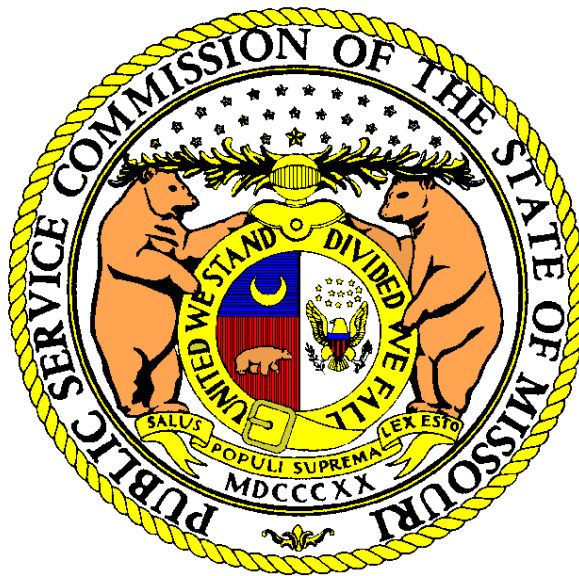


MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

CLASS COST OF SERVICE



**LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.,
d/b/a LIBERTY UTILITIES**

CASE NO. GR-2018-0013

*Jefferson City, Missouri
March 16, 2018*

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LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.,
d/b/a LIBERTY UTILITIES
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1 **STAFF’S CLASS COST OF SERVICE REPORT OF**
2 **LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.,**
3 **d/b/a LIBERTY UTILITIES**
4 **CASE NO. GR-2018-0013**

5 ***I. Executive Summary***

6 Staff’s direct-recommended revenue requirement increase is \$1,292,444 to
7 Liberty Midstates – MO’s base rates, based on a return on equity (“ROE”) of 10.00%; the
8 high-end of Staff’s recommended equity cost rate range of 9.50% to 10.0%. Staff’s
9 recommended increase¹ by rate district is summarized below:

10	NEMO:	\$475,020
11	SEMO:	\$635,424
12	WEMO:	\$182,001 ²

13 Staff also recommends that the Company’s Infrastructure System Replacement Surcharge
14 (“ISRS”) be reset to zero as presented in the *Staff Direct Cost of Service Report* (“COS Report”).
15 Liberty Midstates – MO’s approximately \$1.3 million increase over current gross revenues of
16 \$25.4 million would produce a total revenue requirement of approximately \$26.7 million; an
17 increase of approximately 5.09%. Table 1 below provides the current gross revenues for each
18 district with Staff’s recommended revenue requirement increases.

¹ These values are slightly different from the values previously provided in Staff’s Cost of Service Report due to Staff’s recommendation to use Staff’s high-end ROE value.

² Liberty Utilities’ Missouri Operations (Liberty Midstates – MO) provides gas service throughout three separate rate districts in Northeast (“NEMO”), Southeast (“SEMO”), and Western (“WEMO”) Missouri.

1 **Table 1: Impact of Staff’s Recommended Changes to Revenue Requirement by District**

	Current Gross Revenues	Staff's Recommended Revenue Increase	Percentage Change	Total Revenue Requirement
NEMO	\$ 10,562,161	\$ 475,020	4.50%	\$ 11,037,181
SEMO	\$ 12,989,630	\$ 635,424	4.89%	\$ 13,625,054
WEMO	\$ 1,851,066	\$ 182,001	9.83%	\$ 2,033,067
Consolidated Liberty Midstates – MO	\$ 25,402,857	\$ 1,292,444	5.09%	\$ 26,695,301

2
3 Staff’s revenue requirement, as presented in its *Accounting Schedules* filed March 2, 2018,
4 includes costs through December 2017. Staff’s class cost of service (“CCOS”) study is designed
5 to determine what rate of return is produced by each customer class on that class’s
6 currently-tariffed rates, for recovery of the newly-determined revenue requirement amount.
7 Staff’s recommended interclass revenue responsibility shifts are designed to reasonably bring
8 each class closer to producing the system-average rate of return used in determining Staff’s
9 recommended revenue requirement.

10 Staff’s rate design recommendations provide intra-class shifts which will, where
11 appropriate, redesign the rates that collect a particular class’s revenues to better align that class’s
12 method of recovering revenue with the cost-causation for that class. Staff performed a CCOS
13 study for each rate district of Liberty Midstates – MO—NEMO, SEMO, and WEMO—and a
14 separate CCOS study that consolidates the three rate districts into one. Further, Staff provides
15 additional rate design options incorporating recent Commission guidance on certain rate design
16 policy objectives.

17 ***II. Rate Design and Class Cost of Service Overview***

18 The purpose of rate design is to reasonably relate the manner in which customers are
19 charged for a service to the manner in which the company incurs non-gas costs and expenses to
20 provide service and to make service available. However, various public policy concerns, ranging

1 from bill comprehension to mitigating company disincentives to promote energy conservation,
2 temper strict adherence to the seemingly precise results of these cost-causation studies.

3 Non-gas costs and expenses are allocated or assigned to each class through the
4 performance of a CCOS study. The purpose of Staff's CCOS study is to determine whether each
5 class of customers is providing the utility with a level of revenue reasonably necessary to cover
6 (1) the utility's investments required to provide service to that class of customers and (2) the
7 utility's ongoing non-gas expenses to provide natural gas service to that class of customers.
8 A CCOS study provides a basis for allocating and/or assigning to the customer classes the
9 utility's total cost of providing natural gas service to all of its customer classes in a manner that
10 best reflects cost causation. Staff's CCOS study is a continuation and refinement of Staff's
11 CCOS Study, resulting in an estimate of the non-gas costs incurred in providing natural gas
12 service to each of Liberty Midstates – MO's customer classes for the test year. Because those
13 costs equate to Liberty Midstates – MO's non-gas revenue requirement, the results of a
14 CCOS study determine class revenue requirements based on the cost responsibility of each
15 customer class for its equitable share of the utility's total annual non-gas cost of providing
16 natural gas service.

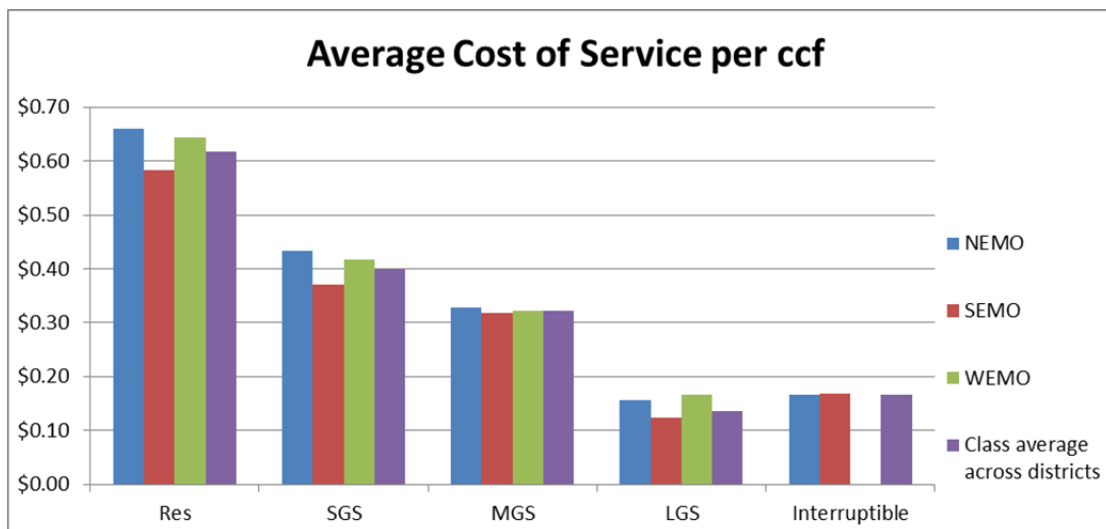
17 Schedule CCOS-d1 provides fundamental concepts, terminology, and definitions used in
18 CCOS studies and rate design. It addresses functionalization, classification, and allocation, as
19 used in CCOS studies.

20 Given Liberty Midstates - MO's request to consolidate its three rate districts into one,
21 Staff reviewed the reasonableness of doing so from two perspectives: cost causation and
22 customer impact. Staff also reviewed the alignment of class revenue recovery with the cost of
23 service, both as district-specific classes and as consolidated classes. Finally, Staff reviewed rate

1 continuity and identified a major rate continuity concern with regard to the SGS to the MGS³
2 classes system-wide, but particularly with the existing SEMO district.

3 From a cost causation perspective, considering only major accounts, approximately
4 \$10 million of the \$26.6 million revenue requirement is jointly incurred and allocated to the rate
5 districts. Graph 1 below shows the average cost to serve a customer per ccf, separated by rate
6 class and rate district. This graph shows that there is greater similarity in the average cost to
7 serve for a given class across districts than for a given district across classes.

8 **Graph 1: Average Cost of Service per ccf by Rate Class and by Rate District**



9
10 While these factors would tend to support movement towards district consolidation, the customer
11 impacts that would result from complete cross-district consolidation are of a severity that limits
12 the practicality of complete consolidation. Finally, as discussed later in this report, Staff
13 identified that the SEMO and WEMO SGS classes are significantly under-contributing by a
14 much greater level than the NEMO SGS class, while the SEMO Residential class has a much
15 lower cost of service than the WEMO and NEMO residential classes. The evaluation of these
16 differences is complicated by differences in average usage for a given class across districts.

³ SGS means Small General Service and MGS means Medium General Service.

For its direct rate design recommendation, Staff recommends a movement towards rate consolidation, while retaining district-specific customer charges at this time. Retention of customer charges specific to the district enables mitigation of customer impact, and is consistent with the dedication of plant, such as meters and service lines, to the districts in which they are used. Staff performed CCOS studies for each district—SEMO, NEMO, and WEMO—as well as on a consolidated basis. Staff has attempted to, in order of priority, (1) generally move each class’s revenue across districts toward the consolidated class cost of service, (2) mitigate customer impact, (3) generally move each class within each district toward its district-specific class cost of service to the extent possible, and (4) make some movement to address the SGS rate continuity issue.

Table 2 below, depicts Staff’s rate recommendations based upon its direct filed revenue requirement of \$26.7 million. However, Staff’s specific rate recommendations are highly dependent on the overall revenue requirement and on mitigation of customer impact. For these reasons, Table 2 is illustrative in nature.

Table 2: Staff’s Recommended Rate Structure

		Customer Charge	Distribution
Residential Service	NEMO	\$ 22.00	\$ 0.22828
	SEMO	\$ 16.00	
	WEMO	\$ 22.00	
Small Firm GS	NEMO	\$ 30.00	\$ 0.09715
	SEMO	\$ 25.00	
	WEMO	\$ 28.00	
Medium Firm GS	NEMO	\$ 130.00	\$ 0.21085
	SEMO	\$ 125.00	
	WEMO	\$ 120.00	
Large Firm GS	NEMO	\$ 700.00	\$ 0.14251
	SEMO	\$ 750.00	
	WEMO	\$ 750.00	
Interruptible LV	NEMO	\$ 650.00	\$ 0.15481
	SEMO	\$ 650.00	
	WEMO	\$ 650.00	

The customer impacts provided in Table 3 below are not indicative of the usage of any particular customer, but are indicative of representative levels of customer usage for a given month in the heating season. Larger customers are more likely to experience close to the indicated level of usage year-round, while more weather-sensitive customers will tend to experience greater month-to-month usage and impact variation.

Table 3: Customer Impacts of Staff's Rate Design at Representative Levels of Usage

		Low	Mid	High	Low	Mid	High
		Res	Res	Res	SGS	SGS	SGS
		20	50	150	50	150	500
NEMO	Existing	\$ 25.54	\$ 33.85	\$ 61.54	\$ 31.85	\$ 39.04	\$ 64.20
SEMO	Existing	\$ 17.42	\$ 22.94	\$ 41.31	\$ 20.35	\$ 26.13	\$ 46.37
WEMO	Existing	\$ 23.84	\$ 29.60	\$ 48.81	\$ 27.28	\$ 34.23	\$ 58.57
NEMO	Proposed	\$ 26.57	\$ 33.41	\$ 56.24	\$ 34.86	\$ 44.57	\$ 78.58
SEMO	Proposed	\$ 20.57	\$ 27.41	\$ 50.24	\$ 29.86	\$ 39.57	\$ 73.58
WEMO	Proposed	\$ 26.57	\$ 33.41	\$ 56.24	\$ 32.86	\$ 42.57	\$ 76.58
NEMO	Diff.	\$ 1.03	\$ (0.43)	\$ (5.29)	\$ 3.00	\$ 5.53	\$ 14.38
SEMO	Diff.	\$ 3.14	\$ 4.48	\$ 8.94	\$ 9.51	\$ 13.44	\$ 27.21
WEMO	Diff.	\$ 2.72	\$ 3.81	\$ 7.43	\$ 5.58	\$ 8.34	\$ 18.01
NEMO	%Diff.	4%	-1%	-9%	9%	14%	22%
SEMO	%Diff.	18%	20%	22%	47%	51%	59%
WEMO	%Diff.	11%	13%	15%	20%	24%	31%

		Low	Mid	High	Low	Mid	High
		MGS	MGS	MGS	LGS	LGS	LGS
		500	1,000	7,000	7,000	20,000	150,000
NEMO	Existing	\$ 240.50	\$ 356.40	\$ 1,747.20	\$ 1,643.82	\$ 3,539.61	\$ 22,497.51
SEMO	Existing	\$ 232.61	\$ 338.23	\$ 1,605.67	\$ 1,912.80	\$ 4,285.95	\$ 28,017.45
WEMO	Existing	\$ 248.53	\$ 379.04	\$ 1,945.22	\$ 1,835.61	\$ 4,148.83	\$ 27,281.03
NEMO	Proposed	\$ 235.46	\$ 340.92	\$ 1,606.41	\$ 1,697.54	\$ 3,550.12	\$ 22,075.91
SEMO	Proposed	\$ 230.46	\$ 335.92	\$ 1,601.41	\$ 1,747.54	\$ 3,600.12	\$ 22,125.91
WEMO	Proposed	\$ 225.46	\$ 330.92	\$ 1,596.41	\$ 1,747.54	\$ 3,600.12	\$ 22,125.91
NEMO	Diff.	\$ (5.04)	\$ (15.48)	\$ (140.79)	\$ 53.72	\$ 10.51	\$ (421.60)
SEMO	Diff.	\$ (2.15)	\$ (2.31)	\$ (4.26)	\$ (165.26)	\$ (685.83)	\$ (5,891.54)
WEMO	Diff.	\$ (23.07)	\$ (48.12)	\$ (348.81)	\$ (88.07)	\$ (548.71)	\$ (5,155.12)
NEMO	%Diff.	-2%	-4%	-8%	3%	0%	-2%
SEMO	%Diff.	-1%	-1%	0%	-9%	-16%	-21%
WEMO	%Diff.	-9%	-13%	-18%	-5%	-13%	-19%

1 These customer impacts do not address Staff’s alternative inclining block rate design,
2 which is discussed separately in the Residential Rates section under Rate Design, below.

3 Staff will continue to evaluate the costs and revenues for each rate district and each rate
4 class, and if there are significant changes in cost drivers across rate classes and rate districts Staff
5 will adjust its recommendation accordingly. For example, if the revenue requirement associated
6 with a cost category, such as distribution mains, significantly changes for one specific rate
7 district, Staff will reevaluate its recommendation.

8 Staff’s rate design recommendations in this case are:

- 9 • Move towards rate district consolidation by utilizing a uniform volumetric charge
10 across the rate districts, while retaining district-specific customer charges, as
11 illustrated above in Table 2. If the overall increase in revenue requirement
12 exceeds Staff’s direct-filed revenue requirement recommendation, Staff
13 recommends that any additional revenue requirement be applied as an equal
14 percentage increase to each charge provided in Table 2.
- 15 • Should the Commission determine it is appropriate to implement an inclining
16 block rate for the Residential class, Staff recommends the following rate structure:

Rates - Summer Incline Option	Customer Charge	Winter Block	Summer Inclining Block 1 (≤ 30 ccf)	Summer Inclining Block 2 (> 30 ccf)
NEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
SEMO Residential	\$ 16.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
WEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176

- 17 • The Type A or B meter provision be eliminated from the residential tariff sheets.
18 While Liberty Midstates – MO’s residential tariff sheets include a provision
19 requiring customers to use Type A or B meters, some of its customers have a
20 different meter.
21

22 *Staff Expert/Witness: Robin Kliethermes and Michael L. Stahlman*

1 **III. Staff’s Class Cost of Service (“CCOS”) Study**

2 Staff analyzed the costs and revenues of the following customer classes for each of the
3 rate districts:

- 4 • Residential
- 5 • Small General Service
- 6 • Medium General Service
- 7 • Large General Service
- 8 • Interruptible

9 The results of Staff’s consolidated CCOS study are shown below in Table 4. The study only
10 reflects the non-gas portion of a customer’s bill; it does not include costs associated with the
11 Purchased Gas Adjustment clause (“PGA”). The table shows the change in current retail rate
12 revenues for each customer class that is required to match each customer class’ rate revenues
13 with the cost to serve that class based on Staff’s recommended revenue requirement. The results
14 of the study estimate, on a revenue neutral basis,⁴ the revenue shifts (expressed as negative or
15 positive dollar amounts or percentages) that are required to equalize the utility’s rate of return
16 from each retail customer class during the test year. For example, based on Table 4 below, the
17 SGS customer class would need a 26% rate increase to meet the cost to serve that class.

18

Customer Class	Revenue Above (Below) Class Cost of Service	% Increase to Meet CCOS	System Average
Residential	\$ (1,829,730)	11.90%	5.21%
SGS	\$ (583,571)	26.23%	5.21%
MGS	\$ 97,826	-2.69%	5.21%
LGS	\$ 981,569	-28.85%	5.21%
Interruptible	\$ 41,461	-15.26%	5.21%

19
20 Table 4 provides, by class, the expected change to Liberty Midstates – MO’s cost to serve.

⁴ “Revenue neutral” means the revenue shifts among classes do not change the utility’s total system revenues. The revenue neutral format aids in comparing revenue deficiencies between customer classes and makes it easier to discuss revenue neutral shifts between classes, if appropriate.

1 Another consideration is identification of which classes produce revenues that are above
2 and below the system average rate of return. Staff reviews the rates of return produced by each
3 class at current rates and the rates of return that will result from a system-average application of
4 the revenue requirement increase.

5 In the course of recommending rate designs and interclass shifts, Staff is mindful of a
6 number of things:

7 (1) Consideration of policy, such as rate continuity, rate stability, revenue
8 stability, minimization of rate shock to any one-customer class, meeting of
9 incremental costs, and consideration of promotional practices. Staff
10 endeavors to provide methods to implement in rates any Commission-ordered
11 overall change in customer revenue responsibility while promoting revenue
12 stability and efficiency. Staff must also balance this, to the extent possible,
13 with retaining existing rate schedules, rate structures, and important features
14 of the current rate design that reduce the number of customers that switch
15 rates looking for the lowest bill, while at the same time mitigating the
16 potential for rate shock. Rate schedules should be understood by all parties,
17 customers, and the utility as to proper application and interpretation.

18 (2) Staff strives to provide the Commission with a rate design recommendation
19 based on each customer class's relative cost-of-service responsibility, and
20 that will yield the total revenue requirement to all classes in a fair manner,
21 avoiding undue discrimination, and including methods to recover costs in a
22 timely manner. This ensures Liberty Midstates – MO's classes do not receive
23 an amount above the expenses associated with the provision of service, and
24 each class is contributing towards the rate of return.

25 (3) CCOS studies are not precise and should serve as a guide to setting rates. For
26 example, CCOS studies are based on a direct-filed revenue requirement and
27 the allocation of that revenue requirement among specific accounts, using a
28 specific rate of return. Unless the Commission approves that exact set of
29 accounting schedules and billing determinants that were filled in Staff's
30 Direct COS report, there is an inherent disconnect between the CCOS study
31 results used in this report, and the actual class cost of service that would
32 result at the conclusion of a case.

33 (4) In a general rate case resulting in an increase in a utility's overall revenue
34 requirement, Staff is reluctant to recommend reducing any class's rates while
35 the overall revenue requirement is increasing.

36 (5) In providing its rate design recommendation, Staff attempts to recommend
37 revenue-neutral shifts so that once the rate increase has been applied, a given

class does not underpay by greater than 5% of its revenue requirement while another class or classes do not overpay by greater than 5% of their revenue requirement.

Staff’s recommended interclass shifts to revenue responsibility are as follows:

- If the Commission approves Staff’s recommended partial rate district consolidation and Staff’s direct-filed revenue requirement, Staff recommends the interclass revenue shifts outlined in Table 5 below. If the overall increase in revenue requirement exceeds Staff’s direct-filed revenue requirement recommendation, Staff recommends that any additional revenue requirement be applied as an equal percentage increase to each charge provided in Table 2 earlier in the report.

Table 5: Staff’s Recommended Total Revenue Requirement for Each Rate Class

		Step 1		Step 3			
	Total Current Revenue	Revenue Shift	Adjusted Retail	Retail Increase	Total Revenue Requirement	Percent Increase	
Residential	\$ 15,370,801	\$ 492,398	\$ 15,863,199	\$ 923,902	\$16,787,100	9.21%	
Small General Service	\$ 2,224,667	\$ 337,411	\$ 2,562,078	\$ 133,719	\$2,695,797	21.18%	
Medium General Service	\$ 3,635,087	\$ (328,564)	\$ 3,306,523	\$ 218,496	\$3,525,019	-3.03%	
Large General Service	\$ 3,402,551	\$ (478,965)	\$ 2,923,587	\$ -	\$2,923,587	-14.08%	
Interruptible	\$ 271,625	\$ (22,280)	\$ 249,345	\$ 16,390	\$265,735	-2.17%	
Total	\$ 24,904,731	\$ -	\$24,904,731	\$ 1,292,444	\$26,197,238		

- If consolidation is not pursued, Staff recommends:
 - NEMO District:
 - The first \$225,000 (approximately 50% of the SGS class revenue deficiency) of additional revenue requirement be recovered through an increase to the SGS volumetric charge;
 - The next \$120,000 (approximately 25% of the Residential class revenue deficiency) of additional revenue requirement be recovered through an equal percentage increase to the Residential class volumetric charge and customer charge.

- 1 ○ SEMO District:
 - 2 ▪ The first \$262,000 (approximately 50% of the SGS class revenue
 - 3 deficiency) of additional revenue requirement be recovered
 - 4 through an increase to the SGS volumetric charge;
 - 5 ▪ The next \$400,000 (approximately 25% of the Residential class
 - 6 revenue deficiency) of additional revenue requirement be
 - 7 recovered through an equal percentage increase to the Residential
 - 8 class volumetric charge and customer charge.
- 9 ○ WEMO District:
 - 10 ▪ The first \$46,000 (approximately 50% of the SGS class revenue
 - 11 deficiency) of additional revenue requirement be recovered
 - 12 through an increase to the SGS volumetric charge;
 - 13 ▪ The next \$45,000 (approximately 25% of the Residential class
 - 14 revenue deficiency) of additional revenue requirement be
 - 15 recovered through an equal percentage increase to the Residential
 - 16 class volumetric charge and customer charge.

17 Specific rate design recommendations are made later in this report.

18 **A. Data Sources**

19 Staff's CCOS studies utilized Staff's revenue requirement positions as filed on March 2,
20 2018. This data includes:

- 21 • Adjusted Missouri investment and cost data by FERC account;
- 22 • Annualized, normalized rate revenues;
- 23 • Other operating and maintenance expenses;
- 24 • Depreciation and amortizations; and
- 25 • Taxes.

26 In addition, Staff reviewed Liberty Midstates - MO's current CCOS studies and other current
27 workpapers on the average cost of class meters and class billing information.

1 **B. Functions**

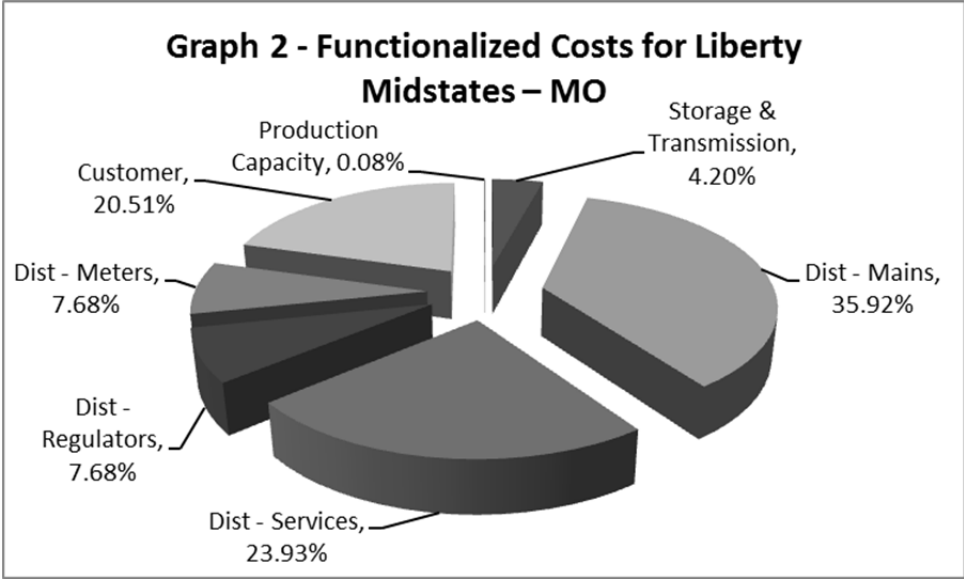
2 Natural Gas utilities differ from other utilities, such as electric, in that the production and
3 transmission of the commodity is largely accomplished by entities other than the utility itself.
4 Recovery of gas costs is made through the PGA, as opposed to the retail rates that are the subject
5 of this general rate case. Thus, the major functional cost categories Staff used in its CCOS
6 studies are Distribution and Customer. Within the Distribution Function, a distinction was made
7 between the mains, which are generally designed to deliver natural gas to multiple customers,
8 and the regulators, meters, and service lines used to deliver natural gas service to a specific
9 customer. The functional categories used in Staff’s CCOS studies include: Production, Storage
10 & Transmission, Distribution Mains, Distribution Meters, Distribution Regulators, Distribution
11 Services, Billing, Uncollectible Accounts, Deposits, Income Taxes, and Lighting.

12 The “Distribution Function” (combination of Distribution Mains, Distribution Meters,
13 Distribution Regulators, and Distribution Services) is the single largest cost component,
14 and represents 75% of the total cost for Liberty Midstates – MO, as shown in Graph 2
15 (79%, 71%, and 77% of the total cost for NEMO, SEMO, and WEMO respectively, as shown in
16 Graphs 3, 4, and 5).

17 The “Customer Function,” at 21% of the total costs for consolidated
18 Liberty Midstates - MO (19%, 22%, and 18% for NEMO, SEMO, and WEMO respectively)
19 includes deposits, uncollectible accounts, and billing.

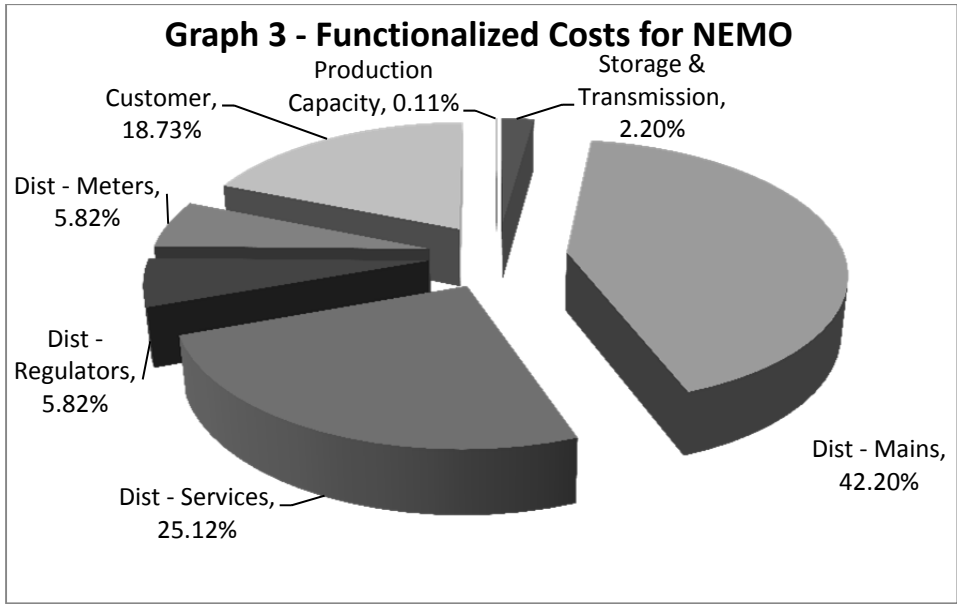
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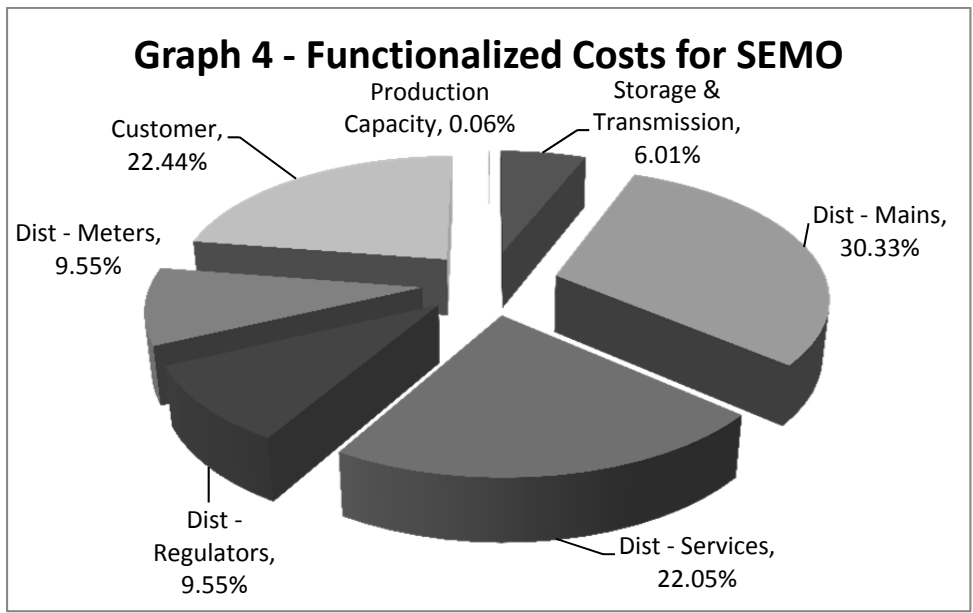
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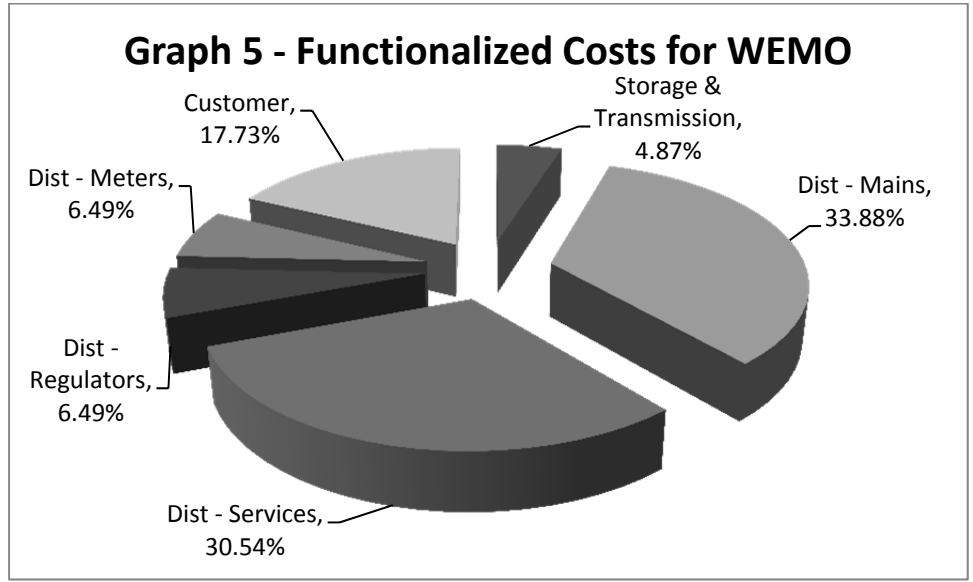
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Staff Expert/Witness: Robin Kliethermes and Michael L. Stahlman

6

C. Allocation of Distribution Costs

7

Distribution is the link in the chain built to deliver natural gas from the wholesale system

8

to Liberty’s customers’ homes and businesses. Liberty’s distribution plant includes underground

1 mains and laterals and meters, as well as service and labor expenses incurred for the operation
2 and maintenance of these distribution facilities. Staff developed a Peak and Average allocation
3 factor for Distribution Mains, which is the same type of factor used by the Company. However,
4 the peaks and averages used by Staff are based on the billing determinants developed by Staff.
5 For the Residential, Small General Service, and Medium General Service classes for each
6 district, Staff's peak day usage estimates are based on the regression analysis of each district's
7 and class' respective monthly usages and a maximum heating degree day value. For the Large
8 General Service and Interruptible classes for each district, the average daily usage on a monthly
9 basis was determined using Staff's billing determinants, and a factor of 1.2 was applied to
10 estimate a peak day usage.

11 For the allocation of meters, regulators and service lines, Staff used a weighted customer
12 allocator. For all allocators, the Residential Class is assumed to have a weight of 1, and the other
13 classes typically have values greater than or equal to 1. Staff used the allocator developed by the
14 Company for meters, regulators, and service lines, because the results of the Company's study
15 appear to be reasonable. In the next rate case, Staff intends to use a random sample of customers
16 for each class to develop the allocators for meters, regulators, and service lines.

17 *Staff Expert/Witness: Daniel I. Beck, PE*

18 **D. Allocation of Customer-Related Costs**

19 Customer-related costs include expenses incurred for billing and customer services.
20 Customer-related costs are costs necessary to make natural gas service available to the customer,
21 regardless of whether or not the service was utilized. Examples of such costs include meter
22 reading, billing, postage, customer accounting, and customer service expenses. Staff allocated
23 these costs to customer classes based on the number of customers in the class.

1 **E. Revenues**

2 Operating revenues consist of (1) the revenue that the utility collects from the sale of
3 natural gas to Missouri retail customers (“rate revenues”), and (2) the revenue the utility receives
4 for providing other services (“other revenues”). Staff uses rate revenues in developing its rate
5 design recommendation and will use them to develop the rate schedules required to implement
6 the Commission’s ordered revenue requirement and rate design in this case. Staff, in its CCOS
7 Study, used the normalized and annualized class rate revenues contained in Staff’s COS Report
8 filed March 2, 2018, totaling \$24,749,339 for consolidated Liberty Midstates – MO, \$10,237,762
9 for NEMO, \$12,695,214 for SEMO, and \$1,816,363 for WEMO.

10 **F. Allocation of Taxes**

11 Taxes consist of real estate and property taxes, payroll tax expenses, and income taxes.
12 Real estate and property tax expenses are directly related to the original cost investment in plant
13 for Liberty Midstates – MO; therefore, these expenses are allocated to customer classes on
14 the basis of the sum of the previously allocated production, distribution, and general
15 plant investment.

16 Payroll tax expenses are directly related to payroll expenses for Liberty Midstates – MO,
17 so these expenses are allocated to customer classes on the basis of previously allocated
18 payroll expenses.

19 Lastly, Staff separately allocated income taxes for Liberty Midstates – MO to customer
20 classes based on the percentage of net income produced by each customer class.

21 *Staff Expert/Witness: Robin Kliethermes and Michael L. Stahlman*

1 **IV. Partial Rate District Consolidation**

2 In this case, Liberty Midstates – MO proposed to consolidate all three rate districts,
 3 NEMO, SEMO, and WEMO, into one consolidated rate district. Table 6 below provides the
 4 current rates charged to each customer class in each rate district.⁵

5 **Table 6: Current Rates Per Class Per District**

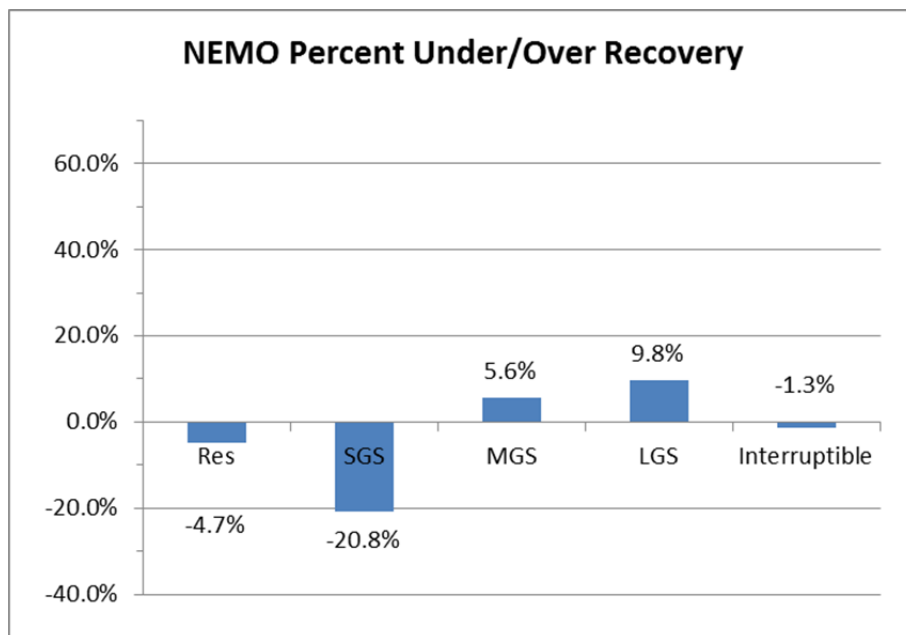
Liberty Utilities		Customer Charge	Distribution
Residential Service	NEMO	\$ 20.00	\$ 0.27690
	SEMO	\$ 13.75	\$ 0.18370
	WEMO	\$ 20.00	\$ 0.19206
Small Firm GS	NEMO	\$ 28.26	\$ 0.07187
	SEMO	\$ 17.46	\$ 0.05782
	WEMO	\$ 23.80	\$ 0.06954
Medium Firm GS	NEMO	\$ 124.60	\$ 0.23180
	SEMO	\$ 126.99	\$ 0.21124
	WEMO	\$ 118.01	\$ 0.26103
Large Firm GS	NEMO	\$ 623.01	\$ 0.14583
	SEMO	\$ 634.95	\$ 0.18255
	WEMO	\$ 590.03	\$ 0.17794
Interruptible LV	NEMO	\$ 623.01	\$ 0.14583
	SEMO	\$ 634.95	\$ 0.18255
	WEMO	\$ 590.03	\$ 0.17794

6
 7 As can be seen, the current residential customer charge is the same between WEMO and NEMO,
 8 but WEMO’s distribution rate is more akin to SEMO’s distribution rate. Both SEMO and
 9 WEMO currently have residential rates that are lower than NEMO’s residential rate at all levels
 10 of usage. This remains true even when the Liberty Midstates – MO’s current ISRS rates are

⁵ Further, it is important to note that many of Liberty Midstates – MO’s tariff provisions, such as availability and character of service for each rate class, are the same across districts. For example, the customer size requirement to be an MGS customer in SEMO’s rate district is the same as the customer size requirement to be an MGS customer in NEMO’s rate district.

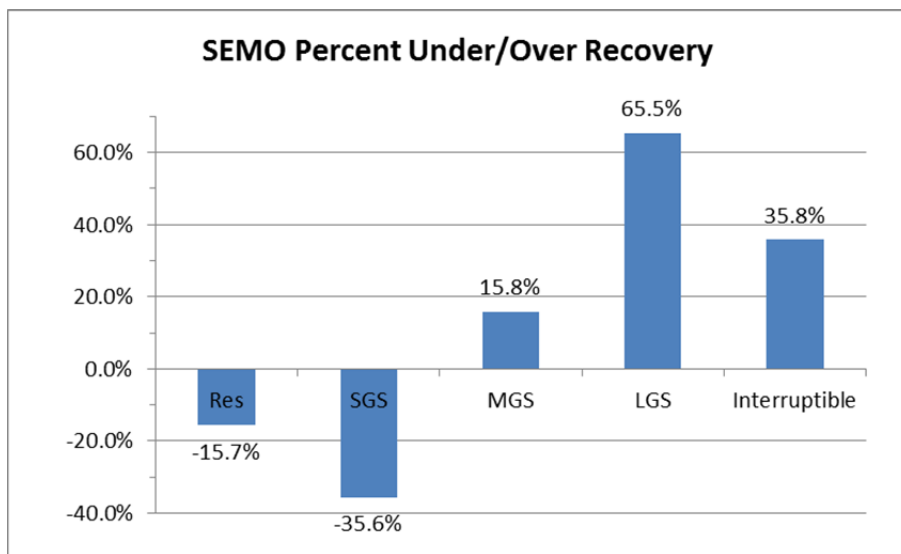
1 factored in (\$1.49, \$0.79, and \$0.05 for the residential class of NEMO, WEMO, and SEMO
2 respectively). All three rate districts' current SGS rates are lower than any other classes' rates, at
3 all levels of usage, with the exception of the lowest levels of usage in the residential classes.
4 SEMO's current SGS is also lower than either WEMO's or NEMO's SGS rates at all levels of
5 usage. Additionally, below are three graphs that show the percent under- or over- recovery from
6 Staff's CCOS studies for each class in each rate district.

7 **Graph 6: The Current Under/Over Recovery for each of NEMO's Rate Classes**

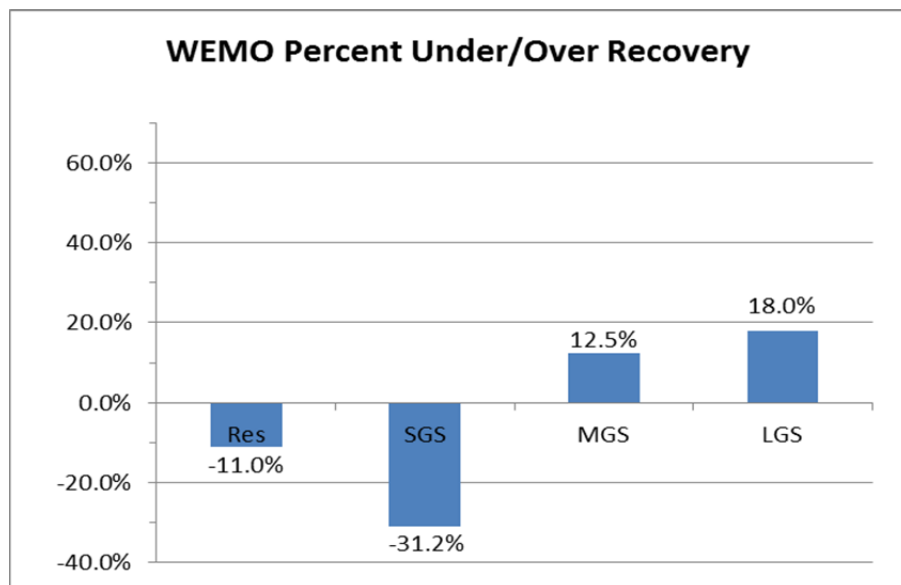


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15 *continued on next page*

1 **Graph 7: The Current Under/Over Recovery for each of SEMO's Rate Classes**



2
3 **Graph 8: The Current Under/Over Recovery for each of WEMO's Rate Classes⁶**



4
5 Based on the graphs above, each class is under- or over- recovering relatively consistently across
6 the districts. However, the LGS⁷ and Interruptible classes are significantly over-recovering in
7 SEMO when compared to other classes. Additionally, while the SGS class is under-recovering
8 by a large amount in all districts, the amount of under-recovery is approximately 15% more in

⁶ WEMO currently has no customers in its Interruptible class.

⁷ LGS means Large General Service.

1 SEMO as compared to NEMO.⁸ This under-recovery is reflected by the lower rates of SEMO's
2 current SGS class compared to NEMO's SGS rates. The under-recovery of residential rates is
3 also 11% greater in SEMO as compared to NEMO. Given these differences, under full
4 consolidation, large customer impacts would occur in the class within the rate district that is the
5 furthest from the average of the same class within the two remaining districts. For example,
6 given the difference in SEMO's SGS rates compared to WEMO's and NEMO's SGS rates, if the
7 classes would be fully consolidated, the customer impacts in the SGS district, on average, would
8 increase almost 65%; and the revenue recovered from SEMO's SGS class would be above the
9 full cost of service for the class. Because of the differences in current tariffed rates and the
10 current amount of over- or under-recovery in each rate class in different rate districts, full
11 consolidation would cause large differences in the impacts on customers in the same rate class,
12 but different rate districts. Instead, Staff recommends partial district consolidation, where each
13 rate class has the same distribution rate across districts, but different customer charges.

14 **V. *Rate Design***

15 The process of determining how Liberty Midstates – MO's non-gas revenue requirement
16 will be allocated among the different customer classes is known as rate design. However, it is
17 important to note that the non-gas revenue requirement, the subject of this rate case, affects only
18 a portion of a customer's bill. As seen in Figure 1 below, the rate design discussed herein is
19 related to the items listed underneath the "Delivery Charge" and "Distribution Commodity"
20 portions of the bill. The items listed underneath "PGA," which can be approximately half of a
21 customer's bill depending on usage, are subject to provisions in Liberty Midstates – MO's PGA
22 tariffs. A sample bill for Liberty Midstates – MO is attached as Schedule CCOS-d2.

⁸ Staff is focusing on SEMO and NEMO, Liberty Midstates – MO's largest districts, in this paragraph as the differences between these two districts drive our recommendation to not consolidate at this time.

1 **Figure 1: Portion of Liberty Midstates – MO Sample Bill**

ACCOUNT ACTIVITY	
Previous Balance:	43.06
Payments Received:	43.06 CR
Balance Forward:	0.00
Current Charges:	
Delivery Charge	20.00
Distribution Commodity 11.0000 units @ 0.19206	2.11
PGA 11.0000 units @ 0.57396	6.31
Taxes:	0.57
Miscellaneous Charges/Credits:	
Late Fees	1.00
Total Amount Due:	29.99

2
3 Rate design is the method used to determine the rates and rate components to be charged to
4 individual classes of customers.

5 The following factors are of particular relevance to Staff's rate design in this case:

- 6 • Moving rate districts toward consolidation while mitigating customer impact;
- 7 • Incorporating methods to implement in rates any Commission-ordered overall
8 change in customer class revenue responsibility;
- 9 • Retaining, to the maximum extent possible, existing rate schedules and rate
10 structures;

11 Staff's rate design recommendations in this case are:

- 12 • Move towards rate district consolidation by utilizing a uniform volumetric charge
13 across the rate districts while retaining district-specific customer charges, as
14 illustrated in Table 2 above. If the overall increase in revenue requirement
15 exceeds Staff's direct-filed revenue requirement recommendation, Staff
16 recommends that any additional revenue requirement be applied as an equal
17 percentage increase to each charge provided in Table 2.

18 Incorporating Staff's recommended rate design and interclass shifts as described above for
19 Liberty Midstates – MO results in the rates below in Table 2 (for illustrative purposes only,
20 repeated for convenience):

1

Table 2: Staff’s Recommended Rate Structure

		Customer Charge	Distribution
Residential Service	NEMO	\$ 22.00	\$ 0.22828
	SEMO	\$ 16.00	
	WEMO	\$ 22.00	
Small Firm GS	NEMO	\$ 30.00	\$ 0.09715
	SEMO	\$ 25.00	
	WEMO	\$ 28.00	
Medium Firm GS	NEMO	\$ 130.00	\$ 0.21085
	SEMO	\$ 125.00	
	WEMO	\$ 120.00	
Large Firm GS	NEMO	\$ 700.00	\$ 0.14251
	SEMO	\$ 750.00	
	WEMO	\$ 750.00	
Interruptible LV	NEMO	\$ 650.00	\$ 0.15481
	SEMO	\$ 650.00	
	WEMO	\$ 650.00	

2

3 Staff’s specific rate recommendations provided above are highly dependent on the
4 overall revenue requirement and on mitigation of customer impact. Staff will continue to
5 evaluate the costs and revenues for each rate district and each rate class, and if there are
6 significant changes in cost drivers across rate classes and rate districts, Staff will adjust the
7 recommendation accordingly.

- 8 • As an alternative, based on guidance from the Commission in previous cases,
9 Staff has prepared an inclining summer block Residential rate design for each
10 division, as shown in Table 7 below, with the volumetric charge per ccf to
11 increase for usage beyond 30 ccf.

12

Table 7: Residential Rate Design with Summer Inclining Block

Rates - Summer Incline Option	Customer Charge	Winter Block	Summer Inclining Block 1 (≤ 30 ccf)	Summer Inclining Block 2 (> 30 ccf)
NEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
SEMO Residential	\$ 16.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
WEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176

13

1 • Liberty Midstates – MO’s residential tariff sheets include the provision requiring
2 customers to use Type A or B meters even though a few customers have a
3 different meter. Staff recommends that the Type A or B meter provision be
4 eliminated from the residential tariff sheets.

5 • If consolidation is not pursued, Staff recommends a rate design to (1) make some
6 movement to address the SGS rate continuity issue; (2) generally move each
7 class’s revenue toward its class cost of service, and (3) mitigate customer impact.

8 ○ **NEMO District** - Staff recommends any awarded increase be applied in the
9 following manner:

10 1. The first \$225,000 (approximately 50% of the SGS class revenue deficiency)
11 of additional revenue requirement be recovered through an increase to the
12 SGS volumetric charge,

13 2. The next \$120,000 (approximately 25% of the Residential class revenue
14 deficiency) of additional revenue requirement be recovered through an equal
15 percentage increase to the Residential class volumetric charge and customer
16 charge,

17 3. Any additional increase up to Staff’s recommended revenue requirement for
18 NEMO be applied as an equal percentage increase to all NEMO rates, except
19 for the LGS volumetric charge and customer charge, including the charges
20 adjusted in steps 1 & 2,

21 4. Any additional increase beyond Staff’s recommended revenue requirement for
22 NEMO be applied as an equal percentage increase to all NEMO rates,
23 including the LGS volumetric charge and customer charge, and the charges
24 adjusted in steps 1, 2, & 3.

25
26
27 *continued on next page*

1 ○ **SEMO District** - Staff recommends any awarded increase be applied in the following
2 manner:

- 3 1. The first \$262,000 (approximately 50% of the SGS class revenue deficiency)
4 of additional revenue requirement be recovered through an increase to the
5 SGS volumetric charge,
- 6 2. The next \$400,000 (approximately 25% of the Residential class revenue
7 deficiency) of additional revenue requirement be recovered through an equal
8 percentage increase to the Residential class volumetric charge and customer
9 charge,
- 10 3. Any additional increase up to Staff's recommended revenue requirement for
11 SEMO be applied as an equal percentage increase to all SEMO rates, except
12 for the LGS volumetric charge and customer charge, including the charges
13 adjusted in steps 1 & 2,
- 14 4. Any additional increase beyond Staff's recommended revenue requirement for
15 SEMO be applied as an equal percentage increase to all SEMO rates,
16 including the LGS volumetric charge and customer charge, and the charges
17 adjusted in steps 1, 2, & 3.

18 ○ **WEMO District** - Staff recommends any awarded increase be applied in the
19 following manner:

- 20 1. The first \$46,000 (approximately 50% of the SGS class revenue deficiency) of
21 additional revenue requirement be recovered through an increase to the SGS
22 volumetric charge,
- 23 2. The next \$45,000 (approximately 25% of the Residential class revenue
24 deficiency) of additional revenue requirement be recovered through an equal
25 percentage increase to the Residential class volumetric charge and customer
26 charge,
- 27 3. Any additional increase up to Staff's recommended revenue requirement for
28 WEMO be applied as an equal percentage increase to all WEMO rates, except

1 for the LGS volumetric charge and customer charge, including the charges
2 adjusted in steps 1 & 2,

- 3 4. Any additional increase beyond Staff’s recommended revenue requirement for
4 WEMO be applied as an equal percentage increase to all WEMO rates,
5 including the LGS volumetric charge and customer charge, and the charges
6 adjusted in steps 1, 2, & 3.

7 *Staff Expert/Witness: Robin Kliethermes and Michael L. Stahlman*

8 **A. Residential Rates**

9 Currently, Liberty Midstates – MO’s residential rates consist of a customer charge and a
10 flat volumetric rate specific to each rate district as shown below.

11 **Table 8: Current Residential Tariffed Customer Charge and Distribution Rates**

Liberty Utilities		Customer Charge	Distribution
Residential Service	NEMO	\$ 20.00	\$ 0.27690
	SEMO	\$ 13.75	\$ 0.18370
	WEMO	\$ 20.00	\$ 0.19206

12
13 Staff’s CCOS found that using strict allocation, the cost to be recovered through the residential
14 customer charge is approximately \$25.49 per customer for NEMO, \$19.76 per customer for
15 SEMO, and \$24.90 per customer for WEMO. On a consolidated basis, the residential customer
16 charge is approximately \$22.01. Staff included the below costs in the calculation of the
17 residential customer charge:

- 18
- Distribution – services (investment and expenses)
 - Distribution – meters and regulators (investment and expenses)
 - Distribution – customer installations
 - Customer deposits
 - Customer billing expenses
- 19
20
21
22

- 1 • Uncollectible accounts (write-offs)
- 2 • Customer service & information expenses
- 3 • Portion of income taxes

4 In order of priority, Staff's rate design recommendation in this case is: (1) generally move
5 each class's revenue across districts toward the consolidated class cost of service,
6 (2) mitigate customer impact, and (3) generally move each class within each district toward its
7 district-specific class cost of service to the maximum extent possible. Given these
8 priorities, Staff recommends moving the district-specific customer charges toward the
9 consolidated cost of service.

10 Given the overall rate increase in this case, increasing the SEMO residential customer
11 charge to \$19.76 would cause the proposed consolidated volumetric rate to be lower than the
12 volumetric rate currently charged to all residential customers in Liberty Midstates – MO.
13 The impact of this is that the majority of NEMO residential customers, and larger residential
14 customers in WEMO, would actually receive a bill decrease while the residential customers in
15 the SEMO district would receive a bill increase. This result provides an inappropriate price
16 signal when Staff's CCOS shows that residential customers in all three rate districts should
17 receive an increase.

18 As an alternative to Staff's recommended Residential rate design for
19 Liberty Midstates - MO set forth above, based on guidance from the Commission pertaining to
20 natural gas residential rates in Case Nos. GR-2017-0215 and GR-2017-0216, Staff has prepared
21 an alternative Residential rate design for the Commission's consideration, which includes a
22 summer inclining block as shown in Table 9 below, with the volumetric charge per ccf to
23 increase for usage beyond 30 ccf.

Table 9: Alternative Residential Rate Design with Inclining Summer Block

Rates - Summer Incline Option	Customer Charge	Winter Block	Summer Inclining Block 1 (≤ 30 ccf)	Summer Inclining Block 2 (> 30 ccf)
NEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
SEMO Residential	\$ 16.00	\$ 0.22828	\$ 0.22143	\$ 0.29176
WEMO Residential	\$ 22.00	\$ 0.22828	\$ 0.22143	\$ 0.29176

Staff’s basis for the inclining block residential rate is based on analysis of Liberty Midstates - MO’s cumulative frequency analysis. First, Staff recommends that the Commission define summer months as the billing months of May through October, since the shoulder months of April and November include a larger portion of customers who use natural gas for space-heating than the months of May through October. A 30 ccf block break point is appropriate since it provides an allowance for customers who use natural gas for water-heating purposes and sufficient billing units to develop an appropriate incline.

Generally, the functionalization of the fully allocated cost of service is the preferred basis for designing the rates applicable to a given customer class. However, various public policy concerns, ranging from bill comprehension to mitigating company disincentives to promote energy conservation, temper strict adherence to the seemingly precise results of these cost-causation studies. Selection of a policy-based inclining block rate design requires consideration of the delineations between the blocks, and the curve of the incline. Currently, Liberty Midstates – MO charges all residential customers based on a flat volumetric rate year around and does not differentiate between summer and winter. If the Commission is interested in implementing the inclining block rate in the summer months only, Staff recommends that the summer months be defined as the billing months of May through October.⁹

Staff Expert/Witness: Robin Kliethermes and Michael L. Stahlman

⁹ It is important to note that Liberty Midstates – MO has approximately 46,000 residential customers across the three districts with SEMO being the largest district with approximately 27,000 residential customers.

1 **VI. Excess Flow Valves: Consistency with requirements of the Federal**
2 **Pipeline Safety Regulations**

3 Excess Flow Valves (“EFV”) are in-line valves that automatically limit the flow
4 of natural gas when the downstream flow exceeds a predetermined closing flow rate.
5 When installed on natural gas distribution service lines, EFVs can protect the customer from
6 the negative consequences of accidental damage to the service line, such as a break in the
7 service line from ground movement, natural disasters or excavation damage.

8 The currently effective regulatory requirements to install EFVs are detailed in a
9 Final Rule published in the Federal Register on October 14, 2016 (81 FR 70987). This final
10 rule amended 49 CFR 192.383 to expand the requirement for installation of EFVs, effective
11 April 14, 2017.

12 After April 14, 2017, 49 CFR 192.383(b) requires that each operator must install
13 an EFV on any new or replaced service line¹⁰ serving the following types of services before the
14 line is activated:

- 15 (1) A single service line to one single family residence (SFR);¹¹
16 (2) A branched service line¹² to a SFR installed concurrently with the primary SFR
17 service line (i.e., a single EFV may be installed to protect both service lines);
18 (3) A branched service line to a SFR installed off a previously installed SFR service line
19 that does not contain an EFV;
20 (4) Multifamily residences with known customer loads not exceeding 1,000 SCFH¹³ per
21 service, at time of service installation based on installed meter capacity; and

¹⁰ In the cited regulation, replaced service line means a gas service line where the fitting that connects the service line to the main is replaced or the piping connected to this fitting is replaced.

¹¹ In the cited regulation, service line serving single-family residence means a gas service line that begins at the fitting that connects the service line to the main and serves only one single-family residence (SFR).

¹² In the cited regulation, branched service line means a gas service line that begins at the existing service line or is installed concurrently with the primary service line but serves a separate residence.

¹³ SCFH means standard cubic foot per hour.

1 (5) A single, small commercial customer served by a single service line with a known
2 customer load not exceeding 1,000 SCFH, at the time of meter installation, based on
3 installed meter capacity.

4 There are some exceptions to the regulatory requirements to install EFVs. 49 CFR 192.383(c)
5 states that an operator need not install an excess flow valve if one or more of the following
6 conditions are present:

- 7 (1) The service line does not operate at a pressure of 10 psig¹⁴ or greater throughout the
8 year;
- 9 (2) The operator has prior experience with contaminants in the gas stream that could
10 interfere with the EFV's operation or cause loss of service to a customer;
- 11 (3) An EFV could interfere with necessary operation or maintenance activities, such as
12 blowing liquids from the line; or
- 13 (4) An EFV meeting the performance standards in 49 CFR 192.381 is not commercially
14 available to the operator.

15 Requirements for the installation of EFVs on customers' existing service lines are found in
16 49 CFR 192.383(d), which states that existing service line customers who desire an EFV on
17 service lines not exceeding 1,000 SCFH and who do not qualify for one of the exceptions in
18 49 CFR 192.383(c) may request an EFV to be installed on their service lines. If an eligible
19 service line customer requests an EFV installation, an operator must install the EFV at a
20 mutually agreeable date. The operator's rate-setter determines how and to whom the costs of the
21 requested EFVs are distributed.

22 There are specific requirements for how an operator must notify customers of their right
23 to request an EFV. The notification must be made in the following manner:

- 24 (1) Except as specified in 49 CFR 192.383(c) and except for operators of
25 master meter systems and liquefied petroleum gas operators with fewer than

¹⁴ psig means pounds per square inch gauge.

1 100 customers, each operator must provide written or electronic notification to
2 customers of their right to request the installation of an EFV. Electronic
3 notification can include emails, web site postings, and e-billing notices.

4 (2) The notification must include an explanation for the service line customer of the
5 potential safety benefits that may be derived from installing an EFV. The
6 explanation must include information that an EFV is designed to shut off the
7 flow of natural gas automatically if the service line breaks.

8 (3) The notification must include a description of EFV installation and replacement
9 costs. The notice must alert the customer that the costs for maintaining and
10 replacing an EFV may later be incurred, and what those costs will be to the
11 extent known.

12 (4) The notification must indicate that if a service line customer requests installation
13 of an EFV and the load does not exceed 1,000 SCFH and the conditions of
14 49 CFR 192.383(c) are not present, the operator must install an EFV at a
15 mutually agreeable date.

16 The Missouri Public Service Commission has not yet adopted the most recent federal
17 amendments to 49 CFR 192.383 into Missouri pipeline regulations in 4 CSR 240-40.030.
18 These federal amendments are one of the subjects of the June 22, 2017, Staff Motion to Initiate
19 Review of Necessary Revisions to the Commission's Rules Regarding Natural Gas Safety in
20 docket AW-2017-0336. The Commission subsequently opened docket GW-2017-0347 so that
21 Staff could begin taking measures to adopt these federal amendments into Missouri pipeline
22 safety regulations.

23 The Commission Staff notified Liberty Midstates of these amendments to the federal
24 regulation in a letter the Commission Staff sent on October 20, 2016,¹⁵ containing information
25 regarding the publication of the Final Rule. Liberty Midstates has taken actions to comply with
26 these federal amendments by providing notification to customers through its web site.

¹⁵ The October 20, 2016 letter was addressed to Missouri Natural Gas Operators and was sent to representatives these operators previously designated to receive such correspondence from the Safety Engineering Unit Staff.

1 Liberty Midstates' P.S.C. MO. No. 2, Original Sheet No. 109 (Tariff Sheet 109) conflicts
2 with currently effective regulatory amendments in two aspects. The first is related to tariff
3 provisions for existing service lines, and the second is related to tariff provisions for new and
4 replacement service lines.

5 For existing service lines, Tariff Sheet 109 is silent regarding the rights of existing
6 service line customers to request EFVs. Staff recommends that the rights of customers with
7 existing service lines to request an EFV and the costs to these customers should be addressed in
8 the tariff because 49 CFR 192.383(d) requires that the operator's rate-setter determines how and
9 to whom the costs of the requested EFVs are distributed. Staff recommends that
10 Liberty Midstates provide draft revisions to its tariff that address the rights of customers with
11 existing service lines to request an EFV and the costs to these customers for installing an EFV.
12 Liberty Midstates should describe to whom the costs will be distributed (i.e. 100% to requesting
13 customer, 50% to requesting customer, other) for the Commission's consideration.

14 For new and replacement service lines, Tariff Sheet 109 states that the Company shall
15 notify customers of the availability of the option for the Company to install an excess flow valve
16 prior to the installation of a new or replacement service line that is operated at a pressure of at
17 least 10 psig, and such installation shall be made only upon agreement of the customer to pay the
18 installation cost and future maintenance, replacement or removal costs that are specified on
19 Tariff Sheet No. 21. Tariff Sheet 109 therefore conflicts with 49 CFR 192.383(b) which requires
20 the operator to install an excess flow valve on all new or replacement service lines meeting the
21 conditions of 49 CFR 192.383(b) discussed above. Staff recommends that the language in Tariff
22 Sheet 109 regarding installation of EFVs on new service lines or scheduled replacement service
23 lines be amended and that there should not be any charge to customers for installation, future

1 maintenance, replacement, or removal of an EFV that is installed due to the requirements of
2 49 CFR 192.383(b).

3 The Company has provided notification to existing service line customers regarding the
4 customer's right to request an EFV on its website.¹⁶ Staff recommends that the Company also
5 include information in at least one mailing sent to customers so that customers who do not have
6 internet access or who do not routinely review the Company's website postings will be made
7 aware of this right.

8 *Staff Expert/Witness: Kathleen A. McNelis, PE*

9 **VII. Tariff Organization**

10 Liberty Midstates filed seven proposed revised tariff sheets which set forth revised rate
11 schedules and certain revised charges for all of Liberty Midstates' service territories in the state
12 of Missouri. The proposed revised tariff sheets are:

13 Revised Sheet No. 2
14 Revised Sheet No. 19
15 Revised Sheet No. 22
16 Revised Sheet No. 24
17 Revised Sheet No. 26
18 Revised Sheet No. 28
19 Revised Sheet No. 30

20 The Company also filed six proposed original tariff sheets for a Volume Balancing Adjustment
21 Rider. The new proposed tariff sheet numbers are:

22 Original Sheet No. 67
23 Original Sheet No. 67.1
24 Original Sheet No. 67.2

¹⁶ Company response to Staff Data Request No. 0093.1.

1 Original Sheet No. 67.3

2 Original Sheet No. 67.4

3 Original Sheet No. 67.5

4 Staff reviewed the tariff sheets for format and content and compared the proposed revised sheets
5 to the tariff sheets currently in effect. Staff has found no errors or corrections to be made in the
6 proposed revisions or the proposed new tariff sheets.

7 While reviewing the proposed revised tariff sheets, staff also looked at the entirety of the
8 tariff book currently in effect. Since the adoption of the Atmos Energy Corporation (“Atmos”)
9 tariff book, tariff sheets have only been updated with the name Liberty Utilities (Midstates
10 Natural Gas) Corp., d/b/a Liberty Utilities if a change was necessary to a tariff sheet. There are
11 currently 87 tariff sheets with Atmos company information on them.

12 Staff recommends the Company work with the Rate & Tariff Design Department to
13 discuss a tariff book revision to take place within six to twelve months after the completion of
14 the rate case. The revision of substantial changes to company information and program names is
15 needed for consistency throughout the tariff book.

16 *Staff Expert/Witness: Kory J. Boustead*

17 **VIII.** *Staff Schedule CCOS-d1 and CCOS-d2*

18 **IX.** *Appendix - Staff Credentials*

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Liberty Utilities)
(Midstates Natural Gas) Corp. d/b/a)
Liberty Utilities' Tariff Revisions)
Designed to Implement a General Rate)
Increase for Natural Gas Service in the)
Missouri Service Areas of the Company)

Case No. GR-2018-0013

AFFIDAVIT OF DANIEL I. BECK, PE

STATE OF MISSOURI)
)
)
COUNTY OF COLE)

ss.

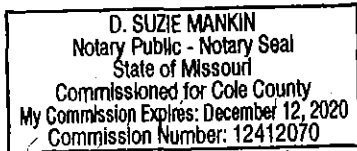
COMES NOW DANIEL I. BECK, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

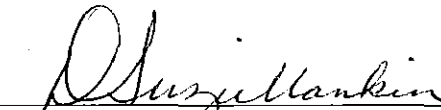
Further the Affiant sayeth not.


DANIEL I. BECK, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 15th day of March 2018.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Liberty Utilities)
(Midstates Natural Gas) Corp. d/b/a) Case No. GR-2018-0013
Liberty Utilities' Tariff Revisions)
Designed to Implement a General Rate)
Increase for Natural Gas Service in the)
Missouri Service Areas of the Company)

AFFIDAVIT OF KORY J. BOUSTEAD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW KORY J. BOUSTEAD and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

Further the Affiant sayeth not.

Kory J. Boustead

KORY J. BOUSTEAD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 15th day of March 2018.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2020
Commission Number: 12412070

Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Liberty Utilities)
(Midstates Natural Gas) Corp. d/b/a)
Liberty Utilities' Tariff Revisions)
Designed to Implement a General Rate)
Increase for Natural Gas Service in the)
Missouri Service Areas of the Company)

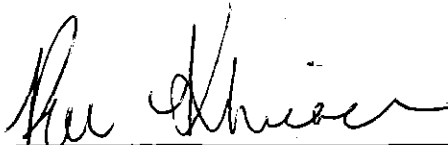
Case No. GR-2018-0013

AFFIDAVIT OF ROBIN KLIETHERMES

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW ROBIN KLIETHERMES and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

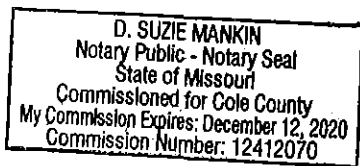
Further the Affiant sayeth not.

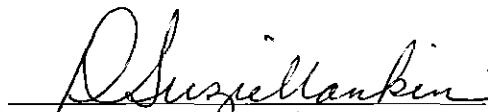


ROBIN KLIETHERMES

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 16th day of March 2018.





Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

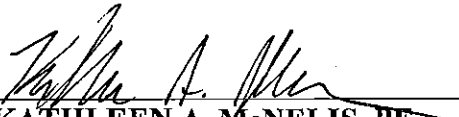
In the Matter of Liberty Utilities)
(Midstates Natural Gas) Corp. d/b/a) Case No. GR-2018-0013
Liberty Utilities' Tariff Revisions)
Designed to Implement a General Rate)
Increase for Natural Gas Service in the)
Missouri Service Areas of the Company)

AFFIDAVIT OF KATHLEEN A. McNELIS, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

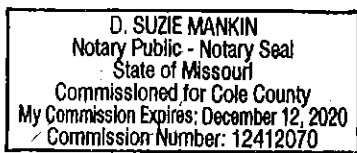
COMES NOW KATHLEEN A. McNELIS, PE and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to her best knowledge and belief.

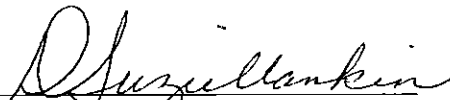
Further the Affiant sayeth not.


KATHLEEN A. McNELIS, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 15th day of March 2018.




Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Liberty Utilities)
(Midstates Natural Gas) Corp. d/b/a) Case No. GR-2018-0013
Liberty Utilities' Tariff Revisions)
Designed to Implement a General Rate)
Increase for Natural Gas Service in the)
Missouri Service Areas of the Company)

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW MICHAEL L. STAHLMAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Staff Report - Class Cost of Service; and that the same is true and correct according to his best knowledge and belief.

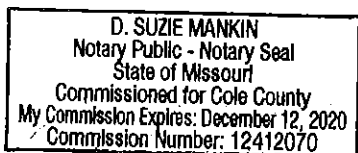
Further the Affiant sayeth not.

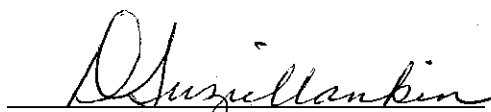


MICHAEL L. STAHLMAN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 15th day of March 2018.





Notary Public

Schedule CCOS-d1: Definitions

A. Fundamental Concepts of Gas Class-Cost-of-Service

Billing Determinants: the quantity of each charge type to be billed to collect an allowed revenue requirement. Every charge type that appears in a company's rate structure must have an associated billing determinant. Usage-related billing determinants are developed from the normalized and annualized usages and revenues Staff developed as part of its Cost of Service filing.

The normalized and annualized usages and revenues developed by Staff serve two purposes in each rate case. The first purpose is to determine the normalized and annualized level of revenue that is generated by existing tariffs. The second purpose is, along with the ordered revenue requirement resulting from a case, to determine the appropriate value for each rate element to be included in the compliance tariff sheets. This latter usage is commonly referred to as billing determinants.

Cost of Service: prudently incurred expenses and return on investment to provide safe and adequate service to its customers for a given time period in a given retail jurisdiction.

Class Cost of Service (CCOS) Study: a continuation and refinement of Staff's Cost-of-Service Revenue Requirement Study, resulting in an estimate of the non-gas costs incurred in providing natural gas service to each customer class of a utility in a time period.

The Staff CCOS Study consists of the following steps: 1) costs are categorized (functionalized) based upon the specific role they play in the operations of a utility; 2) costs are classified by whether they are customer related, demand related, or energy related; and 3) functionalized/classified costs are allocated to customer classes. The sum of all allocated costs to a customer class is called that class' cost of service.

The cost of service of each customer class is compared to the annualized, normalized revenues the utility collects from each class through its non-gas rates, plus each class' allocated share of revenues from other revenues. The results of a CCOS Study are expressed in terms of additional revenue, if any, required from each class for the utility to recover its cost of serving that class.

Cost Allocation: a procedure by which common or joint costs are apportioned among customers or classes of customers.

Cost Functionalization: the grouping of rate base and expense accounts according to the specific function they play in the operations of a utility.

Rate Design: Rate design is the relative pricing of one element of a rate structure to another, within or across classes. Cost causation is typically the driving factor of rate design,

although other policies must be considered including minimization of rate shock to any one customer class or customers within a class, meeting of incremental costs, rate continuity, rate stability, revenue stability, consideration of promotional practices, and impact on energy efficiency policies. For purposes of rate design, cost causation is typically deemed as the distribution of costs that results from the allocation of a vertically integrated utility's gross revenue requirement net of other revenues. It is necessary to make an exception to this general assumption in certain instances when considering costs that would not be incurred but-for a customer, such as the cost of energy purchased through the integrated energy market to serve a customer.

Rate Design Study: while a CCOS Study focuses on the revenue responsibility of customer classes, a rate design study focuses on both the equitable pricing of the individual customers within each class and sending the proper price signal to customers. The purpose of the rate design process is to recover costs in each time period from each rate component for each customer in a way that equates the cost of providing service with the amount the customer is billed in accordance with the rate schedule.

Rate Schedule: one or more tariff sheets that describe the availability requirements and prices applicable to a particular type of retail gas service. A customer class used in a CCOS Study may consist of one or more rate schedules.

Rate Structure: rate structure is composed of the various types of monthly prices charged for the utility's products or services. At the most basic level there are:

- charges of a fixed dollar amount to be paid each month irrespective of the amount of the product taken and designed to collect the costs of providing service that do not vary by customer usage;
- charges of a variable monthly dollar amount that are described as a price per unit charged on the total units of the product consumed over the month and that are designed to collect the costs of providing service that do vary by customer usage;

Customers who use large amounts of natural gas, typically industrial customers, may also include a demand element based on an estimate of maximum daily usage. Natural gas utilities also include purchased gas adjustment (PGA) charges as an element of a customer's bill, which are intended to "pass-through" the wholesale cost of natural gas; this is not typically included in the discussion of retail revenue recovery.

A good rate structure is a compromise between the complexity necessary to match cost causation to revenue recovery as precisely as possible and the level of understandability and predictability of bills and revenues desired by utilities, customers, and regulators. The tension between the interest in providing revenue stability and indicating cost causation should also be considered when reasonably designing rates and selecting rate structure components. Changes to rate structure may require additional metering or customer information system investment, and

the cost of that investment should be weighed against the benefit of the increased complexity.
Rate Values (Rates): the per-unit prices the utility charges to provide service to its customers. Rates are expressed as dollars per unit of volume (Ccf, Mcf) or per unit of energy (MMBtu, therm), etc.

Revenue neutral: the revenue shifts among classes do not change the utility's total system revenues.

Tariff: a document filed by a regulated entity with either a federal or state commission, listing the rates (prices) the regulated utility will charge to provide service to its customers as well as the terms and conditions that it will follow in providing service.

B. Units of Measurement:

Btu: British thermal unit.

MMBtu: one million Btus. One MMBtu is approximately the amount of energy contained in 1,000 Cf (or 1 Mcf) of natural gas, 83.3 pounds of coal, 10.917 gallons of propane, 8 gallons of gasoline, or 293.083 kWh or electricity.

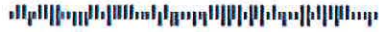
Ccf: a unit of volume of one hundred cubic feet of natural gas, which contains approximately 1,000 Btus of energy.

Therm: 100,000 Btus of energy, approximately equal to the energy contained in 100 Cf of natural gas.



1 Liberty Utilities
2751 North High Street
Jackson, MO 63755
Visit our website at www.libertyutilities.com

FOR QUESTIONS REGARDING YOUR BILL CALL (855) 872-3242
FOR EMERGENCIES CALL (855) 644-8134



>000005 9123806 0002 092170 20Z

5 JOHN Q SAMPLE
9999E CHESTNUT ST
RICH HILL, MO 99979

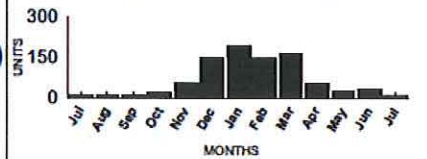
Statement

ACCOUNT INFORMATION

2 Account Number: XXXXXXXX-XXXXXXX
3 Statement #: 2471131
3 Bill Date: 07/30/2015
3 Due Date: 08/20/2015

4 Service Address: 999 S 28TH ST
RICH HILL, MO 11121

MONTHLY CONSUMPTION CHART



7 Meter #	Rate Code	Read Type	# Days	Service Dates	Current	Previous	Multiplier	Usage
122051	61-GRF	Auto Estimate	45	06/15/15 - 07/30/15	2095	2084	1.00000	11

8 CALL US IMMEDIATELY IF YOU SMELL GAS: If you suspect a natural gas leak, leave the premises and then call our emergency toll-free number at 1-855-644-8134 or 911. ALL BILLING UNITS ARE CCF (hundred cubic feet).

ACCOUNT ACTIVITY	
9 Previous Balance:	43.06
10 Payments Received:	43.06 CR
11 Balance Forward:	0.00
12 Current Charges:	
Delivery Charge	20.00
Distribution Commodity 11.0000 units @ 0.19206	2.11
PGA 11.0000 units @ 0.57396	6.31
Taxes:	0.57
13 Miscellaneous Charges/Credits:	
Late Fees	1.00
15 Total Amount Due:	29.99

16 SPECIAL MESSAGE
ESTIMATED METER READING
Most customers use very little natural gas during the warmer months. Therefore, to keep costs low, Liberty Utilities may estimate your meter reading during the month of August. If your usage is estimated, it will be noted on the bill. Any difference between actual and estimated usage will be adjusted in the next month's meter reading.

Please include your account number on your check
Make checks payable to Liberty Utilities

17 Payment Coupon

Please check box and see reverse for: Update phone/address Assistance Donation
Service Address: 999 S 28TH ST
RICH HILL, MO 11121

JOHN Q SAMPLE
9999E CHESTNUT ST
RICH HILL, MO 99979

18 LATE PAYMENT FEE:
Payments received after the due date are subject to 1.5% per month late fee.

20 Liberty Utilities Midstates
75 Remittance Drive, Suite 1741
Chicago, IL 60675-1741

KEEP THIS PORTION FOR YOUR RECORDS

11 BALANCE FORWARD	14 VOID & MISC CHG/CREDITS	12 CURRENT CHARGES	15 AMOUNT DUE	ENCLOSED AMOUNT
0.00	1.00	28.99	29.99	

787XXXXXXXX-XXXXXXXX00000002899100000002999

Glossary of Terms

1. **Contact Information** - Please use this information to mail, email or call Liberty Utilities. Use the Emergency Number if you suspect a natural gas leak.
2. **Account Number** – This is your account number. The first 8 digits represent the location of your service and will change if you move. The last 8 digits represent your customer number and will never change. Use the full 16 digit Account Number whenever you phone, write or e-mail us with a question or to make a payment.
3. **Due Date** - To avoid late payment charges, please pay your bill on or before the Bill Due Date.
4. **Service Address** - This is the address being charged for usage.
5. **Mailing Address** - Each month the bill is sent to this address which may differ from the Service Address.
6. **Monthly Consumption Chart** - This graph illustrates consumption at the Service Address on a monthly basis.
7. **Meter Information** - Details about Meter Number, Rate Code, Read Type, the number of billing days, and newly incurred consumption in units are shown here.
8. **General message** – This section is used to communicate important messages to you.
9. **Previous Balance** – This is the Total Amount Due from your previous statement.
10. **Payments Received** – This amount is the total of all payments received and posted to your account. It may take up to 2 business days to post the payment to your account. If you have recently made a payment it may not have posted at the time of billing.
11. **Balance Forward** - This amount is the difference of the amount of your previous bill and payments made since then.
12. **Current Charges** – This amount is the total of charges you incurred and any appropriate taxes for the billing period.
13. **Miscellaneous Charges/Credits** – This amount is the total of all Miscellaneous Charges/Credits applied to your account and are unique for the billing period.
14. **Void & Miscellaneous Charges/Credits** – This amount is the total of all Miscellaneous Charges/Credits and all Void Charges/Credits that are applied to your account for the billing period.
15. **Total Amount Due** – This is the cumulative charge including Balance Forward, Miscellaneous Charges/Credits and charges for the current billing period.
16. **Special Message** - This section is used to communicate regulatory information and additional important messages to you.
17. **Payment Coupon** – Include this portion of your statement if you are mailing a payment or take it with you when you are making a payment at one of our designated payment locations.
18. **Update Phone/Address** - This box must be checked if you are informing us of a change of address and/or telephone number. Be sure to complete the form with details on the back of the Payment Coupon.
19. **Assistance Donation** – This box must be checked if you wish to donate to our Voluntary Community Energy Assistance Fund. Be sure to complete the form with details on the back of the Payment Coupon.
20. **Remittance Address** - This is the address for mailing a payment. Please ensure this address is visible through the envelope window.