Exhibit No.:	
Issues:	*Rate Design, District Consolidation, Weather Normalization Adjustment Rider*
Witness:	*Michael L. Stahlman*
Sponsoring Party:	*MO PSC Staff*
Type of Exhibit:	*Surrebuttal Testimony*
Case No.:	*GR-2018-0013*
Date Testimony Prepared:	*May 9, 2018*

MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION

TARIFF/RATE DESIGN

SURREBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

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

CASE NO. GR-2018-0013

Jefferson City, Missouri
May 2018

TABLE OF CONTENTS

SURREBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

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

CASE NO. GR-2018-0013

SURREBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

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

CASE NO. GR-2018-0013

Q. Please state your name and business address.

A. My name is Michael L. Stahlman, and my business address is Missouri Public Service Commission, P.O. Box 360, Jefferson City, Missouri, 65102.

Q. Are you the same Michael L. Stahlman that supported sections in Staff's Class Cost of Service/Rate Design Report ("CCOS Report") and that filed rebuttal testimony in this case?

A. Yes.

Q. What is the purpose of your testimony?

A. The purpose of my surrebuttal testimony is to respond to Division of Energy ("DE") witness Martin R. Hyman and Liberty Midstates – MO witnesses Jill Schwartz and Timothy S. Lyons concerning rate design issues addressed in their testimonies. These include the phase-in approach to full consolidation, and the Rider VBA and Weather Normalization Adjustment Rider.

RATE DESIGN

Q. Which parties have provided rebuttal testimony regarding the class cost of service study ("CCOS") and rate design in this case?

A. Staff, DE, and Liberty Midstates – MO.

Q. Did DE provide any rate design recommendations in this case?

A. DE did not provide any rate design recommendations in direct, however, DE witness Martin R. Hyman provided a general outline of some residential rate structure features in his rebuttal testimony.[1] Mr. Hyman recommended a three-tiered winter and summer differentiated blocked design for the Residential class, however, he did not go through the process of determining how a revenue requirement will be allocated among the company's different customer classes or amongst the blocks of his proposed rate structure. Since, DE did not actually recommend a specific rate for each rate block, or a specific method of allocating costs to each rate block; it is difficult to know the impact on customers. Mr. Hyman further seems to recommend no increases in the customer charge.

Q. What are Staff's concerns with Mr. Hyman's rate structure recommendation?

A. Mr. Hyman's proposal consists of a three blocked rate structure where the rate for block one is lower than the rate for block two, but the rate for block three decreases and is lower than block two. However, Mr. Hyman did not provide any actual rates to accompany his rate structure approach. Mr. Hyman's proposed rate structure tends to place more recovery on higher users, while at the same time attempting to mitigate the rate increase on the utility's highest users. His proposal becomes even more complex should the commission enact a Weather Normalization Adjustment Rider. Combining this with the fact that much of use is determined by weather, it's unclear what price signals customers will actually receive from the proposed design.

[1] Rate Design: The process of determining how a revenue requirement will be allocated among the company's different customer classes, such as residential, industrial and commercial.

Rate Structure: Rate structure is composed of the various types of monthly prices charged for the utility's products or services (e.g. a fixed dollar amount to be paid each month irrespective of the amount of the product taken, a variable monthly dollar amount that is dependent on customer usage, a purchased gas adjustment (PGA)). One criterion for setting rate structures has to do with how well the structure tracks costs and reflects cost causation. Another criterion deals with the ease or difficulty in administering the rate, coupled with the customers' understanding of cost causation, i.e., what factors cause the customer to incur a higher or lower monthly bill.

Further, on pages 14 and 15 of his rebuttal testimony, Mr. Hyman states:

> Customer comprehension of rate design is thus important for ensuring that customers receive price signals as to their consumption choices. *Simpler rate designs are easier to understand*, and education can help with customer comprehension as well. [Emphasis added]

Staff is concerned that without additional customer education some customers could be caught off guard with this rate structure, and depending on what the rates are, could have an unexpectedly high bill.

Q. For Staff's alternative rate design, Mr. Hyman also recommends that the month of May be considered a winter month.[2] Does Staff agree?

A. No. All other utilities that split between summer and winter periods include shoulder months in the summer period. For natural gas, typically summer begins with either the April or May billing month and ends with the October billing month. Without the inclusion of May, the volumetric billing determinants used to set the volumetric rate would be cut in half.

Q. Did Staff consider including the month of April as a summer month?

A. Yes. Staff considered including the April billing month as the first summer month in its alternative rate design in conjunction with a 50 ccf breakpoint. However, due to concerns relating to space heating customers, Staff ultimately recommended a 30 ccf breakpoint, with the month of May serving as the first summer month. If the Commission decides to exclude May as a summer month, Staff would recommend lowering the ccf breakpoint to 20 ccf, which could begin to affect customers who use natural gas to cook and heat water.

[2] Rebuttal Testimony of Martin R. Hyman, p. 18, l. 15 – p. 19, l. 11.

RATE DISTRICT CONSOLIDATION

Q. Why does Mr. Hyman oppose Staff's partial rate district consolidation?

A. Mr. Hyman cites differences in plant investment per customer and residential customer usage patterns as reasons to not consolidate the rate districts.

Q. Does Staff agree that there are differences in plant investment per customer per rate district?

A. Generally, yes. However, Staff found that approximately 10% of total net plant was corporately allocated to the rate districts and not directly caused by any one rate district. Although this may not seem like a lot, 10% of total net plant equates to approximately 35% of Liberty Midstates – MO's total depreciation expense.

Q. Is there a difference in the total cost to serve each rate district?

A. In general, yes. The table below shows the cost to serve each rate district on a per ccf basis.

	Average Cost of Service per ccf				
	Res	SGS	MGS	LGS	Interruptible
NEMO	$ 0.65981	$ 0.43251	$ 0.32873	$ 0.15597	$ 0.16522
SEMO	$ 0.58308	$ 0.36966	$ 0.31725	$ 0.12335	$ 0.16801
WEMO	$ 0.64484	$ 0.41650	$ 0.32287	$ 0.16671	
Class average across districts	$0.61752	$0.39978	$0.32246	$0.13480	$0.16627

Q. Why did Staff recommend partial consolidation rather than no consolidation, given the differences in plant investment and the cost to serve each rate district?

A. Staff's recommended rate design acknowledges the difference in plant investment among rate districts by maintaining district specific customer charges. However, the difference in the total cost of service on a per ccf basis is relatively small; given the level

of costs corporately allocated to each district, it is reasonable to move towards consolidation by aligning the volumetric charges but maintaining unique customer charges.[3]

Q. Mr. Hyman asserts that there are differences in residential customer usage patterns between the districts.[4] Do you agree?

A. Yes. Although each district may have a slightly different average use per customer, and have a different level of heating degree days, Staff found that customer response to the heating degree days is fairly similar for each district. The coefficients of customers' responses to changes in heating degree days are 0.1142597 for the Northeast district, 0.1181620 for the West district, and 0.1108690 for the Southeast district. This means that for a thousand heating degree days (1,000), which is roughly equivalent to a cold winter month, a difference in average usage between rate districts is less than 10 ccf. While the heating degree days are different in each rate district, a customer's response to the temperature is fairly consistent from one rate district to the next.

Q. Does Staff support Liberty Midstates – MO's phased approach to full consolidation of rates discussed in the rebuttal testimony of Mr. Lyons and Ms. Schwartz?

A. No. Staff's CCOS does not support a full consolidation of the rate districts at this time. Additionally, since no party has proposed consolidating the ISRS, it is unlikely that the fixed charges would remain identical across all rate districts.

INCOME AND NATURAL GAS CONSUMPTION

Q. Mr. Hyman states on page 14 that low-income customers tend to use less natural gas. Does Staff agree?

[3] Each district may not have a unique customer charge, but all three districts will not have the same customer charge.
[4] Rebuttal Testimony of Martin R. Hyman, p. 10, ll. 2-5.

A. To date, Staff has no evidence that low-income customers use less natural gas on average. Figure 1 is a graph of income compared to usage for Missouri residents identified in the 2009 Residential Energy Consumption Survey ("RECS") as using natural gas that also provided bill information. The 2009 RECS is the same data that is used in the study Mr. Hyman cites.

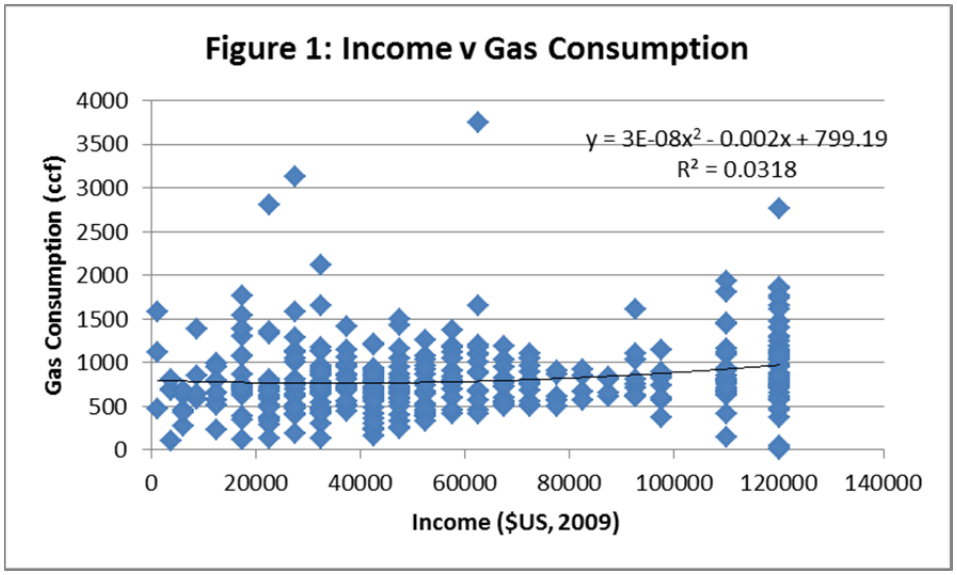
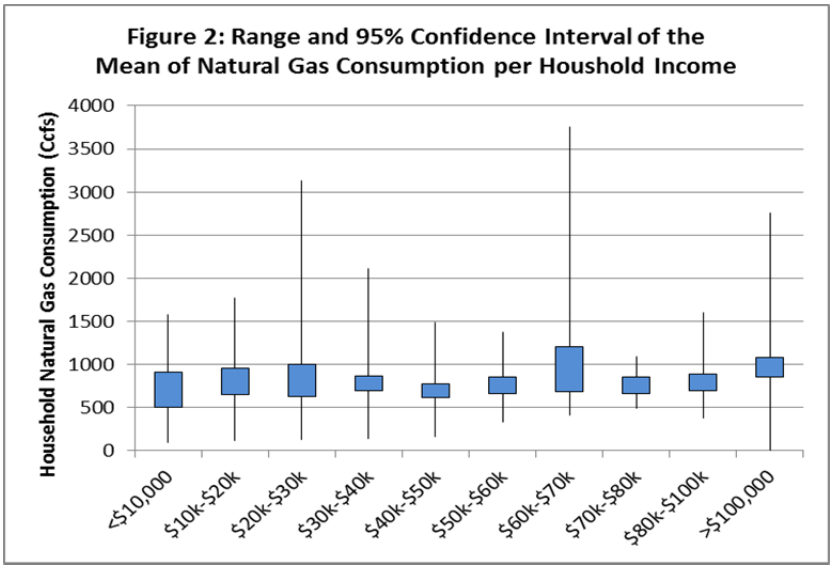


Figure 2 below uses the same information as Figure 1, but shows the range of consumption in different income groups and the confidence interval around the mean consumption[5].

continued on next page

[5] The mean (i.e. average) consumption is an estimated average that depends on factors like how large the sample is compared to the total population. A confidence interval provides the range of values where the actual estimate is likely to occur. For example, in Figure 2, I am 95% confident that the actual average usage of natural gas customers with less than $10,000 income is between 506 ccf and 915 ccf. A 95% confidence interval was used out of convention; a higher confidence (e.g. 99%) would mean a wider range.



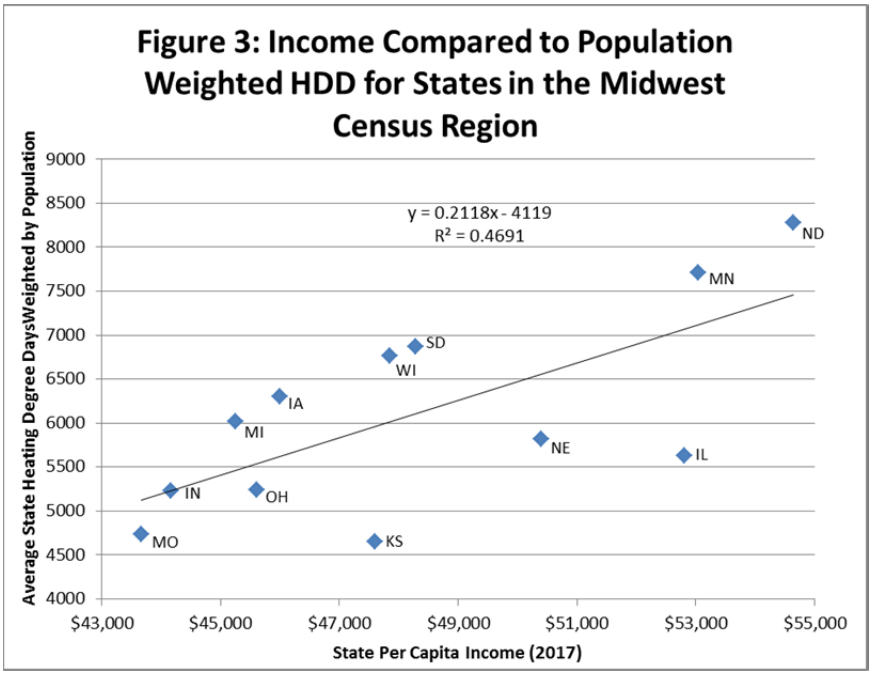
As can be seen, there is not a clear correlation between income and natural gas consumption. Additionally, the wide confidence interval[6] (the rectangular box) is in the hundreds of ccf. Since these boxes overlap, we cannot say with confidence that there is a significant difference between the average consumption of natural gas between customers in the different income categories.

Q. Why would the regional RECS data, used in the study cited by Mr. Hyman on page 14 of his rebuttal testimony, show a correlation between income and consumption, but not when that same data set is limited to Missouri residents?

A. The analysis performed is missing certain variables, resulting in biased results. For example, in the Midwest region there is a correlation between a state's average income and its weighted average heating degree days, as seen in Figure 3, below. An analysis that does not factor in the potential of higher income people living in colder climates, like the

[6] In statistics a confidence interval is a special form of estimating a certain parameter. With this method, a whole interval of acceptable values for the parameter is given instead of a single value, together with a likelihood that the real (unknown) value of the parameter will be in the interval. The confidence interval is based on the observations from a sample, and hence differs from sample to sample.

study cited by Mr. Hyman, would tend to show higher consumption with higher income, when in reality it's just a function of climate.



Q. Does this mean that there is no correlation between income and consumption?

A. No, it means that Staff currently has no evidence of a correlation at this time.

Q. Do you agree that Low Income Home Energy Assistance Program ("LIHEAP") recipients use more natural gas because they receive a bill credit?[7]

A. Not necessarily. It's unclear whether LIHEAP recipients use more because they receive a bill credit or if they are targeted for a bill credit because of their high relative use. In other words, the correlation could be a function of the program design, and is not necessarily the cause. What is surprising is that Mr. Hyman states this at the same time he proposed the Low-Income Assistance Program—which would provide a bill credit to

[7] Rebuttal Testimony of Martin R. Hyman, p. 14, ll. 7-9.

low-income customers—while spending much of his testimony concerned about sending the right price signals to encourage energy efficiency.

RIDER VBA/WEATHER NORMALIZATION ADJUSTMENT RIDER

Q. What is DE's position on the Rider VBA?

A. DE is not opposed to the Rider VBA,[8] but recommends that any ordered VBA provide bill credits on a per-customer basis, but impose surcharges on a volumetric basis.

Q. Does Staff agree with the proposed change in structure for either the Rider VBA or a Weather Normalization Adjustment Rider?

A. No. As the rider is meant to correct for changes in normal weather, which correlates to volumetric usage, it should credit/charge on a volumetric basis. Splitting between a fixed bill credit and volumetric rate, in addition to over-complicating billing, is inherently unjust since it shifts the benefits of reduced usage to customers who already have lower usage, and costs to those with higher usage.

Q. Has Staff reviewed Liberty's proposed Weather Normalization Adjustment Rider discussed in the Rebuttal Testimony of Timothy S. Lyons?

A. Yes. In general, their proposed tariff sheets are similar to the Weather Normalization Adjustment tariff sheets discussed in my rebuttal testimony. However, Liberty's proposed tariff sheets lack some important details, most prominently the weather normalization coefficients (the betas) and the method of weather normalization. As discussed by Staff witness Dr. Seoung Joun Won in Staff's Cost of Service Report, Staff uses a ranked method to normalize weather.

[8] Rebuttal Testimony of Martin R. Hyman, p. 7, l. 2.

Q. Has Staff changed its recommendation regarding a Weather Normalization Adjustment Rider?

A. No. As discussed in my rebuttal testimony, Liberty has not demonstrated that a rider is needed. Staff's recommendation continues to be that the Commission should not order the implementation of a Weather Normalization Adjustment Rider. However, should the Commission decide to approve one, Staff also continues to recommend limiting the rider to the residential classes due to concerns about the customers in the Small General Service class and the rate continuity issues discussed in my rebuttal testimony.

Q. Does this conclude your surrebuttal testimony?

A. Yes it does.

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 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 Surrebuttal Testimony, 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 9th day of May, 2018.

Notary Public

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: June 28, 2019
Commission Number: 15207377