BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR AN ORDER OF THE COMMISSION APPROVING A RECOVERY MECHANISM FOR EXPENDITURES RELATED TO THE OKLAHOMA GRID ENHANCEMENT PLAN	)))))))	CAUSE NO. PUD 202000021

RESPONSIVE TESTIMONY OF TODD F. BOHRMANN
ON BEHALF OF
MIKE HUNTER, OKLAHOMA ATTORNEY GENERAL

Mike Hunter, the Attorney General of Oklahoma, on behalf of the utility customers of this State, hereby submits the Responsive Testimony of Todd F. Bohrmann in the proceeding referenced above. The Attorney General urges close consideration of the testimony.

Respectfully submitted,

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CERTIFICATE OF SERVICE

On this 25th day of August, 2020, a true and correct copy of the *Responsive Testimony of Todd F. Bohrmann on Behalf of Mike Hunter, Oklahoma Attorney General* was sent via electronic mail to the following interested parties:

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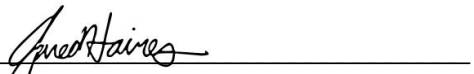

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RESPONSIVE TESTIMONY

OF

TODD F. BOHRMANN

ON BEHALF OF

MIKE HUNTER,

OKLAHOMA ATTORNEY GENERAL

August 25, 2020

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I. Introduction

Q. PLEASE STATE YOUR NAME.

A. My name is Todd F. Bohrmann.

Q. PLEASE IDENTIFY YOUR EMPLOYER AND YOUR BUSINESS ADDRESS.

A. I am employed by the Oklahoma Office of the Attorney General ("Attorney General"). My business address is 313 NE 21st Street, Oklahoma City, Oklahoma 73105.

Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. I graduated from the University of Central Florida in Orlando, Florida, with a Bachelor of Arts degree in Economics with honors and a Master of Business Administration degree. I was on the staff of the Florida Public Service Commission in several analyst positions from 1994 to 2006. I worked as an independent consultant on various utility regulatory matters from 2006 to 2008. I was employed at CSX Transportation as an economist from 2006 to 2016. I was employed by Acadian Consulting Group as an analyst from 2016 to 2017. I have been employed by the Attorney General since 2017 as a regulatory analyst in the Utility Regulation Unit. I have attached my curriculum vita as Exhibit TFB-1.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THE OKLAHOMA CORPORATION COMMISSION?

A. Yes, I have. I filed responsive testimony on behalf of the Attorney General in prior proceedings before the Oklahoma Corporation Commission ("Commission") as detailed in Exhibit TFB-1. My credentials have previously been accepted.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CAUSE?

A. The purpose of my testimony is to recommend on behalf of the Attorney General that the Commission reject the request of Oklahoma Gas and Electric Company ("OGE" or

"Company") to create a new rider called the Oklahoma Grid Enhancement Cost Recovery Mechanism ("Grid Enhancement Mechanism" or "Rider") to support OGE's grid modernization program, the Oklahoma Grid Enhancement Plan ("OGE Plan"). The following reasons support my recommendation:

1. While the Attorney General supports efforts to improve and modernize the electric grid, OGE has not provided sufficient evidence that the OGE Plan will achieve its grid modernization objectives at the lowest reasonable cost. OGE's cost-benefit models do not contain investment-by-investment estimates of benefits; they do not include fully allocated revenue requirement models to estimate customer costs; and they suffer from other material flaws. The models will not reliably identify beneficial projects with the best characteristics for customers.
2. OGE has not provided sufficient support for its proposed Rider since its application does not consider how the Company's revenue and expenses have changed since its last rate case, and regulatory lag remains an effective means to encourage further cost discipline.
4. OGE's requested relief does not place sufficient checks and balances on the Company during the recovery period.
5. The OGE Plan does not adequately distinguish between routine replacement of distribution assets and grid modernization.
6. The weighted average cost of capital proposed by OGE for the Rider is not a fair, just, and reasonable return on investment under the Rider due to its lower risk.

Q. ARE THERE OTHER EXPERT WITNESSES APPEARING ON BEHALF OF THE ATTORNEY GENERAL?

A. Yes. James B. Alexander will testify on the existing reliability of OGE's distribution system and the impact of the OGE Plan on that system. Also, Brice D. Betchan will testify on OGE's calculated revenue requirement and its avoided cost analysis for the OGE Plan.

II. Background

Q. PLEASE DESCRIBE OGE'S RETAIL SERVICE AREA.

A. In 2019, OGE provided retail electric service in Oklahoma to approximately 787,000 customers with approximately 85 percent of these customers classified as residential.[1] OGE serves central Oklahoma to its northern and southern borders with Kansas and Texas as well as portions of eastern and western Oklahoma. Approximately 70 percent of its customer base in the metropolitan Oklahoma City and Enid areas. Its distribution system consists of 350 substations and 55,000 circuit miles in Oklahoma.[2]

Q. WHAT IS GRID MODERNIZATION?

A. Grid modernization[3] is a term of art that lacks a universally accepted definition. I have reviewed sources that define the phrase broadly to refer to actions that make the electric system more resilient, responsive, and interactive. The Company characterizes its grid modernization program as a "five-year asset deployment program comprised of strategic,

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[1] This information was developed from data reported on EIA Form 861.
[2] Direct Test. of Zachary Gladhill on behalf of Oklahoma Gas and Electric Company 5:14–20 (Feb. 24, 2020) [hereinafter "Gladhill Direct"].
[3] Although OGE labels its series of actions over the next five years detailed in its pre-filed direct testimony in this Cause as its "Grid Enhancement Plan," the phrase "grid modernization" is an accurate description of these planned actions. The Company presented its "OG&E Grid Modernization Overview" at a November 2019 Commission meeting which closely resembles the OGE Plan described in testimony. *See* OGE Response to AG-OGE-2-1.

data driven investments that will modernize and optimize [its] system and provide benefits to customers almost immediately and for years to come."[4]

Q. PLEASE SUMMARIZE THE COMPANY'S PROPOSED GRID MODERNIZATION PROGRAM.

A. OGE indicates that its proposed five-year grid modernization program would include the following components: (1) upgrade and replace aging equipment, hardware, and other assets; and (2) install new technology, equipment, and communication systems. The OGE Plan, through these capital projects, would allegedly promote the following objectives: (1) improved reliability; (2) greater resiliency; (3) enhanced flexibility; (4) increased efficiency; (5) greater affordability; and (6) enhanced customer benefits.[5] The Company anticipates capital expenditures of $810.2 million through 2024.[6]

Q. WHAT RELIEF IS THE COMPANY REQUESTING FROM THE COMMISSION IN THIS CAUSE?

A. The Company requests approval of cost recovery outside of base rates for a five-year deployment of grid modernization investments through the Rider. The Rider allows OGE to begin recovery of the revenue requirement associated with return on, and of, these capital investments as well as ad valorem taxes. For the purpose of calculating a return on investment recovered through the Rider, the Company would use its current rate of return on common equity ("ROE") of 9.50 percent.[7] These costs would be collected on an interim

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[4] Gladhill Direct 10:15–17.
[5] Gladhill Direct 10:14–11:15.
[6] Errata Filing of the Direct Test. of Zachary Gladhill 14, Table 1 (Apr. 24, 2020) [hereinafter "Gladhill Errata"].
[7] *See* Final Order, Order No. 702,531, at 6 & Attachment 1, at 15, *Okla. Gas & Elec. Co. Rates & Charges for Elec. Serv.*, No. PUD 201800140 (Okla. Corp. Comm'n 2019).

basis, subject to refund, until a prudence review is conducted in a subsequent base rate case.[8] As shown in Attorney General's expert witness Mr. Betchan's responsive testimony, OGE is requesting to recover approximately $297.6 million through 2025 related to the OGE Plan.[9]

Q. PLEASE DESCRIBE THE PROCESS OGE USED TO DEVELOP ITS PLAN RELATIVE TO THE COMMISSION AND STAKEHOLDERS

A. The Company developed the OGE Plan internally without input or feedback from any customer interest or other stakeholders.[10]

Q. DID THE COMPANY INFORM THE COMMISSION OR ANY STAKEHOLDERS PRIOR TO FILING FOR ITS REQUESTED RELIEF?

A. Yes. For example, on November 14, 2019, the Company provided a preliminary summary of its anticipated grid modernization proposal to the Commission. The presentation largely focused on the Company's prior grid modernization actions in Oklahoma and Arkansas.

Q. HOW ARE OPERATIONS AND MAINTENANCE EXPENSES ASSOCIATED WITH THESE CAPITAL EXPENDITURES TREATED WITHIN THE RIDER?

A. The Company has agreed not to seek recovery of any operations and maintenance ("O&M") expenses associated with these capital expenditures through the Rider.[11] Likewise, the Company would retain the O&M savings that result from these capital

[8] Direct Test. of Donald Rowlett on behalf of Oklahoma Gas and Electric Company 5:9–15 (Feb. 24, 2020) [hereinafter "Rowlett Direct"].
[9] Responsive Test. of Brice D. Betchan on Behalf of Mike Hunter, Oklahoma Attorney General 9, Table 1 (Aug. 25, 2020). Note that this estimate assumes the rider continues for just five years; it is, however, possible that OGE could move a portion of the recovery to base rates before the end of five years, and it is also possible that OGE would request that the rider continue after five years.
[10] OGE's Response to AG-OGE-2-1.
[11] Rowlett Direct 5:12–13.

expenditures until its next base rate case. For the thirty capital projects expected to be completed in 2020, OGE anticipates over $10.5 million in annual O&M savings.[12]

Q. HOW FREQUENTLY DOES THE COMPANY ANTICIPATE UPDATING ITS OGE PLAN?

A. Each July, the Company will submit to the Commission its Annual Investment Plan which will identify high priority projects for the following calendar year. The Annual Investment Plan will include the following updated assumptions: 1) expected costs and benefits; 2) system characteristics and asset conditions; 3) technology trends; 4) customer trends including distributed energy resource participation levels and electric vehicle adoption trends; and 5) future emerging system requirements. OGE anticipates that this recalibration will minimize the risks associated with its grid modernization projects.[13]

Q. WILL THE COMPANY USE ANY GUIDING PRINCIPLES TO SELECT PROJECTS TO BE INCLUDED IN ITS ANNUAL INVESTMENT PLANS?

A. Yes. In its initial planning stage each year, OGE will use guiding principles to select projects to be included in its Annual Investment Plan. For 2020 only, the Company would include projects that meet the following guiding principles: (1) a positive net present value[14] ("NPV"), excluding the imputed behind-the-meter reliability benefits; (2) proven

[12] OGE Supp. Response to AG-OGE-3-23.
[13] Direct Test. of Kandice Smith on behalf of Oklahoma Gas and Electric Company 6:9–17 (Feb. 24, 2020) [hereinafter "Smith Direct"].
[14] A net present value or "NPV" is a financial decision-making tool that compares the costs and benefits of a project over time using an appropriate discount rate against future amounts. In a well-constructed NPV analysis, projects with a positive NPV greater than zero are beneficial or worthwhile.

reliability or resiliency benefits; and (3) guaranteed flexibility or efficiency benefits.[15] However, OGE would not commit to these principles for the remaining four years.[16]

Q. PLEASE SUMMARIZE HOW THE COMPANY PROPOSES TO RECEIVE COST RECOVERY FOR INDIVIDUAL CAPITAL PROJECTS.

A. On a quarterly basis, OGE would submit a series of capital projects to the Public Utility Division ("PUD") to be included in the Rider after the Company has placed the project into commercial service and the project is providing benefits to customers. OGE indicates that these submissions would include sufficient documentation to support each project.[17] On an annual basis, the Company would compare actual costs with revenues received under the Rider. If revenues exceed the recoverable costs for a given year, the difference would be recorded as a regulatory liability. If revenues fall short of recoverable costs for a given year, the difference would be recorded as a regulatory asset. These over-recoveries would be credited and these under-recoveries would be charged to ratepayers through the true-up process.

Q. WHEN WOULD THE CAPITAL PROJECTS BE SUBJECT TO A PRUDENCE REVIEW?

A. These capital projects would be subject to a prudence review in a subsequent base rate case. If the Commission determined that a capital project was ultimately not prudent, then the Company would refund the previously recovered costs associated with the project to its customers through the Rider's true-up provision.[18]

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[15] Smith Direct 9:10–15.
[16] OGE's Response to AG-OGE-3-22.
[17] Rowlett Direct 6:2–5.
[18] Rowlett Direct 5:20–28.

Q. THE COMPANY INDICATES THAT THE OGE PLAN WOULD HELP OGE BETTER COMPLY WITH THE COMMISSION'S RULES REGARDING MINIMUM STANDARDS FOR RELIABLE SERVICE.[19] HOW DO YOU RESPOND?

A. The Commission has established rules that require electric utilities to meet certain minimal reliability standards. First, the system average duration and frequency of an electric utility's outages must be less than or equal to their respective mean values for the period 2002 to 2015.[20] Second, each utility must establish reliability programs that include inspection, maintenance, repair and replacement standards.[21] Third, each electric utility must identify and analyze its worst-performing circuits.[22] If Rider funding is needed to comply with these and other Commission rules, then the Company's ability to provide safe and reliable electric service at the lowest reasonable cost has broken down. OGE should comply with the minimum standards associated with Commission rules through base rate revenue.

Q. PLEASE SUMMARIZE OGE'S PRIOR GRID MODERNIZATION ACTIONS.

A. As a recipient of a $130 million grant from the U.S. Department of Energy ("DOE") to stimulate investment in smart grid technology, OGE has been an industry leader in updating its distribution system to create greater value for itself and its customers for over ten years. Leveraging this DOE grant and concurrent with implementing its strategy of deferring incremental fossil fuel-based generation until after 2020, the Company updated its distribution system primarily through advanced meter infrastructure ("AMI") and

[19] Rowlett Direct 14:1–10.
[20] OAC 165:35-25-18.
[21] OAC 165:35-25-14.
[22] OAC 165:35-25-19.

distribution automation technology. The Commission authorized recovery of these investments, net of the DOE grant, through the Smart Grid Recovery Rider.[23] Earlier, the Commission authorized recovery of $35.3 million in capital expenditures through a rider for circuit hardening, aggressive vegetation management, and pilot programs to install breakaway connectors between poles and customers' service equipment and to underground certain customer service drops.[24] Since 2013, the Company has made additional investments in technology to leverage the capabilities of AMI.[25]

Q. WHAT HAS BEEN THE PRIMARY RESULT OF THESE EARLIER INVESTMENTS IN GRID MODERNIZATION?

A. The installation of AMI technology throughout the Company's distribution system has transformed the service relationship between OGE and its customers. As demonstrated in Exhibit TFB-2, OGE is one of only 12 large investor-owned utilities nationwide to achieve universal market penetration of its AMI technology.[26] This AMI technology allows each customer to continually monitor electric usage and participate in time-based rates and demand response programs. From the Company's perspective, greater customer use of time-based rates and demand response programs has allowed OGE to defer incremental capacity resources. In addition, OGE no longer needs an army of meter readers to manually read customers' meters on a monthly basis.

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[23] Final Order Approving Joint Stipulation and Settlement Agreement, Order No. 576,595, *Okla. Gas & Elec. Co. Smart Grid Tech. & Rider*, No. PUD 201000029 (Okla. Corp. Comm'n July 1, 2010).
[24] Final Order Approving Joint Stipulation and Settlement Agreement, Order No. 567,670, *Okla. Gas & Elec. Co. System Hardening Program*, No. PUD 200800387 (Okla. Corp. Comm'n May 13, 2009).
[25] OGE's Response to AG-OGE-2-1.
[26] This analysis excluded investor-owned utilities with less than 100,000 total customers.

Q. HOW DOES OKLAHOMA COMPARE AMONG THE STATES IN MARKET SHARE PENETRATION FOR AMI TECHNOLOGY?

A. As indicated in Exhibit TFB-3, Oklahoma ranks 19th among the 50 states and the District of Columbia in 2018 with 94.6 percent of all meters using AMI technology. Nationwide, meters with AMI technology comprise 83.1 percent of all meters.

Q. DO THE COMPANY'S PRIOR GRID MODERNIZATION ACTIONS OVER THE PAST TEN YEARS IMPLY THAT OGE IS AT AN EARLY STAGE OF GRID MODERNIZATION?

A. No, contrary to the representations of OGE.[27] Customers have paid through base rates and rider mechanisms hundreds of millions of dollars over the past ten years to enhance the electric grid's reliability and resiliency. To imply that the Company is a newcomer to grid modernization activities is not consistent with its prior and expected actions.

Q. WHEN EVALUATING THE OGE PLAN AND ASSOCIATED RIDER, WHAT DID THE ATTORNEY GENERAL'S EXPERTS REVIEW?

A. Generally, the overall requested relief in this case is the Rider, which is intended to support OGE's selected grid modernization investments. Given that, the Attorney General's experts reviewed whether OGE's process for identifying beneficial investments was reasonable and reliable to support the Rider. Further, the Attorney General's experts reviewed the need for the Rider to support OGE's planned investments. Lastly, the team evaluated the characteristics of the Rider itself, as proposed by OGE.

[27] Gladhill Direct Ex. ZG-1, at 10.

III. Lack of Benefits

Q. DID OGE PRESENT ANY INFORMATION OR STUDIES EVALUATING WHETHER THE OGE PLAN PROVIDES BENEFITS FOR ITS CUSTOMERS?

A. Yes. After a thorough review of OGE's testimony and discovery responses, the logic and reasoning behind the Company's avoided cost model and imputed behind-the-meter reliability benefit model are discernible. However, neither Mr. Betchan nor I believe that OGE can choose the projects, and combinations thereof, that would maximize the customers' benefits based on these models' output. In addition, the Company did not consider whether its grid modernization objectives could be achieved with varying combinations of capital and O&M expenses. Finally, these studies were not sufficient to provide the Attorney General with confidence that the Company's grid modernization objectives are being achieved at the lowest reasonable cost.

Q. HOW DID THE ATTORNEY GENERAL'S EXPERTS EVALUATE OGE'S AVOIDED COST STUDY?

A. The Attorney General's expert witness Brice D. Betchan reviewed the avoided cost-of-service model and found multiple deficiencies. First, Mr. Betchan had difficulty reviewing the actual calculations since OGE prepared them in specialized software called SAS Visual Analytics, to which Mr. Betchan and the Attorney General's Office do not have access. After multiple discovery requests and review, OGE's calculations were able to be replicated and understood. However, as he describes further in his testimony, Mr. Betchan believes that the projects identified in the Company's 2020 Plan are not mutually beneficial to OGE and its customers. Second, Mr. Betchan determined that the Company did no analysis to determine whether these grid modernization objectives could be achieved with

a mix of capital and ongoing expenses such as operations and maintenance expenses. In other words, the Company only evaluated options where the cost arises from capital expenditures.[28] Third, OGE did not model the OGE Plan's costs as a revenue requirement actually experienced by customers; instead, it used an internal business cash flow model that does not include the full revenue requirement customers pay. Fourth, OGE's avoided cost analysis did not consider variability in inputs, meaning cost overruns and other risk factors were not addressed. Finally, OGE failed to provide detailed calculations on an investment-by-investment basis and did not even provide detailed investments for a substantial portion of the OGE Plan. Please review Mr. Betchan's testimony for further details.

Q. DID THE ATTORNEY GENERAL'S EXPERTS EVALUATE THE SPECIFIC TECHNOLOGIES AND INVESTMENTS PROPOSED BY OGE?

A. Yes. The Attorney General's expert witness James B. Alexander reviewed the specific technologies proposed by OGE and determined that some appear to be industry-standard, normal distribution investments, while others are new technologies. However, Mr. Alexander was hindered in his review by the lack of project-by-project and technology-by-technology cost-benefit analysis. Further, Mr. Alexander reviewed the cost savings estimates OGE believed would be provided by its selected projects and found that they were significantly overstated, particularly with regard to storm costs. Mr. Alexander's

[28] As mentioned above, the Rider would not include any O&M expenses, nor would it share O&M savings with customers. Since the OGE Plan does not include projects intended to incur new O&M expenses, the lack of O&M recovery in the Rider has limited value for customers.

findings cast additional doubt on OGE's avoided cost model beyond the information identified by Mr. Betchan. Please review Mr. Alexander's testimony for additional details.

Q. COULD YOU IDENTIFY ANY OTHER BENEFITS PRESENTED BY OGE?

A. Yes. OGE has also presented "avoided economic harm" benefits that describe customers' willingness to pay for more reliable electric service. The Attorney General believes these imputed behind-the-meter reliability benefits would be more accurately described as "imputed reliability benefits."

Q. WHAT DOES THE PHRASE "IMPUTED RELIABILITY BENEFIT" MEAN?

A. A reliable electricity supply is vital to power households and businesses. In households, the temporary loss of electricity can lead to life-endangering conditions, reduced value of leisure time, spoiled perishable goods, reduced quality of life, and an unexpected and unwanted diversion from routine. For businesses, the loss of power can lead to missed transactions, idle workers, damaged equipment, additional labor costs after restoration of service, and spoiled or damaged product. An imputed reliability benefit calculation estimates the monetary value that customers would be willing to pay to avoid an electric outage.

Q. WHAT IS THE PRIMARY DIFFERENCE BETWEEN IMPUTED RELIABILITY BENEFITS AND AVOIDED COST BENEFITS?

A. The Company calculated the costs that OGE would avoid incurring if the OGE Plan were implemented. These avoided costs would take place on the utility's side of the meter. Imputed reliability benefits estimates the monetary value that customers would be willing to pay for the enhanced reliability and resiliency from the OGE Plan's improvements. The imputed reliability benefits would take place on the customer's side of the meter.

Q. HOW DID THE ATTORNEY GENERAL'S EXPERTS EVALUATE THE IMPUTED RELIABILITY BENEFITS ESTIMATED BY OGE?

A. As I further explain below, I was able to replicate the results that estimated the imputed behind-the-meter reliability benefits for the 2020 projects of the OGE Plan. However, OGE did not calculate the imputed reliability benefits that customers would perceive by the major components of the OGE Plan, nor by individual project or technology. In addition, OGE did not calculate the imputed reliability benefits for each circuit based on the actual customer type composition served by that circuit.

Q. IS IT POSSIBLE TO PLACE A VALUE ON THE ELECTRIC UTILITY SERVICE INTERRUPTIONS EXPERIENCED BY CUSTOMERS?

A. Yes. DOE has developed a model to estimate the value of service reliability for U.S. electricity consumers. The data that DOE incorporates into its model is from surveys by eight different utility companies between 1989 and 2012. The model has two components. First, it calculates estimated interruption costs, including a cost per interruption event per average kilowatt (kW), per unserved kilowatt hour (kWh), and the total cost of sustained interruptions. Second, the model calculates the estimated value of reliability improvement, which provides estimates of the value associated with a specified reliability improvement. In this instance, OGE used the second component—the estimated value of reliability improvement—to estimate the monetary value to customers of its Plan.[29] The DOE model

[29] Gladhill Direct 18:4–9.

has been cited in numerous reports and publications as a reasonable method to value electricity outages.[30]

Q. ACCORDING TO THE DOE MODEL, DO CUSTOMER CLASSES VALUE SERVICE INTERRUPTIONS DIFFERENTLY?

A. Yes. From the reliability improvements that OGE has proposed, the DOE model estimates that commercial and industrial customers account for approximately 98 percent of the imputed reliability benefits. For residential customers, the DOE model assigns approximately $62 (2019$) per customer in such benefits, while small commercial and industrial customers value the higher reliability at $10,285 per customer, and large commercial and industrial customers at $59,850 per customer over the next 20 years.[31]

Q. EARLIER YOU DESCRIBED THE DIFFERENCE BETWEEN IMPUTED RELIABILITY BENEFITS AND AVOIDED COST BENEFITS. HOW DOES OGE PROPOSE TO ADDRESS THE DISTINCTION BETWEEN IMPUTED RELIABILITY AND AVOIDED COST BENEFITS?

A. As previously stated, OGE would follow guiding principles for the 2020 year that limit capital projects to those projects with positive net present value, excluding imputed behind-the-meter reliability benefits.[32] However, the Company has proposed a 10 percent weight

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[30] *See, e.g.*, Melissa Allen et al., *Assessing The Costs and Benefits of Resilience Investments: Tennessee Valley Authority Case Study*, Oak Ridge National Laboratory (2017), available at https://info.ornl.gov/sites/publications/Files/Pub72433.pdf; M. Kintner-Meyer et al., *Valuation of Electric Power Systems Services and Technologies*, Pacific Northwest National Laboratory (2016), available at https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-25633.pdf; Travis Simpkins et al., *Optimal Sizing of A Solar-Plus-Storage System For Utility Bill Savings and Resiliency Benefits*, National Renewable Energy Laboratories (2016), available at https://www.nrel.gov/docs /fy17osti/66088.pdf.

[31] OGE's Response to AG-OGE-3-8.

[32] Smith Direct 9:10–15.

for the estimated imputed behind-the-meter reliability benefits for projects under consideration for its 2021 Investment Plan.[33]

Q. DO YOU ANTICIPATE THAT OGE'S PROPOSED 10 PERCENT WEIGHT FOR THE IMPUTED RELIABILITY BENEFIT FOR ITS 2021 PROJECTS, IF APPROVED, WOULD REMAIN STATIC FOR THE REMAINDER OF THE FIVE-YEAR GRID MODERNIZATION PROGRAM?

A. No. At this time, the guiding principles for its 2021 Investment Plan, including the 10 percent weighting for imputed behind-the-meter reliability benefits, are valid for 2021 only.[34] I surmise that OGE may seek to increase the weighting of such estimated benefits to justify projects in subsequent years that otherwise would not be cost-effective.

Q. HAVE YOU BEEN ABLE TO REVIEW AND REPLICATE OGE'S APPLICATION OF THE DOE MODEL?

A. Yes. With the data inputs used to estimate the imputed reliability benefits if OGE had upgraded all of its circuits, I was able to replicate with the DOE model the Company's estimate of $1.9 billion in imputed behind-the-meter reliability benefits. Then, I confirmed that the Company allocated these benefits for each circuit proportional with the three-year average for sustained incidents and outages for OGE. However, as I describe below, the Company's allocation method is not a reasonable mechanism to estimate imputed reliability benefits.

[33] Supp. Direct Test. of Kandice Smith on behalf of Oklahoma Gas and Electric Company 3:1–3 (July 31, 2020) [hereinafter "Smith Supp."].
[34] Smith Supp. 2:20–3:3.

Q. PLEASE DESCRIBE YOUR CONCERNS WITH OGE'S APPLICATION OF THE DOE MODEL.

A. First, OGE is using the DOE model to initially identify the total opportunity if all Oklahoma customers' circuits were enhanced.[35] OGE then allocated the ICE calculator's total opportunity to the volume of circuits estimated to be improved with the 5-year OGE Plan to get $1,400,000,000 of estimated imputed behind-the-meter reliability benefits.[36] However, the Company has presented its OGE Plan as an all-or-nothing approach with no opportunity to determine which projects, or combinations thereof, maximize customer benefits at the lowest reasonable cost. Thus, at a high level, there is no ability to review the imputed reliability benefits of any particular component or technology included in the OGE Plan.

Q. WHAT STEPS DID YOU TAKE TO DETERMINE WHETHER DOE'S MODEL WAS RELIABLE?

A. On a circuit-by-circuit basis, I estimated the imputed behind-the-meter reliability benefits for each project identified within the Company's 2020 Investment Plan. Using the same global assumptions used by OGE,[37] I inputted the number of residential and non-residential customers as well as SAIDI[38] and SAIFI[39] values before improvements for each circuit.

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[35] OGE's Response to AG-OGE-7-20.
[36] *Id.*
[37] OGE's Response to AG-OGE-3-8.
[38] In this context, the acronym "SAIDI" refers to the System Average Interruption Duration Index, which represents the duration of all interruptions that a customer experienced during a specific time interval, generally a year. A higher SAIDI value represents a utility system that is prone to experience a longer loss, regardless of the frequency, of electric service during the time interval.
[39] In this context, the acronym "SAIFI" refers to the System Average Interruption Frequency Index, which represents the frequency of interruptions that a customer experienced during a specific time, generally a

My analysis estimated that OGE's customers could expect, in aggregate, benefits from the imputed reliability for some circuits more than twice the value that the Company had estimated.

Q, WHAT DID YOU CONCLUDE FROM YOUR REVIEW ON A CIRCUIT-BY-CIRCUIT BASIS?

A. I found that OGE's allocation method suffered from two primary flaws: 1) it does not rely on the actual composition of customer types on a specific circuit; and 2) circuits with higher initial SAIDI values produce large benefit estimates. As I stated earlier, the DOE model assumes that commercial and industrial customers place a higher value on avoiding service interruptions compared with residential customers. Therefore, a circuit that has a smaller proportion of residential customers compared with the Company's Oklahoma jurisdiction would estimate benefits at a higher level than under OGE's allocation method. Also, the higher the initial SAIDI value is for a specific circuit, the higher the DOE model estimates the benefits would result from the improvements. Imputed reliability benefits depend on the type of customers and past performance for each circuit, which are not reflected in OGE's allocation model. Due to these differences, OGE's allocation model would not reliably identify those projects that would maximize customers' imputed reliability benefits.

year. A higher SAIFI value represents a utility system that is prone to more frequent loss, regardless of the total duration, of electric service during the time interval.

Q. COULD YOU IDENTIFY ANY OTHER WAYS THAT CUSTOMERS WOULD BENEFIT BY EVALUATING PROJECTS MORE SPECIFICALLY?

A. Instead of its all-or-nothing approach, OGE could have provided the data necessary to evaluate the benefits by its major components on a project-by-project basis, or on a technology-by-technology basis.

Q. DID THE COMPANY CALCULATE THE IMPUTED RELIABILITY BENEFIT BY MAJOR COMPONENT OF THE OGE PLAN?

A. No. OGE did not calculate the imputed behind-the-meter reliability benefit that customers would perceive by the major components of the OGE Plan,[40] nor by individual project or technology.[41]

Q. DID THE COMPANY CALCULATE THE IMPUTED RELIABILITY BENEFIT BY CUSTOMER CLASS?

A. No. OGE did not calculate the imputed behind-the-meter reliability benefit that customers would perceive by customer class.[42]

Q. SHOULD IMPUTED RELIABILITY BENEFITS BE CONSIDERED AS PART OF THE COMPANY'S COST-EFFECTIVENESS ANALYSIS FOR FUTURE INVESTMENTS?

A. Yes. To the extent that the Company can produce replicable estimates of imputed reliability benefits by investment or technology, a portion of such benefits may be considered as part of OGE's cost-effectiveness analysis. Initially, the portion of imputed reliability benefits

[40] OGE's Response to OIEC-OGE-10-1.
[41] OGE's Response to AG-OGE-7-17.
[42] OGE's Response to OIEC-OGE-10-19.

allocated to customers in such analysis should be set low. As more knowledge and information is gained on the impact experienced by consumers, the allocated portion could rise gradually.

Q. HOW DOES OGE'S PROPOSAL INCLUDE IMPUTED RELIABILITY BENEFITS?

A. For its 2020 Investment Plan, OGE's guiding principles do not contemplate using the benefit from imputed behind-the-meter reliability to justify capital projects as cost-effective. However, as mentioned above, the Company has proposed that estimated imputed behind-the-meter reliability benefits with a 10 percent weight be considered to justify projects as cost effective under consideration for its 2021 Investment Plan.[43] Thus far, OGE has exercised sole discretion to determine the weight assigned to these imputed behind-the-meter reliability benefits from these projects. Instead, the Commission should determine whether and how much these imputed reliability benefits should be weighted after having the benefit of stakeholder input. Further, any changes to the assigned weighting should only be made after the stakeholders and the Commission gain more knowledge and experience in the relationship between reliable electric service and customers' willingness to pay to avoid interruptions in such service.

[43] Smith Supp. 3:1–3.

Q. PLEASE SUMMARIZE THE ATTORNEY GENERAL'S POSITION ON WHETHER OGE HAS SHOWN BENEFITS TO ITS CUSTOMERS FROM THE OGE PLAN.

A. The Company's avoided cost model and imputed reliability benefits model suffer from significant flaws and would not reliably identify grid modernization projects that provide benefits at the lowest reasonable cost. Further, the Company's all-or-nothing approach for analyzing projects contemplated by the OGE Plan does not provide the necessary detail to determine whether the benefits to customers would be provided at the lowest reasonable cost. In addition, the Company did not test whether a different mix of capital and O&M expenses could achieve the Company's objectives more efficiently.

IV. Need for Rider Relief

A. OGE has not provided sufficient evidence that it lacks financial resources to support additional grid investment.

Q. HOW WOULD OGE BE EXPECTED TO FINANCE ITS PROPOSED GRID MODERNIZATION INVESTMENTS WITHOUT THE RIDER?

A. The Company would make investments in grid modernization if such investments were the best use of OGE's finite capital resources. The Company's decisions regarding the size and timing of these investments would be tempered by regulatory lag and contingent disallowance. If the Company's base rate revenue became insufficient to produce a compensatory ROE, OGE could seek higher base rates through a rate case.

Q. IS THE RIDER STRICTLY NECESSARY FOR OGE TO MAKE THE INVESTMENTS?

A. No. The Company could choose to make the investments without the Rider and without Commission approval, then seek base rate recovery later.

Q. HOW DOES OGE EXPLAIN THE NEED FOR THE RIDER?

A. The Company has indicated that the Rider is necessary to implement OGE's five-year asset deployment plan that is focused on upgrading aging physical infrastructure while also modernizing key grid technologies, operational and communications systems, and planning tools and processes.[44] The Company has indicated that the OGE Plan would address the following reliability and resiliency challenges: 1) equipment failure due to aging infrastructure;[45] 2) rising customer expectations;[46] 3) compatibility for installation of distributed energy resources;[47] and 4) more responsive to physical and cyber threats.[48]

Q. DO YOU HAVE ANY RESPONSE TO OGE'S STATED NEED FOR A RIDER?

A. The Company's core objectives are to provide safe and reliable electric service at the lowest reasonable cost. Absent extraordinary circumstances, OGE should meet these core objectives with base rate revenues. The Company has not provided sufficient evidence to conclude that extraordinary circumstances exist that would warrant cost recovery outside of base rates.

[44] Rowlett Direct 4:2–8.
[45] Gladhill Direct 7:1–12.
[46] Gladhill Direct 8:1–12.
[47] Gladhill Direct 8:13–26.
[48] Gladhill Direct 9:1–10:2.

Q. WHAT WAS THE RESULT OF THE COMPANY'S MOST RECENT BASE RATE CASE?

A. Despite a $671 million (or 15 percent) increase in its rate base over a 12-month period, the Company enter a settlement agreement that included no change in base rate revenues.[49] The substantial increase in rate base was driven primarily by the inclusion of dry scrubbers at Sooner Units 1 and 2 and conversion of Muskogee Units 4 and 5 to burn natural gas.

Q. HOW DOES A UTILITY TYPICALLY INCREASE EARNINGS BETWEEN RATE CASES?

A. A utility can generally take two effective actions to increase earnings between rate cases. First, the utility can increase revenue through customer growth. Second, the utility can reduce expenses through operational efficiency.

Q. HOW CAN CUSTOMER GROWTH FOR THE COMPANY INCREASE EARNINGS BETWEEN RATE CASES?

A. As an industry characterized by high fixed costs, a utility's incremental revenue from each new customer is higher than the corresponding incremental cost. As the Company increases the number of its customers, OGE can spread its fixed costs over more customers. The difference between each additional customer's incremental revenue and cost thus should be reflected in earnings. As illustrated in Exhibit TFB-4, OGE's customers have increased by 1.0 percent per year since 2015. If the customer growth rate remains at this level, then OGE's customer count would have increased by 5.2 percent in five years.

[49] *See generally* Final Order, Order No. 702,531, *Okla. Gas & Elec. Co. Rates, Charges & Tariffs for Elec. Serv.*, Cause No. PUD 201800140 (Okla. Corp. Comm'n Sept. 19, 2019).

Q. HOW CAN OPERATIONAL EFFICIENCY INCREASE EARNINGS FOR OGE BETWEEN RATE CASES?

A. The Company describes itself as an efficient utility.[50] Several indicators of efficiency can be identified. Since 2015, OGE Energy has held its O&M cost increases to slightly more than inflation.[51] Moreover, according to its 2020 proxy statement, OGE's parent company reduced O&M costs by $18 million last year. To the extent that the Company can identify and implement actions that improve operational efficiency, these cost savings directly impact its earnings.

Q. HOW DO THESE OPPORTUNITIES RELATE TO THE NEED FOR A RIDER TO FINANCE GRID MODERNIZATION INVESTMENTS?

A. OGE may be able to use incremental earnings due to customer growth and operational efficiencies to finance, or at least partially offset, the grid modernization investments.

Q. HAS THE COMPANY IDENTIFIED HOW ITS REVENUE AND COSTS HAVE CHANGED SINCE THE TEST YEAR IN ITS LAST RATE CASE?

A. No. The Company's five direct witnesses testified to various aspects of its proposed grid modernization plan, but no witness discussed how the Company's revenue and costs have changed since the test year in its last rate case. Further, the Company has not stated the impact to its earnings if OGE absorbed the annual revenue requirements associated with its proposed OGE Plan.

[50] Rowlett Direct 7:30.
[51] Since 2015, O&M costs have increased at an annual 1.7 percent rate, whereas the price deflator for personal consumption expenditures increased by 1.6 percent during this same period.

Q. HAVE YOU ESTIMATED THE IMPACT ON THE COMPANY'S ROE IF OGE ABSORBED THE ANNUAL REVENUE REQUIREMENTS ASSOCIATED WITH ITS PROPOSED OGE PLAN?

A. Yes. The OGE Plan would initially have a marginal impact on the Company's ROE. In my assessment, I relied on schedules in OGE's most recently filed rate case, Cause No. PUD 201800140, and assumed no revenue or cost growth as well as maintaining common equity at approximately $3.6 billion. The impact of the OGE Plan on ROE would increase from 4 basis points[52] in 2020 to 272 basis points in 2025.

Q. WHAT DO YOU CONCLUDE FROM YOUR ESTIMATE OF THE IMPACT ON OGE'S ROE?

A. During the initial years of the five-year asset deployment period, the impact of the proposed grid modernization investments appear to be minimal. If these investments were a better use of the Company's finite capital resources than competing investments, OGE could make these reliability and resiliency improvements with marginal impact to its ROE.

Q. DOES YOUR ANALYSIS INCLUDE THE IMPACT OF ADDITIONAL OPERATIONAL EFFICIENCIES OR CUSTOMER GROWTH?

A. No. The ROE impact assumes no change in customers or operational efficiency. Also, the equity is maintained at the same level as OGE presented at its most recent rate case. Thus, the ROE impact is a conservative estimate. If I assumed that the change in customers, operational efficiency, and equity met historical performance, the ROE impact would be mitigated.

[52] In this context, "basis point" refers to 0.01 percent of common equity or approximately $360,000.

B. OGE should continue to pursue additional efficiencies.

Q. SHOULD OGE BE ENCOURAGED TO CONTINUE PURSUING OPERATIONAL EFFICIENCIES AND CUSTOMER GROWTH?

A. Yes. The Commission should encourage OGE as well as all jurisdictional utilities to continue to pursue operational efficiency and customer growth in a reasonable manner. These actions increase shareholder value between rate cases as well as deferring rate cases, which generally benefits customers.

Q. HOW SHOULD THE COMMISSION ENCOURAGE OGE TO CONTINUE PURSUING OPERATIONAL EFFICIENCIES?

A. The Company is encouraged to pursue reasonable operational efficiencies through regulatory lag and the possibility of disallowance.

Q. WHAT IS REGULATORY LAG?

A. Under traditional cost-of-service regulation, base rates are established based on a utility's prudently incurred costs and investments. Between rate cases, regulatory lag exerts market discipline on the utility. For example, if a utility becomes more efficient after a rate case, then the increased profits associated with these actions accrue to the utility much like they would in a competitive market. Likewise, the opposite effect would occur if the utility should become less efficient.

Q. THE COMPANY INDICATES THAT REGULATORY LAG MAY BE AN EFFECTIVE INCENTIVE FOR AN INEFFICIENT UTILITY, BUT NOT AN EFFICIENT UTILITY SUCH AS OGE.[53] HOW DO YOU RESPOND?

A. I have three general comments about OGE minimizing the likelihood that regulatory lag would be effective in drawing out greater efficiencies on an efficient utility, such as OGE. First, the Company implies that the quest to be an efficient firm is a destination that once reached, no further improvement is needed. Second, its employees may infer the Company is content with the status quo regarding efficiency, and the search for further efficiencies would be fruitless. Third, its shareholders and the larger investing community may also draw the same conclusion as its employees regarding the Company's position at seeking greater efficiencies. I discuss each comment further below.

Q. DOES A LEVEL OF EFFICIENCY EXISTS IN WHICH A FIRM SHOULD BELIEVE THAT NO FURTHER IMPROVEMENT IS NEEDED?

A. No. A firm's actions to become more efficient should be considered a journey with no final destination. The drive to implement more effective ways to transform labor and capital inputs as well as entrepreneurial spirit into marketable goods and services is an inherent part of the U.S. economy. This continued drive for higher efficiency creates more goods and services at lower prices, which lifts each person's standard of living. For example, as illustrated in Exhibit TFB-5, 2019 U.S. gross domestic product per capita, adjusted for inflation, is more than four times larger than its 1945 value, and nearly 30 percent higher since 2000.

[53] Rowlett Direct 7:20–23.

Q. DO YOU SEE ANY OTHER PROBLEMS WITH OGE'S COMMENTS ABOUT EFFICIENCY?

A. Yes. The Company implies that efficiency is similar to an on-off switch in which a firm is either efficient or inefficient. The Company makes the claim that it "is a proven efficient operator."[54] More appropriately, any firm should create a culture among its employees from the top down to seek efficiency measures as a never-ending process. OGE's parent company's incentive compensation structure does indeed create this culture. Its incentive compensation is based on how well it meets specific financial and operating criteria, including reducing O&M expenses. OGE and its affiliates' employees have met incentive goals for reducing O&M expense during four of the five most recent years, according to the Company's parent's proxy statement for 2019. A corporate culture of such cost discipline would contradict the hypothesis that seeking further efficiencies would be fruitless and that OGE is satisfied with the status quo.

Q. COULD ITS SHAREHOLDERS AND THE LARGER INVESTING COMMUNITY DRAW THE SAME CONCLUSION AS ITS EMPLOYEES REGARDING THE COMPANY'S POSITION AT SEEKING GREATER EFFICIENCIES?

A. Yes. A shareholder may be reasonably concerned when he reads that the "efficient utility operator [that is, OGE] has very few, if any, options to offset the impacts of regulatory lag, whereas the inefficient operator may have many ways."[55] Taken at face value, OGE is implying that it would be less capable and agile than an inefficient utility to respond as

[54] Rowlett Direct 7:30.
[55] Rowlett Direct 7:21–23.

future conditions change. More appropriately, any firm should be communicating with its shareholders and the larger investing community that it believes seeking efficiency measures is a never-ending process. This continuous improvement would enhance shareholder wealth through increased dividends and share price appreciation. As shown in Exhibit TFB-6, OGE Energy's shareholders have experienced strong dividend growth and modest share price appreciation between 2015 and 2019. A history of enhancing shareholder wealth through rising dividends and share prices contradicts the hypothesis that the Company would not be seeking greater efficiencies.

Q. HAVE YOU REVIEWED COMMUNICATIONS WITH THE INVESTMENT COMMUNITY TO DETERMINE IF THE COMPANY IS EXPECTED TO DISCOVER ADDITIONAL OPERATIONAL EFFICIENCIES?

A. Yes. Since March 2020, economic activity within the Company's service area has been substantially diminished due to public and private-sector actions to protect public health due to the COVID-19 pandemic. This reduced economic activity is expected to have a commensurate impact on the Company's revenue. However, on its first quarter earnings call, OGE's parent company stated that it expects to offset these revenue losses with cost control measures. These statements indicate that opportunities exist within the Company to enhance operational efficiency even further than the testimony in this case indicates.

Q. HAVE YOU REVIEWED OGE ENERGY'S FINANCIAL STATEMENTS FOR THE MOST RECENT QUARTER?

A. Yes. I reviewed OGE Energy's Form 10-Q for the second quarter of 2020 to determine to what extent the Company has contained its O&M expenses in response to the COVID-19 pandemic. The Company's O&M expenses for 2020Q2 were $117.7 million compared

with $121.0 million for the prior quarter, which represents a quarterly decrease of 2.7 percent.[56] These results indicate that OGE can impose cost discipline as needed.

Q. COULD YOU SUMMARIZE YOUR EVALUATION OF OGE'S STATED NEED FOR THE RIDER?

A. Yes. OGE has not provided any evidence that demonstrates the impact on earnings that its OGE Plan if the Company financed these investments through base rate revenue. The Company has shown that it can continue to implement operational efficiencies on a recurring basis. My analysis indicates that such impact, at least initially, would be marginal.

V. Rider Evaluation

Q. PREVIOUSLY, YOU DESCRIBED THE RIDER PROPOSED BY OGE. DID YOU ALSO EVALUATE THE RIDER TO DETERMINE WHETHER IT IS FAIR, JUST, AND REASONABLE?

A. Yes. In my evaluation of the proposed Rider, I found the following deficiencies. The proposed Rider 1) lacks sufficient checks and balances to protect customers' interests; 2) does not distinguish between routine replacement of distribution assets and grid modernization; and 3) does not set a lower cost of capital to recognize the lower risk of recovery.

[56] OGE Energy Corp., Form 10-Q for the Quarter Ended June 30, 2020, at 24-25 (Aug. 5, 2020).

A. OGE's proposed rider lacks sufficient checks and balances.

Q. PLEASE SUMMARIZE THE LACK OF CHECKS AND BALANCES THAT YOU HAVE FOUND WITH OGE'S PROPOSED RIDER.

A. The proposed Rider lacks the following checks and balances to protect the customers' interests. The proposed Rider does not 1) provide an opportunity for parties to comment whether actions taken under the OGE Plan are in the public interest; 2) set an annual maximum revenue requirement; or 3) establish a sunset provision.

Q. DO YOU HAVE ANY CONCERNS ABOUT OGE'S PRESENTATION OF THE RIDER?

A. Yes. OGE compares the rider to the Distribution and Safety Rider approved for PSO in its most recent base rate case.[57] In that case, the Commission approved a settlement[58] that established a rider to recover part of PSO's incremental grid management expenses.[59] However, as described in Exhibit TFB-7, several structural differences exist between PSO's Distribution and Safety Rider and OGE's proposed relief here.

Q. DOES THE PROPOSED TARIFF PROVIDE THE PARTIES AN OPPORTUNITY TO COMMENT ON THE COMPANY'S ANNUAL INVESTMENT PLAN?

A. No. The proposed tariff does not provide the parties, including PUD, an opportunity to comment on whether the Company's Annual Investment Plan is consistent with the OGE Plan and the public interest. Neither does the proposed tariff refer to a process to determine

[57] Rowlett Direct 5:14–16.
[58] The Attorney General was not a signatory to the settlement, but he did not object to its approval.
[59] *See generally* Final Order Approving Joint Stipulation and Settlement Agreement, Order No. 692,809, *Pub. Serv. Co. of Okla. Rates & Charges & Rules for Elec. Serv.*, No. PUD 201800097 (Okla. Corp. Comm'n Mar. 14, 2019).

whether a completed project is consistent with the respective Annual Investment Plan.[60] This comparison illustrates the lack of checks and balances in the proposed Rider.

Q. DOES THE PROPOSED RIDER CONTAIN A MAXIMUM ANNUAL REVENUE REQUIREMENT THAT CAN BE RECOVERED FROM OGE'S CUSTOMERS?

A. No. The Company has estimated that OGE would recover approximately $297.6 million from Oklahoma customers through 2025 from the Rider. However, the proposed tariff does not set a maximum annual revenue requirement that OGE may recover from its customers.[61] With no maximum limit, the Company would have fewer reasons to only fund advantageous projects. If the Commission approved a tariff for grid modernization with a maximum limit on revenue requirement, OGE would be expected to seek recovery for projects that provide the greatest value for its customers within the maximum limit.

Q. DOES THE PROPOSED GRID ENHANCEMENT MECHANISM CONTAIN A SUNSET DATE?

A. No. The proposed tariff does not include a date certain in which recovery outside base rates would terminated. The proposed tariff indicates that it "shall continue until all costs permitted to be included in this [Rider] have been recovered or [the Rider] is modified, reviewed, or replaced by order of the Oklahoma Corporation Commission."[62] With no sunset date, this language unduly places substantial risk on OGE's customers that the Rider would extend beyond the initial five-year recovery period.

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[60] Direct Test. of Gwin Cash on behalf of Oklahoma Gas and Electric Company, Ex. GC-1 (Feb. 24, 2020) [hereinafter "Cash Direct"]; OGE's Response to AG-OGE-8-7.
[61] Cash Direct Ex. GC-1; OGE's Response to AG-OGE-8-6.
[62] Cash Direct Ex. GC-1; OGE's Response to AG-OGE-8-8.

B. The proposed rider does not distinguish between routine replacement of distribution assets and grid modernization.

Q. WHAT IS THE PURPOSE OF THE RIDER?

A. The Company indicates that the purpose of the rider is to provide accelerated cost recovery of additional distribution capital projects, consistent with the OGE Plan and subsequent Annual Investment Plans, to provide customer benefits on an advanced schedule. However, the OGE Plan does not make any distinctions between distribution plant replaced due to economic, physical, or technological obsolescence as part of normal distribution investment and distribution plant that is replaced as an element of the grid modernization plan.[63] The only qualification for an investment to be included is that it represent a "non-normal grid enhancement expenditure."

Q. HOW DOES THE COMPANY DEFINE THE PHRASE "NON-NORMAL GRID ENHANCEMENT EXPENDITURES" AS USED IN THE PROPOSED TARIFF?

A. The Company indicates that two types of expenditures would be considered as "non-normal grid enhancement" as the phrase is used in the proposed tariff: (1) a type of plant expenditure (e.g., software) not currently included in base rates; and (2) a type of plant expenditure currently included in base rates (e.g., poles, crossarms, etc.), but associated with a plant upgrade and/or replacement occurring on an accelerated schedule.[64]

[63] OGE's Response to AG-OGE-2-13.
[64] OGE's Response to AG-OGE-8-9.

Q. DOES THE COMPANY'S DEFINITION OF "NON-NORMAL" EXPENDITURES GIVE YOU ANY CONCERNS?

A. Yes. The criteria to distinguish between "normal" and "non-normal" expenditures places too much discretion with the Company to the customers' detriment. Moreover, OGE should not replace or update plant investment that were supported with base rates through the Rider.

C. OGE's proposed rider does not set a lower cost of capital to recognize the lower risk of recovery.

Q. WHAT IS THE WEIGHTED AVERAGE COST OF CAPITAL THAT OGE HAS PROPOSED AS A RETURN ON CAPITAL PROJECTS THAT THE COMPANY SEEKS TO RECOVER THROUGH THE RIDER?

A. In OGE's most recent base rate case, the Commission approved a capital structure of 47 percent debt and 53 percent equity with a long-term cost of debt as 4.8 percent. As part of a settlement among the parties, OGE does not currently have an authorized return on equity ("ROE"), but the Company uses a 9.50 percent ROE for purposes of existing riders.[65] Based on these assumptions, OGE's weighted average pre-tax cost of capital is approximately 9.07 percent. Please refer to Exhibit TFB-8 for more information regarding how the Company's cost of capital was calculated.

Q. IN EXCHANGE FOR THE RIDER, HAS THE COMPANY OFFERED ITS RATEPAYERS ANY COMPENSATION FOR THE INHERENT INCREASED

[65] *See* Final Order, Order No. 702,531, *Okla. Gas & Elec. Co. Rates, Charges & Tariffs for Elec. Serv.*, Cause No. PUD 201800140 (Okla. Corp. Comm'n Sept. 19, 2019).

RISK TO RATEPAYERS ASSOCIATED WITH ALTERNATIVE RECOVERY METHOD INSTEAD OF BASE RATES?

A. No. The Company has not offered any compensation to its ratepayers to offset the inherent increased risk associated with recovery through the proposed mechanism compared with base rate recovery. The Company is essentially transferring the risk of under-recovering the OGE Plan's revenue requirements to the ratepayers without compensation. As I explain in detail below, the cash flows associated with recovery through a rider mechanism are far more certain than recovery through base rates.

Q. WHAT SHOULD THE COST OF CAPITAL BE FOR A MECHANISM LIKE OGE'S PROPOSED RIDER?

A. The cost of capital in a mechanism like the Rider should reflect the reduced risk of non-recovery of costs that are recovered through the mechanism, compared with base rate recovery. For example, the Company's recovery of a return on the net book value could be limited to OGE's cost of debt, currently 4.80 percent.

Q. WHY SHOULD THE COST OF CAPITAL USED FOR A MECHANISM LIKE OGE'S PROPOSED RIDER BE LOWER THAN THE WEIGHTED AVERAGE COST OF CAPITAL USED TO DETERMINE BASE RATES?

A. A fundamental difference exists between the risk of non-recovery for base rates and mechanisms other than base rates, such as riders.[66] Ratepayers are over-compensating OGE for the risk, or lack thereof, of not recovering revenues through a rider, if the Commission

[66] Mechanisms outside of base rates can be known as riders, trackers, cost recovery mechanisms, and cost adjustment mechanisms. For the purposes of my testimony, all such mechanisms will be collectively referred to as "riders," unless otherwise noted.

sets a return on the net book value of an asset equal to OGE's weighted average cost of capital. A lower return on the net book value, such as the Company's cost of debt, better reflects the Company's lower risk associated with recovery through a rider.

Q. CAN YOU PROVIDE A HYPOTHETICAL SCENARIO THAT ILLUSTRATES THIS FUNDAMENTAL DIFFERENCE IN THE RISK OF NON-RECOVERY BETWEEN BASE RATES AND RIDERS?

A. Yes. Assume that the hypothetical utility "Utility" has two major investment projects, Project A and Project B, that each require $10 million in annual revenue requirements. In a base rate proceeding, the public utility commission grants Utility's requests to recover Project A through base rates at the rate of $0.001 per kilowatt-hour and Project B through a rider at the same rate, $0.001 per kilowatt-hour. One year after the new base rates and the rider become effective, Utility reports that electric energy sales were down 10 percent compared with projections made when these rates were approved. Both base rate revenues and rider revenues associated with these projects would be down $1 million from their projected levels. Because Project B is recovered through a rider, Utility would record the $1 million under-recovery for Project B as a regulatory asset and would receive approval to recover this under-recovery (as well as the annual revenue requirement and interest on the under-recovered balance) in the following recovery period. However, Utility's shareholders do not collect the $1 million "under-recovery" in base rate revenues for Project A. Over time, Utility will recover its entire return on and return of Project B, but it could under-recover or over-recover revenues related to Project A.

Q. YOUR HYPOTHETICAL SCENARIO SHOWS HOW THE UTILITY'S SHAREHOLDERS ARE MADE WHOLE IN THE EVENT THAT A UTILITY

SHOULD UNDER-RECOVER ITS COSTS THROUGH A RIDER. UNDER YOUR SCENARIO, ARE RATEPAYERS MADE WHOLE WHEN THE UTILITY OVER-RECOVERS ITS COSTS?

A. Yes. Consider a situation with the same assumptions from the prior scenario except that actual energy sales exceed projections. Utility would record a regulatory liability for its over-recovery related to Project B, which will be used to reduce Rider recovery during a future period. However, shareholders would return over-recovery for Project A.

Q. FROM THESE TWO SCENARIOS, ARE THE CASH FLOWS FROM PROJECT A MORE OR LESS RISKY THAN THE CASH FLOWS FROM PROJECT B?

A. The cash flows from Project A have less certainty and more risk than the cash flows associated with Project B. With Project A, cash flows are directly dependent on how actual energy sales compared with projected energy sales. When actual sales are 10 percent less than projections, base rate revenues also fall. Conversely, when actual sales are 10 percent greater than projections, base rate revenues also rise. By contrast, regardless of actual energy sales, Utility eventually collects its revenue requirements for Project B.

Q. GIVEN THE MORE CERTAIN CASH FLOWS FROM PROJECT B COMPARED WITH PROJECT A, SHOULD THE RETURN ON THE ASSETS FROM THESE PROJECTS BE DIFFERENT?

A. Yes. A fundamental financial principle states that an investor must accept greater risk to achieve higher expected returns, and *vice versa*. In order to attract sufficient capital to fund both Projects A and B, Utility would need to offer a higher return on Project A. If investors were offered the same return on both projects, then investors would flock to Project B and shun Project A, all other factors being equal.

Q. HOW SHOULD REGULATORS UNDERSTAND A UTILITY'S REQUEST TO APPROVE COST RECOVERY THROUGH A RIDER MECHANISM?

A. A utility is incentivized to persuade a public utility commission to shift new or rising costs out of base rates and into an adjustment mechanism to reduce risk, but there are additional reasons utilities request rider mechanisms. As the types of costs recovered through a rider mechanism, instead of base rates, increases between test years, a utility can effectively over-recover its test-year costs. Rider mechanisms also allow the utility to neither share its excess earnings through a sharing mechanism with ratepayers, nor re-set its base rates through another rate case proceeding.

Q. HOW DOES THE UTILITY'S INCENTIVE TO PURSUE RIDER MECHANISMS RELATE TO THE COST OF CAPITAL USED FOR OGE'S PROPOSED RIDER?

A. My testimony shows that when the revenue requirement is collected through a Rider with features like the one proposed by OGE, it is fundamentally a lower-risk investment. To be consistent with financial principles and respond to utilities' incentives to pursue new riders, the cost of capital used in a mechanism like the Rider should be reduced to, for example, the cost of debt.

VI. Conclusion

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend that the Commission reject the Company's request to create its proposed Oklahoma Grid Enhancement Cost Recovery Mechanism to support OGE's grid modernization program called the OGE Plan for the following reasons. First, OGE did not provide sufficient evidence to indicate that its OGE Plan represents the lowest reasonable cost to achieve its grid modernization objectives nor to support its calculations of avoided

cost nor imputed reliability benefits. Second, OGE has not provided sufficient evidence that it lacks financial resources to support additional grid investment. Third, the proposed Rider lacks important safeguards for customers while charging customers the full weighted average cost of capital for investments despite much reduced risk to OGE.

Q. DOES THE ATTORNEY GENERAL FAVOR GRID MODERNIZATION?

A. Yes. As the ratepayers' advocate, the Attorney General seeks to ensure that OGE provides its customers reliable and safe service at the lowest reasonable cost. Modernizing the grid should be a necessary, continuous effort taken by a utility to provide reliable and safe service to its customers. These efforts may even be cost-saving measures which lead to lower rates. In this instance, however, the Attorney General recommends that the Commission reject the Company's request to create a new rider to support OGE's grid modernization program for reasons set forth herein.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS?

A. Yes. My testimony is limited to the subject matters discussed. The Commission and the stakeholders should not infer my agreement with or support for a subject matter not covered in this testimony.

Q. DOES THIS CONCLUDE YOUR RESPONSIVE TESTIMONY?

A. Yes, it does.

TODD F. BOHRMANN

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Summary

Senior-level professional with extensive experience in economics, finance, and marketing. Committed to enhancing strategic positioning through accurate interpretation of industry and market conditions.

Professional Experience

OKLAHOMA OFFICE OF THE ATTORNEY GENERAL, Oklahoma City, OK 2017-present
Regulatory Analyst

- Prepare and present expert witness testimony regarding the economic regulation of jurisdictional electric and gas utilities before state agencies, boards, and commissions.

ACADIAN CONSULTING GROUP, Baton Rouge, LA 2016-2017
Senior Research Analyst

- Leveraged skills and knowledge associated with economic regulation of investor-owned utilities to identify issues, review discovery responses, and assist in preparing expert witness testimony in selected proceedings before several public utility commissions.
- Researched the impact of the natural gas renaissance on the liquefied natural gas, electric generation, petrochemicals, processing, pipeline, and storage industries in the states of Texas, Louisiana, Mississippi, and Alabama.

CSX TRANSPORTATION, Jacksonville, FL..... 2006-2016
Manager, Coal Planning and Market Analytics (2014-2016)
Provided critical and strategic thought regarding competitive position for utility coal franchise due to a deep understanding of industry and market conditions.

- Drove more effective pricing decisions through comparing CSX-served electric generation plants with competitive alternatives through internal presentations to senior leadership.
- Aligned operational resources with commercial expectations due to a monthly top-down forecast of over $1 billion in annual sales from utility coal customers.
- Developed commercial and regulatory strategies to minimize impact of economic and environmental regulations on coal-fired electric generation within CSX's customer base.

Manager, Market Strategy (2006-2014)
Provided timely, relevant economic analysis to executive leadership and over 400 sales and marketing managers.

- Provided guidance regarding CSX sales and volume performance relative to prior year results and current year expectations.
- Enhanced market and competitive intelligence sources and methods by tracking volume by origin-destination by mode in over 100 product markets and 70 geographic markets.
- Generated $100,000 in incremental revenue annually through auctioning scarce rail cars among agricultural customers at a premium price.

Independent Consultant, Jacksonville, FL 2006-2008
Leveraged skills and knowledge associated with economic regulation of investor-owned electric utilities to identify issues, develop discovery requests, and review discovery responses in selected proceedings before the Florida Public Service Commission.

- Presented expert testimony on the regulatory jurisdiction of costs recovered through the fuel and purchased power cost recovery clause.

FLORIDA PUBLIC SERVICE COMMISSION, Tallahassee, FL 1994-2006
Economic Analyst
Led a 19-member team of attorneys, accountants, economists, engineers, and administrative staff to identify and resolve factual, legal, and policy issues regarding prudent regulatory oversight of $10 billion annually for the purchase, delivery, storage, consumption, and disposal of fuel used for electric generation by investor-owned utilities.

- Initiated and developed an incentive program adopted by the Florida Public Service Commission that allows a utility to maximize its wholesale energy sales by allowing each utility to retain part of its annual profits earned on these sales after a target is achieved.
- Presented expert testimony regarding a regulatory accounting system for revenues and costs associated with price risk management of coal, oil, natural gas, and wholesale energy purchases.
- Co-authored the annual "Review of Ten-Year Site Plans" which evaluates the reasonableness of Florida's electric utilities' generation and transmission expansion plans.

Education

University of Central Florida, Orlando, Florida.
- Master of Business Administration
- Bachelor of Arts in Economics, with honors

Professional Memberships

- National Association of Business Economics (2008-2015)
  - Transportation Roundtable, Founding Chair (2012-2015)
  - Energy Industry Conference Planning Committee (2013)
  - Business Conditions Survey Leadership Team (2015-2016)
- CSX Associate Development Program
  - Planning Committee, Facilitator (2010-2011)
- National Association of State Utility Consumer Advocates (2018-present)

  - Electricity Committee (2018-present)
  - Gas Committee (2018-present)
- Society of Utility and Regulatory Financial Analysts (2019-present)

Expert Witness Testimony

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 202000051, "Application Of Arkansas Oklahoma Gas Corporation For Approval Of Its Performance Based Rate Plan Adjustments For The Twelve Months Ended December 31, 2019."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 202000028, "In The Matter Of The Application Of CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas, For Approval Of Its Performance Based Rate Change Plan Calculations For The Twelve Months Ended December 31, 2019."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201900028, "Application Of Arkansas Oklahoma Gas Corporation For Approval Of Its Performance Based Rate Plan Adjustments For The Twelve Months Ended December 31, 2018."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800133, "In The Matter Of The Application Of The Empire District Electric Company, A Kansas Corporation, For An Adjustment In Its Rates And Charges For Electric Service In The State Of Oklahoma."

- Responsive, Rebuttal, and Cross Examination Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201900019, "In The Matter Of The Application Of CenterPoint Energy Resources Corp., D/B/A CenterPoint Energy Oklahoma Gas, For Approval Of Its Performance Based Rate Change Plan Calculations For The Twelve Months Ended December 31, 2018"

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800159, "In The Matter Of The Application Of Oklahoma Gas And Electric Company For Commission Preapproval Pursuant To 17 O.S. Section 286(C) For Acquisition Of Capacity Through Asset Purchase"

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800140, "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"

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800097, "Application Of Public Service Company Of Oklahoma, An Oklahoma Corporation, For An Adjustment In Its Rates And Charges And The Electric Service Rules, Regulations And Conditions Of Service For Electric Service In The State

Of Oklahoma And To Approve A Performanced Base Rate Proposal."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800073, "In The Matter Of The Application Of Public Service Company Of Oklahoma For An Approval Of Energy Efficiency And Demand Response Programs; For Approval Of The Recovery Of All Demand Program Costs, Lost Net Revenues And A Shared Savings Incentive; For A Commission Waiver Of OAC165:35-41-5(D)(2) For Program Years 2020 And 2021, Respectively; And Authorizing The Continued Use Of The Demand Side Management Cost Recovery Rider."

- Responsive and Surrebuttal Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201800029, "In The Matter Of The Application Of CenterPoint Energy Resources Corp., D/B/A CenterPoint Energy Oklahoma Gas, For Approval Of Its Performance Based Rate Change Plan Calculations For The Twelve Months Ended December 31, 2017."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201700496, "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."

- Responsive Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201700495, "Application of Arkansas Oklahoma Gas Corporation For Waiver of Requirement To File For Review of Performance Based Rates For The Twelve Months Ended August 31, 2017 And Request For Tariff Change."

- Responsive and Settlement Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201700471, "In The Matter of The Application of The Empire District Electric Company For Approval of Its Customer Savings Plan."

- Responsive, Surrebuttal, and Settlement Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201700267, "Application of Public Service Company of Oklahoma ("PSO") For Approval of The Cost Recovery of The Wind Catcher Energy Connection Project; A Determination There Is A Need For The Project; Approval For Future Inclusion In Base Rates Cost Recovery of Prudent Costs Incurred By PSO For The Project; Approval of A Temporary Cost Recovery Rider; Approval of Certain Accounting Procedures Regarding Federal Production Tax Credits; Waiver of OAC 165:35-38-5(E); And Such Other Relief The Commission Deems PSO Is Entitled."

- Responsive and Surrebuttal Testimony on behalf of Mike Hunter, Attorney General of Oklahoma, in Oklahoma Corporation Commission Cause No. 201700151, "Application of Public Service Company of Oklahoma, An Oklahoma Corporation, For An Adjustment In Its Rates And Charges And The Electric Service Rules, Regulations And Conditions of Service For Electric Service In The State of Oklahoma."

- Rebuttal Testimony on behalf of Florida Office of Public Counsel in Florida Public Service Commission Docket No. 060658-EI, "Petition on behalf of Citizens of the State of Florida to require Progress Energy Florida, Inc. to refund customers $143 million."

- Direct Testimony on behalf of Florida Public Service Commission Staff in Florida Public Service Commission Docket No. 011605-EI, "Review of investor-owned electric utilities' risk management policies and procedures."

- Direct Testimony on behalf of Florida Public Service Commission Staff in Florida Public Service Commission Docket No. 930885-EU, "Petition to resolve territorial dispute with Gulf Coast Electric Cooperative, Inc. By Gulf Power Company."

OKLAHOMA GAS AND ELECTRIC COMPANY
INVESTOR-OWNED UTILITIES WITH
100 PERCENT AMI MARKET SHARE: 2018

Utility Name	**State**	**Total AMI Meters**
Niagara Mohawk Power Corp.	NY	1,716,904
PECO Energy Co	PA	1,675,889
Alabama Power Co	AL	1,453,402
PPL Electric Utilities Corp	PA	1,440,559
Portland General Electric Co	OR	887,537
Oklahoma Gas & Electric Co	**OK**	**809,086**
Duquesne Light Co	PA	600,556
Potomac Electric Power Co	MD	556,374
Wisconsin Public Service Corp	WI	485,273
United Illuminating Co	CT	336,961
Potomac Electric Power Co	DC	280,098
Madison Gas & Electric Co	WI	154,750

Source: U.S. Energy Information Administration, Form 861

OKLAHOMA GAS AND ELECTRIC COMPANY
AMI MARKET SHARE BY STATE: 2018

	State	AMI Meters	Total Meters	% AMI		State	AMI Meters	Total Meters	% AMI
1	DC	280,098	280,098	100.0%	27	VT	346,585	376,994	91.9%
2	NH	737,331	740,462	99.6%	28	KS	1,365,437	1,488,950	91.7%
3	NV	1,375,664	1,383,415	99.4%	29	NC	4,705,341	5,139,380	91.6%
4	CT	1,668,212	1,685,276	99.0%	30	SC	2,424,295	2,658,050	91.2%
5	IL	5,936,123	6,010,637	98.8%	31	CO	2,555,457	2,828,612	90.3%
6	AZ	3,135,926	3,200,210	98.0%	32	CA	14,101,270	15,690,609	89.9%
7	PA	5,991,194	6,147,243	97.5%	33	AL	2,269,716	2,568,845	88.4%
8	ME	804,884	826,040	97.4%	34	TN	2,957,393	3,370,816	87.7%
9	WI	3,040,760	3,123,313	97.4%	35	OR	1,804,840	2,061,260	87.6%
10	UT	1,210,212	1,244,420	97.3%	36	MO	2,723,241	3,146,819	86.5%
11	RI	511,379	527,975	96.9%	37	ND	422,510	502,557	84.1%
12	GA	4,735,015	4,901,176	96.6%	38	SD	403,975	485,315	83.2%
13	WY	329,004	342,293	96.1%	39	MD	2,144,370	2,625,830	81.7%
14	VA	3,678,716	3,851,758	95.5%	40	IA	1,234,491	1,613,080	76.5%
15	MA	3,116,998	3,276,275	95.1%	41	WA	2,530,691	3,547,589	71.3%
16	DE	452,567	476,171	95.0%	42	KY	1,336,211	2,292,791	58.3%
17	MI	4,988,318	5,252,853	95.0%	43	AR	868,008	1,625,117	53.4%
18	ID	830,879	876,743	94.8%	44	OH	2,942,574	5,600,644	52.5%
19	**OK**	**1,949,028**	**2,059,498**	**94.6%**	45	WV	535,152	1,020,239	52.5%
20	AK	313,847	333,252	94.2%	46	MS	772,746	1,531,777	50.4%
21	MT	585,979	624,869	93.8%	47	NY	3,648,969	8,319,807	43.9%
22	IN	3,047,482	3,252,648	93.7%	48	LA	1,000,805	2,377,928	42.1%
23	FL	10,089,791	10,870,525	92.8%	49	NM	396,892	1,059,955	37.4%
24	NE	961,928	1,041,991	92.3%	50	HI	76,803	496,043	15.5%
25	TX	11,955,122	12,960,529	92.2%	51	NJ	109,139	3,509,659	3.1%
26	MN	2,611,346	2,840,215	91.9%		United States	128,014,714	154,068,551	83.1%

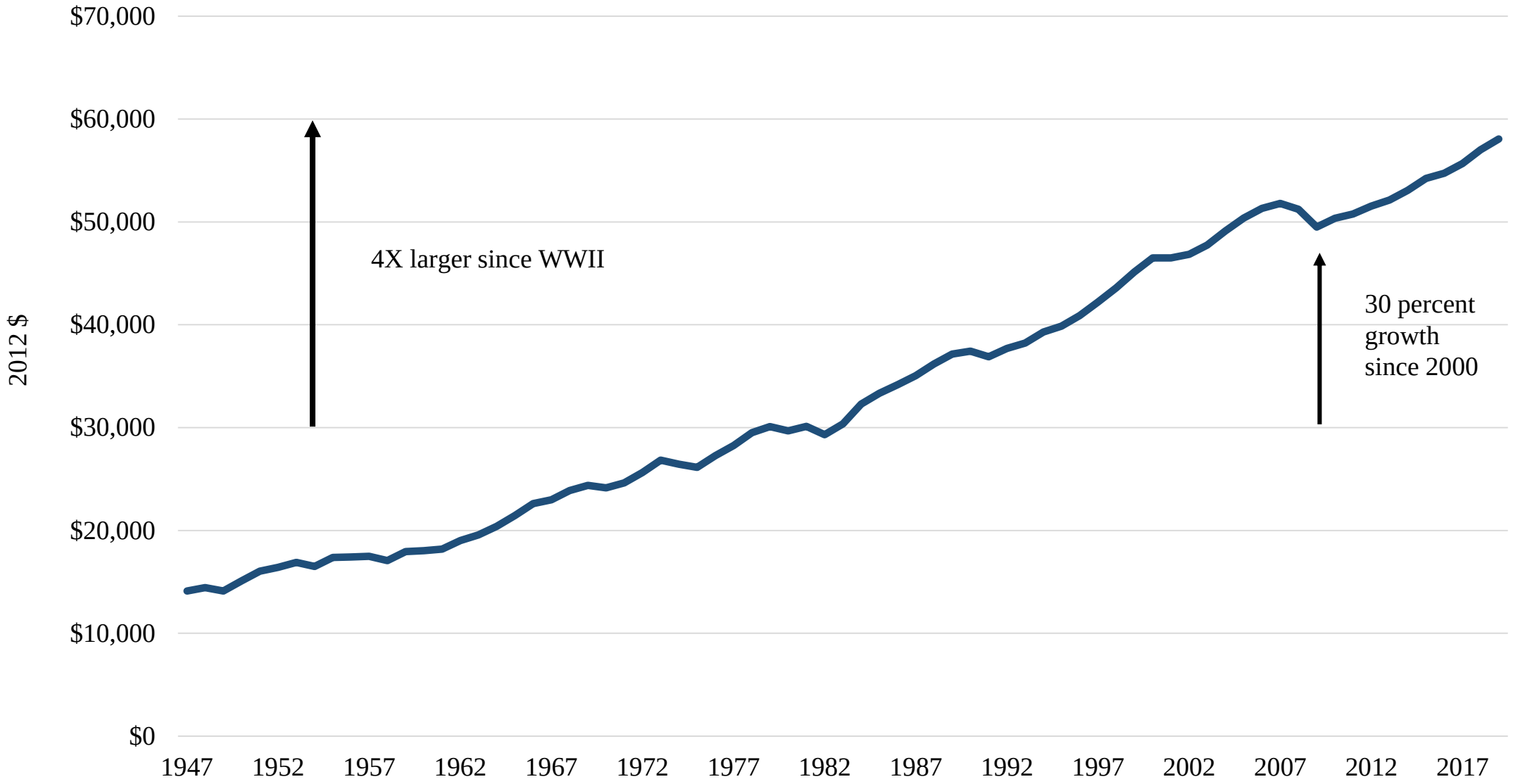
Source: U.S. Energy Information Administration, Form 861

OKLAHOMA GAS AND ELECTRIC COMPANY
SELECTED OPERATIONAL METRICS

	Gross Distribution Plant ($M)	Retail Energy Sales (GWh)	Retail Customers
2015	$3,728	26,670	820,059
2016	$3,893	26,803	830,057
2017	$4,051	26,278	838,252
2018	$4,196	28,069	845,498
2019	$4,420	28,364	854,128
% Change	4.4%	1.6%	1.0%

Source: FERC Form 1, 2015-2019, including Oklahoma and Arkansas

OKLAHOMA GAS AND ELECTRIC COMPANY
U.S. ECONOMIC OUTPUT PER CAPITA

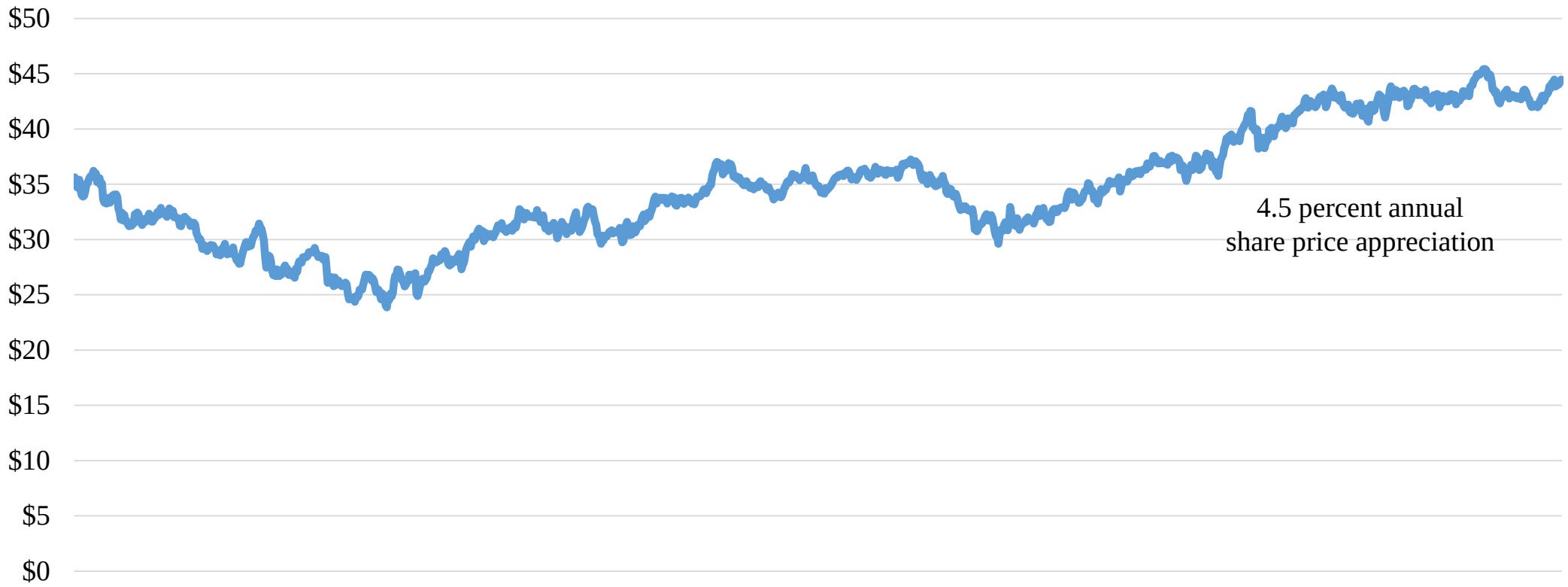


OGE ENERGY CORPORATION
HISTORY OF DIVIDENDS PER SHARE
2015 - 2019

Year	Dividend
2015	$1.025
2016	$1.128
2017	$1.240
2018	$1.363
2019	$1.483
% Change	9.7%

Source: www.ogeenergy.com

OGE ENERGY CORPORATION
HISTORY OF DAILY SHARE PRICE
2015 - 2019



Source: Yahoo! Finance

OKLAHOMA GAS AND ELECTRIC COMPANY COMPARISON BETWEEN PSO'S DISTRIBUTION AND SAFETY RIDER AND PROPOSED OGE GRID ENHANCEMENT MECHANISM

Description	PSO Distribution Reliability and Safety Rider	Proposed OGE Grid Enhancement Mechanism
Eligibility	Directly related to reliability and/or safety that are not normal distribution replacement projects.	Non-normal grid enhancement expenditures
Annual revenue requirement cap	$5 million.	None
Cost recovery	No O & M expenses.	No O & M expenses.
Sunset clause	Next Chapter 70 rate case.	None
Review process	No more frequently than semi-annually, submit proposed projects to PUD and all interested parties, for review. PUD will review the projects and issue a letter that projects meet the purpose of this tariff. Any party can object to projects being included within 30 days of submission to PUD.	Beginning in 2020, the Company will provide an annual investment plan by July 15 for PUD review.
Prudence determination	Next Chapter 70 rate case.	Subsequent Chapter 70 rate case(s).

OKLAHOMA GAS AND ELECTRIC COMPANY
WEIGHTED AVERAGE COST OF CAPITAL

	Capital Ratio	Cost	Tax Multiplier	Weighted Cost
Long Term Debt	46.7%	4.80%	1.0000	2.24%
Common Equity	53.3%	9.50%	1.3481	6.83%
Total	100.0%			9.07%