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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. GR-2019-0077

REBUTTAL TESTIMONY

OF

RYAN P. RYTERSKI

ON BEHALF OF

UNION ELECTRIC COMPANY

d/b/a AMEREN MISSOURI

St. Louis, Missouri
June, 2019

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RYAN P. RYTERSKI

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Ryan P. Ryterski and my business address is One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

Q. Are you the same Ryan P. Ryterski that filed direct testimony in this proceeding?

A. Yes, I am.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. My rebuttal testimony responds to the Missouri Public Service Commission ("Commission") Staff Cost of Service Report and Staff Class Cost of Service Report ("Staff Reports") related to development of test year billing units and the resulting normalized revenues. While Union Electric Company d/b/a Ameren Missouri's ("Ameren Missouri" or "Company") and Staff's recommended billing units are not materially different for most of the rate classes, Staff's recommended billing units for most classes do not warrant a detailed response, I identify an issue in Staff's calculation of billing units for the Residential class. Specifically, I distinguish Ameren Missouri's weather normalization of test year sales for the Residential class from Staff's approach. Additionally, I rebut the weather normalization

regression modeling developed by Staff as it pertains to Staff's proposed Weather Normalization Adjustment Rider ("WNAR").

III. BILLING UNITS

Q. What billing unit issues will you be addressing?

A. I will be addressing Staff's calculation of weather normalized block sales, which is a key input to determine the normalized level of test year Residential revenues.

Q. What are the current charges for the Residential class under the existing rate structure?

A. Under the existing Residential rate structure, each customer pays a customer charge of $15 per month and a usage charge of $0.7952 per Ccf for the first 30 Ccf of gas usage each month. I would note, however, that both the Company and Staff recommend a Residential rate design change in this case from the existing tariff structure. Specifically, both parties recommend collecting the usage-related revenues in a flat rate — i.e., using the same charge for all units of gas consumption, rather than in a declining block structure where all the delivery charge revenue is recovered in the first 30 Ccf per customer per month. To the extent that the Commission adopts this recommendation, any issues related to the determination of normalized first block usage will be moot, as the level of normalized first block sales will not be relevant for setting rates. I will however, address the issues that the Company has identified with Staff's calculation of first block sales because Staff presented an alternate rate design proposal that features an inclining block rate. Neither the Staff nor the Company have endorsed this rate — in fact, Company witness Michael W. Harding explains why this rate should not be adopted. However, if the Commission would

order implementation of such an alternative inclining block rate proposal, it is important to use appropriate levels of first block sales to establish the rate.

Q. Why is it important to accurately calculate first block sales?

A. To the extent that the test year first block usage numbers are overstated in Staff's analysis, Staff will overstate the current level of normalized revenues, and potentially understate the need for a rate increase for the Company to have an opportunity to collect its revenue requirement from the Residential class.

Q. Did Staff use the same Residential customer counts for the test year as the Company?

A. No. Staff annualized Residential customer counts to reflect growth.

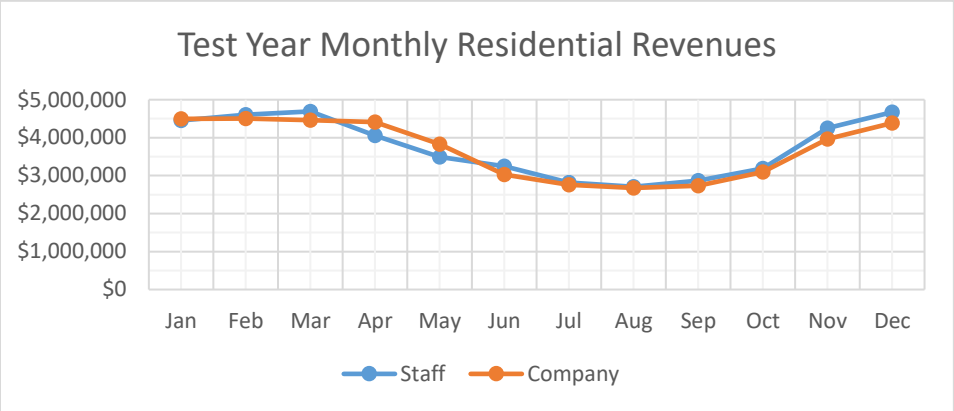
Q. Do you take issue with the customer counts that have been adjusted for growth?

A. No. The Company does not have an issue with the method Staff used to perform the growth adjustment, and the application of the adjusted counts results in a reasonable level of test year customers.

Q. Are the test year first block usage numbers overstated in Staff's analysis?

A. Yes. One of the red flags was that the month with the highest revenue for the test year was March. Figure 1 shows that Staff's March revenue does not follow a reasonable pattern, but represents a peak month.

Figure 1



Q. Explain why you would not expect to see this peak of revenue in March.

A. I would not expect a peak in March for a couple of reasons. First, because cold weather is a primary driver of natural gas usage, we can typically correlate colder weather or more heating degree days ("HDDs") with higher usage and higher total revenues. January and February had the highest levels of total reportable usage, and consequently were the months that Ameren Missouri reported the highest revenues for the test year. The weighted average HDD totals were 1,215 and 956 respectively for these two months. The weighted average HDDs for March in the test year was just 686.

Second, the existing declining block rate structure was deliberately designed to stabilize revenues in the winter (mitigate total revenue fluctuations). By collecting all distribution costs in the first 30 Ccf of usage per customer each month, this rate design essentially caps the amount of distribution revenues that can be realized by the Company because any higher levels of usage beyond 30 Ccf per month produce no incremental distribution revenues. Since almost all customers exceed the 30 Ccf threshold in the colder months of the year, the January and February revenue levels seen in Figure 1 above can be viewed as a de facto cap on the amount of revenues the Company can realize in winter months. The fact that Staff's March (and to a lesser extent December) revenues exceed the

level of January and February revenues, calls into question the validity of Staff's weather normalization calculations.

Q. Is there additional evidence that the March and December revenues are set at unrealistically high levels?

A. Yes. I show the implicit block 1 usage per customer resulting from Staff's normalization in Table 1 below.

Table 1

Month	Customer Count	Block 1 Usage	Block 1 Usage/Customer
January	119,149	3,350,269	28.12
February	119,879	3,526,426	29.42
March	119,247	3,650,246	30.61
April	118,890	2,856,166	24.02
May	118,446	2,158,720	18.23
June	117,784	1,866,938	15.85
July	117,533	1,322,795	11.25
August	117,420	1,189,645	10.13
September	117,509	1,388,583	11.82
October	117,686	1,784,830	15.17
November	118,665	3,102,976	26.15
December	119,509	3,618,747	30.28

Q. How do you know these average block 1 usage numbers are not accurate?

A. It is impossible for average block 1 usage to be greater than 30 Ccf because, as I mentioned above, any usage over 30 Ccf gets applied to block 2, which produces no incremental distribution revenues. Therefore, the absolute highest block 1 usage a customer could be billed for in a given month would be 30 Ccf, and the average block 1 use per customer must be below this level. In Table 1 above, the average block 1 usage per customer in both March and December exceeds 30 Ccf.

Q. Do these discrepancies have an impact on the overall revenue requirements that both Staff and Ameren Missouri recommend in this case?

A. Not necessarily. Because both Staff and the Company are recommending that the standard rate design for the Residential class be modified to remove the usage blocking methodology, the development of revenue requirements using blocks 1 and 2 usage will not have an impact on recovery of future revenue requirements. If block rates are employed, however, these discrepancies in use per customer calculations could have a substantial impact. For example, the overstated March and December Revenues mentioned above were 5% and 6.5% higher than those reported by Ameren Missouri in the same months.

Q. In the event that block rates are ordered, what billing units do you recommend?

A. If block rates are ordered by the Commission, Ameren Missouri's block 1 and 2 billing units should be used because of the issues identified with Staff's billing units above.

IV. WEATHER NORMALIZATION

Q. Did Staff's weather normalization methodology differ from the methodology used by Ameren Missouri?

A. Yes.

Q. What was the primary difference between Ameren Missouri's and Staff's weather normalization calculations?

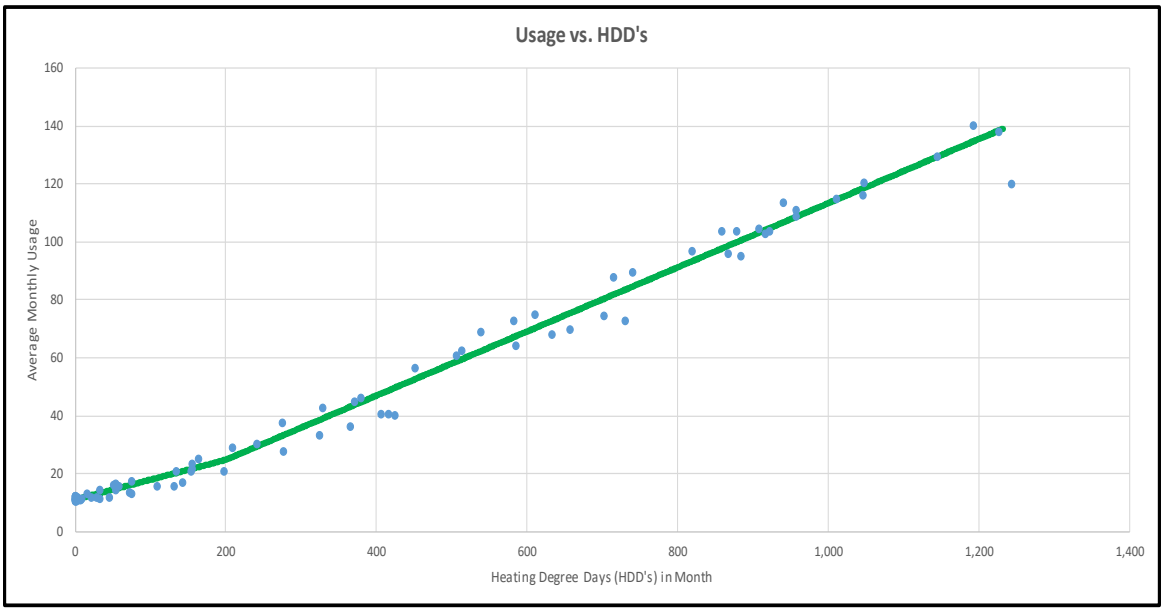
A. As discussed in my direct testimony, the Company used a spline technique in our regression model that reflects a different relationship between usage and weather

during colder higher-usage months, than in milder months. Staff's weather coefficient calculation developed a single coefficient that assumes the response of usage to temperature is constant year round, regardless of season or any other factor.

Q. Please elaborate on your reasoning for introducing this spline into your regression calculation.

A. A regression technique called a spline was used to differentiate the relationship of usage and HDDs during very cold months (those with monthly HDDs greater than 200), and milder months with fewer HDDs. It is logical that in milder spring and fall months, not all customers begin heating their homes at the same temperature threshold. It follows then, that the incremental usage on the system for each degree the temperature falls is higher in the colder winter months, when virtually all customers have their heating systems running, than in the spring and fall when not all customers are running their heaters. The Company's spline recognizes this difference between seasonal usage patterns and ascribes a higher level of incremental usage per degree of temperature decline to the colder winter months. This phenomenon can be observed in Figure 2, which shows a line with a more moderate slope when temperatures are milder, and a greater slope in the coldest periods.

Figure 2



Q. Were there any other differences between the Company's and Staff's weather coefficient calculations?

A. Yes. In addition to introducing a spline to increase the accuracy of the Company's coefficient calculation, Ameren Missouri also observed 92 months of actual weather and customer usage data to provide a more robust data set from which to draw statistical conclusions about the relationship between usage and weather.

Q. How many months were observed by the Staff in running its regressions?

A. The Staff used the 12 months of the test year to develop its regression lines compared to the 92 months of data that Ameren Missouri observed in developing its regression equation.

Q. How does Staff's regression model fit the observed usage and temperature data?

A. Figure 3 below compares Staff's regression lines with the regression line created by Ameren Missouri that was shown above. Notice the divergence between Staff's regression line and the observed data points in the lower temperature ranges reflected on the left side of the graph. To assist in the viewing of this portion of the graph, Figure 4 is a magnified picture that highlights the 0 to 400 Ccf range to better depict the change in customer usage in relation to weather for the warmer months compared to the colder months (greater than 200 HDD).

Figure 3

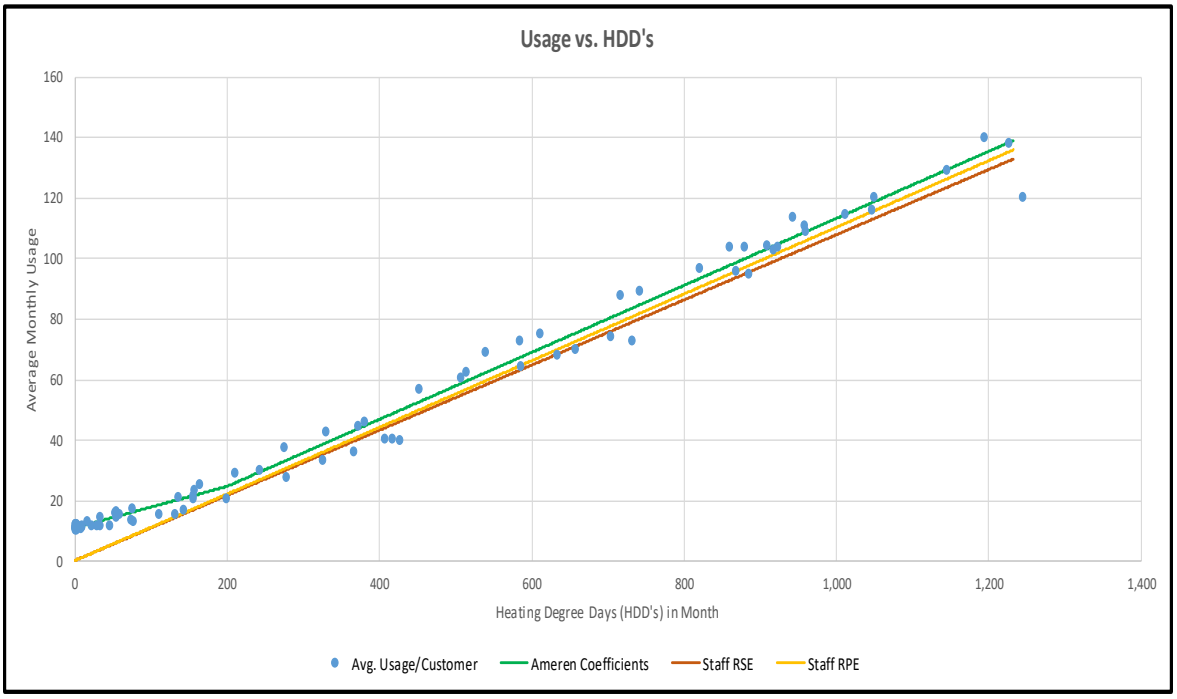
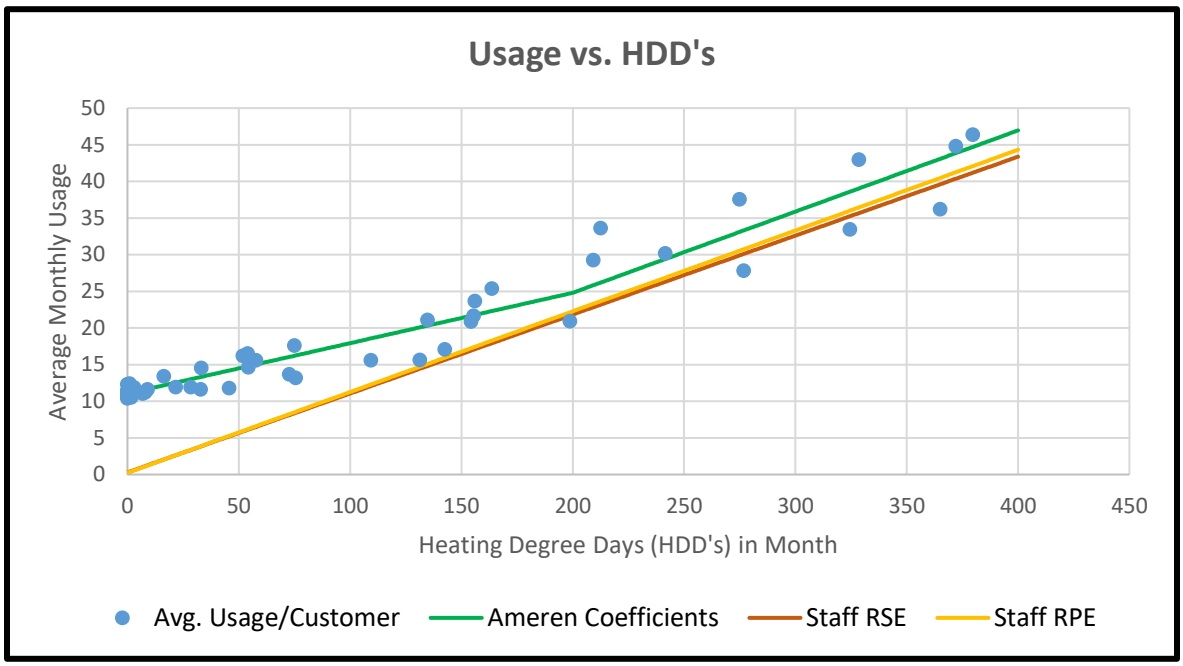


Figure 4



Q. Why are there two lines for Staff, but only one line for Ameren Missouri in Figure 4 above?

A. Ameren Missouri's gas system can be divided into two sub-regions, each served by different interstate pipelines. To simplify the weather adjustments, Ameren Missouri created a single set of coefficients for customers served by both pipelines by using average HDDs which were weighted according to total usage by pipeline. Staff created two sets of coefficients — one for each pipeline.

Q. Do you think all of these lines accurately represent the relationship between HDDs and average customer usage?

A. Although all three of these lines fit the data points on the graph to an extent, the regression line calculated by Ameren Missouri fits the data more closely.

Q. What is the result of using Ameren Missouri's more accurate weather coefficients instead of Staff's calculated weather coefficients?

A. Ameren Missouri's coefficients more accurately reflect the impact of weather on customer usage. Correspondingly, the Commission's approval of a Weather & Conservation Adjustment Rider ("WCAR") based on Ameren Missouri's coefficients would more accurately reflect the non-gas revenue effects of variations in weather compared to normal, on customer usage.

Q. Do the weather normalization calculations reflected in Staff's proposed WNAR differ from Ameren Missouri's in any other way?

A. Yes. Staff uses a "rank and average" approach to establishing normal weather for its weather normalization adjustment compared to Ameren Missouri's average HDD approach, and Staff's proposed WNAR tariff incorporates that methodology.

Q. Do you agree with using this methodology?

A. No. The rank and average method is a much more complex method of calculating normal weather than simply averaging HDDs, as contemplated in Ameren Missouri's WCAR tariff. Ameren Missouri does employ the rank and average methodology when creating weather adjustments for its electric business because that complexity is appropriate due to the more complex modeling of the electric system used to establish net energy costs in the revenue requirement. For revenue normalization purposes only, though, it is overkill. Both Staff and the Company's methods for calculating normal weather will produce very similar overall results, but, in order to produce the same results require different levels of effort.

The administration of the WCAR tariff, if approved, will become part of monthly accounting processes at the Company. There is no commensurate benefit to adoption of

this methodology that justifies creating highly complex calculations that must be embedded in ongoing accounting procedures.

An additional issue with the rank and average methodology is that, when applied to data associated with usage as billed by utilities across multiple billing cycles in a month, it tends to produce additional volatility in monthly results. Across the course of a whole year, results associated with both methodologies will be similar, but there is no need to introduce additional volatility to the calculation that will make period to period comparisons more difficult, as would be the case using the rank and average approach in the WCAR.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Natural Gas Service.	)))	File No. GR-2019-0077

AFFIDAVIT OF RYAN P. RYTERSKI

STATE OF MISSOURI)
) **ss**
CITY OF ST. LOUIS)

Ryan P. Ryterski, being first duly sworn on his oath, states:

1. My name is Ryan P. Ryterski. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as a Regulatory Rate Specialist.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 12 pages and no Schedule(s), all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Ryan P. Ryterski

Subscribed and sworn to before me this 5th day of June, 2019.

Notary Public

My commission expires:

GERI A. BEST
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: February 15, 2022
Commission Number: 14839811