BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR AN ORDER OF THE COMMISSION AUTHORIZING APPLICANT TO MODIFY ITS RATES, CHARGES, AND TARIFFS FOR RETAIL ELECTRIC SERVICE IN OKLAHOMA	))))))	CAUSE NO. PUD 201500273

Rebuttal Testimony

of

Roger D. Walkingstick

on behalf of

Oklahoma Gas and Electric Company

April 11, 2016

Q. **Would you please state your name and business address?**

A. My name is Roger Walkingstick doing business as RDSTICK Consulting, LLC. My business address is 13704 Oakhill Drive; Piedmont, Oklahoma 73078.

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

A. I am retained by the Oklahoma Gas and Electric Company ("OG&E" or "Company") on a contract basis to address items related to regulatory concerns. These concerns include testimony supporting issues such as wind power, rate design, utility product development, and in this Cause, distributed generation ("DG").

Q. **Would you please summarize your education and professional background?**

A. I have a bachelor's degree in electrical engineering from the University of Oklahoma. I also have a Masters of Business Administration from Oklahoma City University. I am a licensed professional engineer in the State of Oklahoma. I was an employee of OG&E for over 28 years, of which approximately 23 years was involved with rates, costing, rate administration, regulatory issues, and pricing functions for the Company. I retired from OG&E December 31, 2009 and have since worked with OG&E on a contract basis on various OG&E regulatory projects.

Q. **Have you previously testified before the Oklahoma Corporation Commission?**

A. Yes. I have testified before this Commission several times and this Commission has accepted my qualifications for the areas I cover in this testimony.

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

A. The purpose of my testimony is to rebut certain positions of TASC witness Garrett and Staff witness Champion as addressed in their respective responsive testimonies.

Q. **How is your testimony organized?**

A. My testimony is organized according to the following outline:

I. Current Status of Distributed Generation ("DG") on the OG&E System

II. Addressing issues raised by TASC witness Garrett and PUD witness Champion in their Responsive Testimonies.

III. OG&E Current Proposal and Tariff Development

I. Current Status of DG on the OG&E System

Q. **Would you please address the status of DG customers that are currently on the OG&E system?**

A. Yes. OG&E's DG customer count was 33 at the end of 2010 and is 246 as of June 30, 2015.

Q. Will you please provide a comparison of what a typical DG customer may look like on the OG&E system?

A. Yes. A DG customer is likely a residential customer. Of the 246 customers mentioned earlier, greater than 80 percent are residential and close to 90 percent of those customers are solar. Their annual kWh take from OG&E is a little less than an average residential customer (about 13,400 kWh a year) versus about 12,000 kWh a year for a DG residential customer. However, a DG customer supplies between 4,000 kWh to 7,000 kWh a year from their own DG source. What this means is that a DG customer is about 20 percent larger than a regular residential customer and as such, a DG customer causes higher transmission and distribution ("T&D") demands on the OG&E wires network than an average residential customer. DG customers are likely homeowners because most renters would not have the option of installing solar panels on their roofs.

Q. **Is there any significance associated with solar DG customer's production in comparison to customers' loads in the summer?**

A. Yes, a typical solar DG customer has a solar production output that somewhat aligns with the generation needs (or load) of a typical summer peaking residential customer, at least in the high temperature summer months. While that alignment does not hold true in other

seasons, it does hold true at some significant level in the summer months and because of this alignment, solar DG aids in meeting the load needs of a typical residential customers.

Q. **Is the summer production demand coincidence evident in non-solar DG customers?**

A. No. Wind DG production does not generally align to the degree that solar production aligns with customers loads during the summer months.

Q. **Is there alignment between solar production and Transmission and Distribution load?**

A. No. While solar DG does show some level of coincidence on the production side between customer load and solar production, there appears to be little coincidence between peak Transmission and Distribution ("T&D") demand and solar production.

II. Addressing issues raised by TASC Witness Garrett and PUD Witness Champion in their Responsive Testimonies

Q. **Please address your first issue.**

A. Mr. Garrett makes a statement on page 5, line 15 through 17, of his testimony that DG customers are providing a subsidy to non-DG customers. I strongly disagree with that statement. In fact, Mr. Garrett has it backwards.

Q. **Please explain the current two-part rate available to DG customers.**

A. DG customers are currently enrolled in a two-part rate that includes a customer charge and an energy charge. However, the customer charge does not include all fixed customer costs. The energy charge collects that portion of the customer cost not covered in the customer charge as well as all production costs (demand and energy), T&D wires costs, and any other costs not being collected in the customer charge.

Q. **Please explain how DG customers are subsidized under the current rate.**

A. DG customers are currently compensated based on the energy charge under which they are billed Because the energy charge includes items unrelated to production such as

T&D wires costs and non-cost-based customer charge, DG customers are over compensated for their production to the detriment of other non-DG customers.

Q. **Why does the Company consider the two-part rate to be less than optimal for customers?**

A. A DG customer's bill is arrived at by crediting the compensation received from the Company for the customer's self-generation based on the energy charge (Energy Charge Credit or ECC) against the DG customer's charges for consumption provided by the Company (Energy Charge Billed or ECB). Simply put, a DG customer's bill is calculated by adding the ECB and subtracting the ECC. The example shown in Table 1 and 2 below helps explain this over compensation paradox. Please note that fuel of $0.029 is not reflected in any of the calculations. The customers' actual bill would also reflect the fuel costs times the total number of kWh consumed each month by the customer. Also, note that Chart 1 below reflects billing components in BAR 1 and BAR 2 used in the examples of Table 1 and Table 2.

Table 1: Non-DG Customer Example Bill	
Non-DG Cust. Mo. Consumption	1119 kWh a month
Rate for Cust. Charge	1119 X $0.01162 = $13.00 per month
Energy charge	$0.05194 per kWh X 1119 = $58.12 per month
Total Monthly Bill or ECB from OG&E	$13 + 1119 X $0.05194 = $71.12 per month + fuel costs (not shown)

Table 2: DG Customer Example Bill (Same Overall Customer Usage)	
Same Customer (now DG) Mo. Consumption	319 kWh from OG&E
From Self Generation	800 kWh self Gen
Rate for Customer Charge	1119 X $0.01162 = $13.00 per month
AVG Rate of Energy charge	$0.05194/kWh X 319 =$16.57/Mo
Total Monthly Bill from OG&E	$13 + $16.57 = $29.57/mo.
Offset for DG Generation or ECC	800 kWh X $0.05194= $41.55/Mo. + fuel costs (not shown)

Q. **Is the $41.55 DG credit in your example an appropriate offset?**

A. No. The bill from OG&E to the DG customer is reduced from $71.12 per month (Table 1) to $29.57 per month (Table 2) or a total reduction of $41.55 per month (ECC) for the

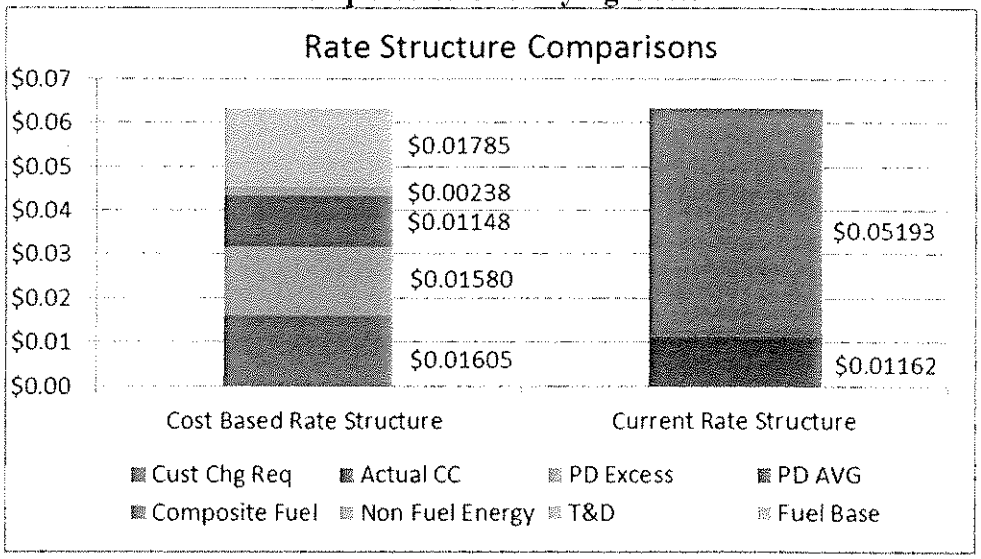
DG customer. As stated above, the ECC charge includes items unrelated to just DG production. Inclusive in the number are inappropriate credits to DG customers amounting to nearly $5 of customer related costs as well as credits for T&D costs of $.01785 per kWh.

The overcompensation in the example becomes 800 kWh X.$0.01785 per kWh = $14.28 plus the $4.96 from the customer charge = $19.24 compensation above the appropriate level. The DG customer deserves neither of these credits, yet the current two-part structure compensates the DG customer for both.

Q. **Please describe how the current two part rate does not match the underlying costs and how these costs are unrelated to production.**

A. The best way to describe this is to break down the respective costs, as I have done in Chart 1 below. By using the costs from Cause No. PUD 201100087 for a residential customer, Bar 1 illustrates the collection of costs from the current two part rate (Bar 2 or *Current Rate Structure*). These two parts reflect the total cost collection mechanism by which the revenue requirement is collected. However, the two parts are not matched to the underlying costs. For illustrative purposes, I have used an average customer usage for calculation. As you can see the Customer Charge of $.01162 (Bar 2) should actually be at the higher rate of Bar 1 ($.01650). The Energy Charge of the current rate is $.05194 (Bar 2) plus the difference between the customer charge collected from Bar 2 – Bar 1 (($.01650 - $.01162=$.00443) X 1119 kWh = $4.96). Looking at Bar 1 the T&D value of $.01785 per kWh and the $.00443 per kWh of the customer charge should never be credited to a DG customer, but unfortunately the two-part rate structure does credit DG customers for those two components. As a further note, we must also realize that a DG customer also receives some portion of the PD Excess rate of $.01580 when they generate in the time-of-use (TOU) window, but they should not receive all of PD excess contribution to generation because much of the DG generation is outside of the TOU window.

Chart 1: Current Two-Part Residential Rate Structure Compared to Underlying Costs



Q. **The example above shows what is occurring for an OG&E residential DG customer. Are similar results also occurring in the commercial classes of service?**

A. Yes, similar results do occur for the commercial classes with the exception that customer kWh usage tends to be higher for this type of customer. However, neither Mr. Garrett nor Ms. Champion takes issue with the Company proposed COM-TOU-kW (Commercial Time of Use) DG tariffs.

Q. **Mr. Garrett argues that when a DG customer over-generates (kWh above the needs of the DG customer) the DG customer receives no additional credit. How can a DG customer receive credit for excess generation?**

A. These DG customers have the option to enroll in the Qualified Facility ("QF-1") tariff or the proposed Renewable Power Purchase Option ("RPPO") tariff (if approved), where the Company must purchase all generation.

Q. **If a DG customer does not enroll in QF-1 or the proposed RPPO, will the customer receive any additional credit for kWh generated above the needs of the DG customer?**

A. No, not beyond the current billing month. The amount of over generation is estimated to

be less than 1.2 percent of kWh generated and most of that excess generation occurs in the spring or fall periods when additional generation is not needed on the OG&E system.

Q. **Please address Mr. Garrett's argument that a DG customer's load shape is more favorable than other residential customers, yet the DG customer is not being adequately compensated?**

A. OG&E has recognized this concern by proposing that DG customers should be placed in a class by themselves. The cost of service (COS) in this Cause created separate DG classes from of the residential class commercial customers that recognizes any favorable load shape and then rewards within the new DG class for his production coincident with customer load. If the DG customers remains in the residential or commercial classes they are currently in then they will fail to receive some of the benefit of their favorable load shape.

Q. **Are Mr. Garrett's arguments for both over-generation compensation and load shape compensation at odds with his recommendations?**

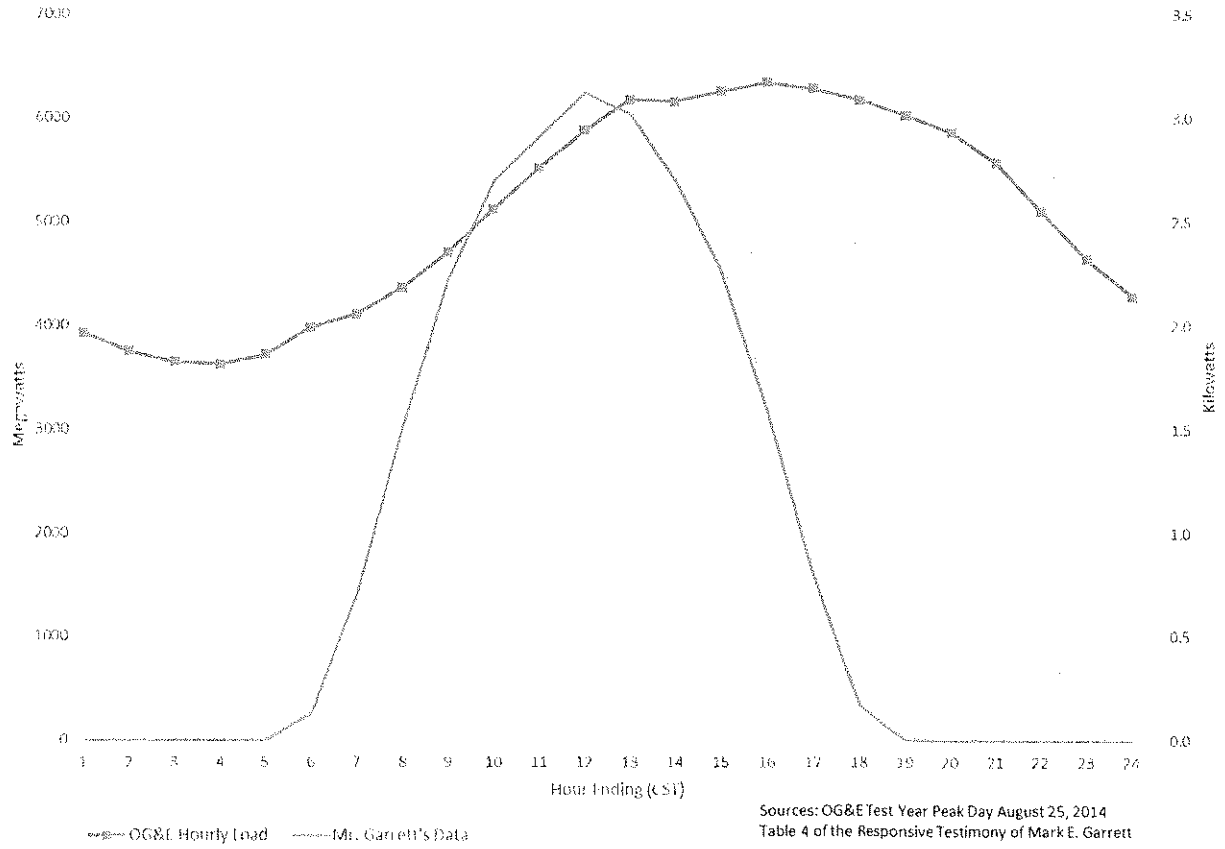
A. Yes, at least his load shape arguments seem to be at odds with his final recommendations. As stated earlier, DG customers more favorable load shape is recognized by placing them in a separate class but Mr. Garrett's final recommendation is that DG customers should remain in the classes they were previously located so the result is they will forego the benefit of their more favorable summertime load shape. As far as his over-generation argument, it already has a favorable solution. That solution is already present because they can sign up those over producing DG customers on the QF tariff or the proposed RPPO tariff.

Q. **Please comment on Mr. Garrett's Table 4 on page 47 of his testimony.**

A. Solar DG customers provide some offset to generation (production) across the summer peak hours as noted by Mr. Garrett's Table 4 on page 47 of his testimony. However, looking closer at Mr. Garrett's DG output curve from Table 4 of his testimony and comparing it to the OG&E peak day during test years tells a different story. As Chart 2 illustrates, solar provides little benefit to the utility system by hour 18 (6 p.m.) even

though the customer load is still very high on the OG&E system. The gray area on this chart depicts the SmartHours window (OG&E's peak energy use period) of Hour 13 to Hour 18 in Central Standard Time (CST) (1 to 6 p.m. CST). Most industry charts and discussions are represented in Daylight Savings Time (DST) but I modified the OG&E data to align with Mr. Garrett's chart. As it demonstrates, solar production declines at the start of the SmartHours window, and it is practically nonexistent by the end of the SmartHours window or when a cloud blocks the sun's output to the DG customer's solar arrays.

Chart 2:Comparison of OG&E Hourly System Load to Solar Production



Sources: OG&E Test Year Peak Day August 25, 2014
Table 4 of the Responsive Testimony of Mark E. Garrett

Q. **Do you have any other observations concerning solar DG coincident production and the value attributed to it in the COS?**

A. Yes. While Chart 2 shows that a solar DG facility may produce some level of coincident production in correspondence with the OG&E's system load, solar production is not load following. If solar is available when the load is present, the result is good. However,

solar generation is diminished or unavailable for the latter half of the SmartHours window. The Chart 2 shows that Solar DG is a poor substitute for generation that is load following or generation that is dispatchable.

Q. **Mr. Garrett, on page 10 line 10 through 13, of his responsive testimony states that the Company has failed to demonstrate the existence of a subsidy, as he believes is required by SB 1456. Do you agree?**

A. No. As discussed and illustrated in Chart 1 above, the two part rate structure by its very design provides a subsidy to the DG customer.

Q. **On page 18, line 20 Mr. Garrett discusses a "dis-incentive" to conserve or to go solar. Do you agree with his concerns?**

A. No. Rate design motivation should be focused on "getting the price right." By getting the price right, or by matching cost recovery to cost causation, almost all other pricing problems are resolved. Properly matching cost recovery to cost causation eliminates any intent to encourage or discourage the installation of solar or any other DG resource.

Q. **Do you concur with Mr. Garrett's finding on page 41 lines 5 through 10 of his responsive testimony concerning the 4CP allocator?**

A. Yes. The 4CP as proposed by the Company lowers costs to production demand (the excess demand portion) and transmission. As discussed earlier, the proposed rate design of OG&E reflects and rewards the reduction of the production demand by providing additional credits through the on-peak energy charge. In the Company's proposal, the transmission portion of the T&D demand rate is reduced by the recognition of lower assigned transmission costs and reflects a lower T&D demand charge than what the residential class alone would be assigned. While both the production excess demand and transmission wires demand are lowered for solar DG customers, they are not eliminated.

Q. On page 48, lines 9 through 12 Mr. Garrett states, "If the Company ignores the benefits created by customer's own private investment, then it might also ignore cost saving opportunities, particularly where it relates to opportunities to defer or avoid distribution, transmission or generation capacity." Do you concur?

A. No. Mr. Garrett's point is invalid. Unlike a DG customer, the Company must address or take into account the following issues: dispatchability, load following services, reliability, ancillary services and our inherent obligation to serve.

Q. **On page 48, line 15 through 16 Mr. Garrett recommends leaving the DG customers in their current classes by saying, "within the classes they belong, and not segregating and punishing them with draconian rate designs..." Do you agree with these comments?**

A. No. The Company is confused that Mr. Garrett is now recommending that DG customers be placed back into the classes from which they were removed, in contradiction to the checklist he supports[1].

Q. **Are there areas of Ms. Champion's responsive testimony in this Cause that you would like to address?**

A. Yes. On page 33 line 5 through 8, Ms. Champion makes a statement that the Company's proposed separate DG class shows a more favorable customer load shape than those classes (GS and residential) from which they were removed. As discussed above regarding Mr. Garrett's testimony, while I agree that their load shape is somewhat better in the coincident production peak of four summer months, the summer load shape does not drive all costs to serve a customer. Ms. Champion seems to equate a small subsidy created by a better load shape as being equal to the elimination of a large subsidy that is generated in a two-part rate design. It is akin to saying I used to pay you $100 in subsidy before, and now I only pay you $70 in subsidy so now you are arguing that the subsidy is gone, when in fact, it only has been diminished.

[1] Responsive Testimony of Mark Garrett in Cause No. PUD 201500274, pg 29, Table 1.

Q. **On page 34 line 4 through 7, Ms. Champion is concerned that demands for DG customers may be higher than what OG&E calculated which would lead to over collection of revenue from these customers. Do you concur?**

A. No. The demand values that were used to calculate the kW demand charges were actual demands taken from DG customers' meters. These are the same meters and resulting demands that will be used in calculation of the demand portion of the customers' bills, if the tariffs are approved as proposed.

Q. **On page 35, lines 1 through 11 of Ms. Champion's responsive testimony, she suggests that DG resources be evaluated in a manner similar to the Company's other demand programs. Do you concur?**

A. No. While there does appear to be some reduction of production demand in the summer months, the reduction is only a small portion of what the DG tariffs are trying to accomplish (see Chart 2 above). The DG customers have received a subsidy that allows them the ability to avoid certain costs they cause the OG&E T&D system to incur and subsequently force those costs onto other customers. DG customers use the wires system of the utility as a delivery system but fail to pay for that use. The utility is made revenue whole in the long term by transferring those costs to other customers but the other customers are left holding the bag. The time to eliminate that subsidy is now. The Company has the technology and the pricing is made possible by the advent and deployment of the Smart Meter.

III. OG&E Current Proposal and Tariff Development

Q. **What is your recommendation concerning the proposed tariffs and rate design in this Cause?**

A. OG&E has proposed the RPPO purchase rider in this Cause as well as a R-TOU-kW DG tariff and the COM-TOU-kW DG tariff. These tariffs will correct the rate inequity that has allowed DG customers' to avoid cost and reap benefits that they do not deserve. OG&E's actions are not punitive nor are they "draconian" as Mr. Garrett has suggested. The tariffs are cost based, fair and comply with SB 1456. They recognize that cost causers should pay and the DG tariffs are designed with that objective in mind. While

Mr. Garrett and others argue that the status quo should continue, the Company realizes that the time has come and the tools are here that allow us to move forward and better follow the basic principle of regulation of matching costs to the cost causers.

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

A. Yes.