

**BEFORE THE CORPORATION COMMISSION OF OKLAHOMA**

IN THE MATTER OF THE APPLICATION OF )  
**OKLAHOMA GAS AND ELECTRIC COMPANY** )  
FOR AN ORDER OF THE COMMISSION ) CAUSE NO. PUD 201100087  
AUTHORIZING APPLICANT TO MODIFY ITS )  
RATES, CHARGES, AND TARIFFS FOR RETAIL )  
ELECTRIC SERVICE IN OKLAHOMA )

Direct Testimony

of

Bryan J. Scott

on behalf of

Oklahoma Gas and Electric Company

July 28, 2011

1 QUALIFICATIONS, EXPERIENCE AND PURPOSE

2 Q. **Would you please state your name, business address and job responsibilities?**

3 A. My name is Bryan J. Scott. My business address is 321 North Harvey, Oklahoma City,  
4 Oklahoma 73102. In March 2008, I joined Oklahoma Gas and Electric Company  
5 (“OG&E” or “Company”) as a member of the Rates and Costing team. I am currently the  
6 Director of Pricing and Load Research. I am responsible for pricing strategy and  
7 managing the Pricing and Load Research teams.

8  
9 Q. **Have you previously filed testimony before the Oklahoma Corporation Commission  
10 (the “Commission” or “OCC”)?**

11 A. Yes. I have previously filed testimony on behalf of OG&E in Cause Nos. 200800398,  
12 200900230, 200900231, and 201000037. I have also submitted testimony and testified in  
13 various hearings and proceedings before the Arkansas Public Service Commission, the  
14 Louisiana Public Service Commission, and the Public Utility Commission of Texas. I  
15 have also submitted testimony to the Federal Energy Regulatory Commission.

16  
17 Q. **What is the purpose of your testimony?**

18 A. I will describe the goals of OG&E’s rate design approach and the principles and  
19 information sources that guide development of the overall rate design. I will support the  
20 Company’s request for approximately \$3 million for customer education regarding  
21 pricing plans. Finally, I will discuss the Company’s review of the appropriateness of  
22 implementing an hourly fuel cost adjustment, a requirement of the Commission’s order in  
23 Cause No. PUD 201000029.

24  
25 RATE DESIGN GOALS

26 Q. **What are OG&E’s overall rate design goals?**

27 A. OG&E’s rate design is intended to meet three broad goals: to recover the authorized  
28 revenue requirement; to promote economic efficiency in the consumption of electricity  
29 by customers; and to meet our customers’ preferences by providing reasonable pricing

1 plan options.

2  
3 **Q. What do you mean by “to recover the authorized revenue requirement”?**

4 A. This simply means that prices are established such that they will produce the revenues  
5 authorized by the Commission, based on normalized test year consumption by our  
6 customers.

7  
8 **Q. What do you mean by “to promote economic efficiency in the consumption of  
9 electricity”?**

10 A. In theory, this means that customers should be able to choose pricing plans that have the  
11 highest value to them, and make choices by comparing the offer price for a service or  
12 services to the price they are willing to pay. In its truest form, economic efficiency means  
13 that a pricing plan should reflect the utility’s marginal, not average, costs.

14  
15 **Q. How can rate design promote economic efficiency?**

16 A. Economic efficiency is best promoted when prices for electricity reflect costs as  
17 accurately as possible. These costs include the cost of capacity, fuel, operation and  
18 maintenance. The customer’s ability to choose among optional pricing plans that  
19 accurately reflect costs is the key to promoting economic efficiency. OG&E’s long term  
20 plans for continuing to supply electricity at the lowest reasonable cost are outlined in our  
21 latest Integrated Resource Plan (“IRP”). OG&E’s goal is to price electricity so that  
22 customers are encouraged to move consumption to lower cost time periods and improve  
23 their load factor. If we are successful, these actions will result in lower electric bills for  
24 the participants and have the added benefit of lowering supply costs for all customers.

25 OG&E proposes to modify certain rate designs to more accurately reflect the cost of  
26 supply at different times of the day and seasons of the year so that informed customers  
27 will be encouraged to shift consumption. In addition to these more economically efficient  
28 tariffs, OG&E will continue to offer two types of demand-side management programs,  
29 Demand Response and Energy Efficiency, specifically aimed at reducing the cost of  
30 electricity to customers:

- 1           • Demand Response (“DR”) – DR programs are designed to compensate customers  
2           for reducing their load during peak loading periods. These programs are either  
3           price response driven or event based. Price response programs are tariffs with  
4           predefined, time-differentiated pricing. Examples of price response programs are  
5           TOU and RTP. Event based programs are initiated by OG&E in response to  
6           varying external conditions such as system emergencies or extremely high market  
7           prices. Examples of event based programs are LR and CPP. Sometimes hybrid  
8           programs are offered, such as TOU-CPP, that combine price response and event  
9           based features.
- 10          • Energy Efficiency (“EE”)—EE measures are designed to encourage customers to  
11          become more efficient in how they use energy. Measures are designed to educate  
12          customers, encouraging them to change their energy use habits in ways that will  
13          save energy and reduce their electricity bills. OG&E offers a number of measures  
14          designed to increase awareness and reduce monetary barriers which may inhibit  
15          adoption of energy efficiency measures by customers. Examples include  
16          weatherization programs and commercial lighting upgrade programs.

17          The combination of improved pricing plans, demand response programs and energy  
18          efficiency measures provides OG&E customers with a broader menu of programs they  
19          can use to manage their energy consumption and achieve the greatest value.

20

21   **Q.    Is OG&E proposing rate design changes in order to make consumption more**  
22   **economically efficient?**

23   **A.**    Yes. OG&E proposes to improve the design of rates for standard service by offering  
24   prices that are more reflective of costs. In addition, for larger commercial customers,  
25   OG&E proposes to offer a new dynamic pricing plan, which the Company refers to as  
26   Flex Price. For its largest commercial and industrial customers, OG&E proposes  
27   modifications to the Load Reduction and Day Ahead Pricing programs. All these  
28   proposals are also discussed by OG&E witness Greg Tillman.

1 Q. **What impact do you expect these changes to have on the Company’s ability to**  
2 **recover the authorized revenue requirement?**

3 A. OG&E has redesigned the standard rates so that they will continue to produce revenues  
4 that, in aggregate, collect the Company’s total embedded costs. The redesigned rates  
5 better match revenue recovery with the Company’s costs and provide customers with  
6 transparency regarding incentives for more efficient consumption.

7  
8 Q. **What do you mean by the third rate design goal, “to meet customers’ pricing**  
9 **preferences”?**

10 A. The Company recognizes that many of its customers want choices. The challenge in rate  
11 design is that different customers want different features; it is truly a case of one size  
12 does not fit all. OG&E researched customer preferences and found that most customers  
13 surveyed prefer an alternative to the standard pricing plan. Some customers are more  
14 interested in the lowest price available, while others are more interested in convenience.  
15 OG&E currently offers alternative pricing plans that provide customers with more  
16 choices than a traditional block energy plan and, as I have already described, we are  
17 expanding that menu. However, we also recognize that our customers need to be made  
18 aware of the choices available to them.

19

20

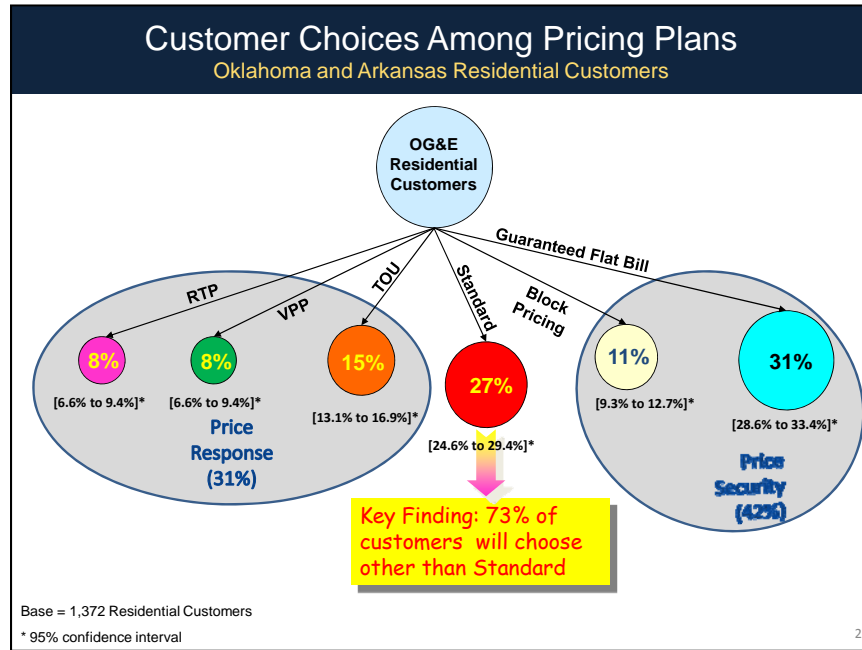
PRICING PLAN RESEARCH

21 Q. **How did OG&E go about researching customer preferences?**

22 A. In September-December 2009, OG&E surveyed almost 1400 residential customers in  
23 Oklahoma and Arkansas. That research showed that about 3 out of every 4 OG&E  
24 customers would prefer a pricing plan other than the traditional standard rate. As  
25 demonstrated in Chart 1, below, the residential customer preferences can be grouped into  
26 three broad categories. 42% of those surveyed prefer the increased price security  
27 provided by a fixed bill approach or block pricing. 31% of them prefer a price response  
28 plan such as Day Ahead Pricing, Time of Use or Variable Peak Pricing. And only 27% of  
29 those surveyed prefer the traditional standard service plan.

1

Chart 1



2

3 Q. Please elaborate on the pricing plan research conducted for OG&E.

4 A. OG&E retained Dr. Ken Deal of the firm *market POWER research, inc.* to conduct a  
 5 study of customers' preferences for pricing plans. The survey method employed was  
 6 discrete choice conjoint. Simply put, discrete choice conjoint analysis is a research  
 7 technique through which each respondent is presented with several sets of product  
 8 alternatives (in this case, pricing plans) and asked to choose the one from each set that  
 9 best suits their needs. The technique can be used to determine how customers value  
 10 different features that compose an individual pricing plan. Statistical analysis of the data  
 11 provides estimates of customers' shares of preferences for a wide variety of tested pricing  
 12 plans.

13

14 Q. Please describe the sample selection process for Oklahoma and Arkansas residential customers for the conjoint study.

15 A. OG&E recruited residential customers to participate in the survey using the four different  
 16 methods as follows:  
 17

- 1 • A link was established on the OG&E home website where customers were  
2 encouraged to complete the survey.
- 3 • Email invitations to participate in the survey were sent to e-bill customers.
- 4 • Direct emails were sent to 740 former web panelists and approximately 80 customers  
5 who had expressed interest in participating in future OG&E surveys.
- 6 • Bill inserts were sent to customers encouraging participation and providing a URL  
7 for the survey site.

8  
9 **Q. What level of confidence does the Residential sample provide to the conjoint study?**

10 A. Dr. Deal performed the statistical analysis at the 95% confidence level. This means that  
11 there is a 95% probability that the responses of the customers who participated in the  
12 research are an accurate reflection of the OG&E residential population’s preferences.  
13 Load research studies are generally designed at the 90% confidence level<sup>1</sup>. The level of  
14 confidence with OG&E’s pricing plan research study compares well with the accuracy of  
15 typical load research data used to develop the allocation factors for the Cost of Service  
16 study.

17  
18 **Q. Are Oklahoma and Arkansas Residential Class customers different in their  
19 preference for pricing programs?**

20 A. No. According to the information provided by Dr. Deal, there are no statistically  
21 significant differences between Oklahoma and Arkansas residential customer samples.  
22 His analysis showed that customers’ preference for pricing plan features were not  
23 statistically different<sup>2</sup> for 97 out of the 98 parameters<sup>3</sup> that were estimated. As a result,  
24 the Oklahoma and Arkansas samples can be and were combined for further analysis,  
25 interpretation, and presentation.

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<sup>1</sup> AEIC Load Research Manual, Second Edition, 2001, pages 4-4 to 4-5.  
<sup>2</sup> No difference at the 5% significance level in the conjoint means part-worth utilities for the pricing plan attributes.  
<sup>3</sup> The parameter that was different between Oklahoma and Arkansas was the 16¢ “swing” price for one of the block plans. OG&E is not introducing Block and Swing plans in this cause.

1 Q. **Based on the analysis, are Commercial and Industrial customers’ desires for various**  
2 **pricing plans similar to that of Residential customers?**

3 A. Yes, although there are some differences. As illustrated in Exhibit BJS-1, OG&E also  
4 surveyed Commercial and Industrial customers. In that survey 56% of the non-demand  
5 (smaller commercial and industrial) customers prefer other plans to their standard plan.  
6 Likewise, 69% of the demand (larger commercial and industrial) customers surveyed  
7 prefer other plans to their standard plan.

8  
9 Q. **Will OG&E be able to offer all customers everything they want in pricing plans?**

10 A. There are pricing plans or features that customers may want that are economically  
11 unfeasible and OG&E is unable to offer. Likewise, there are pricing plans or features that  
12 OG&E could offer that customers are unlikely to buy. Finally, OG&E is a regulated  
13 utility; and consequently, the Company and the commissions that regulate it must  
14 consider not only customer preferences, but also allocation of costs across customer  
15 classes and other goals such as promoting energy efficiency.

16

17 **PRICING PLAN DEVELOPMENT**

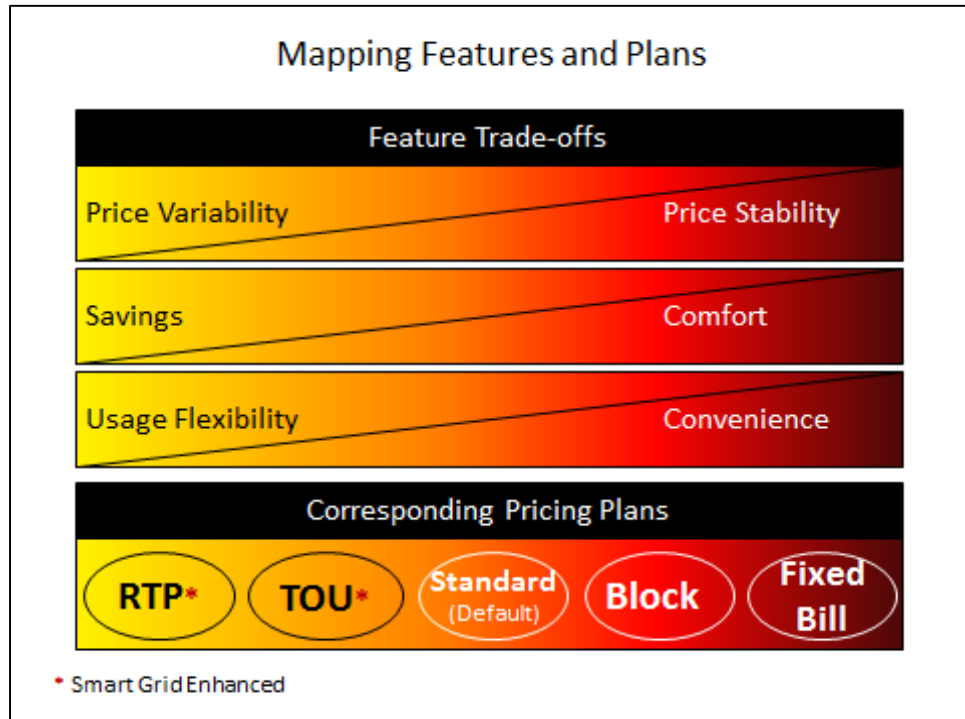
18 Q. **How will OG&E apply the research results to its pricing strategy?**

19 A. OG&E attempts to provide customers with meaningful choices. However, no one pricing  
20 plan can meet all customers’ needs. Therefore, OG&E’s strategy is to offer a portfolio of  
21 plans that address the spectrum of customers’ preferences for electricity pricing features.  
22 The pricing plan map shown in Chart 2 demonstrates how a few basic pricing plans can  
23 incorporate the trade-off of features preferred by customers.



1

Chart 2



2

3

The following table is designed to assist in understanding the acronyms contained in Chart 2 as well as the mapping charts found on subsequent pages.

4

5

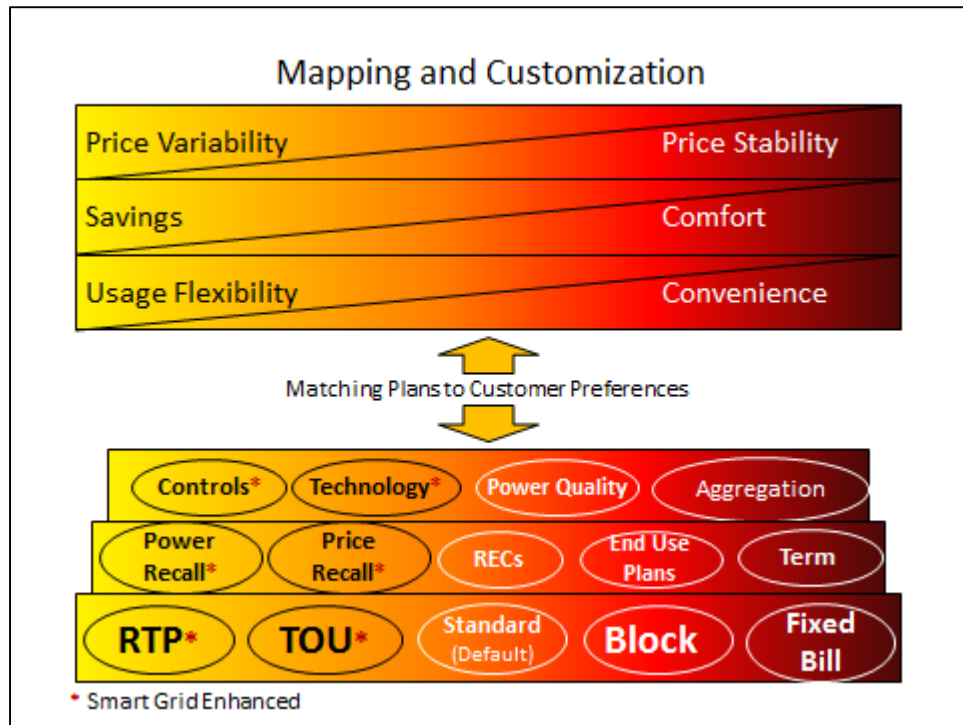
Acronym	Term	Acronym	Term
<b>BUS</b>	Backup Service	<b>OGP</b>	Oil and Gas Producers
<b>CCT</b>	Custom Contract Tariff	<b>PCT</b>	Programmable Communicating Thermostat
<b>CPP</b>	Critical Peak Pricing	<b>PL</b>	Power and Light
<b>DAP</b>	Day Ahead Pricing	<b>PS-D</b>	Public Schools-Demand
<b>GFB</b>	Guaranteed Flat Bill	<b>PS-ND</b>	Public Schools-Non Demand
<b>GPWR</b>	Green Power Wind Rider	<b>R</b>	Residential
<b>GS</b>	General Service	<b>REC</b>	Renewable Energy Certificate
<b>IHD</b>	In-Home Display	<b>REP</b>	Renewable Energy Program
<b>IS</b>	Interruptible Service	<b>RTP</b>	Real Time Pricing
<b>LIAP</b>	Low Income Assistance Program	<b>SBaM</b>	Supplemental, Backup, and Maintenance
<b>LPL</b>	Large Power and Light	<b>SS</b>	Supplemental Service
<b>LR</b>	Load Reduction	<b>TOU</b>	Time of Use
<b>MP</b>	Municipal Pumping	<b>VPP</b>	Variable Peak Pricing
<b>MS</b>	Maintenance Service		

1 Q. **How can other options be incorporated into OG&E’s portfolio of pricing plans to**  
2 **enhance customer value?**

3 A. Pricing plan options can be modified to achieve specific objectives that respond to  
4 customer needs (see Chart 3). For example, some customers want “green” power and  
5 have a desire to express their environmental concerns beyond what other customers may  
6 desire. OG&E offers the sale of renewable energy certificates (“RECs”) to these  
7 customers.

8 Other customers may want technology (hardware such as programmable communicating  
9 thermostats, or “PCTs”) enabling them to participate more fully in price response plans  
10 such as TOU. Through the use of these optional features, customers can tailor a pricing  
11 package that will maximize their value. Of course, Smart Grid deployment enables  
12 OG&E to offer significant portions of the proposed portfolio to all customers.

13 **Chart 3**

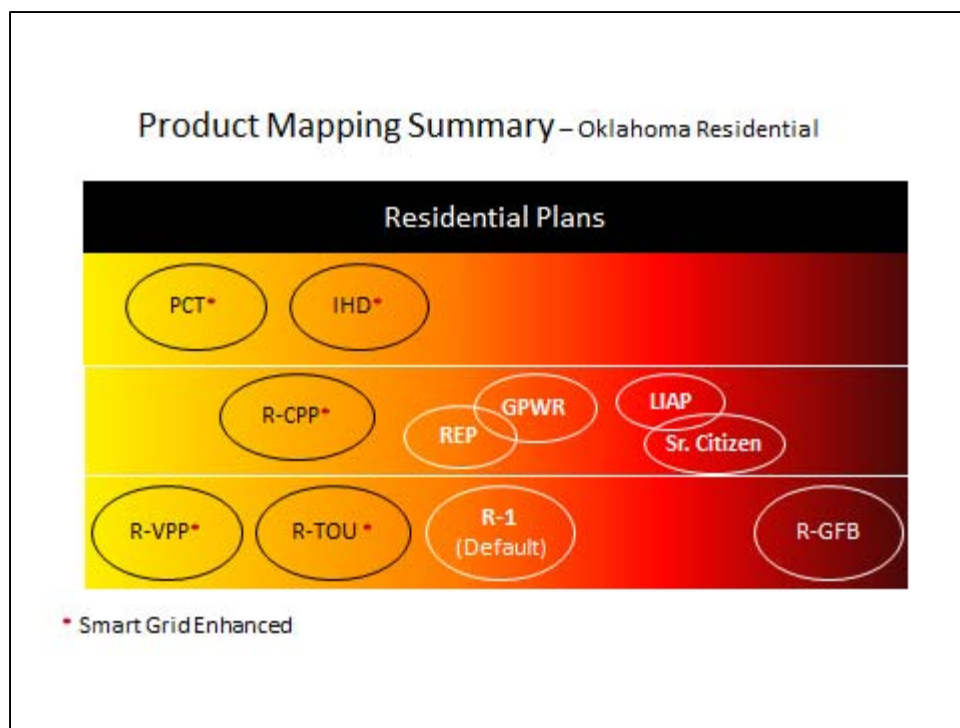


PROPOSED PRICING PLANS

Q. Given the variety of customer “needs”, how does OG&E determine which pricing plans to offer and in what order to offer them?

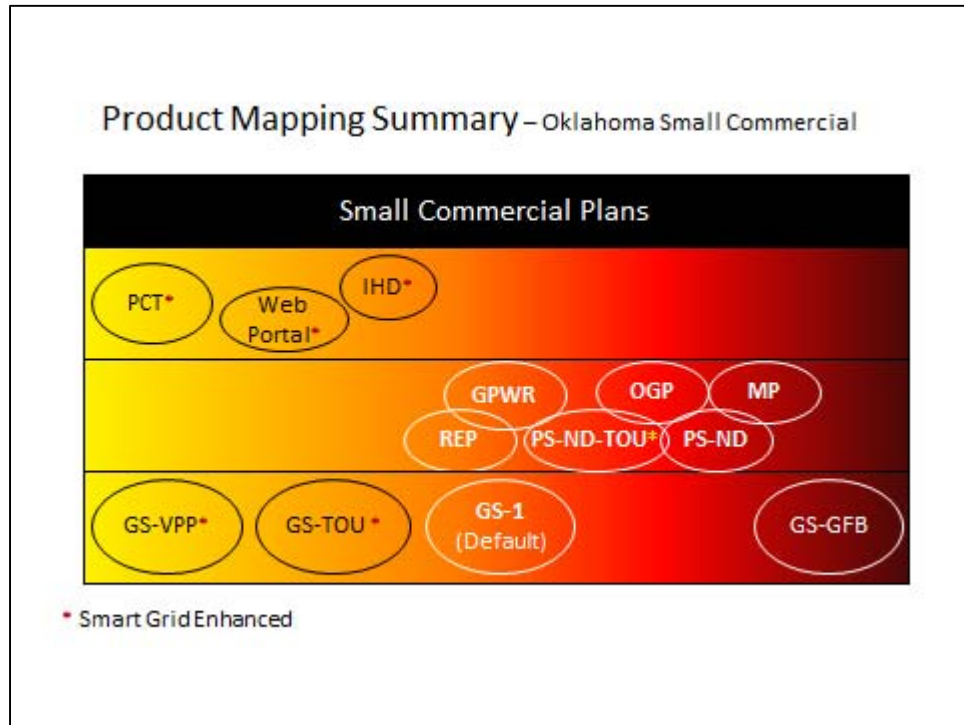
A. Our initial focus is pricing plans that support price response. We are addressing these plans because they support the 2020 Goal and can be both immediately beneficial to the participating customer, and also result in lower cost to all customers in the long-term. OG&E does not have the ability to launch all pricing plans at once. The Company wants to ensure a quality presentation of plans to customers and does not want to offer more plans than it can readily support, market, and implement. Over time, OG&E will be able to propose additional plans for customers. Charts 4 through 7 show the current pricing plans offered to each customer group.

Chart 4



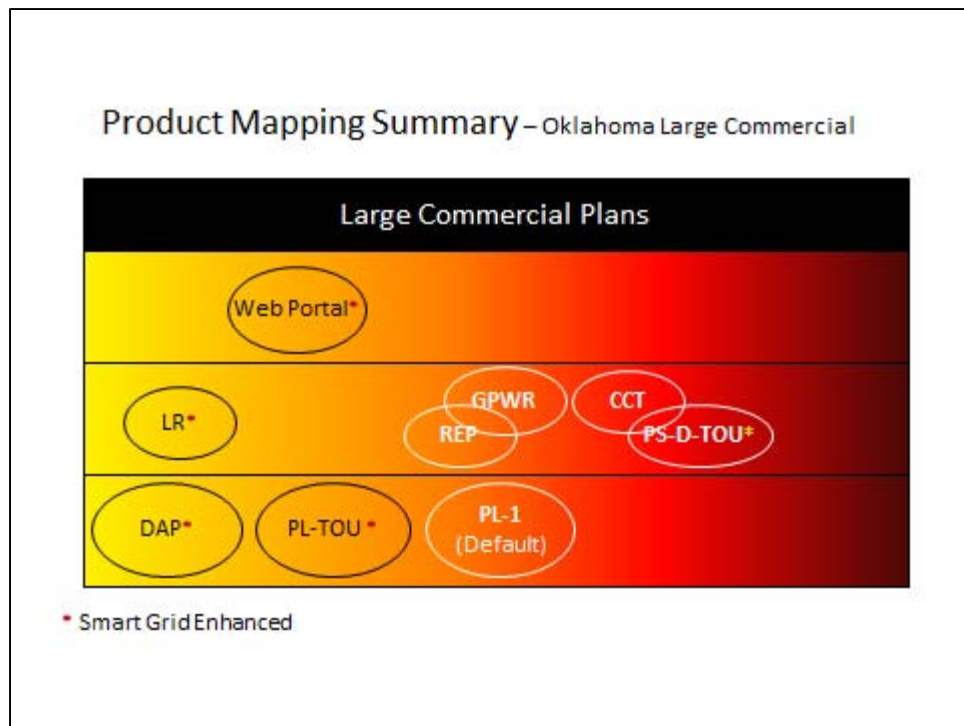
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Chart 5



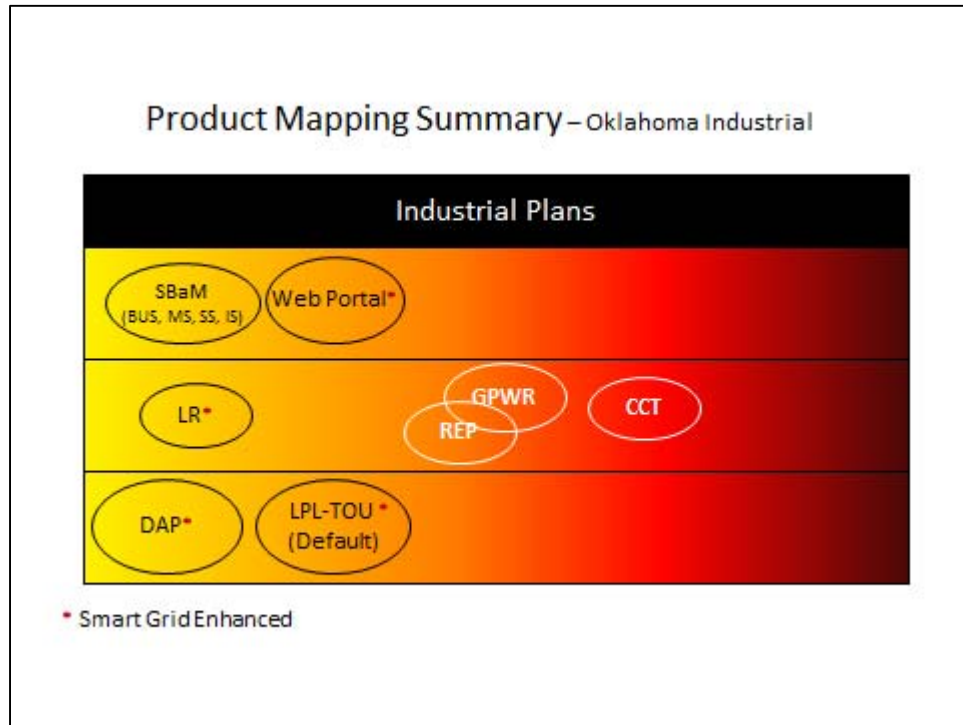
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Chart 6



1

Chart 7



2

3 **Q. If the Commission authorizes OG&E to offer customer pricing plans, will our**  
4 **customers necessarily participate at optimum levels?**

5 A. History tells us that OG&E’s customers won’t automatically gravitate to these pricing  
6 plans. Customer education is the key to future success.

7

8

CUSTOMER EDUCATION

9 **Q. Why is customer education important to OG&E?**

10 A. Beginning in 2009, OG&E embarked on its 2020 Goal to defer construction or  
11 acquisition of additional fossil fuel generation facilities until after 2020. OG&E expanded  
12 its wind generation and built the Windspeed line, two of the three key pieces of our  
13 strategies to achieve the 2020 Goal. The final piece, expanded demand side resources, is  
14 progressing with deployment of the smart grid. In order for OG&E to realize the promise  
15 of demand response through the smart grid, customers must become aware of the  
16 Company’s pricing plans. To achieve this, OG&E must educate customers regarding the  
17 various pricing plan options.

1 Q. Are you concerned about OG&E’s ability to attract customers to the pricing plan  
2 options?

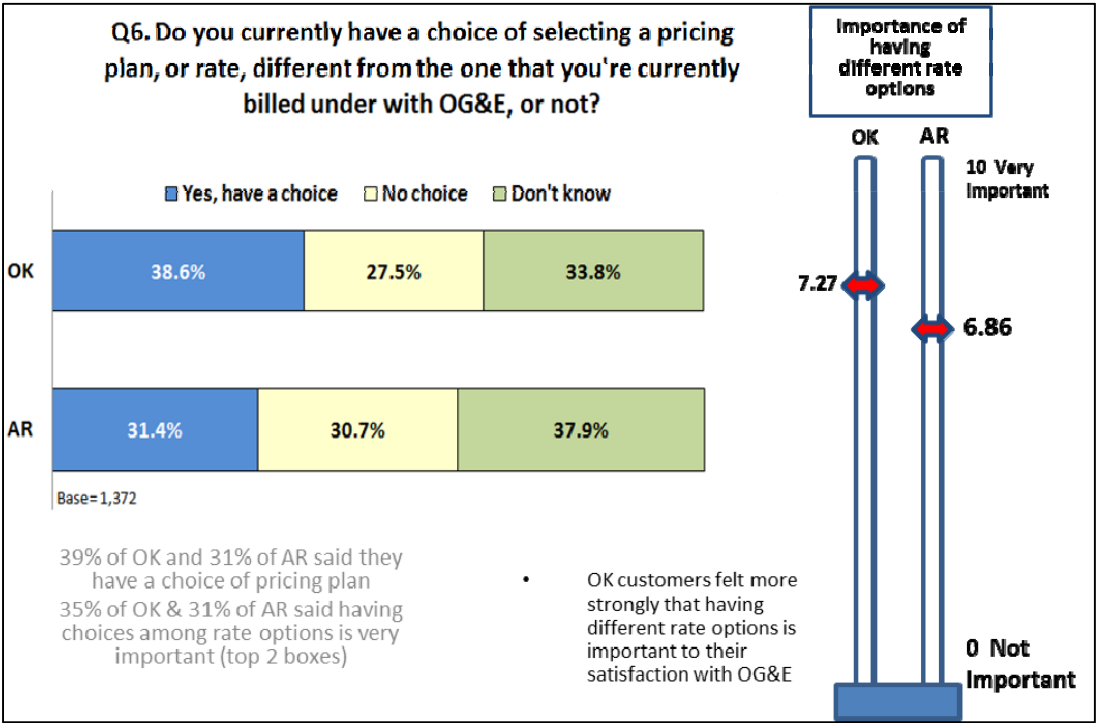
3 A. Yes I am. Customers do not know they have options available to them that favor their  
4 personal behaviors. There are several examples available, both anecdotal and empirical,  
5 that support this statement.

6 First, OG&E has offered a residential time-of-use price plan for almost 25 years<sup>4</sup>. The  
7 Company diligently informs all customers of this plan’s availability every year through  
8 direct mailings<sup>5</sup>. Given that the standard tariff is an average customer design, a large  
9 number of our residential customers could receive some benefit from subscription to  
10 TOU. Yet, less than 1% of the customer base has subscribed. The likely cause for this  
11 mismatch is that customers either do not know, or do not understand how the TOU price  
12 plan works. In other words, they are not aware of how TOU can benefit them.

13 Second, the conjoint study determined that more than 60% of customers do not know  
14 they have any choice in what price plans are available to them (see Chart 8 below).

15 **Chart 8**

Conjoint Study Question on Choice Availability for Residential Customers



<sup>4</sup> OG&E proposed R-TOU in Cause No. 29450. It became available to customers beginning December 26, 1985.

<sup>5</sup> OCC rules require that OG&E provide at least annually to every customer a summary of all available rate schedules [OAC 165:35-19-2(a)(2)].

1           However, the same conjoint study shows that customers, already educated and exposed to  
2           a pricing plan, tend to make the same option choice. Dr. Deal’s report quotes, “For each  
3           plan stated as best fitting the household, customers’ conjoint data related strongly to the  
4           same pricing plans.” By educating customers regarding the availability of various price  
5           plans, OG&E believes it can enroll, engage and sustain a sufficient number of customers  
6           on the various pricing plans to achieve our 2020 Goal.

7  
8   **Q.   Does OG&E have a recommendation in this regard?**

9   A.   Yes. OG&E believes an educational effort highlighting these optional pricing plans  
10       would provide the needed information for our customers to make choices that benefit  
11       them individually and all the other OG&E customers as well. To that end, OG&E has  
12       developed a comprehensive price plan communication initiative designed to educate,  
13       enroll, engage and sustain customer selection of various price plans. The Company’s rate  
14       request includes a pro forma adjustment (W/P H 2-47) for additional educational funding  
15       to promote these efforts.

16       OG&E made a similar request to the Arkansas Public Service Commission in Docket No.  
17       10-067-U and the Arkansas Commission’s order authorized \$300,000 per year for 2 years  
18       for pricing plan education. The effectiveness of the Arkansas communication plan will be  
19       reviewed at the time of OG&E’s next general rate request in Arkansas.

20  
21   **Q.   What is the objective of OG&E’s price plan communication initiative?**

22   A.   The objective of the price plan communication initiative is to educate Oklahoma  
23       customers as to the benefits of each price plan option. Cultivating an understanding of  
24       which price plan option best fits customers’ lifestyles ultimately motivates customers to  
25       enroll in a price plan option. Customers will be provided techniques, online options,  
26       activities and testimonials to help optimize the benefits of their selected option for  
27       lowering electric energy costs, saving money or increasing comfort. OG&E will provide  
28       ongoing support to keep customers engaged with the selected price plan option with a  
29       goal of providing an excellent customer experience and satisfaction with their price plan  
30       selection. A successful outcome with a price plan selection will result in continued  
31       enrollment and engagement with price plans and the creation of a price plan advocacy

1 that will assist in engaging more customers in the future. Sustained customer engagement  
2 is a critical element for achieving long term peak demand reduction.

3  
4 **Q. What resources is OG&E requesting of this Commission to implement the price  
5 plan communication initiative?**

6 A. OG&E is requesting approximately \$6 million over a two year period to implement the  
7 price plan communication initiative. These costs include \$500,000 in capital for  
8 development of the on-line signup software. I have attached a copy of the budget for the  
9 initiative to my testimony as Exhibit BJS-2. This budget is also the basis for pro forma  
10 adjustment W/P H 2-47.

11  
12 **Q. Please explain how OG&E intends to implement the Education Plan.**

13 A. The comprehensive price plan communication initiative incorporates the principles of  
14 education, enrollment, engaging the customers and reinforcement to sustain their  
15 behavior.

16 Education is a three part process beginning with Customer Feedback/Research  
17 concerning the current level of customer understanding of OG&E's offers. The Company  
18 already knows from the conjoint study that about 60% of residential customers have little  
19 or no knowledge that price plan options exist. This customer feedback/research will  
20 identify specific knowledge gaps. Next, OG&E will address these knowledge gaps by  
21 crafting specific messages to elevate customers' understanding of available price plans.  
22 Finally, OG&E will use the customer feedback/research to tactically begin its outreach to  
23 customers through Mass TV/Radio/Print and Digital communication. The goal of this  
24 education process is to support our enrollment efforts.

25 OG&E's enrollment effort will begin during the mass-media communications. This effort  
26 will include Bill Inserts, Direct Mail, Email, Shared Mail and text messages encouraging  
27 customers to enroll in a price plan. OG&E will continue to use data mining analysis to  
28 improve customer segmentation; message development and delivery.

29 The next step in the price plan communication initiative is to engage customers by  
30 providing individualized Energy Reports. The reports will be designed to educate  
31 customers on best practices, training them on techniques that will allow them to achieve



1 the greater savings. Additionally, these reports are available to potential subscribers to  
2 encourage enrollment in a price plan (i.e. reach customers who tend to need additional  
3 reinforcement before they adopt a product).

4  
5 **Q. What is the role of the online enrollment tool?**

6 A. Enhancing OG&E's online performance is critical to improving each customer's  
7 experience. Customer experience with how they learn, enroll and engage themselves in  
8 using electricity is the linchpin that allows customers to achieve economic efficiency for  
9 themselves. The online tool removes the barrier to enroll in a pricing program.

10  
11 **Q. Are the proposed expenditures duplicative of those previously authorized as part of  
12 the Smart Grid program?**

13 A. No. The education expenses authorized in the Smart Grid docket are to inform customers  
14 of the availability and use of the web portal. The requested education expenses are  
15 intended to make customers aware of pricing plan options and to engage customers to  
16 sustain their activity within their chosen price plan.

17  
18 **REVIEW OF HOURLY FCA**

19 **Q. Please describe the basis for the Company's review of an hourly-differentiated fuel  
20 adjustment clause in this proceeding.**

21 A. In Order No. 576595, Cause No. PUD 201000029, the Commission addressed several  
22 facets of OG&E's smart grid deployment in Oklahoma. The Stipulation and Settlement  
23 Agreement entered into by the parties to that cause, which was adopted by the  
24 Commission, states "The Stipulating Parties agree that OG&E shall evaluate the  
25 feasibility of implementing an hourly-differentiated fuel adjustment clause and address  
26 the implementation of such a clause in its 2011 rate case. The Stipulating Parties further  
27 agree that a public workshop shall be held at the Commission before March 31, 2011 for  
28 the purpose of considering the implementation of such a clause."

1 Q. **Was the public workshop held as required?**

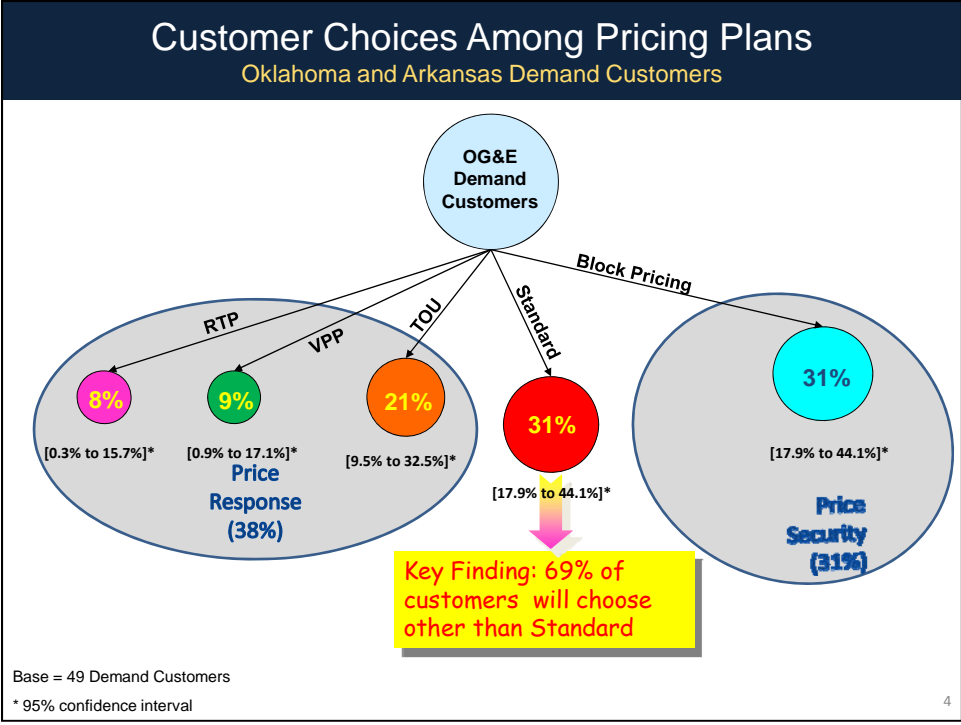
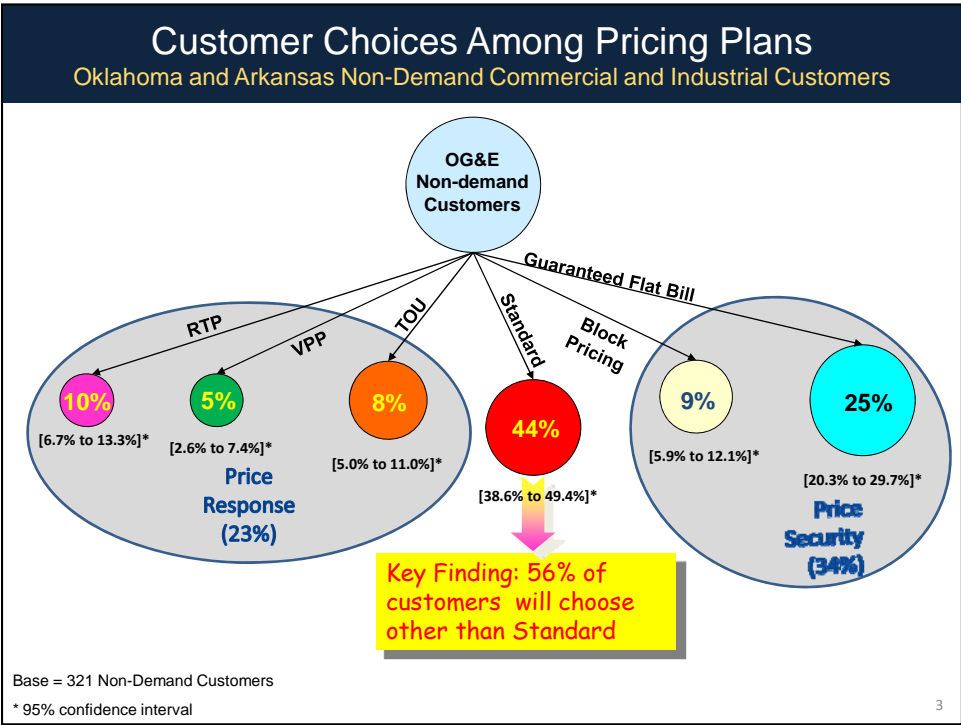
2 A. Yes, the workshop was conducted on March 9, 2011. The evaluation OG&E presented at  
3 that meeting is attached to my testimony as Exhibit BJS-3.

4  
5 Q. **What was the result of OG&E's evaluation?**

6 A. OG&E concluded it would not propose an hourly-differentiated fuel adjustment clause  
7 for implementation in this rate review. OG&E's smart grid system should both reduce the  
8 costs for and facilitate the timely collection and processing of data necessary to properly  
9 implement such a program. OG&E will re-evaluate the possibility of proposing an hourly  
10 FCA after Smart Grid has been fully deployed. The Company communicated its intent to  
11 the Stipulating Parties on April 27, 2011. Exhibit BJS-4 is a copy of that letter.

12  
13 Q. **Does this conclude your direct testimony?**

14 A. Yes, it does.



**Exhibit BJS-2**

**Oklahoma Communication Price Plan Budget Detail**

<b>Item</b>	<b>Communication Item</b>	<b>Segment</b>	<b>Total</b>
1	<b>Mass Media</b> (TV / Radio)	All	\$ 675,000
2	<b>Direct Contact</b> (Mail / Email / Bill Inserts /Reports / Text)	Residential Small Commercial	1,603,168
3	<b>Commercial / Industrial Offerings</b>	Commercial and Industrial	100,000
4	<b>Customer Feedback</b> (Social Media/Online)	Residential	60,000
5	<b>Project Management &amp; Integration</b>	All	120,000
6	<b>Labor</b> (Not in Rate Base)	All	78,400
7-A	<b>Online Sign Up for Rates</b> (year 1 Capital)	All	500,000
7-B	<b>Online Sign Up for Rates</b> (annual license / maintenance)	All	132,000
	Total (year 1)		\$ 3,268,568
	Total (year 2)		\$ 2,768,568

## Allocated Hourly Fuel (AHF)

Presented 3/09/2011

By Bryan Scott,  
Ben Long and  
Roger Walkingstick

1

## Allocated Hourly Fuel (AHF) Evaluation

The Settlement Agreement in Cause No. PUD 201000029 (Smart Grid) states:

*"The Stipulating Parties agree that OG&E shall evaluate the feasibility of implementing an hourly-differentiated fuel adjustment clause and address the implementation of such a clause in its 2011 rate case. The Stipulating Parties further agree that a public workshop shall be held at the Commission before March 31, 2011 for the purpose of considering the implementation of such a clause."*

We refer to hourly differentiated fuel adjustment clause as Allocated Hourly Fuel (AHF)

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## Fuel Recovery is a “Zero Sum Game”

The fuel cost recovery mechanism is designed to collect all allowed fuel expenses. Simply changing to any hourly allocation does not change the total cost to be recovered.

If one customer group's (i.e. SL, rate class or customer) fuel responsibility decreases because of lower fuel cost allocation, some other customer group's responsibility will increase to offset the decrease so that the total fuel cost is recovered.

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## Current Fuel Recovery Mechanism

The Settlement Agreement addresses modifying the FCA to accommodate the concept of hourly differentiated fuel.

**However**, total fuel recovery is the result of adding together Off System Sales Credit (OSSC) and embedded fuel (Part 1) & FCA (Part 2). Notice the following components:

- OSSC
- Part 1 - Base Rate Fuel Portion
- Part 2 - FCA (By Service Levels adjusted for Losses + SL Over/Under tracking)

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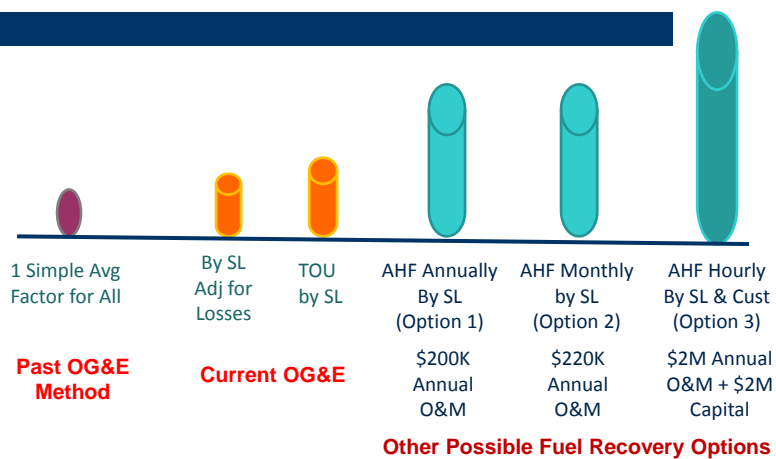
## Allocated Hourly Fuel (AHF)

To create an AHF offering, the following changes in Fuel Cost Allocation (FCA) procedures would be required to include a load shape by SL component for the FCA. The formula changes to:

- OSSC
- Part 1 - Base Rate Portion
- Part 2 - FCA (By SL loss adjusted + **Hourly SL load shape adjustment** + SL Over/Under tracking)

5

## Fuel Recovery Options



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## Proposed Option # 1 – AHF Annually by Service Level (One Factor for All Months)

- Annual **C**ost **M**atrix<sub>hr</sub>
- Annual **F**uel **C**ost =  $CM^*(SL.Load_{hr})$
- Annual **F**actor (\$/kWh) =  $AFC / (SL.Load_{Ann})$
- Monthly Customer Cost =  $AF * Mo. Customer kWh$

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## Proposed Option # 2 – AHF Monthly by Service Level (One Factor for Each Month)

- Monthly **C**ost **M**atrix<sub>hr</sub>
- Monthly **F**uel **C**ost =  $CM^*(SL.Load_{hr})$
- Monthly **F**actor (\$/kWh) =  $MFC / (SL.Load_{Mo})$
- Monthly Customer Cost =  $MF * Mo. Customer kWh$

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### Proposed Option # 3 – AHF Hourly by Service Level & Customer (8760 - One Factor for each hour)

- Annual **C**ost **M**atrix<sub>hr</sub>
- Monthly Customer Cost = **CM** \* Mo. Customer kWh<sub>hr</sub>

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#### Option Comparisons

Item	Current Method	AHF Option 1 (Annual)	AHF Option 2 (Monthly)	AHF Option 3 (Hourly)
SL Loss Factors	5 Annual SL Loss Adj Factors	5 Annual SL Loss Adj Factors	5 Annual SL Loss Adj Factors	5 Annual SL Loss Adj Factors
SL Cost Matrix (CM)	NA	Yes, at annual level resolution	Yes, at monthly level resolution	Yes, at hourly level resolution
SL Load	SL Load at Annual Resolution	SL Load at Annual Resolution, but developed from hourly data	SL Load at Monthly Resolution, but developed from hourly data	SL Load at Hourly Resolution
Metering	Metering-By Month	Metering-By Month	Metering-By Month	Metering-By Hour
True-up	Yes	Yes	Yes	Yes
O&M	No Change	\$200K	\$220K	\$2M
Capital	No Change	No Change	No Change	\$2M

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**Fuel Recovery Options**  
**Proposed Option 1—AHF Annually by SL**

- Simple to Implement (fewer changes required) and simpler to audit
- Provides granularity at an annual level
- Also, least expensive option (likely \$200K annual O&M mainly due to Accounting changes and changes in creating load shapes)
- Provides all of deserved benefit/cost to each SL on an annual basis, but not necessarily to each customer within SL
- Benefit/Cost occurs “post event” (may be over one year lag...same as current method)
- Can be enhanced at a later date when better information is available
- Can provide valuable education to move to a more precise future option

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**Fuel Recovery Options**  
**Proposed Option 2– AHF Monthly by SL**

- Simple to Implement (fewer changes required) and more complex to audit
- Provides granularity at a monthly level)
- Still a low cost option (likely \$220K annual O&M mainly due to Accounting changes and perhaps changes in creating loadshapes)
- Provides all of deserved benefit/cost to each SL on a monthly basis, but not necessarily to each customer within SL
- Benefit/Cost occurs “post event”
- Can be enhanced at a later date when better information is available
- Can provide valuable education to move to a more precise future option

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## Fuel Recovery Options

### Proposed Option 3—AHF Hourly by SL and Customer

- Much more difficult to implement (many changes required) and audit complexity may increase greatly
- Provides granularity at a customer hourly level
- Most expensive option (likely \$2 million in capital and annual O&M of \$2 million or greater). Capital and O&M increase likely to be in Accounting, Load Research, and extensive changes in Billing and Programming departments
- Provides benefit/cost to each customer at the hourly level, but still to be “post event”
- While future enhancements are possible, this tends to be the resolution limit and is likely 5 years or more before implementation is feasible
- Cannot be implemented until full scale Smart Grid deployment

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## General Observations

- Option 3 is only feasible after full smart grid deployment
- Increased O&M expense with each option
  - **Detailed cost estimates have not been prepared**
  - Capital costs will increase with Option 3
- No option provides a significant advantage to any SL
  - Moving to an AHF program will facilitate more precise and equitable cost assignment.
  - However, study results do not indicate that large shifts in cost assignment will occur between SL...likely less than 1% of total fuel cost
- Additional costs will be incurred in both capital and O&M
  - If power plant metering enhancements are required, the capital cost could be an additional \$4M to \$5M.

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## AHF Fuel Cost Recovery Impact

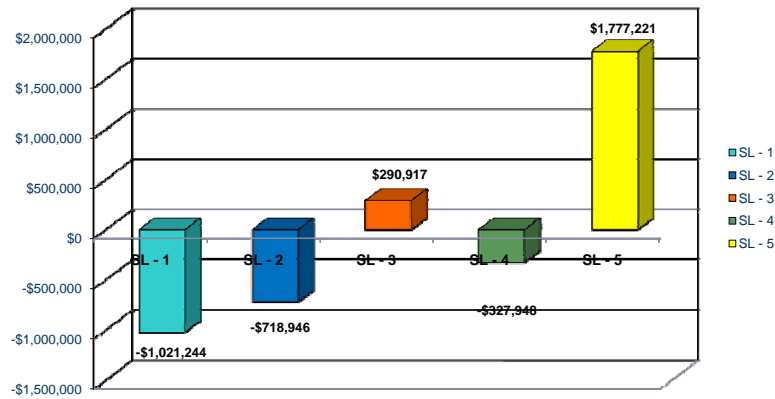
(Option 1 and 2 only)

Service Level Fuel Cost Recovery Impact						
	kWh	Current\$ Fuel \$	Current % of Total Fuel	AHF Fuel \$	AHF % of Total Fuel	\$ Diff
SL - 1	635,927,867	\$18,825,343	2.70%	\$17,804,099	2.55%	-\$1,021,244
SL - 2	3,541,319,528	\$100,555,747	14.42%	\$99,836,801	14.31%	-\$718,946
SL - 3	1,683,639,321	\$48,053,736	6.89%	\$48,344,654	6.93%	\$290,918
SL - 4	634,614,006	\$19,064,196	2.73%	\$18,736,247	2.69%	-\$327,949
SL - 5	16,594,975,833	\$510,970,900	73.26%	\$512,748,122	73.52%	\$1,777,222
<b>Total</b>	<b>23,090,476,555</b>	<b>\$697,469,922</b>	<b>100.00%</b>	<b>\$697,469,922</b>	<b>100.00%</b>	<b>\$0</b>

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## Study Year Dollar Shift From AHF Reallocation

(Graphically By SL)



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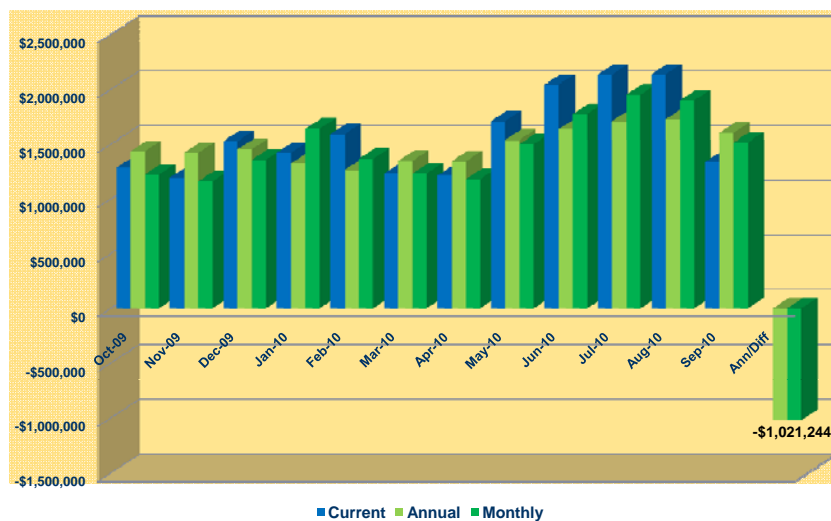
## Residential Customer Annual Impact

(Based Upon Data Supplied for Annual Period Reviewed)

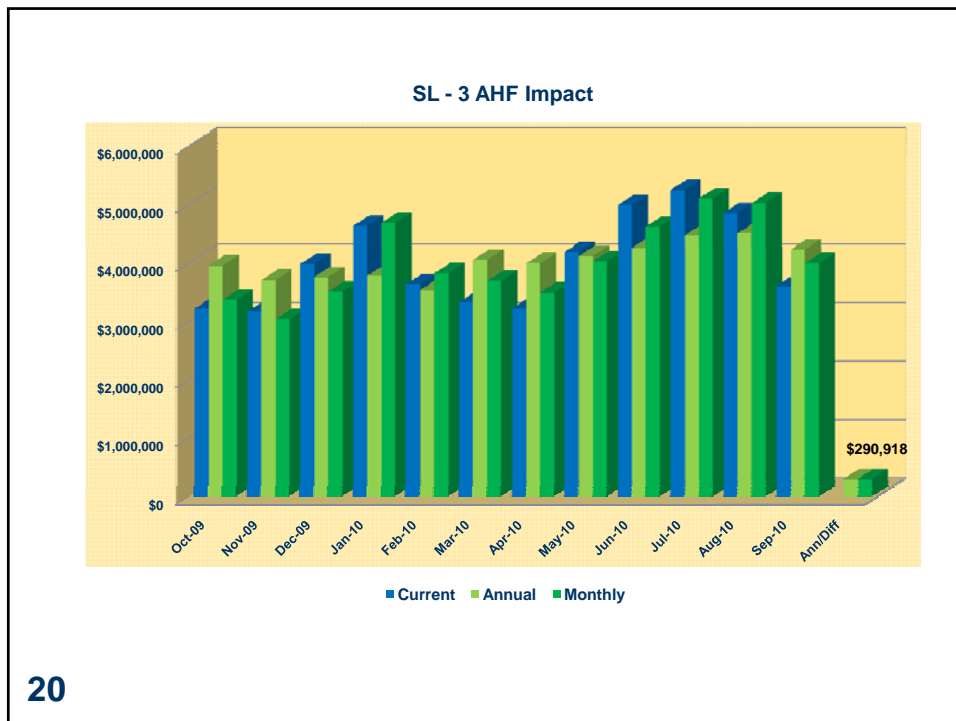
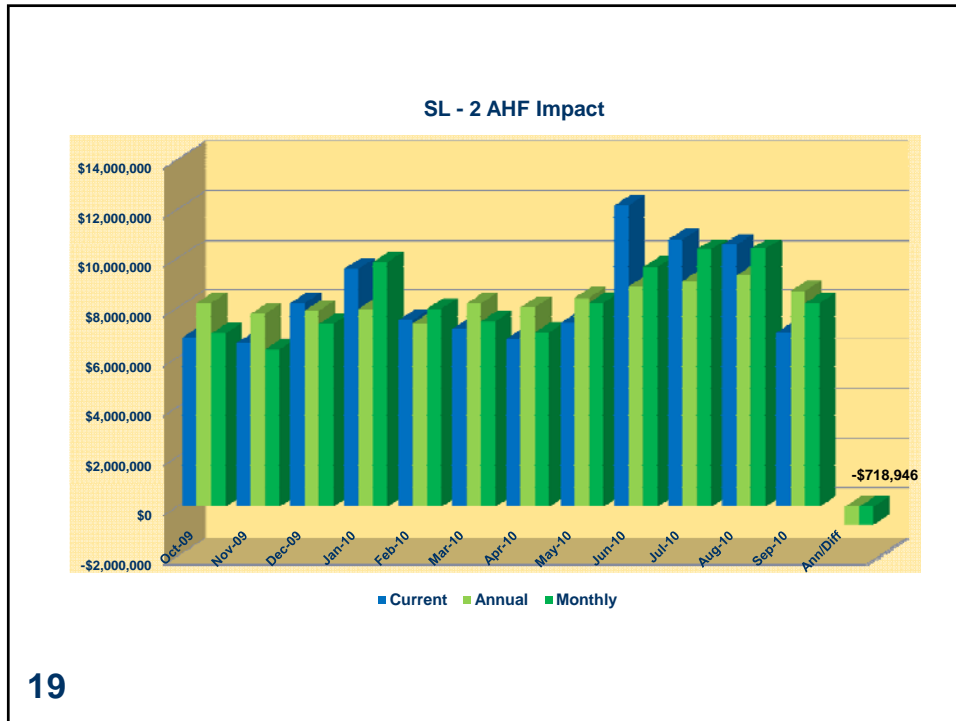
- Assume Residential Annual Consumption of 13,200 kWh per Year
- Assume Annual Shift of Dollars to be \$1.78 Million to SL 5 customers (about 16.6 B kWh per year). This shift amount was about \$1.78 Million in study year. Total increase to SL 3 and SL 5 was approximately \$2.1 Million.
- Assume average monthly usage of 1,100 kWh, Residential impact at that level of consumption is about 12 cents (\$.12) per month due to AHF.

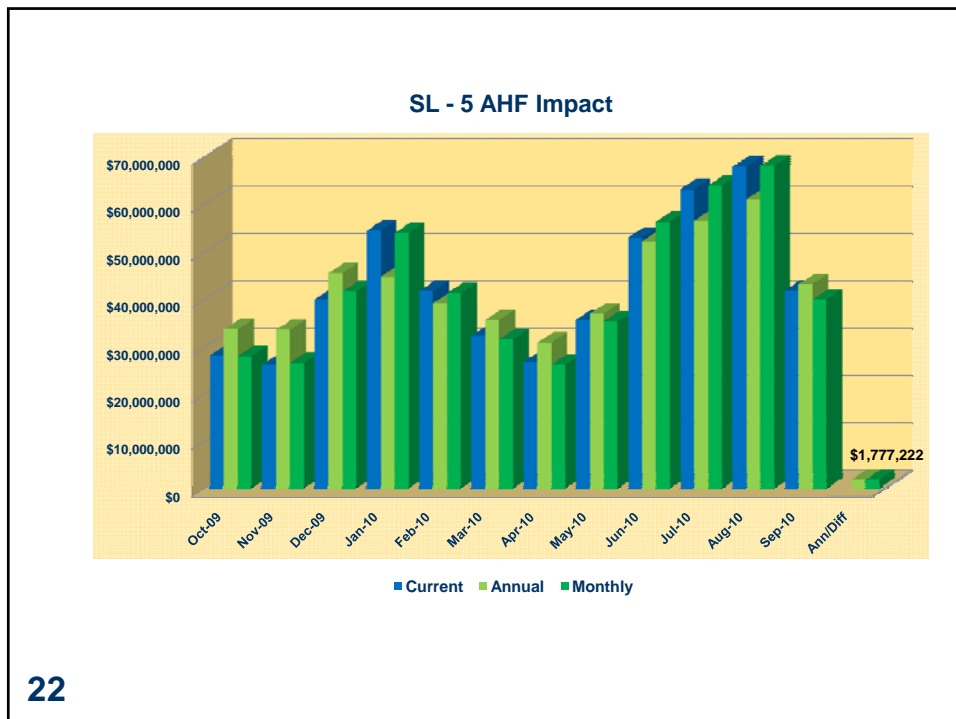
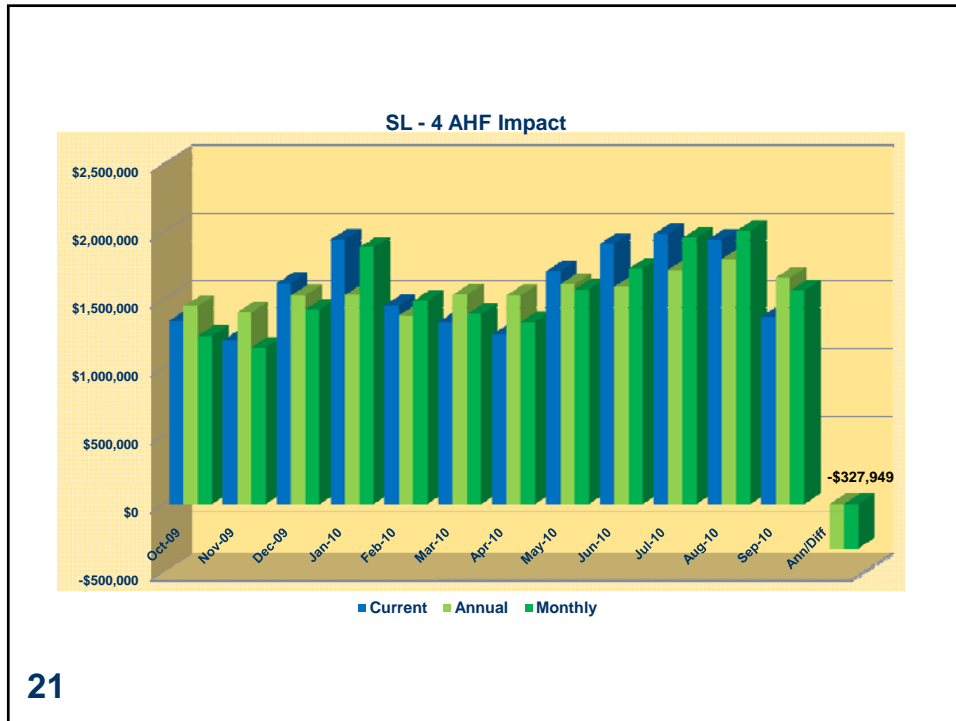
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SL - 1 AHF Impact



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## Issues and Challenges to AHF

(Must be Addressed to Implement)

- Transition Period
- Forecasting of Annual Cost and SL load shape
- Billing Issues
  - Bill Format and OCC Rules
  - Storing billing data
  - Rebilling
  - Bill Proration
  - Bill Estimation
  - Meter Reading (Missing Data)
- Changes to Fuel Reconciliation
- Audit Procedures (Internal and OCC)

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## General Comments

- Questions

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## Appendix I

### Discussion of Analysis Process

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### Analysis Process

- Using historic data, begin Oklahoma analysis with the jurisdictionally allocated monthly fuel costs and allocation of those costs to each hour of the calendar month using generation data, direct assigns, and fuel purchase information. This allocation considers OG&E units generating for each specific hour and purchases occurring at each hour (this is accomplished by the fuels group using a production matrix that evaluates each hour and the resources used in each hour's production). The result of this analysis is an allocation of total fuel and production costs into an hourly "**Cost Matrix**" at the generation level.
- Using Historic Period(s), Calculate and project 5 SL Loadshapes for the same period used to calculate the Cost Matrix. Adjust each SL loadshape to the generator level for each hour (use system losses at each SL).
- Multiply each SL hourly load at the generator and multiply times the cost matrix. The summation of all of the hourly costs (either annually or monthly) will create the SL cost assignment for each SL for the period.

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## Analysis Process (continued)

- Forecasted costs are currently projected on an annual basis. Typically each year in November and December, a forecast of fuel prices, customer loads, available generation and over and under true-up dollars are projected for the next calendar year. These forecasted costs are then used to set expected fuel adjustment values for each SL.
- Compare, on a post event basis, actual costs assigned to AHF SL program from the Cost Matrix of the AHF program to the forecasted costs by SL of the same period. This comparison will result in differences between forecasted costs to the actual costs as assigned by the AHF process. This is similar to the current over/under process used by fuels accounting. There is typically a month or two lag which may be extended to a three month lag for the AHF program.
- Customers will receive under Option 1 & 2, AHF SL benefit or cost. Under Option 3, customers will receive benefit or cost at the customer level.
- Processes are repeated on an annual basis or if required more often on interim updates.

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## Analysis Process (continued)

- Charts and tables (found later in this presentation) reflect results of evaluating 12 month historic period of Oct 2009 through September 2010 and allocating Costs to SL using an Hourly Costing Matrix and SL Load Shapes
- Costs were assigned at generator level, but will be collected at the metering point of the customer (total dollar amount for each SL is the same as the costs assigned at the generation level, but kWh change to account for SL losses at the metering point.)
- Costs were compared using current method VS AHF Options 1, 2, & 3.

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## Analysis Process General Observations

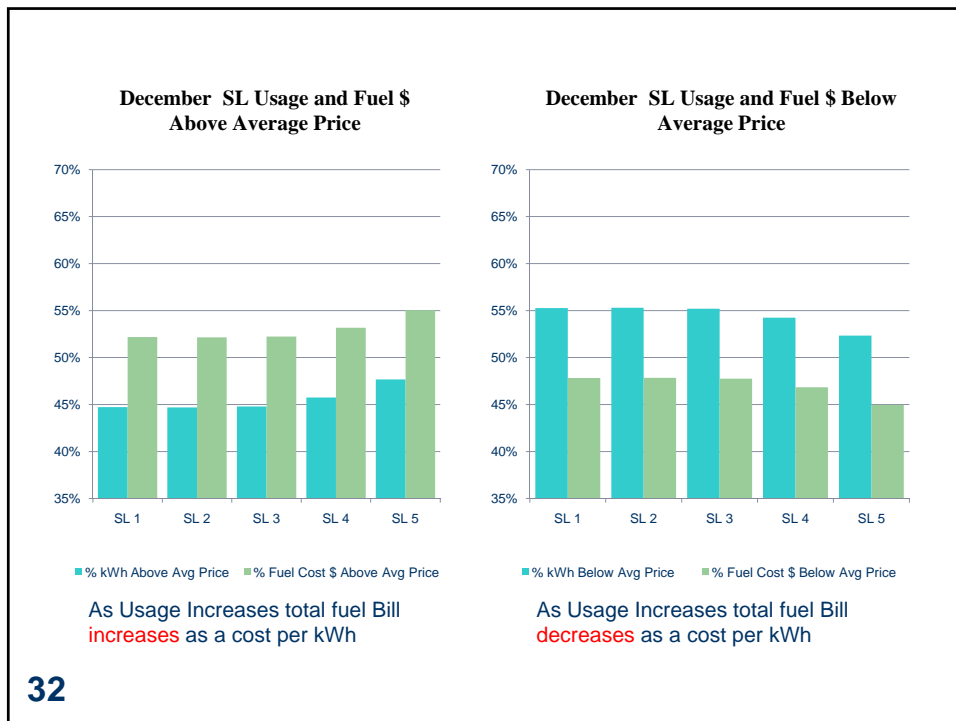
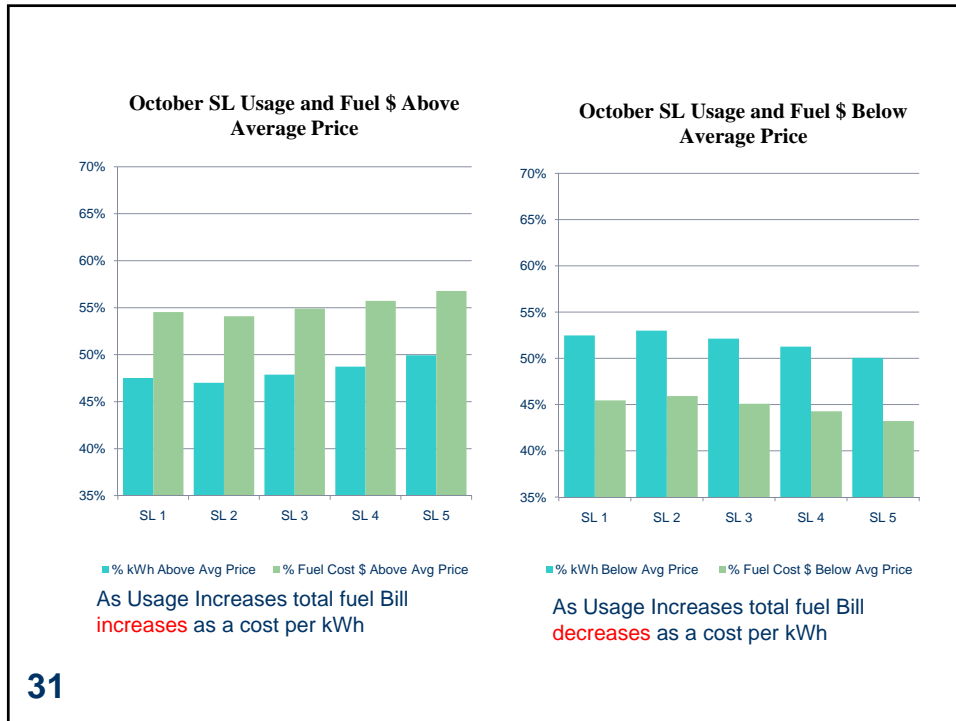
- AHF is a “post event” process.
- **But**, the current FCA is also a post event process since kWh hourly usage, weather effects, changes in fuel costs, and etc. are all unknown until after consumption.
- Lag does not prohibit customers and SL from receiving the benefit of the program, they are just delayed in receiving the result.
- AHF is not about creation of a “change in behavior”, it is about fairness - a correct assignment of costs based upon SL allocation.

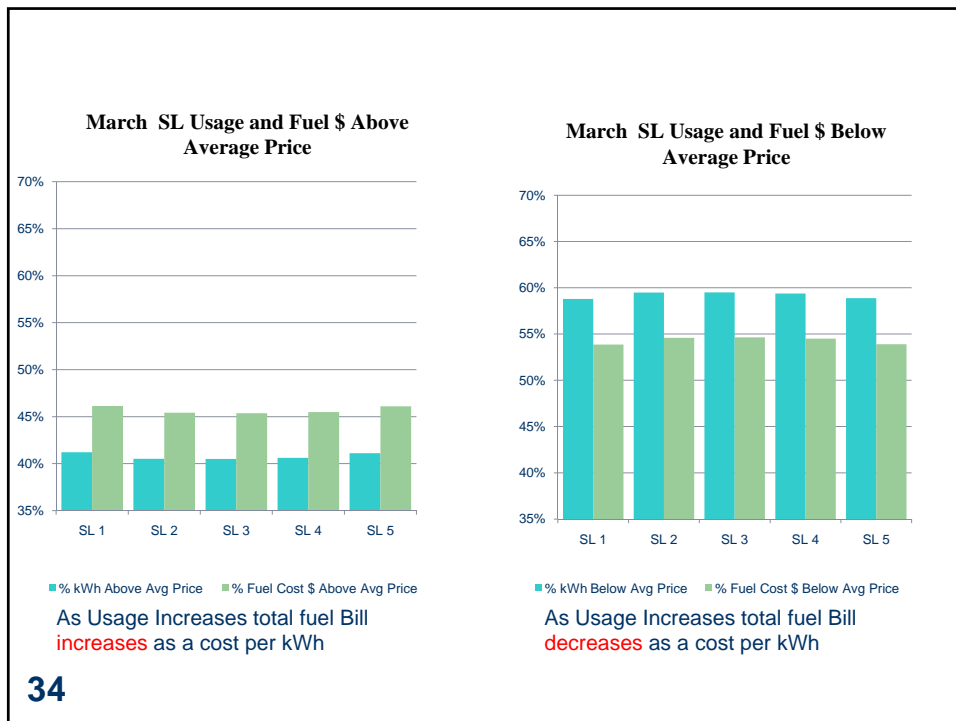
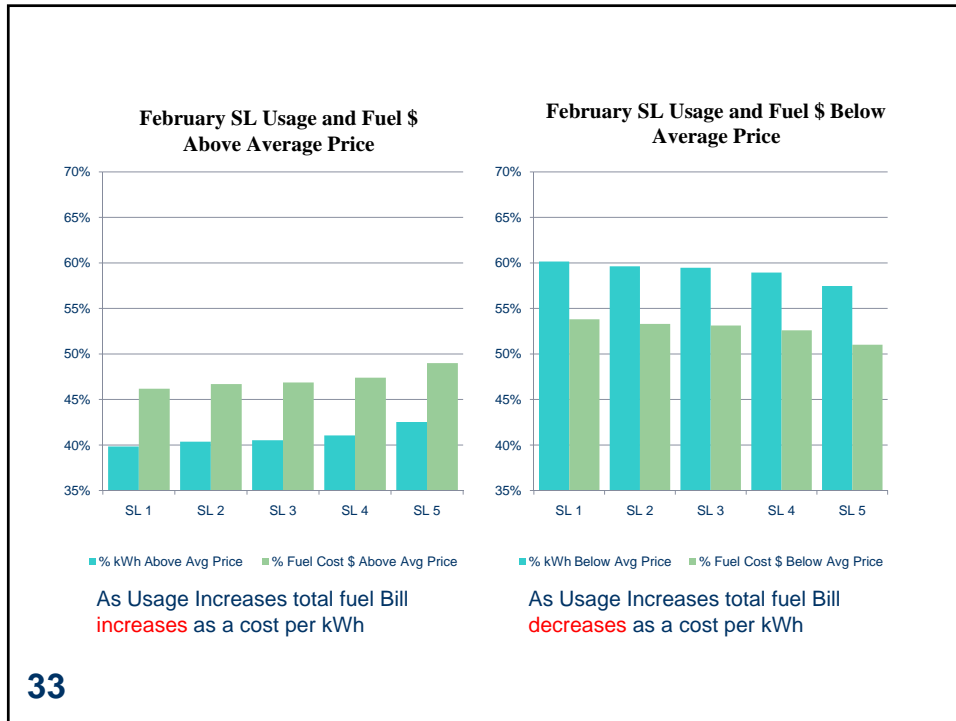
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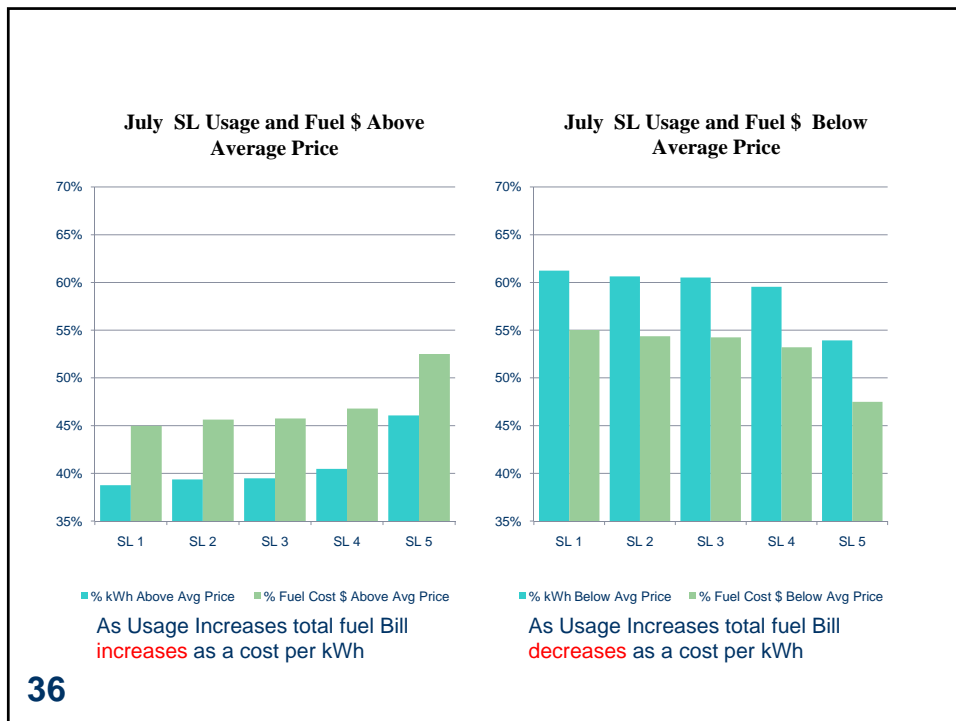
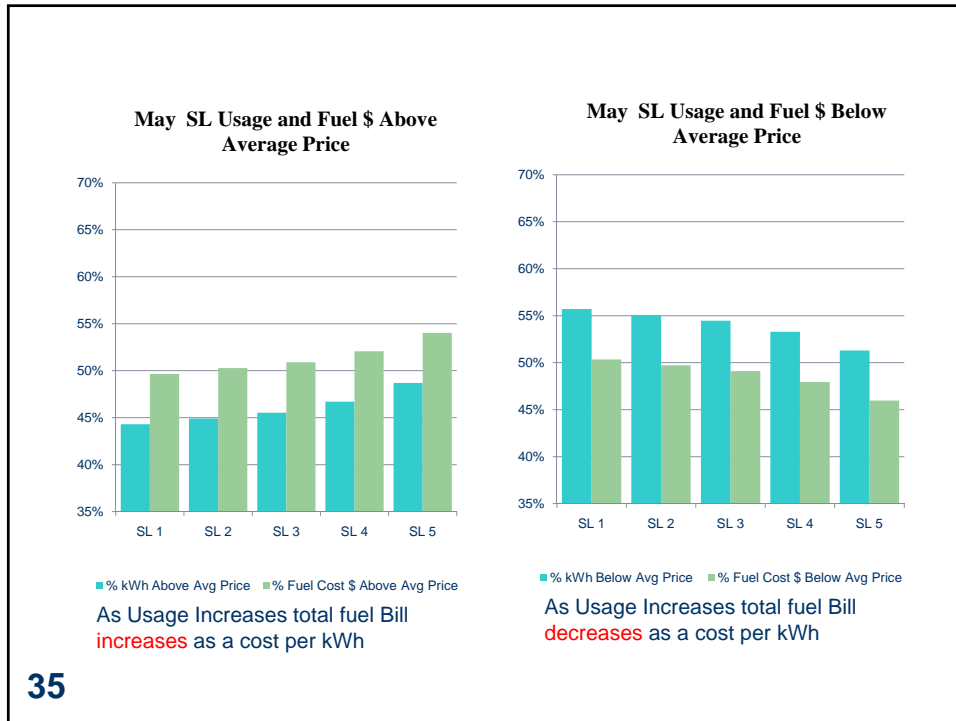
## Appendix II

### Monthly Relationships of SL Usage and Costs

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Oklahoma City, Oklahoma 73101-0321  
405-553-3000  
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April 27, 2011

Brandy Wreath  
Deputy Director  
Public Utility Division  
Corporation Commission of Oklahoma  
P.O. Box 52000  
Oklahoma City, OK 73152-2000

Dear Mr. Wreath:

Thank you for hosting the hourly-differentiated fuel adjustment clause workshop on March 9, 2011. The idea of implementing an hourly-differentiated fuel adjustment clause has been suggested previously and in fact, the concept was required to be reviewed by OG&E as a result of the Settlement Agreement in Cause No. PUD 201000029.

*I. The Stipulating Parties agree that OG&E shall evaluate the feasibility of implementing an hourly-differentiated fuel adjustment clause and address the implementation of such a clause in its 2011 rate case. The Stipulating Parties further agree that a public workshop shall be held at the Commission before March 31, 2011, for the purpose of considering the implementation of such a clause.*

OG&E has evaluated the feasibility of implementing an hourly-differentiated fuel adjustment clause which was demonstrated in OG&E's presentation on March 9, 2011. At this time, OG&E does not plan to introduce average hourly fuel costs in its rate case filing this June. After completing our evaluation, OG&E believes a more appropriate time to consider introducing the concept will be after Smart Grid has been fully deployed and is operational for at least one year. Smart Grid deployment ensures that OG&E has hourly usage data for all customers as would be required for full implementation of an hourly-differentiated fuel adjustment clause.

Thank you again for hosting the workshop. If you have questions regarding our plans for this issue, please contact me at (405) 553-3452.

Sincerely,

A handwritten signature in blue ink that reads "Bryan Scott".

Bryan Scott  
Director, Pricing and Load Research  
Oklahoma Gas and Electric Company

cc via electronic mail: Thomas P. Schroedter, Esq.: [tschroedter@hallestill.com](mailto:tschroedter@hallestill.com)  
William L. Humes, Esq.: [Bill.Humes@oag.ok.gov](mailto:Bill.Humes@oag.ok.gov)  
David B. Dykeman, Esq.: [d.dykeman@occemail.com](mailto:d.dykeman@occemail.com)  
Ronald E. Stakem, Esq.: [rstakem@cswp-law.com](mailto:rstakem@cswp-law.com)