TOU rate that will no longer include an On-Peak kW Capacity Charge and a Super Peak Energy Charge. Table 12 in the PL-TOU rate design section shows comparison of current and proposed PL-TOU SL5 rates.

Q. **Are you also making changes to the pricing of existing tariffs?**

A. Yes. As I discuss below, I have proposed price changes to all of the rate schedule tariffs.

CURRENT VERSUS PROPOSED RATES

Residential Rate Design

Q. **What is the overall result of the proposed rate design changes to R-1 residential class?**

A. The overall average impact to the R-1 residential class is a monthly bill increase of 18% or $15.28 per month per customer.

Q. **Please describe the proposed changes to OG&E's current residential rates.**

A. The price changes to the R-1 tariff include an introduction of a monthly kW demand charge of $1.00 per kW, an increase in the monthly customer charge, from $7.94 to $11.80, and a lowering of the energy prices paid by those customers. The change in the

customer charge and the addition of kW demand charge will more accurately reflect the fixed cost of providing electric service to a customer. The proposed rate changes are presented in Table 1, below.

Table 1. Comparison of Proposed Residential Prices

Residential (R-1) Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$11.80	$7.94	$3.86
KW Demand Charge			
All kW	$1.00 Per kW	$0.00 Per kW	$1.00 Per kW
Energy Charge			
Summer Season	Jun-Oct	Jun-Oct	
First 1,400 kWh	$0.0628 Per kWh	$0.0465 Per kWh	$0.0163 Per kWh
Over 1,400 kWh	$0.0628 Per kWh	$0.0677 Per kWh	($0.0049) Per kWh
Winter Season	Nov-May	Nov-May	
First 600 kWh	$0.026 Per kWh	$0.0290 Per kWh	($0.0030) Per kWh
Over 600 kWh	$0.026 Per kWh	$0.0210 Per kWh	$0.0050 Per kWh

Q. **What is the basis for increasing the monthly customer charge to $11.80?**

A. As shown in Direct Exhibit WHW-1, the unit cost is $11.52 per customer per month for the customer component on average and $3.74 per kW per month for the customer demand component. OG&E's R-1 customers currently has a $7.94 per month for customer charge and no demand charge. The Company proposed an introductory $1.00 demand charge per kW per month and an $11.80 monthly customer charge to recover the cost intended to be covered by these charges.

Q. **How much is the newly added kW demand charge?**

A. As described above, the proposed kW demand charge is $1.00 per kilowatt per month. The kilowatt unit for the demand charge is the customer's maximum kW demand during the billing month period, which has been used in OG&E's current demand based rate schedules. The unit cost for the distribution demand component alone is $3.74 per kW per month.

Q. **Did you assess the proposed rates against the unit cost for the residential class?**

A. Yes. OG&E computed the monthly billing amount for customers with twelve months of customer usage data under the proposed rate. The analysis includes all Arkansas jurisdiction customers billed on the R-1 residential standard rate; however those customers without a complete year of usage data were excluded, resulting in an analysis of 37,134 R-1 customers.

In order to understand the potential for intra-class subsidies, we compared the billing under the proposed rates to the billing under a unit cost based rate.[2] The result would indicate where any of the identified customer groups are not aligned with their share of costs. Table 2 shows the results of this comparison.

Table 2. Comparison of unit costs and proposed rate for residential customers

Segmented Results Residential Unit Costs vs Proposed Residential								
Segment	Number of Customers	Percent Difference	Annual kWh/Cust	Monthly kWh/Cust		Unit Cost Average	Proposed Average	Difference
				Summer	Winter	$/Cust/Month	$/Cust/Month	$/Cust/Month
Total	37,134	-0.80%	13,804	544	606	107.74	106.88	(0.86)
Small Users	12,375	-7.08%	6,685	285	272	64.92	60.32	(4.59)
Normal Users	12,377	-2.06%	12,424	518	517	101.13	99.04	(2.08)
Large Users	12,382	2.60%	22,298	830	1,028	157.16	161.25	4.09
Low LF	12,378	-10.22%	8,922	327	416	83.72	75.16	(8.55)
Averageg LF	12,378	-1.93%	13,791	541	608	109.23	107.12	(2.11)
High LF	12,378	6.21%	18,699	765	793	130.28	138.37	8.08
Summer Users	12,378	2.73%	11,801	614	370	95.55	98.16	2.61
Winter Users	12,378	-4.15%	15,342	436	843	116.58	111.74	(4.84)
Non-Seasonal	12,378	-0.31%	14,268	584	605	111.11	110.76	(0.35)

A percentage difference that is less than zero indicates those groups in which customers will typically pay less than the costs they create, or are being subsidized, while a positive difference indicates those segments that are paying more than their share of the costs. The average difference column indicates the average absolute difference relative to the unit cost. For example, under the proposed rate design, winter users are paying 4.15%, or $4.84 per month, less than residential unit costs indicate should be paid. The feedback to the rate design process is to set the prices such that those groups which are being subsidized by other groups receive, within reason, higher increases to create a reasonable movement toward eliminating intra-class subsidies.

[2] Unit costs are based on full cost of service while the proposed rates only collect the allocated revenue.

Q. **What is the impact of these changes to individual Standard Residential R-1 customers?**

A. The billing impact to individual R-1 customers is shown in Table 3 below.

Table 3 Residential Customer Impact

R – 1 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 8%	575	24,046,922	$2,046,480	$1,937,588	$108,893	5.60%	$15.78	3,485
8% to 9.9%	703	20,127,672	$1,746,755	$1,601,345	$145,410	9.10%	$17.24	2,386
10% to 11.9%	1,407	34,191,633	$2,987,783	$2,690,255	$297,529	11.10%	$17.62	2,025
12% to 13.9%	2,188	46,753,049	$4,100,534	$3,627,607	$472,927	13.00%	$18.01	1,781
14% to 15.9%	3,287	61,216,492	$5,416,764	$4,709,248	$707,516	15.00%	$17.94	1,552
16% to 17.9%	4,469	73,445,216	$6,579,802	$5,623,342	$956,460	17.00%	$17.84	1,370
18% to 19.9%	4,862	68,757,159	$6,312,689	$5,304,491	$1,008,199	19.00%	$17.28	1,178
20% to 21.9%	5,092	63,112,169	$5,944,869	$4,914,336	$1,030,533	21.00%	$16.87	1,033
22% to 23.9%	4,602	49,438,723	$4,814,268	$3,915,397	$898,871	23.00%	$16.28	895
24% to 25.9%	3,595	33,026,765	$3,340,107	$2,674,050	$666,058	24.90%	$15.44	766
26% to 27.9%	2,343	18,229,686	$1,927,143	$1,518,787	$408,356	26.90%	$14.52	648
28% to 29.9%	1,436	9,456,755	$1,046,267	$811,763	$234,504	28.90%	$13.61	549
30% and Greater	2,575	10,788,491	$1,364,583	$1,018,788	$345,796	33.90%	$11.19	349

General Service Rate Design

Q. **What are the proposed changes to the General Service ("GS-1") tariff?**

A. OG&E proposes to increase the customer charge, add a kW demand charge and modify the energy charge. Additionally, the Company is eliminating the block pricing currently included in the energy charge. Table 4 below shows the proposed prices and the current prices.

Table 4. Comparison of GS Current and Proposed Rates

General Service (GS) SL - 2 thru 5 Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$28.00	$21.75	$6.25
KW Demand Charge			
All kW	$1.00 Per kW	$0.00 Per kW	$1.00 Per kW
Energy Charge			
Summer Season	Jun-Oct	Jun-Oct	
First 5,000 kWh	$0.0595 Per kWh	$0.0430 Per kWh	$0.0165 Per kWh
Over 5,000 kWh	$0.0595 Per kWh	$0.0637 Per kWh	($0.0042) Per kWh
Winter Season	Nov-May	Nov-May	
First 1,000 kWh	$0.020 Per kWh	$0.0230 Per kWh	($0.0030) Per kWh
Over 1,000 kWh	$0.020 Per kWh	$0.0150 Per kWh	$0.0050 Per kWh

Q. **What is the basis for the increased customer charge for the GS class?**

A. The change in the customer charge is based on unit cost information for the GS class. As shown in Direct Exhibit WHW-1, the unit cost is $14.28 per customer per month for the customer component on average and $5.52 per customer per month for the customer demand component. OG&E's GS-1 customers currently has a $21.75 per customer per month for customer charge and no demand charge. The proposed customer charge is $28.00 per customer per month.

Q. **What is the impact of these changes to GS-1 customers?**

A. The billing impact to individual GS-1 customers is shown in Table 5 below.

Table 5 General Service Customer Impact

GS -1 SL5 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 3%	2	419,602	$35,090	$34,233	$856	2.50%	$35.68	17,483
3% to 5.9%	55	7,521,194	$581,924	$552,845	$29,079	5.30%	$44.06	11,396
6% to 8.9%	253	27,596,938	$2,156,091	$2,004,702	$151,389	7.60%	$49.86	9,090
9% to 11.9%	312	23,596,211	$1,876,593	$1,698,352	$178,241	10.50%	$47.61	6,302
12% to 14.9%	702	29,119,957	$2,376,155	$2,094,708	$281,447	13.40%	$33.41	3,457
15% to 17.9%	1,424	39,279,949	$3,423,048	$2,935,366	$487,682	16.60%	$28.54	2,299
18% to 20.9%	1,521	26,893,019	$2,588,864	$2,170,167	$418,698	19.30%	$22.94	1,473
21% to 23.9%	929	10,306,012	$1,125,788	$920,689	$205,099	22.30%	$18.40	924
24% to 26.9%	619	4,806,057	$603,522	$481,700	$121,822	25.30%	$16.40	647
27% to 29.9%	398	2,582,398	$352,515	$274,383	$78,132	28.50%	$16.36	541
30% to 32.9%	271	1,529,885	$225,625	$171,749	$53,877	31.40%	$16.57	470
33% to 35.9%	129	560,861	$93,916	$69,919	$23,996	34.30%	$15.50	362
36% and Greater	227	1,381,917	$213,168	$149,077	$64,092	43.00%	$23.53	507

Time-of-Use ("TOU") Rate Design

Q. **Will TOU customers see a demand charge added to their rates?**

A. No. Time-variable rates including Residential Time-of-Use ("R-TOU"), Residential Variable Peak Pricing ("R-VPP"), General Service Time-of-Use ("GS-TOU"), and General Service Variable Peak Pricing ("GS-VPP") will continue as a two-part rate without a kW demand charge. OG&E witness Bryan Scott explains the reasoning behind leaving TOU and VPP customers on a two-part rate.

Q. **What changes are you proposing to the non-demand Time-of-Use ("TOU") tariffs?**

A. The proposed pricing for these tariffs all include an increased customer charge relative to the current customer charges. I am also adjusting the energy charges where appropriate. These changes are shown in Table 6 below.

Table 6 Comparison of Time-of-Use Rates

Residential TOU (R-TOU) Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$11.80	$7.94	$3.86
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
On Peak	$0.185 Per kWh	$0.185 Per kWh	$0.000 Per kWh
Off- Peak	$0.032 Per kWh	$0.017 Per kWh	$0.015 Per kWh
Winter Season	Nov-May	Nov-May	
First 600 kWh	$0.026 Per kWh	$0.0170 Per kWh	$0.009 Per kWh
Over 600 kWh	$0.026 Per kWh	$0.0170 Per kWh	$0.0090 Per kWh

General Service TOU (GS-TOU) SL-2 thru 5 Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$28.00	$21.75	$6.25
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
On Peak	$0.185 Per kWh	$0.185 Per kWh	$0.000 Per kWh
Off- Peak	$0.026 Per kWh	$0.017 Per kWh	$0.009 Per kWh
Winter Season	Nov-May	Nov-May	
First 1,000 kWh	$0.020 Per kWh	$0.0170 Per kWh	$0.003 Per kWh
Over 1,000 kWh	$0.020 Per kWh	$0.0170 Per kWh	$0.0030 Per kWh

Variable Peak Pricing Rate Design

Q. **Are you proposing changes to the VPP program?**

A. Yes. The Company is proposing three changes to the VPP program. First, the Company is asking to update the criteria used to determine the daily on-peak price level for the VPP programs as shown in table 7 below. Second, the Company proposes to update the customer charge and energy prices to recover the revenue requirement. Finally, the Company is asking to update the criteria used to determine the daily on-peak price level for the VPP programs on an annual basis.

Table 7. Comparison of VPP Bands

Residential Service VPP (R-VPP) Price Bands		
Price Bands	Proposed	Current
Low	<=1.0¢	<=7.0¢
Standard	>1.0¢ - <=2.30¢	>7.0¢ - <=11.0¢
High	>2.30¢ - <=7.80¢	>11.0¢ - <=20.0¢
Critical	>7.80¢	>20.0¢
General Service VPP (GS-VPP) Price Bands		
Price Bands	Proposed	Current
Low	<=1.0¢	<=7.0¢
Standard	>1.0¢ - <=2.30¢	>7.0¢ - <=11.0¢
High	>2.30¢ - <=7.80¢	>11.0¢ - <=20.0¢
Critical	>7.80¢	>20.0¢

Q. **How many residential and general service customers participate in the VPP programs?**

A. As of June, 2016, approximately 4,187 residential and 288 general service customers are enrolled in VPP rates.

Q. **What are the proposed rate changes to the VPP rates?**

A. The proposed pricing for the VPP tariff is shown in Table 8 below.

Table 8. Comparison of VPP Rates

Residential Service VPP (R-VPP) Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$11.80	$9.94	$1.86
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
Off- Peak	$0.032 Per kWh	$0.017 Per kWh	$0.015 Per kWh
On Peak tier 1	$0.032 Per kWh	$0.017 Per kWh	$0.015 Per kWh
On Peak tier 2	$0.070 Per kWh	$0.0677 Per kWh	$0.002 Per kWh
On Peak tier 3	$0.185 Per kWh	$0.1850 Per kWh	$0.000 Per kWh
On Peak tier 4	$0.370 Per kWh	$0.370 Per kWh	$0.000 Per kWh
Winter Season	Nov-May	Nov-May	
First 600 kWh	$0.026 Per kWh	$0.0170 Per kWh	$0.009 Per kWh
Over 600 kWh	$0.026 Per kWh	$0.0170 Per kWh	$0.0090 Per kWh

General Service VPP (GS-VPP) SL- 2 thru 5 Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$28.00	$25.25	$2.75
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
Off- Peak	$0.026 Per kWh	$0.017 Per kWh	$0.009 Per kWh
On Peak tier 1	$0.032 Per kWh	$0.017 Per kWh	$0.015 Per kWh
On Peak tier 2	$0.070 Per kWh	$0.0637 Per kWh	$0.006 Per kWh
On Peak tier 3	$0.185 Per kWh	$0.185 Per kWh	$0.000 Per kWh
On Peak tier 4	$0.370 Per kWh	$0.370 Per kWh	$0.000 Per kWh
Winter Season	Nov-May	Nov-May	
First 1,000 kWh	$0.020 Per kWh	$0.0170 Per kWh	$0.003 Per kWh
Over 1,000 kWh	$0.020 Per kWh	$0.0170 Per kWh	$0.0030 Per kWh

Municipal Pumping ("PM") Rate Design

Q. **What are the proposed rate changes to the PM rate?**

A. The proposed pricing for the PM tariff is shown in Table 9.

Table 9. Comparison of current and proposed PM rates

Municipal Water Pumping Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$28.00	$28.00	$0.00
KW Demand Charge			
All kW	$0.00 Per kW	$0.00 Per kW	$0.00 Per kW
Energy Charge			
Summer Season	Jun-Oct	Jun-Oct	
All kWh	$0.0650 Per kWh	$0.0375 Per kWh	$0.0275 Per kWh
Winter Season	Nov-May	Nov-May	
All kWh	$0.040 Per kWh	$0.026 Per kWh	$0.014 Per kWh

Q. **What are the overall impacts to these classes?**

A. PM customer's average billing will increase by 19.6% or $25.30 per month.

Athletic Field Lighting ("AFL") Rate Design

Q. **What are the proposed rate changes to the AFL rate?**

A. The proposed pricing for the AFL tariff is shown in Table 10. The proposed tariff now has Sumer and Winter Energy Charge rates.

Table 10. Comparison of current and proposed AFL rates

Athletic Field Lighting Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$28.00	$28.00	$0.00
KW Demand Charge			
All kW	$0.00 Per kW	$0.00 Per kW	$0.00 Per kW
Energy Charge			
Summer Season	Jun-Oct	Jun-Oct	
All kWh	$0.0800 Per kWh	$0.0445 Per kWh	$0.0355 Per kWh
Winter Season	Nov-May	Nov-May	
All kWh	$0.052 Per kWh	$0.0445 Per kWh	$0.008 Per kWh

Q. **What are the overall impacts to these classes?**

A. AFL customer's average billing will increase by 19.5% or $49.64 per month.

Power & Light ("PL") and PL Time of Use ("PL-TOU") Rate Design

Q. **What are the proposed prices for the PL and PL-TOU rates?**

A. The COSS showed that PL Service Level 2 and 4 should receive a slight decrease, while PL Service Level 3 and 5 should receive a price level increase. The COSS also showed similar results for PL-TOU; SL 1-2 should receive a slight decrease while Service Level 3 and 5 receives an increase. As a result, OG&E proposes that there be no change to price levels in SL 2 and 4 for PL and SL 2 and 4 PL-TOU. The service level 5 proposed prices and the prices currently in effect are reflected in Tables 11 and 12.

Table 11. Comparison of current and proposed PL SL5 rates

Power and Light (PL) SL-5 Monthly Prices	Proposed	Current	Change
Customer Charge			
$/ per Month	$115.00	$85.00	$30.00
KW Demand Charge			
Summer kW	$10.25 Per kW	$10.15 Per kW	$0.10 Per kW
Winter kW	$7.50 Per kW	$7.40 Per kW	$0.10 Per kW
Energy Charge			
Summer Season	Jun-Oct	Jun-Oct	
All kWh	$0.014 Per kWh	$0.0065 Per kWh	$0.0075 Per kWh
Winter Season	Nov-May	Nov-May	
All kWh	$0.014 Per kWh	$0.0065 Per kWh	$0.0075 Per kWh

Table 12. Comparison of current and proposed PL-TOU SL5 rates

Power and Light TOU-D SL-5 (Becomes Power and Light TOU SL-5) Monthly Prices			
	Proposed	Current	Change
Customer Charge			
$/ per Month	$115.00	$85.00	$30.00
KW Demand Charge			
Winter Max kW	$7.10 Per kW	$7.00 Per kW	$0.10 Per kW
Summer Max kW	$7.10 Per kW	$2.55 Per kW	$4.55 Per kW
On Peak kW	$0.00 Per kW	$10.70 Per kW	($10.70) Per kW
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
On Peak	$0.090 Per kWh	$0.0065 Per kWh	$0.0835 Per kWh
Off- Peak	$0.0140 Per kWh	$0.0065 Per kWh	$0.0075 Per kWh
Winter Season	Nov-May	Nov-May	
All kWh	$0.014 Per kWh	$0.0065 Per kWh	$0.0075 Per kWh

Power and Light TOU-E SL-5 (Becomes Power and Light TOU SL-5) Monthly Prices			
	Proposed	Current	Change
Customer Charge			
$/ per Month	$115.00	$85.00	$30.00
KW Demand Charge			
All kW	$7.10 Per kW	$5.45 Per kW	$1.65 Per kW
On Peak kW	*N/A*	*N/A*	
Energy Charge			
Summer Season	Jun- Oct	Jun- Oct	
On Peak	$0.09 Per kWh	$0.087 Per kWh	$0.003 Per kWh
Off- Peak	$0.014 Per kWh	$0.011 Per kWh	$0.003 Per kWh
Winter Season	Nov-May	Nov-May	
All kWh	$0.014 Per kWh	$0.011 Per kWh	$0.003 Per kWh

Q. **What are the impacts to customers from the proposed prices?**

A. The class impacts results are shown based on a division of customers by size and load factor. These are provided in Direct Exhibit WHW-2.

Municipal Lighting ("LM") and Outdoor Security Lighting ("OSL") Rate Design

Q. **What are the proposed changes for the lighting classes?**

A. Lighting service consists of two components. The first component is the lighting fixture and can also include a separate pole to position the light at the location desired by the customer. The second component is the energy to power the light. OG&E's primary objective is to move the proposed prices closer to current costs of providing for the various fixtures and poles. Energy prices were adjusted based on the COSS. The resulting components were combined to create the price for each lighting fixture. Prices were adjusted based on the ratio of costs to current prices. Overall, the Lighting rate remains at the same price level as current.

ANALYSIS OF REVENUE BY DETAILED RATE SCHEDULE

Q. **Why must current rate revenues be determined for the pro forma year data?**

A. Current rate revenues are the foundation of the proposed rate design. The proposed rates are determined to ensure that the revenue deficiency—the difference between the current rate revenue and the proposed rate revenue—will be recovered following the implementation of the rate changes approved in the rate case.

Q. **How is current rate revenue determined for the purpose of rate design?**

A. Current rate revenue is calculated by applying the rates approved in the Company's previous rate case to the billing determinants contained within the pro forma year data. Schedule H-2 of Minimum Filing Requirements, the Analysis of Revenue by Detailed Rate Schedule, includes the calculation of current rate revenue for each rate class.

Q. **Did the Company also calculate current revenue using another methodology?**

A. Yes. As shown in work paper C1-C12 filed with the application, the company also calculated current pro forma revenue by applying pro forma adjustments to the Company's actual year revenues. Company witness Gwin Cash discusses the pro forma adjustments in further detail in his direct testimony.

Q. **Is the current rate revenue shown in the Schedule H-2 equivalent to the current pro forma revenue calculated by applying pro forma adjustments to the Company's actual year revenue?**

A. Yes, they are equivalent, but there are some differences which are discussed below. The current pro forma revenue reflected on Schedule H-2 and Work Paper C1-C12 revenue differ due to the manner in which they are derived. The Schedule H-2 revenue contains adjustments to account for these differences and ensure that rates are designed against the appropriate revenue deficiency.

Q. **Can you provide examples of specific differences between Schedule H-2 and Work Paper C1-C12 revenue?**

A. Returned check fees are an example of miscellaneous revenue that is not directly attributable to the billing determinants used to calculate current rate revenue. While the revenue from returned check charges is applicable to the Company's allowed revenue, it is not included in Schedule H-2 revenue calculations based on billing determinants. The difference due to these types of charges is captured in the Work Paper C1-C12 revenue by allocating these to the various classes and adjusting the current revenues by the allocated amount.

Cancel and re-bill activities create differences between the revenue within each schedule. When a bill is cancelled and re-billed outside of the accounting period in which the original bill was issued, a mismatch of the determinants and revenues is created in the month containing the cancel/re-bill. The issue is compounded when the rates in the original period are different than those in the current period. If a winter bill is re-billed in a summer period, the cancellation and re-bill results in the removal and addition of the quantities through an adjustment in the current month. While these procedures are appropriate for accounting purposes, for rate design the resulting misalignment of these adjustments creates a difference in the calculation of the revenue within Schedule H-2 current rate revenue. In order to ensure the current rate revenue upon which rate design is based is accurately reflected in the Schedule H-2 revenues, a reconciliation adjustment is made to match the current rate revenue to Work Paper C1-12

revenue. The same adjustment is made to then adjust the proposed rate revenues in Schedule H-2.

Q. **Why is it important for the current rate revenues to match the current pro forma year revenues in Work Paper C1-C12?**

A. The Company must ensure that the proposed rate change results in a level of revenue recovery that is consistent with the COSS. See the Direct Testimony of OG&E witness Bryan J. Scott for a detail of the resulting COSS and revenue allocation.

Q. **What are the results from the proof of revenues?**

A. Schedule H-2, the Analysis of Revenue by Detailed Rate Schedule, shows that the proposed prices when applied to the *pro forma* billing determinants will produce the revenues requested by the Company as shown in its COSS and Schedule H-2.

Q. **Please describe Schedule H-1.**

A. Schedule H-1 is the summary analysis of revenues by rate class at present and proposed rates. It compares revenues for each rate class using *pro forma* year billing determinants at present and proposed rates.

Q. **Please describe Schedule H-3.**

A. Schedule H-3 is the typical bill analysis. The schedule shows annual or seasonal analyses of customer bills at varying levels of usage at present and proposed rates by rate schedule. For each rate schedule, the Company has ordered bills by usage level in ascending order and separated them into ten groups or deciles of an equal number of bills. For each decile, OG&E has calculated a present and proposed bill using the rates it established in Schedule H-2 and applied to each decile's average. OG&E has provide this decile analysis for Standard Residential, Standard General Service (Service Levels 3 and 5), Standard Power & Light (All Service Levels), and Municipal Pumping.

Q. **Please describe Schedule H-4.**

A. Schedule H-4 is the bill frequency analysis. It compares those monthly billed rate schedules that OG&E has changed the volumetric blocks. In this docket, they are the Standard Residential and Standard General Service rate schedules. For the Standard Residential customers, OG&E has calculated estimated bills for each calendar month for 663 blocks of 50 kWh. OG&E segmented its analysis of General Service customers into 556 blocks of 100 kWh each for the twelve calendar months.

Q. **Please describe Schedule H-5.**

A. Schedule H-5 is the derivation of rate designs by rate schedule. This schedule consists of two parts: a narrative explanation of the sequential steps and the supporting calculations underlying the derivation of each component of OG&E proposed rate for each rate schedule. As noted in the Company's Schedule H-5, I have outlined the sequential steps I took in designing the proposed rates. For each rate class and schedule. As shown Work Paper H-5-1, I produced the unit cost calculation from the cost of service studies for 17 of the 19 rate schedules at issue in this docket.

Q. **What are your recommendations to the Commission?**

A. I recommend the Commission approve the proposed rates as presented by the Company.

Q. **Does this conclude your direct testimony?**

A. Yes.

OKLAHOMA GAS AND ELECTRIC COMPANY
COST OF SERVICE UNIT COST CALCULATION
RESIDENTIAL STANDARD S/L-5

TEST YEAR ENDING JUNE 30, 2016 (PRO FORMA YEAR ENDING JUNE 30, 2017)
DOCKET NO. 16-052-U

Unit Cost Components				
Total Customer Component	$ 7,295,155	PD (Peak Component)	$ 6,487,309	
Total Energy Component	$ 2,785,981	PD (Avg Component)	$ 5,528,089	
Total Demand Component	$ 30,961,994	Trans Demand	$ 4,872,878	
Total of All Components	$ 41,043,130	Dist Demand	$ 14,073,719	
Muni/LIAP Adjustment + Reconciliation	$ 25,997	Total Demand Component	$ 30,961,994	
POR tie	$ 41,017,133			

Customer Charge	Annual Billing Units	Miscellaneous Revenue	Customer Component	Rev Req Less Miscellaneous	Calculated New Price
	607,428	$ 297,167	$ 7,295,155	$ 6,997,988	$ 11.52
LIAP Credits	-				

		Energy	PD (Peak Component)	PD (Avg Component)	Transmission Demand	Distribution Demand	Energy and Demand Total Revenue Req From Unit Cost		Calculated New Price
Energy Charge								**Energy Charge**	
Summer								**Summer**	
First 1,400 kWh	241,590,542	$ 1,038,351	$ 5,287,118	$ 2,060,351	$ -	$ -	$ 8,385,819	**First 1,400 kWh**	$ 0.0347
Over 1,400 kWh	54,841,736	$ 235,709	$ 1,200,191	$ 467,705	$ -	$ -	$ 1,903,605	**Over 1,400 kWh**	$ 0.0347
Winter								**Winter**	
First 600 kWh	175,065,332	$ 752,427		$ 1,493,005	$ -	$ -	$ 2,245,432	**First 600 kWh**	$ 0.0128
Over 600 kWh	176,709,583	$ 759,494		$ 1,507,028	$ -	$ -	$ 2,266,522	**Over 600 kWh**	$ 0.0128
Total kWh	648,207,193						$ -		
Demand								**Demand**	
Max kW	5,066,695		$ -		$ 4,872,878	$ 14,073,719	$ 18,946,596	**Max kW**	$ 3.74
		$ 2,785,981	$ 6,487,309	$ 5,528,089	$ 4,872,878	$ 14,073,719	$ 33,747,975		

OKLAHOMA GAS AND ELECTRIC COMPANY
COST OF SERVICE UNIT COST CALCULATION
GENERAL SVC STANDARD S/L-5

TEST YEAR ENDING JUNE 30, 2016 (PRO FORMA YEAR ENDING JUNE 30, 2017)
DOCKET NO. 16-052-U

Unit Cost Components				
Total Customer Component	$ 1,632,770	PD (Peak Component)	$ 1,963,477	
Total Energy Component	$ 849,354	PD (Avg Component)	$ 1,674,144	
Total Demand Component	$ 9,421,127	Trans Demand	$ 1,427,927	
Total of All Components	$ 11,903,251	Dist Demand	$ 4,355,579	
Muni/LIAP Adjustment + Reconciliation	$ 5,984	Total Demand Component	$ 9,421,127	
POR tie	$ 11,897,266			

Customer Charge	Annual Billing Units	Miscellaneous Revenue	Customer Component	Rev Req Less Miscellaneous	Calculated New Price
	112,044	$ 40,233	$ 1,632,770	$ 1,592,537	$ 14.21
LIAP Credits	-				

		Energy	PD (Peak Component)	PD (Avg Component)	Transmission Demand	Distribution Demand	Energy and Demand Total Revenue Req From Unit Cost		Calculated New Price
Energy Charge								**Energy Charge**	
Summer								**Summer**	
First 1,400 kWh	72,937,834	$ 315,659	$ 1,504,916	$ 622,189	$ -	$ -	$ 2,442,764	**First 1,400 kWh**	$ 0.0335
Over 1,400 kWh	22,224,780	$ 96,184	$ 458,561	$ 189,586	$ -	$ -	$ 744,331	**Over 1,400 kWh**	$ 0.0335
Winter								**Winter**	
First 600 kWh	36,869,375	$ 159,563		$ 314,510	$ -	$ -	$ 474,073	**First 600 kWh**	$ 0.0129
Over 600 kWh	64,224,228	$ 277,948		$ 547,858	$ -	$ -	$ 825,807	**Over 600 kWh**	$ 0.0129
Total kWh	196,256,217						$ -		
Demand								**Demand**	
Max kW	1,047,581		$ -		$ 1,427,927	$ 4,355,579	$ 5,783,506	**Max kW**	$ 5.52
		$ 849,354	$ 1,963,477	$ 1,674,144	$ 1,427,927	$ 4,355,579	$ 10,270,481		

Current vs Proposed											
Standard Residential R-1 Segment	Number of Customers	R - 1 Current Revenue	R - 1 Proposed Revenue	Total Difference	Percent Difference	Annual Average kWh	Average Monthly kWh		Current Average	Proposed Average	Average Difference
							Summer	Winter	$/Month	$/Month	$/Month
Total	37,134	$40,346,995	$47,507,039	$7,160,044	17.75%	13,804	1,307	1,039	$91	$107	$16
Small Users	3,529	$1,266,191	$1,644,603	$378,412	29.89%	3,655	366	260	$30	$39	$9
Normal Users	28,908	$28,885,123	$34,487,177	$5,602,054	19.39%	12,596	1,228	923	$83	$99	$16
Large Users	4,682	$10,190,779	$11,368,738	$1,177,959	11.56%	28,946	2,507	2,344	$181	$202	$21
Summer Users	6,340	$6,184,382	$7,241,921	$1,057,539	17.10%	11,265	1,490	545	$81	$95	$14
Winter Users	6,381	$6,970,748	$8,295,206	$1,324,458	19.00%	15,205	893	1,534	$91	$108	$17
Non-Seasonal	24,413	$27,191,865	$31,969,912	$4,778,047	17.57%	14,097	1,367	1,037	$93	$109	$16
Low Sum to Ann	6,381	$6,970,748	$8,295,206	$1,324,458	19.00%	15,205	893	1,534	$91	$108	$17
Avg Sum to Ann	24,413	$27,191,865	$31,969,912	$4,778,047	17.57%	14,097	1,367	1,037	$93	$109	$16
Lg Sum to Ann	6,340	$6,184,382	$7,241,921	$1,057,539	17.10%	11,265	1,490	545	$81	$95	$14
Low Max kW	4,120	$2,260,448	$2,717,265	$456,817	20.21%	6,225	669	411	$46	$55	$9
Avg Max kW	27,610	$28,649,865	$33,893,877	$5,244,012	18.30%	13,012	1,291	937	$86	$102	$16
Lg Max kW	5,404	$9,436,681	$10,895,897	$1,459,215	15.46%	23,625	1,871	2,039	$146	$168	$23
Low LF	4,827	$2,632,768	$3,395,867	$763,099	28.98%	6,463	542	536	$45	$59	$13
Avg LF	27,186	$29,315,012	$34,798,089	$5,483,077	18.70%	13,771	1,298	1,040	$90	$107	$17
High LF	5,121	$8,399,215	$9,313,083	$913,868	10.88%	20,899	2,071	1,506	$137	$152	$15
Low Pk Pd to Ann	5,830	$5,806,845	$6,920,142	$1,113,297	19.17%	13,655	828	1,360	$83	$99	$16
Avg Pk Pd to Ann	25,235	$29,151,903	$34,168,213	$5,016,310	17.21%	14,677	1,414	1,086	$96	$113	$17
Lg Pk Pd to Ann	6,069	$5,388,246	$6,418,684	$1,030,438	19.12%	10,315	1,319	532	$74	$88	$14

R – TOU Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 6%	3	24,223	$4,955	$4,882	$73	1.50%	$2.03	673
6% to 7.9%	9	86,867	$11,109	$10,385	$724	7.00%	$6.70	804
8% to 9.9%	22	196,743	$23,129	$21,189	$1,940	9.20%	$7.35	745
10% to 11.9%	59	646,252	$65,125	$58,625	$6,500	11.10%	$9.18	913
12% to 13.9%	145	2,149,287	$185,045	$163,535	$21,510	13.20%	$12.36	1,235
14% to 15.9%	235	3,954,600	$314,924	$273,921	$41,003	15.00%	$14.54	1,402
16% to 17.9%	159	2,791,729	$210,594	$180,182	$30,412	16.90%	$15.94	1,463
18% to 19.9%	75	1,048,051	$79,055	$66,551	$12,504	18.80%	$13.89	1,165
20% to 21.9%	23	205,388	$16,526	$13,680	$2,846	20.80%	$10.31	744
22% to 23.9%	5	39,967	$3,232	$2,636	$595	22.60%	$9.92	666
24% to 25.9%								
26% to 27.9%								
28% and Greater								

GS -1 SL3 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 4%								
4% to 5.9%								
6% to 7.9%	1	229,200	$15,722	$14,774	$948	6.40%	$79.02	19,100
8% to 9.9%								
10% to 11.9%	2	225,800	$14,762	$13,302	$1,460	11.00%	$60.84	9,408
12% to 13.9%	4	157,740	$11,597	$10,322	$1,275	12.40%	$26.56	3,286
14% to 15.9%	1	5,520	$644	$558	$86	15.40%	$7.15	460
16% to 17.9%	1	41,100	$3,120	$2,655	$465	17.50%	$38.76	3,425
18% to 19.9%								
20% to 21.9%								
22% to 23.9%								
24% to 25.9%								
26% and Greater								

PM Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 4%	14	5,917	$5,165	$5,075	$91	1.80%	$0.54	35
4% to 5.9%	3	4,191	$1,343	$1,274	$68	5.40%	$1.90	116
6% to 7.9%	2	4,308	$1,007	$942	$66	7.00%	$2.73	180
8% to 9.9%	4	11,044	$2,217	$2,042	$175	8.60%	$3.65	230
10% to 11.9%	1	6,224	$786	$710	$76	10.70%	$6.35	519
12% to 13.9%	1	5,990	$807	$713	$94	13.10%	$7.81	499
14% to 15.9%	6	50,406	$5,983	$5,192	$790	15.20%	$10.98	700
16% to 17.9%	3	33,223	$3,635	$3,107	$527	17.00%	$14.65	923
18% to 19.9%	6	130,192	$12,145	$10,166	$1,978	19.50%	$27.48	1,808
20% to 21.9%	4	173,892	$14,819	$12,206	$2,614	21.40%	$54.45	3,623
22% to 23.9%	12	666,805	$56,938	$46,250	$10,688	23.10%	$74.22	4,631
24% to 25.9%	3	217,353	$18,676	$14,964	$3,712	24.80%	$103.12	6,038
26% and Greater								

AFL Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 8%								
8% to 9.9%								
10% to 11.9%	1	10,364	$1,271	$1,142	$129	11.30%	$10.75	864
12% to 13.9%	2	40,941	$4,368	$3,858	$510	13.20%	$21.25	1,706
14% to 15.9%	4	197,120	$19,168	$16,682	$2,486	14.90%	$51.79	4,107
16% to 17.9%	2	88,240	$8,762	$7,538	$1,224	16.20%	$51.02	3,677
18% to 19.9%	1	132,400	$12,589	$10,638	$1,951	18.30%	$162.56	11,033
20% to 21.9%	2	60,880	$6,500	$5,409	$1,091	20.20%	$45.44	2,537
22% to 23.9%	3	186,311	$19,114	$15,505	$3,610	23.30%	$100.27	5,175
24% to 25.9%	3	125,160	$13,463	$10,747	$2,717	25.30%	$75.46	3,477
26% to 27.9%	2	121,320	$12,780	$10,112	$2,668	26.40%	$111.19	5,055
28% to 29.9%								
30% and Greater								

PL - 2 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%								
-5% to -4.1%								
-3% to -2.1%	1	5,835,200	$308,147	$315,300	($7,153)	-2.30%	($596)	486,267
-2% to -1.1%								
-1% to -0.1%								
0% to 0.9%	2	-	$1,934,254	$1,926,569	$7,685	0.40%	$320	-
1% to 1.9%								
5% to 5.9%								
6% and Greater								

PL – 4 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%								
-2% to -1.1%								
-1% to -0.1%	2	1243680	161536	162030	-495	-0.30%	-21	51820
0% to 0.9%								
5% to 5.9%								
6% and Greater								

PL - 5 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 0%								
0% to 1.9%								
2% to 3.9%								
4% to 5.9%	7	3,913,700	$456,188	$432,114	$24,074	5.60%	$287	46,592
6% to 7.9%	113	49,773,420	$4,547,936	$4,235,441	$312,495	7.40%	$230	36,706
8% to 9.9%	443	300,807,700	$21,173,949	19,382,013	$1,791,935	9.20%	$337	56,585
10% to 11.9%	335	113,906,833	$7,853,982	7,101,842	$752,140	10.60%	$187	28,335
12% to 13.9%	8	4,837,996	$312,567	$278,221	$34,347	12.30%	$358	50,396
14% to 15.9%								
16% to 17.9%								
18% to 19.9%								
20% to 21.9%								
22% and Greater								

PL - TD - 3 Percentage (%) Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%	4	16,515,600	$1,001,763	$1,072,712	($70,950)	-6.60%	($1,478)	344,075
-5% to -4.1%	4	42,193,600	$2,296,090	$2,397,614	($101,525)	-4.20%	($2,115)	879,033
-4% to -3.1%	9	149,678,400	$7,846,628	$8,142,997	($296,368)	-3.60%	($2,744)	1,385,911
-3% to -2.1%	1	5,072,400	$255,518	$261,566	($6,048)	-2.30%	($504)	422,700
-2% to -1.1%								
-1% to -0.1%	1	7,730,400	$389,138	$393,024	($3,885)	-1.00%	($324)	644,200
0% to 0.9%								
1% to 1.9%								
2% to 2.9%	2	6,729,600	$384,242	$375,382	$8,860	2.40%	$369	280,400
3% to 3.9%								
4% to 4.9%								
5% to 5.9%								
6% and Greater	1	150,000	$11,953	$11,123	$830	7.50%	$69	12,500

PL - TD - 5 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%	1	156,640	$18,328	$19,827	($1,499)	-7.60%	($125)	13,053
-5% to -3.1%	3	1,390,480	$128,077	$132,480	($4,403)	-3.30%	($122)	38,624
-3% to -1.1%	3	2,012,880	$191,318	$194,945	($3,627)	-1.90%	($101)	55,913
-1% to 0.9%	4	1,788,100	$152,274	$152,573	($299)	-0.20%	($6)	37,252
1% to 2.9%	5	3,445,780	$267,199	$262,619	$4,581	1.70%	$76	57,430
3% to 4.9%	1	891,500	$70,597	$68,485	$2,113	3.10%	$176	74,292
5% to 6.9%	13	19,167,900	$1,249,495	$1,176,516	$72,979	6.20%	$468	122,871
7% to 8.9%	14	51,444,236	$3,101,678	$2,877,080	$224,598	7.80%	$1,337	306,216
9% to 10.9%								
11% to 12.9%								
13% to 14.9%	1	143,800	$13,020	$11,363	$1,657	14.60%	$138	11,983
15% to 16.9%								
17% and Greater								

PL TE -1 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%								
-5% to -3.1%								
-3% to -1.1%								
-1% to 0.9%	1	410,088,118	$18,313,112	$18,349,512	($36,400)	-0.20%	($3,033)	34,174,010
1% to 2.9%								
17% and Greater								

PL-TE-3 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than -5%								
-5% to -3.1%	1	8,222,400	$425,166	$442,541	($17,375)	-3.90%	($1,448)	685,200
-3% to -1.1%								
-1% to 0.9%								
15% to 16.9%								
17% and Greater								

PL TE -5 Percentage (%) Change Distribution								
% Change Range	Customer Count	Annual kWh	Proposed $	Current $	$ Difference	% Difference	$ Diff per Cust per Mo	Avg kWh per Cust per Mo
Less than 0%								
6% to 7.9%	1	5,391,538	$346,742	$326,398	$20,344	6.20%	$1,695	449,295
8% to 9.9%	1	393,520	$29,565	$27,010	$2,555	9.50%	$213	32,793
10% to 11.9%								
12% to 13.9%	1	165,840	$12,690	$11,203	$1,488	13.30%	$124	13,820
14% to 15.9%								
22% and Greater								

Power & Light Service SL5	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91+%	Total
Over 574 kW		4	2	6	4	8	2	3			29
		$33,006	$19,648	$89,582	$65,823	$336,811	$47,519	$155,938			$748,327
		6.51%	7.90%	8.30%	9.07%	9.58%	9.89%	9.86%			9.20%
525 to 574 kW		1	1		3						5
		$3,767	$7,055		$34,125						$44,947
		5.25%	6.79%		8.81%						7.98%
475 to 524 kW			3	4	2						9
			$18,802	$31,814	$22,317						$72,933
			7.14%	7.99%	9.25%						8.08%
425 to 474 kW		2		3	5		1				11
		$7,328		$25,562	$46,254		$15,066				$94,210
		6.33%		8.90%	8.79%		10.02%				8.73%
375 to 424 kW		1	3	1	6	1	2				14
		$3,916	$15,645	$7,718	$53,286	$11,309	$25,608				$117,482
		6.11%	7.60%	8.22%	9.13%	9.34%	10.16%				8.90%
325 to 374 kW		5	3	5	3	4					20
		$14,868	$13,345	$32,454	$23,935	$38,767					$123,369
		7.22%	7.87%	8.84%	9.16%	9.87%					8.83%
275 to 324 kW	2	6	7	6	3	6	1				31
	$2,955	$17,005	$28,095	$33,516	$19,012	$50,289	$9,779				$160,651
	5.38%	6.87%	7.77%	8.85%	9.01%	9.64%	9.76%				8.57%
225 to 274 kW	1	4	13	12	7	6	2	1			46
	$1,502	$11,267	$44,732	$54,525	$41,187	$41,786	$16,143	$9,727			$220,869
	5.21%	7.19%	7.78%	8.71%	9.47%	9.66%	9.94%	10.34%			8.80%
175 to 224 kW	2	8	20	17	15	7	2	1			72
	$2,623	$14,885	$53,258	$61,295	$66,712	$38,263	$11,851	$7,292			$256,180
	6.60%	7.09%	8.10%	8.98%	9.39%	9.85%	10.14%	10.30%			8.91%
125 to 174 kW		28	38	33	19	12	10	1	1		142
		$43,530	$77,652	$94,216	$70,817	$51,436	$44,603	$5,772	$6,265		$394,291
		7.55%	8.18%	9.06%	9.50%	9.92%	10.13%	10.27%	10.52%		8.99%
75 to 124 kW		31	79	59	44	24	14	4			255
		$37,815	$122,069	$116,044	$107,980	$69,166	$46,256	$16,179			$515,510
		8.16%	8.83%	9.49%	9.91%	10.21%	10.43%	10.56%			9.49%
25 to 74 kW		1	43	91	90	57	11		2		295
		$857	$51,646	$120,097	$127,664	$90,931	$20,150		$4,121		$415,468
		10.35%	9.78%	10.32%	10.80%	11.08%	11.24%		11.65%		10.61%
Totals	5	91	212	237	201	125	45	10	3		929
	$7,080	$188,245	$451,947	$666,823	$679,112	$728,759	$236,977	$194,907	$10,386		$3,164,236
	5.73%	7.17%	8.30%	9.09%	9.57%	9.86%	10.19%	9.97%	10.94%		9.20%

Power & Light TOU Demand SL 5	1-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91+%	Total
Over 1,149 kW					1		1				2
					$18,761		$123,228				$141,989
					5.83%		7.42%				7.16%
1,050 to 1,149 kW									1		1
									$39,560		$39,560
									8.47%		8.47%
950 to 1,049 kW							1				1
							$20,237				$20,237
							6.41%				6.41%
850 to 949 kW											
750 to 849 kW						1					1
						$13,647					$13,647
						6.37%					6.37%
650 to 749 kW											
550 to 649 kW			1								1
			($330)								($330)
			-0.29%								-0.29%
450 to 549 kW		1	1	1			1				4
		($1,455)	($1,478)	$1,330			$10,191				$8,589
		-2.22%	-1.61%	1.17%			6.76%				2.03%
350 to 449 kW			2		1						3
			($441)		$6,581						$6,140
			-0.30%		5.69%						2.34%
250 to 349 kW		1		2			2		1		6
		($695)		$2,588			$15,927		$11,679		$29,499
		-1.85%		2.27%			7.70%		8.47%		5.94%
150 to 249 kW		3	1			2	1				7
		$1,295	$1,787			$7,246	$3,291				$13,619
		1.63%	7.11%			6.92%	6.64%				5.26%
50 to 149 kW		3	6	2	5	1	2				19
		($556)	$2,088	$1,353	$5,788	$2,999	$7,066				$18,738
		-1.11%	2.32%	5.73%	6.91%	6.87%	8.29%				4.98%
Totals		8	11	5	7	4	8		2		45
		($1,410)	$1,626	$5,271	$31,130	$23,892	$179,940		$51,240		$291,688
		-0.61%	0.35%	2.09%	5.97%	6.59%	7.29%		8.47%		5.94%