

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)
AUTHORIZING APPLICANT TO MODIFY ITS)
RATES, CHARGES, AND TARIFFS FOR RETAIL)
ELECTRIC SERVICE IN OKLAHOMA)

CAUSE NO. PUD 201800140

FILED
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CORPORATION COMMISSION
OF OKLAHOMA

Direct Testimony

of

Shawna J. Satterwhite

on behalf of

Oklahoma Gas and Electric Company

December 31, 2018

Shawna J. Satterwhite
Direct Testimony

1 Q. **Please state your name and business address.**

2 A. My name is Shawna Satterwhite. My business address is 321 N. Harvey, Oklahoma City,
3 Oklahoma 73102.

4
5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by Oklahoma Gas and Electric Company (“OG&E” or “Company”) as Lead
7 Costing Analyst.

8
9 Q. **What is your educational background and professional experience?**

10 A. I graduated from Oklahoma City University with an MBA in 2006. I have been with
11 OG&E since 2000. I worked in Property Accounting, Business Unit Finance working with
12 Power Supply and Power Delivery budgets and reporting, Regulatory Accounting, and
13 finally the Cost of Service group as Lead Costing Analyst. In my current role I am
14 responsible for operating and maintaining the Cost of Service model. Additionally, I
15 provide analysis and report results to management. I have also attended the Financial
16 Accounting Institute for Utility Finance & Accounting Seminar in November 2010, the
17 National Association of Regulatory Utility Commissioners (“NARUC”) Utility Rate
18 School in May 2012, the New Mexico State University Practical Regulatory Training for
19 the Electric Industry in October 2015, and the Electric Utility Consultants, Inc. (“EUCI”)
20 workshops for Introduction to Cost-Of-Service Concepts in July 2017.

21

22 Q. **Have you previously testified before the Oklahoma Corporation Commission or any
23 other regulatory commission?**

24 A. Yes. I filed written testimony in the Cause No. PUD 201700496 supporting the Company’s
25 Cost of Service Study (“COSS”), and Schedules K, and L of the Minimum Filing
26 Requirements (“MFRs”).

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

2 A. My testimony presents and supports OG&E's jurisdictional and class COSS, the
3 development of the jurisdictional and class allocations, and related schedules. The
4 Company's cost of service studies are based upon a test year ending September 30, 2018.
5

6 I. COST OF SERVICE STUDIES

7 General Explanation of a Cost of Service Study

8 Q. **What is a cost of service study?**

9 A. A COSS is the fundamental tool used to determine the revenue requirement to be recovered
10 from the Company's jurisdictional and/or customer classes. In a COSS, costs are either
11 allocated or directly assigned to jurisdictions and/or customer classes. This type of analysis
12 is typically referred to as an embedded COSS, which is based on historical costs and the
13 operating experience of the utility during the *pro forma* test year.
14

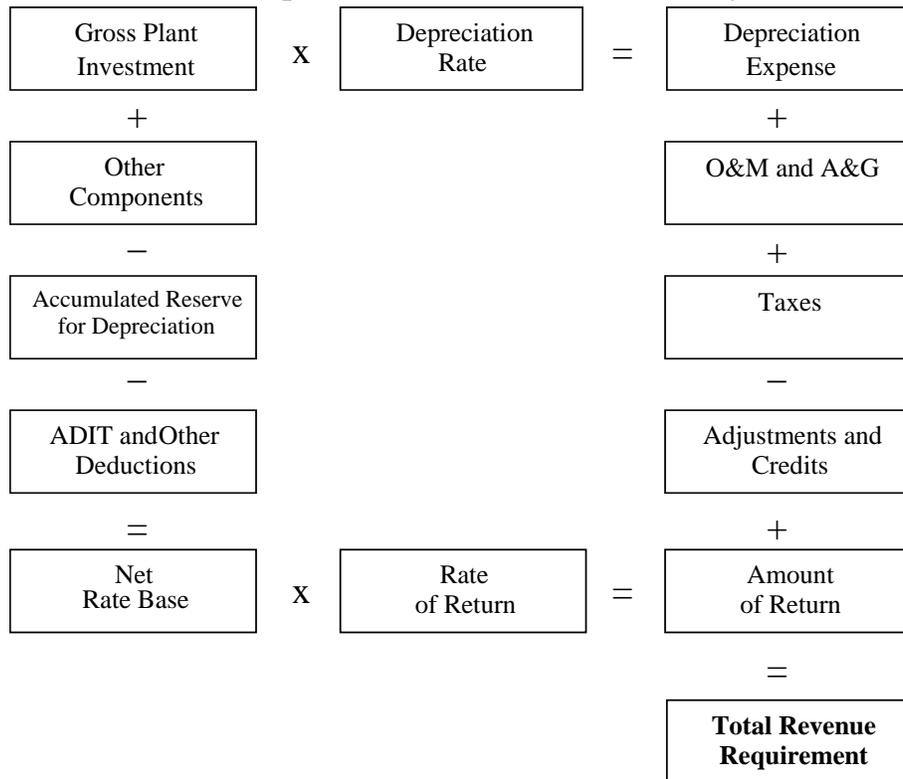
15 Q. **What sources are used for the historical costs used in a cost of service study?**

16 A. Cost of service studies rely on the utility company's historic, or embedded, statements of
17 revenue, number of customers, energy sales, accounting reports, engineering records,
18 customer billing records and load survey data. Investor-owned electric utilities in
19 Oklahoma are required by the Federal Energy Regulatory Commission ("FERC") to keep
20 their accounting records according to the "Uniform System of Accounts for Public Utilities
21 and Licensees" ("USOA"), CFR Title 18, Subchapter C, Part 101. The OCC adopted the
22 USOA requirements as well (see OAC 165:35-27-4(a)). The USOA sets the guidelines for
23 recording assets, liabilities, income, and expenses into various accounts. Embedded costs
24 are used as the basis for FERC Form 1 annual reports prescribed by FERC.
25

26 Q. **Please describe how a cost of service study is structured.**

27 A. The cost of service study is designed to determine a revenue requirement. The components
28 of the revenue requirement within the COSS model are summarized in Chart 1.

**Chart 1
Components of a Cost of Service Study**



1 Q. **What type of costs and cost components are included in the cost of service studies you**
 2 **are sponsoring?**

3 A. Fixed costs and variable costs are two types of broad cost categories included in cost of
 4 service studies. Fixed costs are costs that do not vary with output, remain constant in the
 5 short run and include capital costs, return, depreciation expense, income taxes, property
 6 taxes, and some operation and maintenance (“O&M”) expense. Variable costs are costs
 7 that vary with output which include fuel costs, purchased power and some O&M expense.

8 Additionally, there are sub-components of the fixed and variable costs. These
 9 include directly assigned costs that are incurred to serve a particular customer or class of
 10 service (street lighting, dedicated substation circuits, etc.) and what are called joint or
 11 common costs. Joint or common costs are those costs that are shared by all customers
 12 because they are incurred to produce jointly beneficial products. These costs are allocated
 13 either on the basis of the overall ratios of those costs that have been directly assigned, or

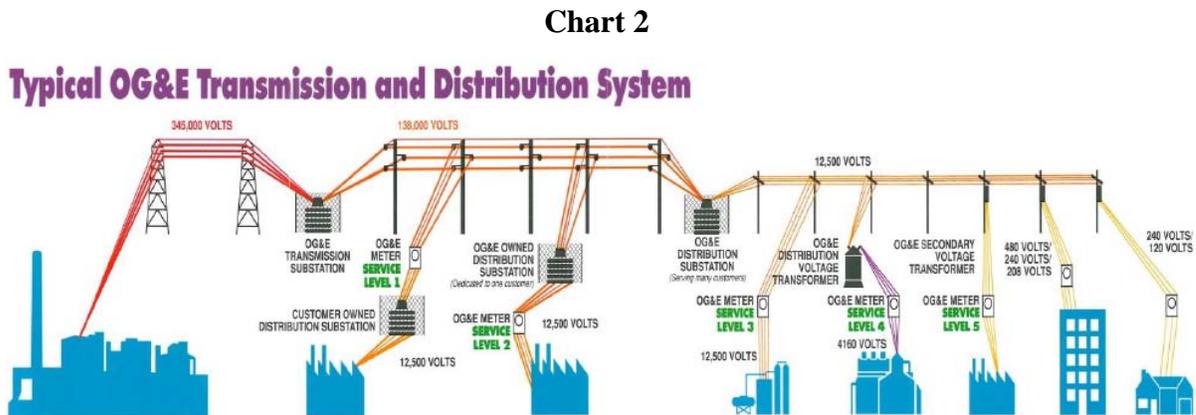
1 by a series of allocators that best reflect “cost causation” principles, or by a detailed
2 analysis of each account to determine who receives the benefits.

3
4 **Q. Please define cost causation?**

5 **A.** Cost causation is the determination as to what, or who, is causing costs to be incurred by
6 the utility in providing service to its customers. Examples of cost causation may include:
7 a customer’s request for service at a new location causes the Company to incur costs such
8 as investment in line transformation, a service drop, metering facilities and establishes a
9 commitment on the part of the Company to provide, among other things, answers to
10 questions and a monthly billing; or a customer’s energy use or usage, usually expressed in
11 kilowatt-hours (“kWh”).

12
13 **Q. Please generally describe the physical characteristics of the electric industry that
14 cause costs to be incurred.**

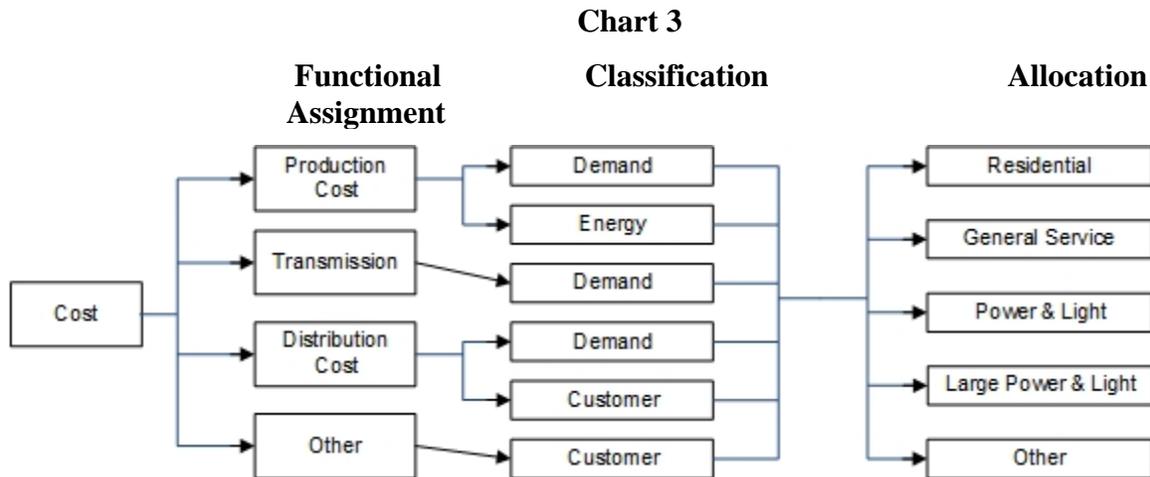
15 **A.** Generation, transmission and distribution are the three main components of a vertically
16 integrated utility.¹ Chart 2 illustrates how power flows from the power plant to ultimate
17 consumers on the OG&E system.



¹ NARUC Manual, page 4

1 Q. **How is this information separated to determine the cost of serving the various classes**
2 **of utility customers?**

3 A. Costs are allocated to customer classes using a three-step method including
4 functionalization, classification, and allocation. This methodology is shown in Chart 3.



5 Functionalization Process

6 Q. **Please describe the functionalization process?**

7 A. Once the relevant data is gathered, the costs are separated by function. Typically, functions
8 in a fully integrated electric utility are:

- 9 1. Production
- 10 2. Transmission
- 11 3. Distribution
- 12 4. Customer Service
- 13 5. Administrative and General (“A&G”)

14 The production function captures the costs associated with power generating facilities. The
15 transmission function captures the costs associated with the high voltage lines and
16 substations that deliver power to the distribution system and connects with other utilities,
17 generators, and some large customers. The distribution function includes facilities and
18 costs associated with distribution substations, primary and secondary lines, transformers,
19 service drops, and meters that connect most customers to the utility network. The customer
20 service function encompasses the services and costs associated with providing billing,

1 collection, customer information, and related services. The A&G function is a general
2 service category that captures the costs associated with management of the business and
3 general services such as staffing, accounting, legal, regulatory, communications, general
4 purpose buildings, maintenance of such facilities, and other costs that may not be directly
5 assignable to the other functions.

6
7 Classification Process

8 **Q. Please describe the classification process.**

9 **A.** Classification is a refinement of functionalized costs. Functionalized costs are further
10 separated into three classifications:

- 11 1. Demand costs – costs associated with the maximum rate of energy used by the
12 customer
- 13 2. Energy costs – cost that vary with the amount of energy used by customers
- 14 3. Customer costs – costs related to billing, metering, payment collections, and
15 customer service

16 Typical cost classifications used in cost studies are shown in Chart 4.

Chart 4

FUNCTION	CLASSIFICATION
Production	Demand, Energy
Transmission	Demand
Distribution	Demand, Customer
Customer Service	Customer

17 As seen above, production plant costs, such as depreciation expense and return on
18 investment, are generally considered to be demand costs. Fuel costs and certain production
19 O&M expenses are energy costs because they vary with the quantity of energy produced.
20 Transmission costs are typically considered as demand because they are mainly fixed and
21 do not vary with energy usage. Distribution system costs are driven by the need to deliver
22 the peak demand of customers served from each facility and by the number of customers
23 served. Distribution costs for substations, primary lines and transformers tend to vary with

1 the size of the load served. Customer service costs vary with the number of customers and
2 the complexity of meeting their needs. The classification process provides a basis on which
3 to allocate different categories of costs (demand, energy, or customer) to the Company's
4 jurisdictions, and ultimately to the customer classes through the allocation process.

6 Allocation Processes

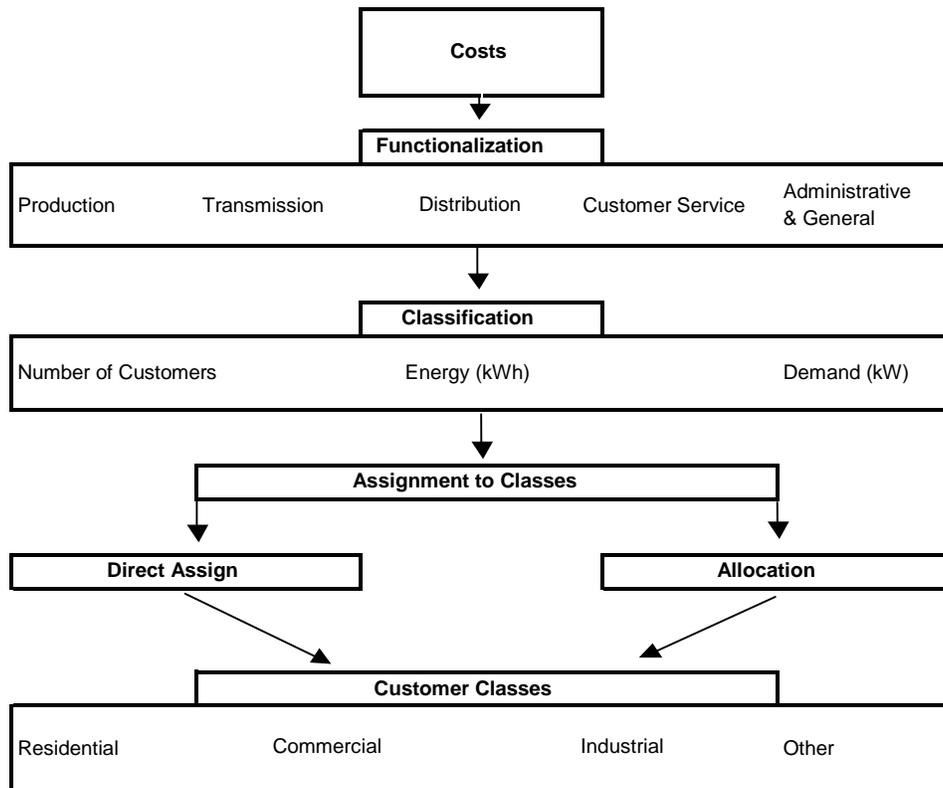
7 **Q. Please describe the allocation processes.**

8 A. After costs are functionalized and classified, they are either allocated or directly assigned
9 among jurisdictions. Within the Oklahoma retail jurisdiction, the functionally classified
10 costs are then further allocated or assigned among classes of customers, based on cost
11 causation. OG&E's customer classes have been determined and grouped according to the
12 nature of service provided and the load characteristics. OG&E's major customer classes
13 are generally grouped as Residential, General Service, Power and Light, Large Power and
14 Light, and Other.

15 The objective of this process is to assign costs in a reasonable and understandable
16 way. As discussed earlier, some costs are directly assigned and others are allocated among
17 the classes; directly assigned costs are costs that can be readily identified as belonging to a
18 jurisdiction, a single class or even a single customer. For example, customer meters are
19 directly assigned to their respective customer class. Similarly, the costs associated with
20 the poles and luminaries used for street lighting in Oklahoma are directly assigned to the
21 Oklahoma jurisdiction and then to the street lighting class in that jurisdiction. Most costs,
22 however, are attributable to more than one type of customer. These joint costs must be
23 allocated to jurisdictions and then to the Oklahoma jurisdictional retail customer classes by
24 an allocation methodology that recognizes each class's contribution to the cost driver that
25 ultimately determines the overall level of cost for each sub-category of utility service.
26 Chart 5 is a flowchart that provides an overview of the steps used to assign/allocate costs
27 to jurisdictional customer classes.

Chart 5

Cost Allocation Flowchart



1 The process described above is applied to each cost category in the cost of service study.

2

3 **Q. What is the end result of the functionalization, classification and**
4 **assignment/allocation process?**

5 **A.** When the process is completed and all of the costs are allocated to the jurisdictions and
6 customer classes, the result is a fully allocated embedded cost of service study that
7 establishes the cost responsibility for each jurisdiction and customer class of service.

8

9

II. OG&E'S JURISDICTIONAL COST OF SERVICE STUDY

10 **Q. Did OG&E submit a jurisdictional cost of service study as described in the**
11 **Commission's minimum filing requirements?**

12 **A.** Yes. The Company submitted its COSS.

1 Q. **What does the Company do to ensure that the fully allocated costs are reasonable?**

2 A. The Company uses the following criteria to judge the appropriateness of its allocation
3 methodology:

- 4 1. The method should reflect the planning and operating characteristics of the
5 utility's system.
- 6 2. The method should recognize individual customer class characteristics such as
7 energy use, peak demand on the relevant portion of the system, service diversity
8 characteristics, or the number of customers.
- 9 3. The method should produce reliable results that are relatively stable from year-
10 to-year.
- 11 4. Customers who benefit from the use of the system should also bear appropriate
12 cost responsibility for the system.

13

14 Q. **Briefly describe the contents of Section K.**

15 A. Section K of the MFR package sets forth the Company's jurisdictional Cost of Service.
16 The schedules in Section K and supporting work papers in the supplemental package
17 provide the support for those calculations.

18 Schedule K-1, shows the pro forma adjusted Total Company cost of service.

19 Each of the supporting schedules details, by account, the associated allocation basis for the
20 amounts shown on Schedule K-1. Chart 6 lists such supporting schedules.

Chart 6

Schedule Name	Description
Schedule K-2.1	Pro forma electric revenues based on current rates
Schedule K-2.2	Operation and maintenance expenses
Schedule K-2.3	Depreciation expense
Schedule K-2.4	Taxes other than income
Schedule K-2.5	Plant in service
Schedule K-2.6	Accumulated depreciation
Schedule K-2.7	Construction work in progress

Schedule K-2.8	Plant held for future use
Schedule K-2.9	Working capital
Schedule K-2.10	Other rate base adjustments

1 III. CHANGES TO THE COST OF SERVICE STUDY

2 **Q. Are there any updates or changes to the COSS model as filed in this Cause when**
3 **compared to the Company’s COSS in the last general rate filing, Cause No. PUD**
4 **201700496?**

5 A. Yes, the Company made updates or changes to the COSS for the following items:
6 • Retail/Wholesale Split for Distribution FERC accounts
7 • Distribution FERC account allocation to reflect dedicated circuits to service level
8 2 customers
9 • Allocation of Lighting FERC account to distinguish between Municipal and
10 Security Lighting plant assets
11 • Demand data for transmission allocation of Back-Up and Maintenance Standby
12 Service customers

13
14 Retail/Wholesale Distribution Allocation

15 **Q. What is the Company’s change to the jurisdictional allocation for distribution**
16 **FERC accounts between retail and wholesale customers?**

17 A. The Company direct assigned the wholesale cost to the wholesale jurisdiction using the
18 same cost calculation as used in the Direct Assignment Facilities Agreement (“DAFA”)
19 with wholesale customers.

20
21 **Q. How does this differ from the method the Company used to assign these costs in**
22 **Cause No. PUD 201700496?**

23 A. In Cause No. PUD 201700496, the Company used the class peaks to allocate distribution
24 level costs. In this Cause, the Company is proposing to direct assign those dollars based
25 on the amounts calculated in the DAFA.

1 Q. **For what distribution FERC accounts does this allocation change affect?**

2 A. This allocation change affects four FERC accounts and they are as follows:

- 3 • FERC account 364: Poles, towers and fixtures
- 4 • FERC account 365: Overhead conductors and devices
- 5 • FERC account 368: Line transformers
- 6 • FERC account 370: Meters

7
8 Q. **What is the purpose of a DAFA?**

9 A. A DAFA establishes the level of recovery for the Company's distribution facilities' costs.
10 These facilities are utilized by the Network Customers to serve their loads within the
11 OKGE zone in the SPP.

12
13 Q. **Why is the Company making this change to the jurisdictional split for these FERC
14 accounts?**

15 A. The Company is making this change to match what is being collected through the
16 wholesale DAFA agreements to ensure there is no over or under collection of cost
17 between the jurisdictions.

18
19 Service Level 2 Distribution Allocator

20 Q. **What is the Company's update to the Service Level 2 Distribution Allocator?**

21 A. The Company is utilizing the distribution demand allocator to assign distribution demand
22 cost to Service Level 2 customers who have not previously received any distribution cost,
23 other than direct assigned distribution substation cost.

24
25 Q. **Why is the Company recommending this update?**

26 A. This update is necessary because some Service Level 2 customers are served by a
27 distribution substation and dedicated distribution circuits. Previously, these costs were not
28 allocated to this Service Level; this update more accurately matches costs with cost causers.
29 This is consistent with the Company's Service Level 2 definition which reads as follows:

1 Service Level 2: Shall mean service at any nominal standard voltage of the
2 Company between 2 kV and 50 kV, both inclusive, where service is
3 rendered through a Company Substation, which has a transmission voltage
4 source, and the point of delivery is at the load side of the substation or from
5 a circuit dedicated to the customer.
6

7 **Q. For what distribution FERC accounts does this allocation change affect?**

8 A. This allocation change affects three FERC accounts, they are:

- 9 • FERC account 364: Poles, towers and fixtures
 - 10 • FERC account 365: Overhead conductors and devices
 - 11 • FERC account 367: Underground conductors and devices
- 12

13 **Q. What load data was used for the to allocate these distribution asset costs?**

14 A. The Company used the load data for only those specific customers that have dedicated
15 circuits to update the distribution allocator for FERC accounts 364, 365 & 367.
16

17 FERC Account 373 Municipal/Security Lighting

18 **Q. In Cause No. PUD 201700496, how did the Company allocate FERC account 373**
19 **Municipal/Security Lighting?**

20 A. The Company allocated FERC account 373 costs between municipal and security lighting
21 utilizing a revenue allocator.
22

23 **Q. How is the Company's proposing to change the allocation of FERC account 373 to**
24 **split cost between municipal and security lighting?**

25 A. The Company is proposing that the allocation of FERC account 373 be changed to utilize
26 the installed cost for poles and fixtures.

1 Q. **Why is the Company making this change?**

2 A. The installed cost allocation method provides a more accurate division of pole and fixture
3 assets between security lighting and municipal lighting than does an allocation of these
4 assets using current revenue.
5

6 Back-Up and Maintenance Standby Service Transmission Allocator

7 Q. **What is the Company's update to the transmission allocation for the Back-Up and
8 Maintenance Standby Service class?**

9 A. For the transmission demand allocator, the Company used the contracted kW for each
10 customer as opposed to using their metered load.
11

12 Q. **Why did the Company update the load data to contracted kW for this class for
13 transmission cost allocation?**

14 A. This is a standby service class for customers with market generation assets, cogeneration
15 assets, or self-generation equipment operated in parallel with the Company's generation
16 system. The Company is responsible for providing service up to the contracted kW for
17 each customer. Therefore, the Company must have the adequately sized transmission
18 assets in place to provide electric service up to the contracted kW, even if it not used. This
19 cost responsibility would not be reflected in an allocation based on metered load. When
20 metered load is used, these customers' share of transmission assets will be paid for by all
21 other customers for test years when these customers were not using facilities during the
22 times coincident with the total system peak. The Company builds transmission facilities
23 to serve the contracted kW. By using their contracted kW in the transmission demand
24 allocator, the COSS properly reflects cost incurrence in the cost assignment.

1 IV. CLASS COST OF SERVICE STUDY

2 Q. **Please describe the Section L as it relates to the class cost of service study you are**
3 **sponsoring.**

4 A. Section L identifies the revenue, revenue deductions, income taxes, rate base components
5 and return on rate base for each Oklahoma customer class, allocating those costs in a
6 manner consistent with OG&E’s previous filings before the Commission.

7
8 Q. **Please generally describe the contents and organization of Section L.**

9 A. Schedule L-1 is the Rate Design Cost of Service for the *pro forma* test year. It shows the
10 Oklahoma jurisdictional *pro forma* adjusted cost of service by customer class under rates
11 placed in effect as of July 1, 2018. Revenue, revenue deductions and rate base are
12 organized in the same manner as on Schedule K-1. Line 31 shows the percentage rates of
13 return earned from each class under current rates.

14 Supporting Schedules, L-2.1 through L-2.10, show in detail the revenue, allocation
15 of costs and rate base components to each Oklahoma customer class. These schedules
16 provide the same information as the schedules in Section K, except that the information is
17 provided by Oklahoma customer class.

18 Schedule L-3 presents the change in sales revenue for each class if a rate of return
19 on rate base was to be applied equally to all classes of service. Line 13 is the total class
20 revenue requirement needed to achieve the Company’s proposed return on rate base. Line
21 14 is the *pro forma* class revenue based on existing rates for the test year. Line 15 is the
22 difference between the class revenue requirement and the current tariff revenue. This
23 deficiency or excess represents the class change needed in current tariffs for rate design.
24 Line 16 shows the class revenues received from current tariffs.

25 Schedule L-4 indicates the percent increases necessary to recover the revenue
26 deficiency through sales revenue for each class. Line 12 indicates the return on rate base
27 by class of service adjusted for the deficiency at these levels of revenue.

1 Q. **How are the results of the class cost of service study used in this proceeding?**

2 A. The results of the class cost of service submitted in this proceeding are used for two
3 reasons.

- 4 1. Provide embedded cost information that is used as a tool in developing the pricing
5 structures for each customer class; and
- 6 2. Provide information with which present and proposed relative rates of return by
7 customer class can be compared and reviewed.

8

9

V. CONCLUSION

10 Q. **Would you please summarize your testimony regarding the cost of service studies you
11 are supporting?**

12 A. The jurisdictional cost of service study identifies the embedded cost of service for the
13 Oklahoma retail, Arkansas retail and FERC jurisdictions. This embedded cost of service
14 study is based upon sound cost allocation principles, reflects all of the test year
15 adjustments, and establishes the cost responsibility for the provision of electric service to
16 each jurisdiction.

17 The class cost of service study quantifies the embedded cost of service for each
18 Oklahoma retail jurisdictional class. In addition, the class cost of service study provides
19 information necessary to develop cost based rates for OG&E's retail customers.

20

21 Q. **What is your recommendation to the Commission?**

22 A. I recommend the Commission:

- 23 a) accept the Company's filed COSS
- 24 b) accept the update to the Retail/Wholesale Split for Distribution FERC accounts
- 25 c) accept the update to the distribution FERC account allocation to reflect dedicated
26 circuits to service level 2 customers
- 27 d) accept the change to the allocation of the lighting FERC account to distinguish
28 between Municipal and Security Lighting plant assets
- 29 e) accept the update to the demand data for transmission allocation of Back-Up and
30 Maintenance Standby Service customers

- 1 Q. **Does this conclude your direct testimony?**
- 2 A. Yes.