

BEFORE THE CORPORATION COMMISSION OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF)
OKLAHOMA GAS AND ELECTRIC COMPANY)
REQUESTING COMMISSION APPROVAL OF) CAUSE NO. PUD
NEW DISTRIBUTIVE GENERATION TARIFFS) 201500274
PURSUANT TO TITLE 17, SECTION 156 OF THE)
OKLAHOMA STATUTES)

SIERRA CLUB'S STATEMENT OF POSITION

COMES NOW Sierra Club, by and through its undersigned counsel, and hereby files the following Statement of Position in the above-styled Cause, in response to the Application of Oklahoma Gas & Electric ("OG&E") requesting commission approval of new distributive generation ("DG") tariffs pursuant to Title 17, Section 156 of the Oklahoma Statutes. Sierra Club does not plan to present a witness during the hearing on the merits beginning December 1, 2015, but reserves the right to cross-examine the witnesses presented during the hearing and to fully participate in all aspects of this proceeding. Sierra Club reserves the right to amend this Statement based on information gathered through future testimony, discovery or a significant change in condition related to this Cause should such circumstances change or otherwise present new information not previously known. Any issues not addressed below should not be construed as agreement with OG&E's position, method or procedures relating to its Application.

I. Introduction

How the Oklahoma Corporation Commission ("the Commission") decides Oklahoma Gas and Electric Company's tariff application will determine both the future growth of self-generation in Oklahoma and the extent to which use of that generation aligns with the state's

future grid requirements. A distributed generation tariff is a policy tool, and as such, should be designed to help achieve the state's policy goals. This means recognizing the value behind-the-meter distributed generation provides in enabling consumer choice, increasing the state's energy independence and fuel diversity, improving grid resiliency, and reducing water consumption and air pollution.

Unfortunately, OG&E's proposed tariffs for distributed generation customers do not align with Oklahoma's commitment to promoting energy diversity and independence, nor are they based on a record of evidence demonstrating subsidization from non-distributed generation customers to distributed generation customers, as required by law. The Company proposes tariffs with fixed fees and demand charges that are not aligned with cost causation and that do not account for the benefits distributed generation provides. These fees only function to disincentivize homeowners from investing in their own sources of energy generation. Because OG&E has not met its burden of proof that a cross-subsidization is occurring, yet alone done its due diligence as to the correct size of such subsidy, Sierra Club recommends that the Commission deny OG&E's application and maintain the current tariffs.

II. Summary of OG&E's Application

In its application, OG&E proposes a number of increased charges for distributed generation customers.¹ First, for residential DG customers, OG&E proposes a tariff that

¹ S.B. 1456 (A)(1) defines distributed generation as a) "a device that provides electric energy that is owned, operated, leased or otherwise utilized by the customer," b) "is interconnected to and operates in parallel with the retail electric supplier's grid and is in compliance with the standards established by the retail electric supplier," c) "is intended to offset only the energy that would have otherwise been provided by the retail electric supplier to the customer during the monthly billing period," d) "does not include generators used exclusively for emergency purposes," e) "does not include generators operated and controlled by a retail electric supplier, and" f) "does not include customers who receive electric service which includes a demand-based charge."

increases the fixed residential customer charge by nearly 40%--from \$13.00 to \$18.00 per month—and imposes a demand charge of \$2.68 per kilowatt based on the customer’s highest fifteen minutes of demand.² Similarly, OG&E proposes a new tariff for commercial customers that increases the monthly customer charge over 40%, from \$24.70 to \$34.75, and imposes a demand charge of \$3.30 per kW per month.³ Rather than support its tariff with evidence of actual costs based on an updated cost of service study, or conducting a cost-benefit analysis of the value of solar, OG&E relies on blanket unsubstantiated claims that a subsidy exists.⁴ OG&E bases its proposed tariff on “Unit Cost components” derived from its 2010 cost of service study. The unit cost is calculated by dividing a revenue requirement by associated billing units.⁵ However, these

² Direct Testimony of Roger D. Walkingstick, p. 18; *See* Oklahoma Gas and Electric Company’s Standard Pricing Schedule: R-TOU, *available at*, https://oge.com/wps/portal/oge/my-account/billing-payments/oklahoma-rate-tariffs!/ut/p/a1/pZBNC4JAEIZ_SwePubObmXTbsg8tssI120to2CaYK2ZJ_z4LgpKyoLnN8DzDzIs48hBP_HMk_DySiR_feq5vDAJ9sDRiG65OgPaHbDydD8BhUALrZ2A0IQOgE9NctOcmTjr6f35P-

82HD0Xhm79C_BVxMMMIaU4MyBLDUqsCb16sBXqPDTVH2oiLWAb3wNc0CVqGQDwLd2EWZuopK8f7PE-PXQUUKIpCFVKKOFS38vBO2MtjJrwKlx4Y8yCymjy4FLTRuAK3bRjk/dl5/d5/L2dBISEvZ0FBIS9nQSEh/

³ Direct Testimony of Roger D. Walkingstick, p. 16; *See* Oklahoma Gas and Electric Company’s Standard Pricing Schedule: GS-TOU, *available at*, https://oge.com/wps/portal/oge/my-account/billing-payments/oklahoma-rate-tariffs!/ut/p/a1/pZBNC4JAEIZ_SwePubObmXTbsg8tssI120to2CaYK2ZJ_z4LgpKyoLnN8DzDzIs48hBP_HMk_DySiR_feq5vDAJ9sDRiG65OgPaHbDydD8BhUALrZ2A0IQOgE9NctOcmTjr6f35P-

82HD0Xhm79C_BVxMMMIaU4MyBLDUqsCb16sBXqPDTVH2oiLWAb3wNc0CVqGQDwLd2EWZuopK8f7PE-PXQUUKIpCFVKKOFS38vBO2MtjJrwKlx4Y8yCymjy4FLTRuAK3bRjk/dl5/d5/L2dBISEvZ0FBIS9nQSEh/

⁴ *Id.* at 5 (“[S]ubsidy has been a long time issue associated with most DG installations.”); *Id.* at 7 (“The existing tariffs create the opportunity for subsidies between DG participants and non-participants....”); *Id.* at 8 (“[M]ost existing DG customers are receiving embedded credit at a higher level than the embedded benefit they are providing the utility system.”).

⁵ Direct Testimony of Roger D. Walkingstick, p. 17, Exhibits RDW-7 and RDW-8.

calculations are based on figures that represent all residential customers, not just DG customers. OG&E offers no specific calculation of the subsidy it claims DG customers receive.

III. Legal Standard

Senate Bill No. 1456 (“the Act”) prohibits a utility from imposing a tariff or charge on DG customers unless it can first demonstrate the existence of subsidization between customers. Specifically, the Act states, “No retail electric supplier shall increase rates charged or enforce a surcharge above that required to recover the full cost necessary to serve customers who install distributed generation...” and that any additional charge should only be applied as “a means to avoid subsidization between customers....”⁶ A utility thus must first show what the cost of serving a DG customer is and that a cross-subsidy exists before it may lawfully impose additional fees on those customers. Moreover, the statute makes clear that a utility may not impose a charge that exceeds the actual costs necessary to serve DG customers.⁷ Because the utility may not overcharge a DG customer, in order to meet its burden of proof, the utility thus must fully account for both the costs *and* benefits of DG.

The statute must also be interpreted in light of the Executive Order released by Governor Fallin in conjunction with the Act.⁸ The governor mandates that “[a]ll executive entities shall support all forms of energy, including ... renewable energy sources like wind and solar,” which “have a significant place in Oklahoma Generation.”⁹ She further notes that “[a]n essential

⁶ S.B. 1456(B) & (D) (2014).

⁷ S.B. 1456(B).

⁸ Exec. Order 2014-07.

⁹ *Id.*

element of [the Oklahoma First Energy Plan] is distributed generation” and that the Act is meant to “encourage” significant growth of DG in the state.¹⁰

IV. OG&E failed to demonstrate that a cross-subsidy exists and so has not met its burden of proof.

As discussed above, the Act requires that OG&E first show cross-subsidization from non-DG customers to DG customers before imposing tariffs such as the ones proposed. Such a showing necessarily requires a thorough and up-to-date investigation of the costs and benefits of distributed generation to OG&E’s system. Instead of conducting such an inquiry, OG&E refused to meaningfully consider the benefits of solar DG and bases its proposed tariffs entirely on an outdated cost of service study.

A. OG&E neglected to properly account for the benefits of rooftop solar.

OG&E’s simplistic view is that because distributed generation customers purchase less electricity than they would have if they had not installed distributed generation, they shift costs to other residential customers. However, cost shifting cannot be shown through the kind of myopic and rough-cut calculations offered by the Company. Rather, the overall costs and benefits that distributed generation offers the utility’s system must be understood and quantified in order to assess whether DG customers should be placed into a separate class with distinct additional fees.

Despite a clear directive to do so, OG&E completely neglected to assess the specific benefits of solar energy. As the direct result of stakeholder input, the Commission issued a checklist of items for utilities to include in DG tariff applications. Expressly included is a request

¹⁰ *Id.*

for a solar “Benefits Study,” with high, medium, and low sensitivities to account for unknowns. Rather than conduct a comprehensive study as requested, OG&E dismisses this charge, claiming that these benefits have already been incorporated in other costs, rates, and prices or simply stating its doubts that such benefits exist.¹¹ OG&E’s response falls far short of an actual analysis of the benefits of solar.

Rooftop solar has the potential to provide vast benefits to utilities through avoided costs, additional support, and economic growth, all of which have dismissed or ignored by OG&E.

These benefits include:

- Avoided Energy Costs: Distributed generation reduces the amount of electricity that a utility must either generate or acquire through the wholesale market by reducing the amount of grid-supplied electricity that the DG customer requires.¹² While OG&E states that its avoided energy cost is “the SPP integrated market price for energy,”¹³ OG&E does not appear to have accounted for these avoided costs in its calculation of its proposed tariffs. DG can also serve as a fuel price hedge and assist in reducing financial risk associated with the need to make market energy purchases. Because solar has no fuel costs, it can serve to moderate the risk that fuel prices will rise, making alternate energy resources (coal and gas) more expensive. OG&E states that it “believes any benefits from avoided purchased power risk are insignificant” without offering any analysis or basis for its contention.¹⁴ The utility also contends, without support, that it must compensate for the intermittent nature of wind and solar generation because “the wind doesn’t always

¹¹ Direct Testimony of Roger D. Walkingstick, pp. 25-28.

¹² Advanced Energy Economy Institute, “Benefit-Cost Analysis for Distributed Energy Resources: A Framework for Accounting for All Relevant Costs and Benefits,” Sept 22, 2014, available at <http://synapse-energy.com/sites/default/files/Final%20Report.pdf>.

¹³ Direct Testimony of Roger D. Walkingstick, p 25.

¹⁴ *Id.*

blow and the sun doesn't always shine."¹⁵ However, OG&E provides no evidence that providing more flexible supply would increase the utility's costs, particularly at the low levels of DG penetration that currently exist in Oklahoma.¹⁶

- Avoided line losses: A central plant providing an equivalent amount of load is required to generate more energy than that from a local DG source because some energy is lost along power lines in transmission.¹⁷ Line losses can average 6-11 percent annually.¹⁸ By providing energy closer to where it is consumed, distributed generation avoids these high losses.¹⁹ OG&E claims that "line loss reduction has already been recognized and is reflected in retail rates," but this empty assurance is beside the point and again fails to explain how that reduction was considered with respect to the proposed DG tariffs.²⁰ Distributed generation's role in reducing line losses mean that a kilowatt-hour of local generation displaces more than one kilowatt-hour of central station generation. To properly account for the benefits of DG, OG&E must account for this benefit when calculating its avoided energy costs.
- Avoided Generating Capacity Costs: Rooftop solar reduces overall demand, thereby helping to eliminate the need to build new power plants and other infrastructure to meet

¹⁵ *Id.* at 26.

¹⁶ Direct Testimony of Roger D. Walkingstick, p. 10 (showing that there were only 245 DG installations in Oklahoma at the time the testimony was given).

¹⁷ Lindsey Hallock & Rob Sargent, Environment America Research & Policy Center, Frontier Group, *Shining Rewards: The Value of Rooftop Solar Power for Consumers and Society*, p. 11 (2015).

¹⁸ Advanced Energy Economy Institute, "Benefit-Cost Analysis for Distributed Energy Resources: A Framework for Accounting for All Relevant Costs and Benefits," Sept 22, 2014, available at <http://synapse-energy.com/sites/default/files/Final%20Report.pdf>.

¹⁹ *Id.*

²⁰ Direct Testimony of Roger D. Walkingstick, p 26.

heightened capacity.²¹ OG&E states that this benefit “is addressed in” the utility’s 2014 Integrated Resource Plan (“IRP”).²² But OG&E’s Integrated Resource Plan does not consider DG growth in its load forecast.²³ Notably, OG&E’s IRP does not include any utility-scale solar, but does forecast the need for several large new gas plants. OG&E offers no assessment of how DG growth could affect overall demand and capacity costs, including by reducing the need for costly new gas-fired generation, nor does OG&E offer any explanation for how this potential benefit was considered in the calculation of its proposed tariff.

- Avoided Transmission and Distribution Costs: Similarly, the reduced strain placed on the grid due to increased use of local sources of energy like solar panels allows a utility to delay making improvements to its transmission and distribution system.²⁴ OG&E does not discuss avoided T&D costs or explain how it accounted for such avoided costs in developing its tariff.
- Avoided Environmental Compliance Costs: Encouraging customers to provide their own clean renewable energy reduces the need for utilities to provide that energy through other sources such as fossil fuels, which must comply with costly environmental regulations.²⁵ For example, last year, OG&E proposed to retrofit two of its coal generating units to comply with environmental regulations, at a cost of around \$500 million, which would

²¹ *Id.*

²² *Id.*

²³ *Id.*; *Oklahoma Gas and Electric Company, Integrated Resource Plan*, pp. 21, 38 (2014).

²⁴ Tim Woolf et al., Advanced Energy Economy Institute, *Benefit-Cost Analysis for Distributed Energy Generation: A Framework for Accounting for All Relevant Costs and Benefits*, p. 22 (2014).

²⁵ Hallock & Sargent, p. 12.

increase rates by approximately 10 percent.²⁶ The Commission's decision on OG&E's application is pending. OG&E claims that compliance costs are already included in payments made to DG customers because they are incorporated in capacity and energy costs. However, current energy prices do not reflect this substantial requested increase, nor do they account for future environmental compliance costs at OG&E and other utility's fossil generating stations. OG&E has not considered how a growing DG sector could reduce these costs.²⁷

- Economic Benefit: OG&E's failure to consider the benefits of solar is nowhere more egregious than with respect to the potential economic benefit associated with DG. The utility refuses to attempt any analysis whatsoever, but blindly asserts that it "doubts" DG provides any special economic benefit.²⁸

In addition to these specific benefits, DG customers also provide a number of societal benefits, which should be included in the calculation of the value of solar. Moving toward localized renewable energy and away from fossil fuels results in cleaner air and fewer associated health costs by reducing criteria air pollutants such as ozone.²⁹ Unlike rooftop solar, centralized power plants must use huge quantities of freshwater in electricity generation.³⁰ DG customers

²⁶ *In the Matter of the Application of Oklahoma Gas and Electric Company for Commission Authorization of a Plan to Comply with the Federal Clean Air Act and Cost Recovery; and for Approval of the Mustang Modernization and Cost Recovery*, Cause No. PUD 201400229.

²⁷ Direct Testimony of Roger D. Walkingstick, p. 26.

²⁸ *Id.*

²⁹ Tim Woolf et al., Advanced Energy Economy Institute, *Benefit-Cost Analysis for Distributed Energy Generation: A Framework for Accounting for All Relevant Costs and Benefits*, p. 33 (2014).

³⁰ See Union of Concerned Scientists, *Freshwater Use by U.S. Power Plants: Electricity's Thirst for a Precious Resource* (2011).

can also help reduce climate impacts through reduced carbon dioxide emissions; according to the EPA, the social cost of carbon is estimated at \$40 per metric ton of carbon dioxide.³¹

Oklahoma is not the first state to address the question of the costs and benefits of rooftop solar. Because OG&E failed to undertake this analysis, the Commission can look to studies performed by other states for an idea of what the result of this analysis would have been, had it been performed. The vast majority of other states have found that the costs associated with DG and solar are minimal and are outweighed by the many benefits. In a review of eleven studies assessing the value of solar since 2013, all but 3 found that the value of solar was greater than the retail electricity rate.³² Notably, the three studies that found the value of solar was lower than the retail electricity rate were all conducted by utilities, rather than public utility commissions or outside organizations. The Public Service Commission of Mississippi, for example, recently concluded that, “[f]rom a Total Resource Cost perspective, solar net metered projects have the potential to provide a net benefit to Mississippi in nearly every scenario and sensitivity analyzed.”³³ The Commission warned, however, that “[t]hese benefits will only be realized if customers invest in distributed generation resources. This may never happen if net metering participants are not expected to receive a reasonable rate of return on investment.”³⁴

As discussed in detail below, rate designs that include demand charges like those proposed by OG&E are precisely the sort of policies that keep DG customers from realizing a reasonable rate of return and providing a benefit to the state. OG&E refuses to even consider the

³¹ U.S. Environmental Protection Agency, *Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (May 2013, Revised July 2015), available at <http://www3.epa.gov/climatechange/EPAactivities/economics/scc.html>

³² Hallock & Sargent, p. 6.

³³ Elizabeth A. Stanton et al., Public Service Commission of Mississippi, *Net Metering in Mississippi: Costs, Benefits, and Policy Considerations*, p. 49 (2014).

³⁴ *Id.*

benefits of solar and DG in any meaningful way, however, before imposing charges that could wipe out the industry altogether.

B. OG&E's cost calculations are based on outdated information and are not specific to DG customers.

In order to demonstrate that DG warrants separate rate classes, the utility must show the DG customers cause the utility to incur different costs to serve than do non-DG customers. OG&E has not made this showing here. OG&E relies on an outdated cost of service study as the basis for its proposed charges. A cost of service study is the tool used by electricity utilities to determine costs associated with serving each rate class of customers, which allows them to impose fair rates accordingly. OG&E has stated that it plans to update its cost of service study in the near future for an upcoming rate case.³⁵ In its present application, however, the utility proposes to create a new rate class with additional charges for DG customers without first determining the cost of serving those customers through an updated study. OG&E relies on a study conducted in 2010, which not only fails to reflect current costs, but is especially lacking with respect to DG customers.³⁶ At the time of that study, there were only 33 DG customers in OG&E's territory as compared to the 245 in its territory today.³⁷ OG&E has not conducted any analysis of the costs of serving DG customers, nor has it provided evidence that those costs are different from serving non-DG customers.

³⁵ Response to The Alliance for Solar Choice Data Request TASC-1, 1-7.

³⁶ See Direct Testimony of Greg Veitch, 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 20110087 (2011).

³⁷ Response to The Alliance for Solar Choice Data Request TASC-1, 1-7.

Without an up-to-date study that examines the cost to serve DG customers, OG&E cannot show that a subsidy exists, and so has not met its burden of proving that its proposed tariffs are justified.

V. Demand charges are not rationally related to correcting a subsidy or to its cost of providing service to DG customers.

The utility also fails to show how its proposed tariffs are rationally related to correcting a subsidy from non-DG customers to DG customers. As explained above, OG&E has proposed to impose both a demand charge and an increased fixed charge on DG customers. OG&E claims that its proposed tariffs “eliminate subsidies by collecting the functional costs through the proper billing determinants: customer related costs are collected through the fixed monthly connection charge; transmission and distribution costs are collected through the demand based demand charge; supply costs are collected through the time-differentiated energy charge.”³⁸ However, OG&E has failed to justify how its proposed demand charge and increased fixed charge correspond to addressing a cross-subsidy. First, OG&E does not explain how its demand charge accurately reflects the cost of DG to OG&E’s system. OG&E also fails to explain how the costs on which the tariffs are based are specific to DG customers. Furthermore, the tariff could require DG customers to pay more than other residential customers despite using less energy, an irrational result that this Commission has a policy interest in preventing. Finally, the proposed tariff could snuff out the residential solar market before it has gotten off the ground, contrary to Oklahoma’s all-of-the-above energy mandate.

A. OG&E’s Request to Impose a Demand Charge Is Unsubstantiated and Should Be Denied.

³⁸ Direct Testimony of Roger D. Walkingstick, p. 13.

Without first showing that a subsidy exists or explaining how demand charges are specifically related to the cost of serving DG customers, OG&E proposes to impose a \$2.68/kW charge for those customers' highest 15 minutes of energy usage each month. This charge, along with the increased customer charge proposed, will result in DG customers paying hundreds of dollars more than they were previously each year despite OG&E failure to support its determination that such charges are necessary or in the public interest.

1. OG&E has not adequately explained how its demand charge accurately reflects cost causation.

OG&E claims that “[d]emand costs, or transmission and distribution (“T&D”) functional costs are most appropriately recovered through a demand charge.”³⁹ A demand charge is a charge based on an individual consumer’s maximum energy demand in a set period of time. Here, OG&E proposes to charge residential customers \$2.68/kW for the customer’s peak demand in a given month, based on the customer’s highest 15-minute demand period. For example, a residential customer that requires 11 kW in a single 15-minute period would incur a \$29.48 charge that month, in addition to the fixed charge and volumetric energy rate.⁴⁰

The fundamental problem with demand charges is that a utility’s cost for meeting demand—capacity cost of generation, transmission and distribution—is tied to aggregate demand, or load, not to an individual’s non-coincident maximum demand. Demand charges impose fees on customers regardless of whether their individual peak demand coincides with system peak. As explained by the Regulatory Assistance Project (“RAP”), an independent and non-partisan organization dedicated to educating power sector decision-makers and NGOs on

³⁹ Direct Testimony of Roger D. Walkingstick, p. 16.

⁴⁰ The average monthly maximum demand for residential DG customers in 2014 was 11.1 kW. Derived from Response to The Alliance for Solar Choice Data Request TASC-1, 1-9.

utility policies, “it is generally agreed that demand or capacity-related costs, to the extent they occur on a system, are primarily associated with the system peak demand, not the individual customer peak demand.”⁴¹ Because a demand charge is based on a particular individual’s demand, demand charges “inevitably [result] in a mismatch between the costs incurred to serve the customer and the prices charged if the customer’s peak is non-coincident with the system peak.”⁴² Individual customers’ maximum demands occur at a wide variety of times, dependent on random events particular to each individual—for example, when they host a dinner party, when children come home to visit, or when returning home from vacation.

When an individual’s peak demand occurs at an off-peak time (say, in the middle of the night or at 10 a.m.), that level of demand is unrelated to the utility’s capacity costs, which are driven by the individual’s demand at peak times. On the other hand, distributed generation can actually provide a benefit to the system by exporting energy to the grid during the system peak, thereby reducing the need for more costly forms of energy or additional capacity. Annual peak demand in Oklahoma, for instance, is between 2 pm and 7 pm, hours when solar panels solar panels can often be in full use and actually reduce peak load.⁴³ The proposed demand charge would nevertheless collect additional revenue from DG customers even when their solar generation resulted in capacity benefits for OG&E.

This mismatch means that customers with the same maximum demand will pay the same

⁴¹ Jim Lazar and Wilson Gonzalez, *Smart Rate Design for a Smart Future*. Regulatory Assistance Project, (July 2015) p. 9.

⁴² *Id.*

⁴³ OGE Energy Corp., *SmartHours Price Plan*, available at https://oge.com/wps/portal/oge/save-energy/smarthours!/ut/p/a1/IZBND0NAEIZ_jasdSxvtbdtmmxaFEBHtpaHRJsILW3686VaNfc5qZPE_yziCGIsTq5FbwpC9EnZSPma1POgYTLA3bR-yrQLCtEOxjDKCNQPwMgD22xNSp420MFQ7an_7ewTsgDqXeyqWKZfzow5si8M0PEZsjCxfMgYWIE_Ahg40YL0U6_TMmdarqHLE2u2Rt1srXdlznfd90WwkkGIZB5kLwMpPPoloSctH1KhrhmioIijcKtS7O-0wCNQ!/dl5/d5/L2dBISevZ0FBIS9nQSEh/

amount in demand charges regardless of when their peak occurs, and regardless of whether it occurs at a time of high system costs, or a time of overall low demand and low system costs.⁴⁴ Basing a demand charge intended to recover peak-driven costs off a customer's non-coincident demand does not satisfy the principle of cost causation. What's more, the lack of coincidence between customer and system peak demand could lead to an outcome where a customer attempting to flatten their household load to avoid demand charges will shift some of their personal load to times of system peak, having the perverse effect of increasing utility costs and encouraging inefficient use of the distribution system.

Another adverse consequence of the proposed demand charge is that it might disincentivize energy conservation. Once a demand charge is "triggered" (by, for example, throwing a large dinner party one night, requiring the use of air conditioning, lighting, and several appliances), a consumer will have less reason to conserve energy for the remainder of the month than it would if fixed costs were included in volumetric rates.

The claim that demand charges can be used to better align rates with costs is an outdated concept in a time when smart meters are widely deployed and time-of-use rates are in place. As RAP explains, "[d]emand charges were implemented for commercial and industrial customers in an era during which sophisticated metering was prohibitively expensive," and non-coincident demand was used as a proxy measurement for contribution to peak load.⁴⁵ This work-around is

⁴⁴ This mismatch is especially problematic for residential customers, where peak demand may occur randomly and for only a few minutes, due to the inadvertent simultaneous use of many small household appliances like coffee makers and hair dryers. For this reason, a demand charge based on the highest 15 minutes of demand, as OG&E has proposed, is overly punitive and unnecessary to apply to residential customers.

⁴⁵ Lazar and Gonzalez 2015, p. 9.

not necessary today, when OG&E has invested millions of ratepayer dollars to install smart meters, and the utility can accurately assess a customer's actual consumption at peak times.

2. Customer-specific demand costs should be specifically proven before the Commission approves a demand charge purportedly based on these costs.

Individual customers' non-coincident peak demand drives a very small portion of the costs of the distribution system. According to RAP, "[t]he only distribution system component sized to individual customer demands is the final line transformer."⁴⁶ RAP estimates that the "relatively small portion of cost of service represented by the line transformer required to serve solar customers amounts to only about \$1/kW/month,"⁴⁷ which is approximately one third of the demand charge OG&E has proposed.⁴⁸ OG&E has not shown that its proposed demand charge is based on the fraction of the distribution costs that are nonpeak-related and are therefore properly recovered in a non-coincident demand charge. OG&E also provides no support for the size of this charge, and adds no documentation to the record demonstrating the amount of the utility's non-load distribution costs or customer-related distribution costs. It also presents no evidence that the proposed demand charge would recover a reasonable portion of these costs from DG customers, or whether this charge is intended simply to generate more revenue from these customers without a cost basis. Without further corroboration in the record, there is no evidence that OG&E's requested charge is reflective of true costs.

3. Residential Customers Cannot Respond Well to Demand Charges.

Demand charges are an especially ill-suited mechanism for residential customers who are poorly equipped to respond to demand charge pricing signals. While these charges have been

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ Note that Sierra Club does not advocate for \$1/kW demand charge, but is merely pointing out that OG&E's cost of service estimation appears overstated.

widely used in commercial rates, commercial and residential customers are not similar in terms of their load shapes or load factors, their understanding of utility use and rate structure, or in terms of the availability and cost-effectiveness of available load-management equipment.

There is significant potential for customer confusion as a result of implementation of a demand charge. To our knowledge, OG&E has made no effort to educate residential customers as to what their maximum demand is, conceptually how kilowatts of demand are different from kilowatt hours of energy, how to monitor it, and how a demand charge works. There is currently no widely-available technology that would allow residential customers to monitor their demand on an instantaneous basis.⁴⁹ Furthermore, OG&E has no specific plan in place for how to effectively educate DG customers about the proposed tariff, but merely hold that “education will be administered by the marketing department” and that “material will be developed and disseminated after the tariffs are finalized.”⁵⁰ While customers could theoretically respond to demand charges (unlike fixed charges), because most customers are unfamiliar with the concept and do not have any type of automated demand management technology, the practicable size of the response is unknown.

The proposed demand charge could have substantial, unreasonable bill impacts on customers who are unable to flatten demand, leading to high fees that are not related to the utility’s costs to serve. First, some level of overlapping appliance usage is simply unavoidable. For example, it is not difficult to imagine a scenario where one member of the household is using the oven to make dinner while running the dishwasher, while another takes a hot shower, when

⁴⁹ OG&E customers may access their energy consumption information online, but even those customers who partake in the company’s “Smart Hours” program experience a 15 minute delay in their ability to see usage. Other customers can expect a delay of four hours. Response to The Alliance for Solar Choice Data Request TASC-2, 2-3(e).

⁵⁰ Response to Oklahoma Corporation Commission Data Request KJC-1, 1-5.

suddenly the air conditioning kicks on. The customer is slapped with a demand charge for the entire month at a moment in which she is unable to respond or even notice. Especially given the extremely brief 15-minute interval on which this demand charge is to be based, it is highly unrealistic to expect that DG customers will be able to monitor their energy consumption diligently enough to properly respond to the supposed price signals.

4. The proposed tariff could result in DG customers paying more than other residential customers despite using less energy on average.

According to OG&E, the average annual consumption for a residential customer in 2014 was 13,577 kWh while the average annual consumption for a residential DG customer was only 13,204 kWh.⁵¹ As one might expect, DG customers paid slightly less annually, corresponding with their consumption; residential DG customers paid an average of \$1,282.96 in 2014, while other residential paid an average of \$1,320.22.⁵² Had the proposed tariff been in place in 2014, however, residential DG customers would have paid an average of \$357.51 in additional demand charges plus an additional \$60.00 in higher customer charges, for a total of an additional \$417.51 on average.⁵³ This represents an average annual bill increase of over 32% in 2014. Even more concerning, had this tariff been in place, residential DG customers would have paid an annual average of 29% more than non-DG customers despite using less energy annually on average.

⁵¹ Derived from Response to The Alliance for Solar Choice Data Request TASC-1, 1-9.

⁵² *Id.*

⁵³ *Id.* This calculation was derived from OG&E's calculation of average monthly energy consumption and payments among DG and non-DG residential customers. OG&E's calculation included both total average monthly consumption and average maximum demand for each group. These monthly figures were added together to reach annual averages for average overall consumption and average bill (average amount paid all year in 2014). The monthly average maximum kW demand per DG residential customer figures were added together and multiplied by \$2.68 to estimate the average additional annual amount to be paid with the implementation of a demand charge ($133.4 \times \$2.68 = \375.51). An additional payment of \$5.00 per month (or \$60.00 annually) was added to this figure to represent the proposed increase in the fixed customer charge.

Thus OG&E's proposed tariff could actually result in a subsidization of DG customers by non-DG customers. This result is entirely irrational.

5. The proposed demand charge could have disastrous effects on the solar market in Oklahoma.

Governor Fallin specifically emphasizes the importance of solar and wind energy in Oklahoma power generation and the need to protect future DG customers in her executive order addressing S.B. 1456.⁵⁴ However, OG&E's proposed tariff could cripple the solar industry in the state. Punitive rate structures for DG customers, such as the one proposed by OG&E, strip those customers of their return on investment and have been shown to decimate markets where implemented.

First, OG&E apparently has not analyzed how its proposed tariffs would impact the economics of installing solar. Given the size of the proposed demand charge and fixed charge increase, the tariffs could substantially prolong the payback period required to recover the cost of installing residential DG, thereby rendering such investments uneconomical.

Second, OG&E does not appear to have examined how its proposed demand charge would impact potential DG customers' ability to reasonably predict the savings they would achieve from installing DG. Before imposing demand charges, it is essential to understand the extent to which a customer's demand fluctuates from month to month, and the predictability of those demand fluctuations. Common sense suggests that an inability to accurately calculate potential savings will deter customers from installing distributed generation. Indeed, following

⁵⁴ Exec. Order 2014-07.

the imposition of demand charges on DG customers in Arizona, for example, one solar provider saw a 96% reduction in new rooftop solar applications.⁵⁵

B. OG&E Has Not Justified Its Proposed Fixed Charge Increase.

High fixed charges, such as the increased customer charge proposed by OG&E, are also a characteristic of poor rate design. High fixed charges are inconsistent with grid modernization and with customers' rights to make their own energy choices. OG&E has proposed to increase the fixed charge for residential DG customers by nearly 40%, and for commercial customers by over 40%.

1. Fixed Charges Only Penalize DG, and Do Not Incentivize Grid Integration.

As a general principle, rates should be based on the cost of providing service. With respect to fixed customer charges, they should be tied to fixed costs imposed upon the utility. For residential customers, fixed costs are limited to the cost of service drop, meter costs related to billing, and the cost of periodic billing. Distribution system costs, on the other hand, are not fixed. In the long run, the amount of investment required to maintain, repair, and update transmission and distribution systems is dependent upon overall usage.

Collecting these costs through fixed charges signals to customers that their demand has no effect on these costs and disincentivizes customer reduction in energy usage. An unavoidable charge, by definition, cannot be mitigated by behavior and does not incentivize conservation, load-shifting or other demand-side behaviors that would help integrate distributed generation.

⁵⁵ William Pentland, *SolarCity Sues Arizona Utility For Antitrust Violations*, Forbes (Mar. 3, 2015), <http://www.forbes.com/sites/williampentland/2015/03/03/solarcity-sues-arizona-utility-for-antitrust-violations/>.

2. Cost Recovery Would Better Be Addressed Through a Minimum Bill Requirement.

Based on the evidence OG&E submitted in this proceeding, the average DG customer uses only very slightly less electricity than the average customer without DG.⁵⁶ It seems likely that both these groups of average customers are sufficiently covering the costs of staying connected to the system through their volumetric rates. If any of OG&E's DG customers are very low or near zero—something OG&E has not shown—a minimum bill may offer a better way of ensuring these customers pay enough to cover the cost of connecting to the system.

VI. Conclusion

OG&E's claim that a subsidy exists for DG customers is unsupported by evidence, and its tariff proposal is irrational and discriminatory. If adopted, the proposed tariff could cost DG customers hundreds of dollars each year and destroy the rooftop solar market in OG&E's service area. OG&E fails to meet its statutory burden of showing that such measures are necessary to correct cross-subsidization among customers. For these and the aforementioned reasons, OG&E's application should be denied.

⁵⁶ Derived from Response to The Alliance for Solar Choice Data Request TASC-1, 1-9.

DATED this the 6th of November, 2015.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

On this 6th day of November, 2015, the undersigned caused a true and correct copy of the above and foregoing document to be transmitted to the following:

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