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 RATES, CHARGES AND TARIFFS	))))	DOCKET NO. 16-052-U

DIRECT TESTIMONY

OF

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SENIOR RATE ANALYST

ON BEHALF OF THE GENERAL STAFF
OF THE ARKANSAS PUBLIC SERVICE COMMISSION

JANUARY 31, 2017

INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Robert H. Swaim and my business address is Arkansas Public Service Commission (Commission), 1000 Center Street, Little Rock, Arkansas, 72201.

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

A. I am employed by the Commission's General Staff (Staff) as a Senior Rate Analyst. In that capacity, I analyze utility company filings, identify and evaluate issues, develop positions on those issues, and present those positions, when necessary, in written and oral testimony before the Commission.

Q. Please state your qualifications and background.

A. I have over fifteen years of experience with Staff, having filed testimony in several cases before the Commission addressing electric, gas, and water utility related matters.

Before joining Staff, I was employed by Entergy Services, Inc. for more than twenty years in various capacities, including Manager of Forecasting. In that position, I was responsible for the Load, Energy, and Revenue Forecasts for each of the Entergy System's regulated electric, natural gas, and steam utility operations. Those functions included the estimation of econometric models, weather adjustment, marketing program impact analysis, and detailed modeling to depict the rates and

revenue recovery mechanisms in the retail jurisdictions of Arkansas, Louisiana, Mississippi, New Orleans, and Texas.

My educational qualifications include a Bachelor of Science in General Studies and a Master of Science in Economics and I have completed all of the requirements for a Doctor of Philosophy in Economics, except the dissertation, all from Louisiana State University in Baton Rouge, Louisiana. My areas of study in the Ph.D. program included Microeconomic Theory, the Regulation of Public Utilities, and Econometrics. I taught Principles of Economics at Louisiana State University, the University of New Orleans, the University of Arkansas at Little Rock (UALR) and Webster University. I have also taught Statistics at UALR. Since joining Staff, I have received specialized training including Utility Regulatory Training sponsored by the Center for Public Utilities, a branch of the College of Business Administration and Economics at New Mexico State University and Electric Utility Systems training sponsored by Electric Utility Consultants, Inc. I have received training from the Association of Energy Engineers and have qualified as a Certified Energy Manager (CEM), License No. 19172.

Q. Have you previously filed testimony before the Commission?

A. Yes, I have filed testimony before the Commission addressing electric, gas, and water utility matters.

PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. My testimony addresses the following sections of Oklahoma Gas and Electric Company's (OG&E or Company) Application:

- OG&E's proposed *pro forma* temperature normalized billing determinants [customer counts, kilowatt-hours (kWh), billed kilowatt (kW), and lighting fixture counts] and the rate schedule revenues that result from them as well as peak kW demands [coincident peaks (CP) and non-coincident peaks (NCP)] - as reflected in the Company's Application for Approval of a General Change in Rates, Charges, and Tariffs (Application) dated August 25, 2016 and revised on September 2, 2016, October 18, 2016, October 20, 2016; and
- OG&E's proposed rate design.

In so doing, I will address the Direct Testimonies of OG&E's witnesses Gwin Cash, Bryan Scott, and William H. Wai.

SUMMARY OF RECOMMENDATIONS

Q. Could you briefly summarize your recommendations?

A. Yes, I recommend that the Commission:

- Reject OG&E's *pro forma* billing determinants and rate schedule revenues and accept those that I propose;
- Accept OG&E's *pro forma* peak kW demands;

- Reject OG&E's proposed rates; and
- Order the Company to design rates such that each customer class pays its Cost of Service (COS) as determined by Staff's COS study incorporating the mitigated distribution of the base rate revenue requirement recommended by Staff witness Matthew S. Klucher.

BILLING DETERMINANTS

Q. Would you summarize the difference between OG&E's proposed *pro forma* billing determinants and yours?

A. My recommended *pro forma* billing determinants are presented in my Direct Exhibit RHS-1. A comparison of these billing determinants (and the current rate revenues that result from them) to those filed by OG&E is presented in Table 1, below. In total, my recommended billing determinants produce $132,139 more in base rate revenues under OG&E's current rates than do the Company's recommended billing determinants, a difference of 0.16%. This difference results from differences in the way OG&E and I develop our *pro forma* year projections. I will explain those differences below.

TABLE 1
STAFF BILLING DETERMINANTS COMPARED TO OG&E's CASE

	Staff	OG&E	Diff	% Diff
RESIDENTIAL-TOTAL				
Average # of Customers	55,467	55,556	(90)	(0.16%)
Volume (MWH)	711,613	717,994	(6,381)	(0.90%)
Present Rate Revenues	30,786,853	30,711,142	$75,711	0.25%
GENERAL SERVICE-TOTAL				
Average # of Customers	9,652	9,727	(75)	(0.78%)
Volume (MWH)	217,911	210,422	7,489	3.44%
Present Rate Revenues	9,511,996	9,237,103	$274,893	2.89%
POWER & LIGHT-TOTAL				
Average # of Customers	951	946	5	0.49%
Volume (MWH)	812,711	794,303	18,408	2.27%
Present Rate Revenues	24,649,782	24,694,922	($45,140)	(0.18%)
POWER & LIGHT TOU-TOTAL				
Average # of Customers	83	83	$0	0.50%
Volume (MWH)	811,908	815,034	($3,126)	(0.38%)
Present Rate Revenues	17,095,630	17,275,881	($180,251)	(1.05%)
MUNICIPAL PUMPING				
Average # of Customers	63	64	(1)	(1.72%)
Volume (MWH)	1,272	1,228	44	3.47%
Present Rate Revenues	59,162	58,298	$864	1.46%
ATHLETIC FIELD LIGHTING				
Average # of Customers	27	29	(2)	(6.42%)
Volume (MWH)	928	1,011	(83)	(8.98%)
Present Rate Revenues	50,450	54,747	($4,297)	(8.52%)
LIGHTING *				
Average # of Customers				
Volume (MWH)	29,297	29,185	113	0.38%
Present Rate Revenues	3,012,480	3,002,121	$10,359	0.34%
TOTAL				
Average # of Customers	66,242	66,405	(163)	(0.25%)
Volume (MWH)	2,585,641	2,569,177	16,464	0.64%
Present Rate Revenues	85,166,353	85,034,214	$132,139	0.16%

'*Lighting revenues are based on fixtures, not customer counts

Q. Please provide a summary of your analysis of OG&E's proposed *pro forma* year billing determinants.

A. While considering the facts underlying the calculation of OG&E's *pro forma* year billing determinants, I reviewed and analyzed the test year

data, the adjustments to the test year data, and the resulting *pro forma* year billing determinants. I also reviewed the calculations to ensure mathematical accuracy.

Q. How would you describe OG&E's test year data?

A. Although OG&E used a test year ending June 30, 2016, the billing determinants and revenues consisted of actual observations of customer counts, billed kWh and kW volumes, and daily high and low temperatures for the twelve calendar months (January 2015 to December 2015) which were adjusted to arrive at the projected test year.

Q. What was the scope of your review of the accuracy of the test year billing determinants?

A. Because OG&E's test year is derived from actual twelve months or Year Ending (YE) 2015 data, I verified the accuracy of the billing determinants for the YE 2015 by conducting a revenue reconciliation. To do the revenue reconciliation, I calculated the revenues that result from applying the current tariff rates times the YE 2015 billing determinants, and then I reconciled those estimated revenues to the YE 2015 revenues that formed the basis of the Company's financial records. I found no material discrepancies between the calculated revenues and the reported revenues. Therefore, I concluded that the YE 2015 billing determinants included in OG&E's filing are materially accurate.

Q. Could you summarize the adjustments OG&E made to the test year billing determinants in developing its recommended *pro forma* billing determinants?

A. In general, there are three major adjustments made by OG&E: (1) adjusting the average kWh use per customer (Usage) for any known effects, principally temperature, (2) adjusting the customer count for growth, or decline, in the number of customers, and (3) adjusting the billed kW demand to recognize the changes in total kWh that result from the Usage and customer count adjustments.

Q. How were the weather adjustments calculated?

A. To adjust YE 2015 kWh Usage for weather, OG&E used econometric techniques to estimate the heating kWh Usage per heating degree day (HDD), also known as the Heating Sensitivity Factor (HSF), and the cooling kWh Usage per cooling degree day (CDD), also known as the Cooling Sensitivity Factor (CSF).[1] OG&E's analysis was performed for each Service Level (SL) of the Residential, General Service (GS), and Power and Light (PL) classes. All of the SL5 customers, except the PL Time of Use (TOU) SL5 customers, were found to be weather sensitive as well as the PL SL2 and PL SL3 customers. OG&E's methodology

[1]An HDD is the positive difference between the average daily temperature and sixty-five degrees Fahrenheit while a CDD is the negative difference.

calculates a temperature impact for each actual month of the YE 2015 for each service level of each class.

Q. Was OG&E's definition of normal weather the same as yours?

A. Yes. OG&E used a thirty-year average number of HDDs and CDDs as the definition of normal weather which is consistent with the definition I use. It is also consistent with the definition used by the National Oceanic and Atmospheric Administration and the World Meteorological Organization.

Q. How were the customer growth adjustments calculated by OG&E?

A. The weather adjusted YE 2015 kWh Usage was multiplied by the growth in customer count reflecting the December 2015 customer count increased to account for expected growth through the end of the *pro forma* year, June 30, 2017.

Q. How were the weather adjustments calculated for billed kW demands by OG&E?

A. Under OG&E's current rate structure, PL customers are charged for billed kW demands.[2] Because billed kW demands are a function of the equipment currently installed at the premises and whether or not that equipment is used at any time in the month, billed kW demands are unlikely to be influenced by weather. Conversely, kWh are a function of how many hours that equipment is used and may be sensitive to weather.

[2] Billed kW demand is defined in the current tariff as, "The consumer's maximum demand shall be the maximum rate at which energy is used for any period of 15 consecutive minutes of the month for which the bill is rendered as shown by the Company's demand meter."

For example, Heating, Ventilation, and Air Conditioning (HVAC) equipment will have a particular kW rating and will draw that current whenever it is on. The HVAC equipment will operate more hours in a summer month that is hotter than in another summer month. So the HVAC kWh will be sensitive to temperature but not the kW.

Q. Were any other adjustments made by OG&E to the test year billing determinants?

A. Yes, the kWh and billed kW were adjusted to account for reductions expected to result from OG&E's energy efficiency programs.

Q. Do you have any concerns regarding OG&E's methodology for developing its recommended weather adjustments?

A. Yes. OG&E's weather adjustment methodology uses an overly complex computational technique that uses daily temperature data to calculate separate HSFs and CSFs for small, medium, and large deviations from base temperatures. Those HSFs and CSFs are then combined into spline variables as measures of CDDs and HDDs for each day. The complexity of these variables produces results that are unfathomable to an individual who does not have extensive postgraduate training in statistics and econometric modeling. The complexity of these variables also provides an unnecessary risk of calculation errors.

Q. Do you have any additional concerns regarding OG&E's methodology for developing its recommended adjustments?

A. Yes. OG&E projects customer counts into the *pro forma* year using a two-step process. First, OG&E substitutes the December 2015 customer count for each month in the test year (the twelve months ending June 2016) then OG&E grows each of those values by the five-year compound annual growth rate. That methodology results in projections that have the same number of customers in each month and are likely to be less accurate than actual results. In this case, that method results in an overstatement of the number of customers that could be expected in the test year. The August 2016 projected Residential customer count was 50,619 while the actual August 2016 Residential customer count is 50,336.

Q. What are the lighting fixture counts?

A. OG&E has three groups of customers that are charged for lighting fixtures: Municipal Lighting (ML), Outdoor Lighting (OL), and a new tariff for LED Lighting (LEDL). The charges vary depending on the particular type of fixture (e.g., mercury vapor, high pressure sodium, decorative, or cobra), the output of the lamp (e.g., 25,000 lumens or 50,000 lumens), the type of pole on which the fixture is mounted, whether the service is overhead or underground, and whether the facilities are owned by OG&E or the

customer. OG&E used the YE 2015 fixture counts to represent the *pro forma* year fixture counts.

STAFF'S BILLING DETERMINANTS

Q. How did you assess the reasonableness of OG&E's recommended *pro forma* billing determinants?

A. I developed *pro forma* year billing determinants by applying essentially the same model Staff has used to develop the billing determinants in every retail rate case since I joined Staff in 2001. The Commission accepted as reasonable the results of this model in many of the rate cases filed since then.[3] My model relies on six years of monthly customer counts and kWh sales to algebraically derive the Usage characteristics (Base, HSF, and CSF) of each weather sensitive class. I found significant weather sensitivity only among the Residential customers, the GS SL5 customers, and the PL SL5 customers.

Q. How would you describe your algebraic weather adjustment methodology?

A. My algebraic weather adjustment methodology calculates Base Usage as the average of the two lowest monthly Usages of each year. The two months chosen are the spring and fall months with the lowest average Usage over the six years for which actual data is available. For each year,

[3] *See* Docket Nos. 01-243-U, 02-024-U, 04-121-U, 05-006-U, 06-101-U, 13-078-U, 13-079-U, 15-011-U, 15-015-U, and 15-098-U.

the winter weather sensitive sales are the sum of the actual winter month kWh minus the sum of the winter Base kWh. The winter weather sensitive sales are then divided by the number of HDDs that occurred over that period to derive the HSF for that year. Similarly, the summer weather sensitive sales are divided by the CDDs to derive the CSF. If there is evidence of a trend in any of the three factors, the Base, HSF, or CSF, that factor is projected into the *pro forma* year using the trend. The *pro forma* year Base, HSF, and CSF are applied to normal weather to estimate the kWh volumes per customer that could be expected in a normal year.

Q. How did you develop your recommended *pro forma* Usages?

A. My methodology uses the most recent six years ending with the test year Usages to algebraically derive the Base and Degree Day Factors (DFFs) for each weather sensitive class. Because actual Usages were available for the first three months of the *pro forma* year, they were weather adjusted. Once I had determined that they were representative of normal on-going conditions, they were used as the projections of Usages for those months. The non-weather sensitive classes' Usages for the test year and the first three months of the *pro forma* year were used for the *pro forma* year Usages.

Q. How did you develop your recommended *pro forma* customer counts?

A. My methodology uses the most recent actual test year customer counts and grows them using the five-year Compound Annual Growth Rates (CAGR), where appropriate. This methodology applies the historical growth rate to the most recently available monthly data to project the conditions that can be expected to prevail in the *pro forma* year. My methodology is consistent with the treatment of rate base and expenses which are modified through the end of the *pro forma* year and results in a balanced approach to billing determinants. In addition to the substitution of the actual test year data for the projected test year data, I was able to update the billing determinants for the first three months of the *pro forma* year, once I had determined that they were representative of normal on-going conditions.

Q. How did you develop your recommended adjustments?

A. My methodology uses the most recent actual test year or *pro forma* year customer counts, weather adjusted kWh volumes, and billed kW. *Pro forma* year billing determinants for which actual data is not yet available are projected using the methodology discussed above.

Q. Did you adjust the *pro forma* kWh and billing kW to reflect the impact of OG&E's energy efficiency programs?

A. No, because my model applies the five year CAGR in Usage, it incorporates the effects of energy efficiency into the *pro forma* year. In addition, my model uses the most current actual data available which includes the impacts of OG&E's energy efficiency programs to date.

Q. Are there any aspects of OG&E's billing determinants with which you agree?

A. Yes. I agree with OG&E that PL customers' monthly kW billing demands are not sensitive to weather. Consequently, I used the actual test year data and actual *pro forma* year data, where available, for all customers who are subject to kW billing.

Q. What is your recommendation concerning OG&E's *pro forma* year billing determinants?

A. I recommend that the Commission reject the *pro forma* year billing determinants and rate schedule revenues OG&E has proposed and accept those that I have recommended in Direct Exhibit RHS-1. My billing determinants model uses a five year CAGR for customer counts and Usage which has been accepted by the Commission in previous rate cases. My model includes actual data for the entire test year and for the first three months of the *pro forma* year.

Q. Do your proposed changes in billing determinants impact the allocation factors used in Staff's COS study?

A. Yes. Staff's allocation factors used in the COS study are based on the customer counts, volumes, and base rate revenues that I propose and will be different from OG&E's. These billing determinants and base rate revenues were provided to Staff witness Klucher for inclusion in his COS study.

Q. Are there any elements of the allocation factors proposed by OG&E with which you agree?

A. Yes. OG&E provided weather adjusted test year peak demands (both coincident and non-coincident peaks). In this particular case, my kWh billing determinants are within one percent of the Company's, so I have chosen to accept OG&E's peak demands. These peak demands were provided to Staff witness Klucher for inclusion in Staff's COS study.

Q. Do your proposed changes in billing determinants impact Staff's determination of Revenue Requirement?

A. Yes. The Arkansas present rate schedule revenues I developed using my *pro forma* billing determinants are included in Adjustment IS-9 as shown on Staff witness Jeff Hilton's Direct Exhibit JH-5. These present rate schedule revenues were also provided to Staff witness Klucher for inclusion in Staff's COS study.

RATE DESIGN

Modification to Rate Schedule Pricing Components[4]

Q. Do you have any comments regarding OG&E's proposed rate design?

A. Yes. OG&E has proposed extensive changes in the rate designs of all of its customers' rate schedules except the ML, OL, Municipal Pumping (MP), and Athletic Field Lighting (AFL) classes. Because the results of Staff's COS study are different from OG&E's, the percentage increase to each class will be different from those recommended by OG&E.

Residential Rate Design

Q. Do you have any comments regarding OG&E's proposed Residential rate design?

A. Yes. OG&E has proposed raising the customer charges for all of the Residential classes [i.e., Regular Residential (R1), Residential Time of Use (RTOU), and Residential Variable Peak Pricing (RVPP)] customers from $7.94 to $11.80 per month, a 49% increase which is above OG&E's proposed 40% Residential class rate increase.

For the R1 customers, OG&E proposes a $1.00 per kW per month charge which will raise the fixed component of customers' base rates by 154%. OG&E also proposes to substitute fixed summer and winter kWh

[4] In this section of my testimony, the comparisons are between the current and proposed base rates proposed by OG&E. The rate impacts are based on a dataset of OG&E's customers with a full twelve months of billing history for YE 2015.

charges to replace the current inclining block summer rate and declining block winter rate. The impact of these changes to the R1 rate design in isolation (after taking into account the 39% increase in base rate revenues proposed by OG&E) ranges from -23% for the 500 R1 customers with the smallest increases to +25% for the 900 R1 customers with the largest increase.

For the RTOU customers, OG&E has proposed raising the winter kWh rate by 53% from $0.017 to $0.0260 (which matches the proposed Winter kWh rate for the R1 customers), leaving the Summer On-Peak rate constant at $0.0185 and raising the Summer Off-Peak rate by 88% from $0.017 to $0.032.

For the RVPP customers, OG&E has proposed raising the winter kWh rate by 53% from $0.017 to $0.0260 (which matches the proposed Winter kWh rate for the R1 and RTOU customers), increasing the Summer Off-Peak and Summer On-Peak Tier 1 rates by 88% from $0.017 to $0.32 (which matches the RTOU Summer Off-Peak rate), raising the Summer On-Peak Tier 2 rate by 3% from $0.06770 to $0.07000, and leaving the Summer On-Peak Tiers 3 and 4 rates constant at $0.0185 and $0.3700, respectively. In addition, OG&E proposes dramatic changes in the definitions of the four Tiers and requests the ability to change those definitions annually. The Tiers are defined based on a range in the Day Ahead Pricing (DAP) rate which is offered to PL and PLTOU customers

and is based on the Southwest Power Pool's (SPP) hourly Day-Ahead Locational Marginal Price for OG&E. The current and proposed Tier definitions are shown in Table 2

Table 2

Variable Peak Pricing		
	Day Ahead Price (DAP) per kWh	
	Current	Proposed
Tier 1	DAP < 7.0¢	DAP < 1.0¢
Tier 2	7.0¢ < DAP < 11.0¢	1.0¢ < DAP < 2.3¢
Tier 3	11.0¢ < DAP < 20.0¢	2.3¢ < DAP < 7.8¢
Tier 4	DAP > 20.0¢	DAP > 7.8¢

The objective of those definitions is to more closely align customers' rates with OG&E's generation cost and to cause customers to shift their consumption from the times when the DAP is higher to times when the DAP is lower. Unfortunately, the current definitions of the Tiers do not closely correspond to the SPP's hourly Day-Ahead Locational Marginal Prices for OG&E. This has resulted in the actual distribution of summer kWh volumes deviating from the proposed distribution as shown in Table 3.

Table 3

Residential Variable Peak Pricing		
	% of On-Peak Volume	
	Proposed	Actual
Tier 1	8%	46%
Tier 2	31%	34%
Tier 3	46%	20%
Tier 4	15%	0%
Total	100%	100%

In addition to the changes proposed in this rate case, OG&E has requested the ability to adjust the Tier Definitions annually after this rate

case is concluded to more closely align the distribution of kWh volumes with the proposed distribution.

All of these rate designs for the Residential class violate the Commission's longstanding policy that increases or decreases in rates should avoid unnecessary, significant adverse customer impact. Rate design should attempt to balance the Company's desire for revenue stability and the customer's desire for rate stability. In general, rate design considerations should include customer acceptance, the principle of gradualism, and energy efficiency and conservation goals.

Q. What do you recommend regarding OG&E's proposed Residential rate design?

A. First, the customer charge percentage increase should be no more than the Residential class average increase. This will reduce the disproportionally adverse impact on customers who use less kWh than the average customer and promote energy efficiency by resulting in higher kWh charges than the current proposal.

Second, any demand charge for Residential customers should be offered as an optional Residential Demand (RD) tariff with a "best bill" provision within the first year in which the customer chooses the rate. The "best bill" provision would recalculate the customer's annual bill, provide an explanation of which Residential tariff would be best for the customer,

and provide a credit to the customer's bill equal to the differential when it benefits the customer.

Third, any changes to the Tier definitions in the RVPP tariff would automatically trigger a "best bill" provision for the first year in which the new definitions are in effect. The "best bill" provision would recalculate the customer's annual bill compared to the RTOU rate, provide an explanation of which Residential tariff would be best for the customer, and provide a credit to the customer's bill equal to the differential when it benefits the customer.

Finally, the Company should file an annual report with the Commission that includes the number of Residential customers choosing the RD, RTOU, and RVPP rates, the number Residential customers being provided "best bills", and the number of Residential customer complaints relating to RD, RTOU, and RVPP rates. For all customers taking service under the RVPP rate, the report should include a table similar to Table 2 so that the Commission can judge the progress being made toward the proposed kWh distribution.

General Service Rate Design

Q. Do you have any comments regarding OG&E's proposed GS rate design?

A. Yes. OG&E has proposed changes to the GS class rates that parallel the changes proposed for the Residential class rates. OG&E proposed

raising the customer charges of all of the GS class; i.e., Regular GS (GSReg), GS Time of Use (GSTOU), and GS Variable Peak Pricing (GSVPP) customers from $21.75 to $28.00 per month, a 29% increase, which is below OG&E's proposed 35% GS class rate increase.

For the GSReg customers, OG&E proposes a $1.00 per kW per month charge which will raise the fixed component of customers' base rates by 72%. OG&E also proposes to substitute fixed summer and winter kWh charges to replace the current inclining block summer rate and declining block winter rate. The impact of these changes to the GSReg rate design in isolation, after taking into account the 35% increase in base rate revenues OG&E has proposed, ranges from -17% for the 88 GSReg customers with the smallest increases to +30% for the 152 GSReg customers with the largest increases.

For the GSTOU customers, OG&E has proposed raising the winter kWh rate by 18% from $0.017 to $0.020, which matches the proposed Winter kWh rate for the GSReg customers, leaving the Summer On-Peak rate constant at $0.0185 and raising the Summer Off-Peak rate by 53% from $0.017 to $0.026.

For the GSVPP customers, OG&E has proposed raising the winter kWh rate by 18% from $0.017 to $0.020, which matches the proposed Winter kWh rate for the GSReg and GSTOU customers, increasing the Summer Off-Peak rate by 53% from $0.017 to $0.26, which matches the

GSTOU Summer Off-Peak rate, and changing all of the Summer On-Peak Tier rates to match the RVPP Summer On-Peak Tier rates. The Tiers are the same ones shown in Table 2, above. The actual distribution of summer kWh volumes deviate from the proposed distribution in a manner very similar to the RVPP distribution and are shown in Table 4, below.

Table 4

General Service Variable Peak Pricing		
	% of On-Peak Volume	
	Proposed	Actual
Tier 1	9%	47%
Tier 2	32%	33%
Tier 3	44%	20%
Tier 4	14%	0%
Total	100%	100%

Q. What do you recommend regarding OG&E's proposed GS rate design?

A. Since the customer charge percentage increase is below the GS class average increase, it is unlikely that there is any adverse impact on customers who use less kWh than the average customer. As I recommended above concerning the Residential rates, any demand charge for GSReg customers should be offered as an optional tariff with the same "best bill" provision and any changes to the GSVPP Tier definitions would automatically trigger a "best bill" provision for the first year in which the new definitions are in effect. Those "best bill" provisions would mirror those discussed above for Residential customers. In

addition, the same reporting requirements that I recommended for the Residential customers above should apply to the GS customers.

Power and Light Rate Design

Q. Do you have any comments regarding OG&E's proposed PL rate design?

A. Yes. OG&E charges different rates for each Service Level (SL) within the PL class but the average increase for the class proposed by OG&E was 20%. The general theme of the rate changes was to increase the customer charges by 33%, to leave the demand charges at their current levels, and to increase the volumetric charges by the amount necessary to recover the revenue requirement. To reduce the potential for adverse customer impacts, the customer charges should not increase by more than the class increase.

OG&E proposed increasing the PL SL1 volumetric charge by the same percentage as the increase in the volumetric charge of the PL SL2 customers while leaving the customer and demand charges unchanged. Because there are no customers currently taking service under the PL SL1 tariff, a revenue requirement could not be calculated; however, since the cost relationship between PL SL1 and PL SL2 should not significantly change, I accept OG&E's proposal to increase the PL SL1 volumetric charge by the same percentage as the increase in the volumetric charge

of the PL SL2 customers while leaving the customer and demand charges unchanged.

Power and Light Time of Use Rate Design

Q. Do you have any comments regarding OG&E's proposed PLTOU rate design?

A. Yes. OG&E charges different rates for each SL within the PLTOU class but the average increase for the class proposed by OG&E was 13%. OG&E proposes to increase all of the PLTOU customer charges by 33%, except for SL1 for which no increase was proposed. To reduce the potential for adverse customer impacts, the customer charges should not increase by more than the class increase.

OG&E proposes to eliminate the PLTOU-Demand rate (which has a flat energy rate and three different demand rates) and move those customers to a new PLTOU rate (which has a flat demand rate and two different energy rates). The proposed PLTOU rate is essentially the current PLTOU-Energy rate without a Super-Peak energy rate. The way in which this was accomplished was to increase the PLTOU-Energy customer charge by 33% and the demand charge by 29% and then changing the two volumetric charges by the amounts necessary to recover the revenue requirement. I could not identify any significant adverse customer impacts of this change at this time but will reserve judgement

until my Surrebuttal Testimony, at which time a more precise revenue requirement for this class will be established.

Lighting Rate Design

Q. Did OG&E propose any changes to its Lighting class rates?

A. Yes, for the Municipal, Outdoor, and LED Lighting tariffs, OG&E performed a detailed evaluation of the cost of each one of the fixtures offered under these three tariffs and established rates designed to recover those costs. I have no reason to dispute the costs; however, I found that while the calculations of the proposed rates for the Municipal Lighting (ML) rates included the increased cost due to the riders whose costs will roll into base rates, the proposed OL and LEDL tariffs did not. This resulted in at least two different rates for each fixture that varied only because of its being in the ML, OL, or LEDL tariff. This is counterintuitive and OG&E should either set the rates for each fixture to be the same across the ML, OL, and LEDL classes or explain in testimony the reasons for the apparent discrepancy.

Other Rate Designs

Q. Which of OG&E's tariffs are closed to new customers?

A. The Municipal Pumping (MP) and Athletic Field Lighting (AFL) tariffs are closed to new customers.

Q. Did OG&E propose any changes to its closed tariffs?

A. Yes. The closed tariffs currently have customer charges of $28.00 which is same as the proposed customer charge for GS customers, so OG&E proposed no increase in the customer charges.

For the MP customers, OG&E has proposed raising the winter kWh rate by 54% from $0.026 to $0.040 and raising the summer rate by 73% from $0.0375 to $0.065. The impact of these changes to the MP rate design in isolation (after taking into account the 39% increase in base rate revenues OG&E has proposed) ranges from -39% for the 14 MP customers with the smallest increases to +7% for the 20 MP customers with the largest increases.

For the AFL customers, OG&E has proposed raising the winter kWh rate by 17% from $0.0445 to $0.052 and raising the summer rate by 80% from $0.0445 to $0.08. The impact of these changes to the AFL rate design in isolation (after taking into account the 36% increase in base rate revenues OG&E has proposed) ranges from -12% for the 6 AFL customers with the smallest increases to +3% for the 6 AFL customers with the largest increases.

These two rate designs violate the Commission's longstanding policy that increases or decreases in rates should avoid unnecessary, significant adverse customer impact. Rate design should attempt to balance the Company's desire for revenue stability and the customer's

desire for rate stability. In general, rate design considerations should include customer acceptance, the principle of gradualism, and energy efficiency and conservation goals.

Q. What is your recommendation concerning OG&E's proposed changes to the MP and AFL tariffs?

A. The Company should consider alternative rate designs that will have less variable impacts on the customers in the MP and AFL classes.

RECOMMENDATIONS

Q. What are of your recommendations?

A. For the reasons set forth above, I recommend that the Commission:

- Reject OG&E's *pro forma* billing determinants and rate schedule revenues and accept those I propose in Direct Exhibit RHS-1;
- Accept OG&E's *pro forma* peak kW demands;
- Reject OG&E's proposed rates; and
- Order the Company to design rates such that each customer class pays its COS as determined by Staff's COS study incorporating the recommended mitigated distribution of the base rate revenue requirement presented by Staff witness Klucher.

Q. Does this conclude your testimony?

A. Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been delivered to all parties of record by electronic means via the Commission's Electronic Filing System this 31st day of January, 2017.

/s/ Justin A. Hinton
Justin A. Hinton