Exhibit No.: _____
Issues: Time of Use Rates, Renewable Energy Purchase Schedule, Customer Usage Data for AMI
Witness: Gregory W. Tillman
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: The Empire District Electric Company
Case No.: ER-2021-0312
Date Testimony Prepared: December 2021

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

Gregory W. Tillman

on behalf of

The Empire District Electric Company

December 2021

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THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
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REBUTTAL TESTIMONY OF GREGORY W. TILLMAN
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2021-0321

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Gregory W. Tillman. My business address is 601 South Joplin Avenue, Joplin, Missouri.

Q. Are you the same Gregory W. Tillman who provided Direct Testimony in this matter on behalf of The Empire District Electric Company ("Empire" or the "Company")?

A. Yes.

Q. What is the purpose of your Rebuttal Testimony in this proceeding before the Missouri Public Service Commission ("Commission")?

A. The purpose of my rebuttal testimony is to address recommendations for rate modernization of Commission Staff ("Staff") witness Sarah K. Lange in the Staff Report - Class Cost of Service ("Staff Report"). Specifically, I will be addressing the proposed approach to introducing time-varying rates and the proposed time-of-use ("TOU") structure with respect to time periods and price differentials. Additionally, I will be addressing Staff witness Amanda Coffer's and Midwest Energy Consumers Group ("MECG") witness Steve W. Chriss' recommendations for the Renewable Energy Purchase ("REP") schedule. Finally, I will address MECG witness Andrew Teague's recommendations regarding advanced metering infrastructure ("AMI") data access.

Q. Are other aspects of Staff's proposed class cost of service ("CCOS") and rate design being addressed by other Company witnesses?

A. Yes. Company witness Timothy S. Lyons addresses Staff's CCOS and rate design proposals.

II. MODERNIZING EMPIRE'S RATES

Q. In the Staff Report, Staff recommends the modernization of Empire's rates. What are your recommendations for modernization of Empire's rates through the introduction of TOU rates?

A. My recommendations are as follows:

1. The Commission should begin modernization of Empire's rate structures.
2. The Commission should reject Staff's proposal to restructure the Company's current residential and small general customers rate designs to simple TOU rates. Instead, the Commission should begin the process of modernizing Empire's rates by adopting the Company's proposed phased approach of introducing TOU rates designed to reflect the characteristics of effective time-varying rates.
3. The Commission should reject Staff's proposed mandatory TOU rate design for LP customers. Instead, the Commission should begin the process of modernizing Empire's rates for LP customers by adopting the Company's proposal for a limited availability rate designed to reflect the characteristics of effective time-varying rates.
4. If the Commission chooses to implement a rate solution at Empire similar to the agreed upon solution in Ameren's last rate case (Case ER-2019-0335), the Commission should:

- limit the scope, like Ameren's initial implementation, to only the residential class;
- include the current residential base rate ("RG"), a modified version of Staff's proposed rate, and the Company's proposed Residential TOU rate in the portfolio of rate options available to residential customers; and,
- adopt the Company's proposed limited availability optional TOU rates for the small general service and LP rate classes.

Q. What is your understanding of Staff's approach to begin to modernize Empire's rate structures?

A. Staff is proposing to begin the process of modernizing Empire's rates through the implementation of TOU rate structures on a mandatory basis for the residential, small general, and large power rate classes.

Q. Please summarize your understanding of Staff's proposed rate design recommendations for these classes.

A. It is my understanding that:

1. Staff recommends adoption of one of four TOU residential rate options: (1) existing rates with a $ per kWh premium on On-Peak period usage; (2) existing rates with a $ per kWh discount on Off-Peak period usage; (3) restructured rates that include separate charges for On-Peak and Off-Peak periods, and vary by Summer and non-Summer seasons; and, (4) restructured rates that include separate charges for Super On-Peak, On-Peak Super Off-Peak, and Off-Peak

periods and vary by Summer, Shoulder months, and Winter seasons.[1] Staff has indicated a preference for the second of these rate options.[2]

2. Staff recommends implementation of one of two rate options for the Small General class: (1) existing rates with a $ per kWh premium on On-Peak period usage, or (2) existing SH rates factored up by overall increase, and remaining revenues recovered through a $ per kWh premium on On-Peak period usage.[3] Staff indicates a preference for option 2.[4]

3. Staff recommends the LP rate schedule be restructured to a TOU structure similar to Residential Option 4, but with retention of facility demand charges and modification of demand charge to a coincident peak demand charge.

Q. Do you agree with Staff's recommendation to begin to modernize Empire's rate structures?

A. Yes. I wholeheartedly agree that Empire should begin the process of modernizing its rate structures in this case. I further support that the Commission should order Empire to begin modernization of its rate structures.

Q. What are your concerns with the specific rate modernization proposals presented in Staff's recommendations?

A. While Staff's intention of modernizing rate structures at Empire, as well as other Missouri utilities, is well-founded and appropriate, I believe that Staff's specific proposals for TOU rates fall short of the objectives of commencing a transition to modernized rates. The Commission should ensure that the genesis of rate

[1] Staff Report, pp. 10-18.
[2] Id., p. 11, line 7.
[3] Id., pp. 18-21.
[4] Id., p. 21, lines 5 – 6.

modernization provides a solid foundation on which to build an effective, principled, and customer-centric portfolio of pricing products. The introduction of the rate structures proposed by Staff simply does not address the objectives of modernized TOU rate structures, which should give customers a tool to have more control of their bill and lead to more efficient utilization of system resources.[5]

Q. Has Staff clearly defined modernized rates in its proposals?

A. Not explicitly. Staff recommends that this case should be taken as an opportunity to begin the modernization of Empire's rate structures through the transition of all rate structures to simple TOU rate structures with an eye towards eventual transition to more complex time-variant rate structures that better reflect cost causation.[6]

Q. What are modernized rates?

A. One might point to a myriad of rate structures that are categorized as modernized rates. The list is ever growing and likely will continue to grow as new needs and specific objectives are addressed through innovative rate designs. Quite simply, as I pointed out in my direct testimony, modern rates create a strong connection between the rates themselves and the underlying costs of providing service to customers, incentivize efficient customer behavior, and provide customers with a choice in pricing products.[7]

Q. What is your response to Staff's desire to implement rates that minimize customer impact and improve customer awareness of time-variant rates and differences in energy cost causation?

A. I have a mixed reaction. On one hand, the exposure to time-variant rates may serve to provide a level of familiarization with the rates and have some educational benefit. On

[5] Direct Testimony of Gregory W. Tillman, p. 9, line 20 through p. 10, line 2.
[6] Staff Report, p. 4, lines 9-12.
[7] Direct Testimony of Gregory W. Tillman, p. 10, lines 11-18.

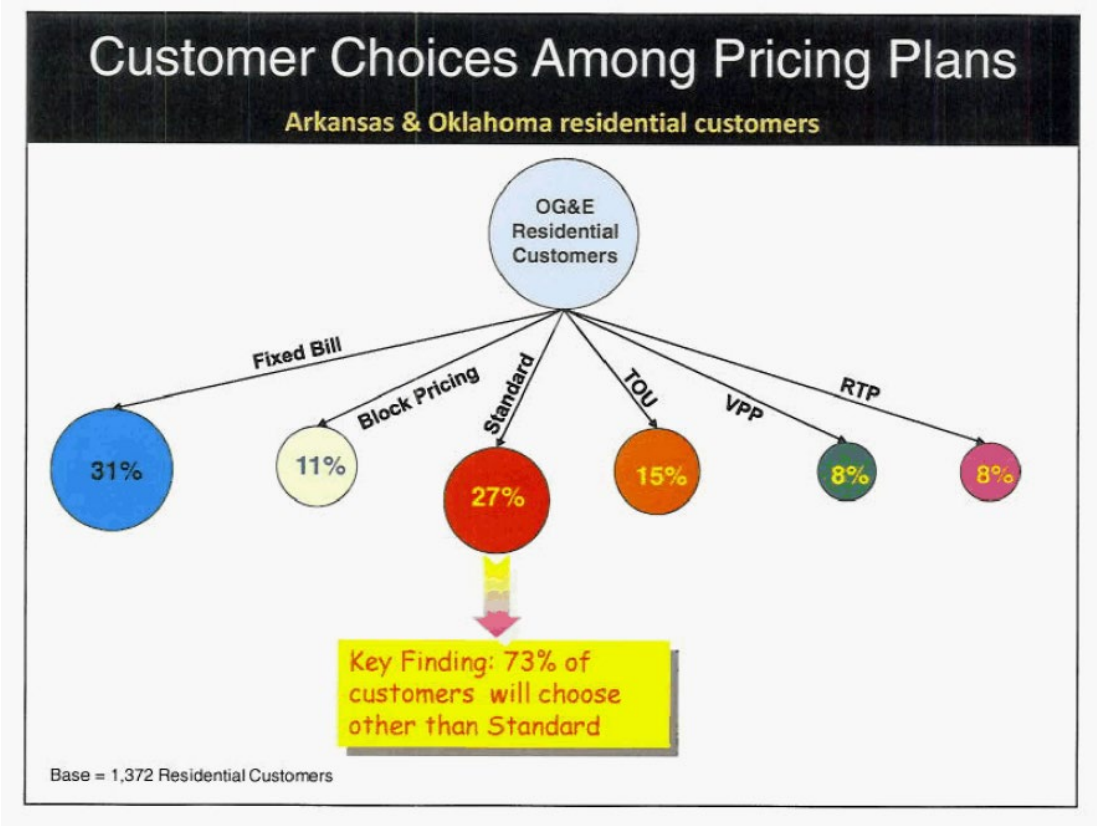
the other hand, introducing TOU rates with a minimal price differential is contrary to the goal of effective TOU rates to offer customers an opportunity to impact their bill. Providing customers an opportunity to impact their bill is a primary objective of offering TOU rates and if the opportunity to reduce their bill is not available, the rate may not capture the attention of the customer, incent any change in behavior, and fail to impact system efficiency. To successfully modernize rates, the Commission should foster an environment that focuses on the desired objectives of connecting the rates to the underlying cost, incenting reduced costs through more efficient use of system resources, and offering choice to customers.

Q. Can you provide an example of a utility that has implemented a successful strategy to modernize its rates?

A. Yes. Between 2008 and 2013, while employed at Oklahoma Gas and Electric Company ("OG&E"), I managed the strategy and implementation of pricing structures focused specifically on modernization of the utility's pricing (or rates) portfolio for all customer classes. Simply put, OG&E was able to establish a portfolio of pricing products that displayed the characteristics of modernized rates mentioned previously. Currently, OG&E offers a choice of different, cost-causative, and desirable rates to its customers. For example, residential customers taking service from OG&E have options which includes its standard two-part block rate (similar to Empire's current residential rate), a basic 2-part, two-period TOU rate (similar to Empire's proposed residential TOU rate), a more advanced variable peak pricing rate (OG&E's award winning SmartHours™ rate), and a price security rate called Guaranteed Flat Bill. This portfolio of rate options provides for the full spectrum of customer preferred electric pricing options.

Q. Was the decision to implement choices in rate plans for residential customers supported by OG&E's knowledge of customer preferences?

A. Yes. Beginning with the hypothesis that customers want choices, OG&E conducted extensive pricing plan research through conjoint choice survey of its Oklahoma and Arkansas customers. In the residential class, about 27% of customers preferred the traditional rate structure (standard), 42% preferred increased price security, and 31% preferred a price response rate.[8]



Q. Was OG&E able to establish its entire portfolio of pricing products at a single point in time?

A. No. As one might expect, OG&E introduced the various rate offerings to its customers over a period of several years. Over that period, existing rates were modified and new

[8] Arkansas Public Service Commission, Docket 10-067-U, Direct Testimony and Exhibits of Bryan J. Scott, p. 4, Chart 1.

rates were introduced. These rates were introduced through well designed communications and education plans that helped customers understand how the rate worked and determine if it was right for them. Additionally, the rates were monitored, data collected, and analysis conducted to provide feedback for improvements to the rate structures, interaction of rate components, and relationships between different rate choices. Additionally, OG&E included customer feedback, through its conjoint research, to inform its rate design. In short, success was due in large part to a methodical introduction of rates and continual improvements to the pricing portfolio.

Q. What aspect of the modernization strategy do you believe was most critical to the success of OG&E's program?

A. I believe that education was the most important trait of successful introduction of new rates at OG&E. Obviously, customer education on the rate choices themselves was critical; but, nearly as important as customer education, the education of the company and the various stakeholders on customer preferences for rate options was instrumental in offering rate choices that customers valued.

Q. In addition to education aspects of deployment, what are some of the other important components of the successful implementation of new rates?

A. Some of the elements employed at OG&E and which are commonly used to enhance the transition to new rates elsewhere include:

- Gradual introduction of new rate designs and features
- Introduction of new rates on a pilot or limited basis with the intent to expand availability quickly
- Incorporation of bill impact assurances for customers and revenue assurance for utilities

- Offering new rates on an opt-in basis with the potential of eventually transitioning to a modern rate as the default rate
- Supplement rate designs with enabling technologies (e.g. a programmable thermostat)

Q. Is Staff proposing that its TOU rates be established as opt-in rates, default (opt-out) rates, or mandatory rates?

A. Staff proposes the TOU rates be introduced as mandatory rates. While Staff does not characterize its proposal as a mandatory rate, it is mandatory, nonetheless. Staff is proposing that the rates for each class within their proposal replace the current rates with no opt-out provision to enable customers to be served by a non-time-variant rate.[9]

Q. Should a TOU rate, or any other rate for that matter, be mandatory?

A. No. As shown in the OG&E research, customers want choices for their electric rate plans and not all customers have the same tastes or value rate design options the same. Customers should be offered a variety of rates from which they can choose a rate structure that best suits their needs and preferences. Given the results of OG&E's research presented above, if the TOU rate structure were mandated, up to 85% of customers would have been dissatisfied.

Q. Do Empire's customers have a choice of rates under the current Empire rate offerings?

A. Unfortunately, Empire's customers do not currently have rate choices. They must take service under the existing rate structure for which they are eligible. Empire has proposed to begin offering customers relevant choices in this case as a part of its rate

[9] Staff Report, p. 10, lines 15-16.

modernization strategy. It is the Company's position that those choices should be relevant and offer value to the customer.

Q. Assuming that multiple rates with various structures were available to customers, would it be reasonable that the default rate is a TOU rate?

A. Yes, it is reasonable that a TOU rate be the default or an opt-out rate. The default rate should be the rate that best reflects the underlying costs. One question that should be addressed is customer readiness for the default rate. The customer should understand the default rate and any optional rates. In other words, the customer should be able to choose which of the various rates best suit the customer's needs. Said differently, education on the rate options is an important aspect of introducing new rates and changes in the default rate structure.

Q. Has Staff addressed customer education in its proposal?

A. It is my understanding that Staff has not defined nor proposed a customer education program. The educational aspect appears to be limited to exposure to the new rate structure which "*improves (or creates) awareness…*".[10]

Q. What is Empire's proposal regarding customer education?

A. Empire has proposed a customer education program to support the introduction of TOU rates. The program consists of two parts. The first part provides general education on TOU rate structures and the second is specific to enrollment of customers into the TOU program. Company witness Tisha Sanderson describes the TOU education program in her direct testimony.[11]

[10] Id., p. 10, lines 8-9.
[11] Direct Testimony of Tisha Sanderson, p. 27, line 18 through p. 28, line 13.

Q. In addition to concerns with customer aversion to mandatory rates, are there other issues with adopting Staff's proposal to introduce these rates as mandatory?

A. Yes. First, as discussed by Empire's witness Timothy S. Lyons, Staff's proposal does not rely on aggregate billing determinants in its design, thus it fails to properly establish revenues at the Commission's authorized levels. Additionally, the Company only recently completed the installation of its AMI metering and expects certification for billing to be complete early in 2022. Due to the newness of AMI technology, it is not clear that an immediate switch to a default TOU rate is the best approach. Instead, the Company prefers to introduce the TOU rates on a limited basis to 500 residential customers, 200 commercial customers, and only three large power customers and phasing in availability to more customers as the program matures.[12]

Q. What will be gained through the phased approach to introduction of TOU rates to the residential and small general customers?

A. The phased approach provides significant benefits to the Company and its customers including:

- Test the effectiveness of customer information and educational materials
- Better understand customer preferences and perceptions regarding the TOU rate options
- Evaluate the reasonableness of TOU rates as default rates
- Evaluate the bill impacts associated with the TOU rate options, especially on low-income customers
- Evaluate the impact of TOU rates on system demand and load curves

[12] Direct Testimony of Gregory W. Tillman, p. 12, line 18 through p. 13, line 7.

- Test the readiness of the Company's TOU rate implementation and administration systems, processes and procedures

III. TOU RATE DESIGN

Q. What are some common characteristics of effective TOU rates?

A. According to the Regulatory Assistance Project and the Brattle Group[13], some common qualities, among others, are:

1. A short peak period – The on-peak period should be kept as short as possible while still reasonably spanning the period during which the system peak occurs.
2. A strong price signal and opportunity for significant bill savings – the differential between peak and off-peak prices should be large. This large differential gives the customer a significant incentive to reduce consumption when the price is high and produces the opportunity of greater bill savings.
3. Rates should reflect system costs – while a significant price signal is important, the rate should still reflect the cost of providing power to the customer.
4. Simplicity is important – Time-varying rates should be easy for the customer to understand.

Q. Do these qualities support the commonly referenced and generally accepted rate-making principles established by James Bonbright?

A. Yes, these qualities are well positioned to support the criteria established in Bonbright's Principles of Public Utility Rates[14]. Of the eight criteria established, he declares three as primary. These primary criteria are:

[13] Ahmad Faruqui , Ryan Hledik , Jennifer Palmer, Time-Varying and Dynamic Rate Design - Regulatory Assistance Project (raponline.org), July 23, 2012.
[14] James C. Bonbright, Principles of Public Utility Rates, (Columbia University Press: 1961) 1st Edition.

- **The Revenue Requirement or Financial Needs Objective.** Utilities have authority to charge a price that fairly compensates them for providing utility service and, for private companies like Empire, earn a fair return on its investment.
- **The Fair-Cost-Apportionment Objective.** The total cost of providing public utility service is distributed fairly among customers.
- **The Optimum-Use or Consumer-Rationing Objective.** Rates are designed to encourage efficient use and discourage wasteful use of system resources.

The remaining criteria include stability and predictability of rates, simplicity and understandability of rates, freedom from controversies as to proper interpretation, revenue stability, and avoidance of undue discrimination.

Q. How should TOU time periods be defined?

A. In conjunction with the characteristic of being as short as possible, the on-peak period should be selected to include the periods of the highest system demand. For a dual-peaking system, such as Empire's, the on-peak period in the Summer should be selected to include the summer peak hours and the on-peak period in the winter should include the winter peak demand hours. A rate that does not establish the proper time periods will not provide the proper signal to customers. If the price during the periods of lower system loads does not reflect the lower costs, then customers are being asked to decrease loads during times when low-cost service is available. This action drives lower system efficiencies and places upward pressure on the cost of providing electricity to customers. In other words, poor selection of the periods would accomplish the exact opposite results that we want from our TOU rates.

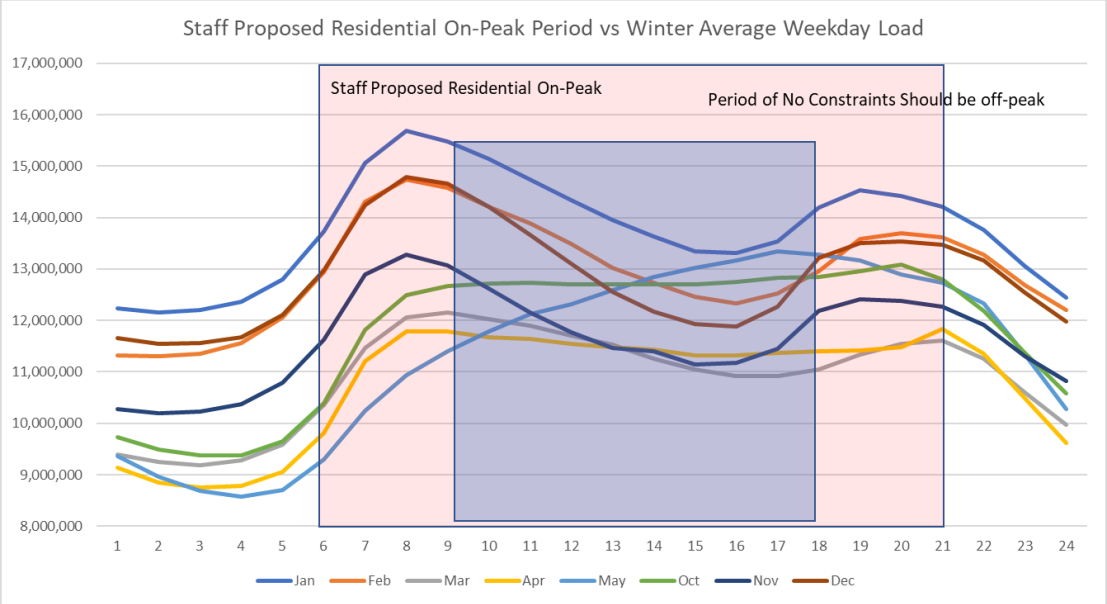
Q. Does Staff's proposed TOU rate structure incorporate the traits of an effective rate design in a meaningful way?

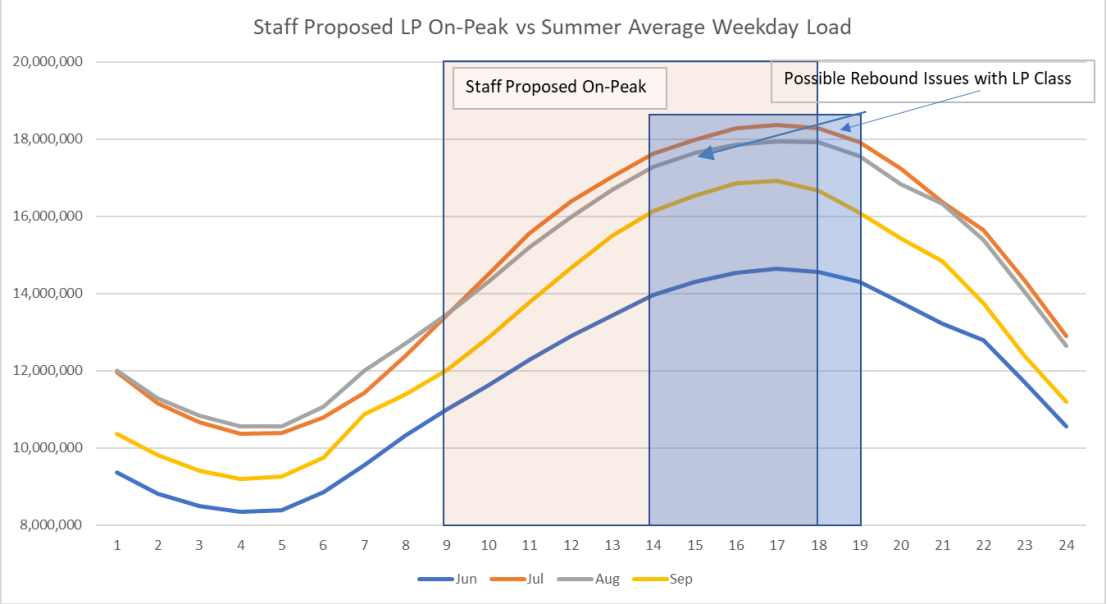
A. No. Staff's proposal incorporates on-peak periods that are not properly aligned with the Company's system peak periods and are unnecessarily lengthy. The preferred proposed rate for residential and small general classes also incorporates a minimal price differential between the on-peak and off-peak pricing.

Q. Can you provide examples of how Staff's proposed on-peak periods are not aligned with Empire's system peak hours?

A. Yes. The preferred residential TOU design has a 15-hour on-peak period of 6AM to 9PM daily which fully incorporates the Company's winter demand peak period and summer demand peak periods and unnecessarily includes periods not associated with the peak loads during each season such as the period between 9AM and 6PM in the winter. (Figure 1.) Likewise, Staff's proposed on-peak for the LP class is defined as 9AM to 6PM which would generally drive a decrease in demand during a period when the system is not stressed (from 9AM to 2PM) and an increase in demand beginning at 6PM which could inadvertently create a significant rebound demand peak shortly after the Company's current typical summer system peaks. The proposed LP time structure also does not incorporate a winter peak which raises concerns with failing to incent our largest customers to decrease consumption during the typical winter system peak period.

Figure 1





Q. Is it important to consider the winter peaks in defining the on-peak period?

A. Yes. As mentioned, Empire is a dual peaking utility. That means that system peaks occur in the winter and the summer. As shown in Figure 2, over the past 10 years Empire's annual peaks have occurred in the winter 7 times and in the summer 3 times. Since our system is dual peaking, both seasons need to be incorporated into our rate

designs to ensure that our TOU rates provide price signals that incent customers to reduce both summer and winter peak demands.

Figure 2

Empire District System Managed Peak History (Summer-Winter)								
		Winter		Summer				
	Year	Winter Peak	Date & Time	Summer Peak	Date & Time		System	Season
1	2012	955	1/13/12, 08:00	1,142	8/2/12, 17:00		1,142	Summer
2	2013	997	2/1/13, 08:00	1,080	6/27/13, 16:00		1,080	Summer
3	2014	1,162	1/6/14, 08:00	1,083	8/25/14, 18:00		1,162	Winter
4	2015	1,149	1/8/15, 08:00	1,094	7/27/15, 17:00		1,149	Winter
5	2016	1,114	12/19/16, 08:00	1,104	8/11/16, 16:00		1,114	Winter
6	2017	1,027	1/6/17, 08:00	1,075	7/20/17, 17:00		1,075	Summer
7	2018	1,211	1/17/18, 07:00	1,108	6/28/18, 17:00		1,211	Winter
8	2019	1,111	3/4/19, 08:00	1,085	8/19/19, 17:00		1,111	Winter
9	2020	1,029	2/14/20, 08:00	994	8/10/20, 17:00		1,029	Winter
10	2021	1,220	2/16/21, 07:00	1,040	7/29/21, 17:00		1,220	Winter

Q. Do you have any other concerns with Staff's proposed on-peak periods?

A. Yes. I am concerned that Staff's proposed rates incorporate different definitions of the on-peak period in the general rate class TOU proposals. The Residential and the small general service period of 6AM to 9PM daily, and the LP class has three periods including an intermediate period of 6AM to 9PM daily with an on-peak period from 9AM to 6PM in the summer months.

Q. Should all generally applicable class TOU rates incorporate the same definition for the on-peak and off-peak periods?

A. Yes. As a matter of policy, for vertically integrated utilities like Empire, one would expect that the time periods for each customer class would be the same or, at a minimum, very closely aligned with each other. All classes are served using the same system resources and the cost basis for the various classes consist of the same system inputs. The TOU periods for all classes should be designed to work together to create the desired effect on system resource utilization and reduce long-term costs for all customers.

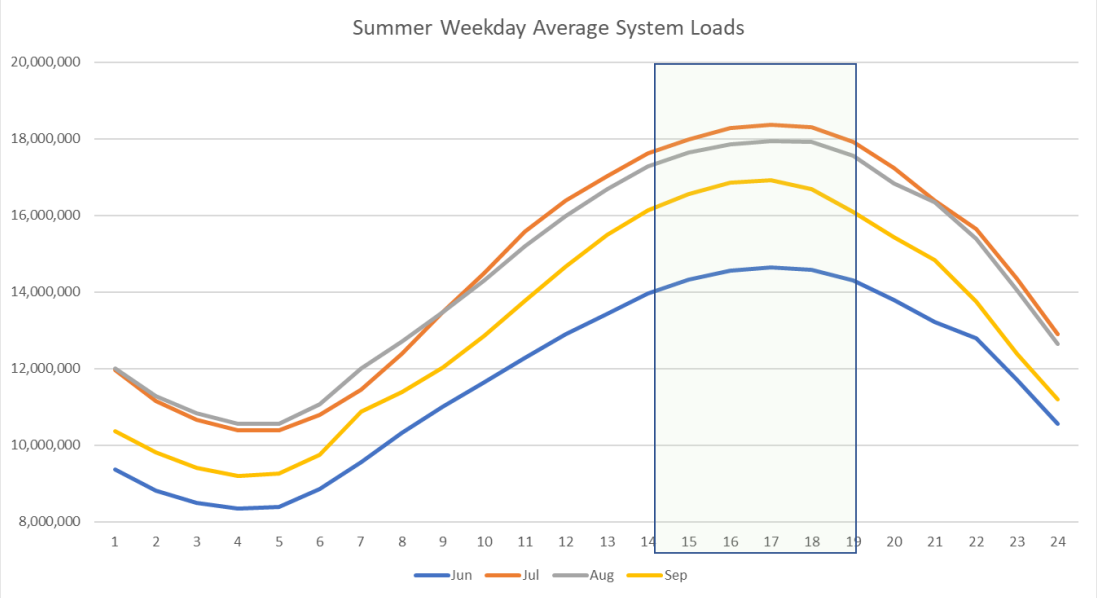
Q. From a customer education perspective, is it reasonable to establish consistent on-peak periods in the various classes?

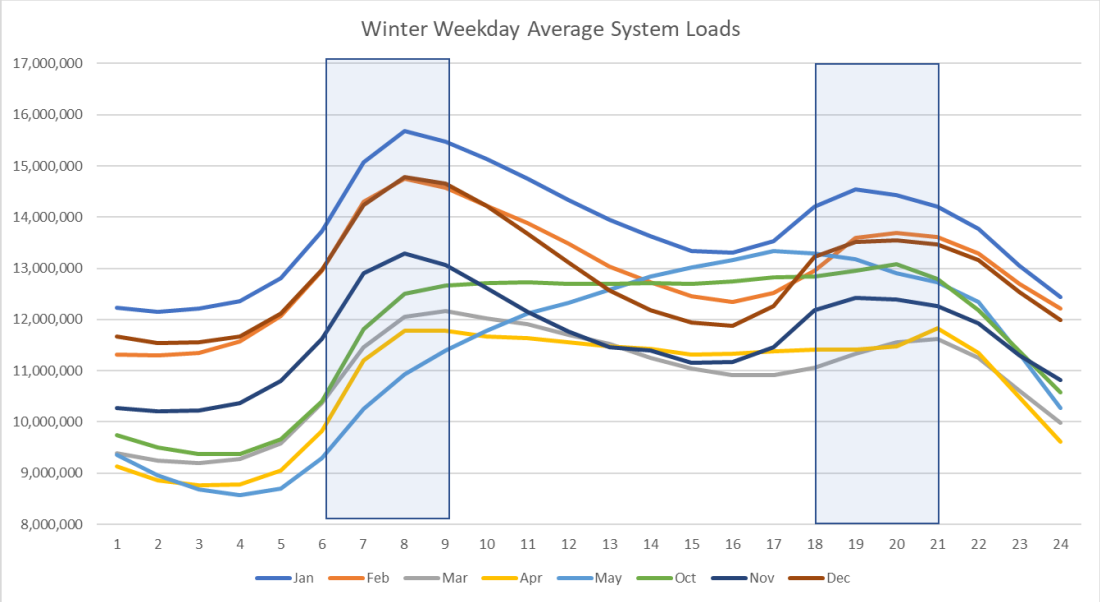
A. Yes. Messaging would be much more effective if a single structure of time periods is identified and communicated to all customers. Having different periods defined for different classes may introduce confusion to the messaging.

Q. Do the TOU rate designs proposed by Empire have appropriately aligned and shorter on-peak periods?

A. Yes. Empire's proposed TOU rates incorporate an on-peak period of 2PM - 7PM in the summer months and periods in the winter months of 6AM - 9AM and 6PM - 9PM (See Figure 3.) All other periods, as well as weekends and holidays, are off-peak. These periods are consistent across all rate classes for which a TOU rate was proposed.

Figure 3



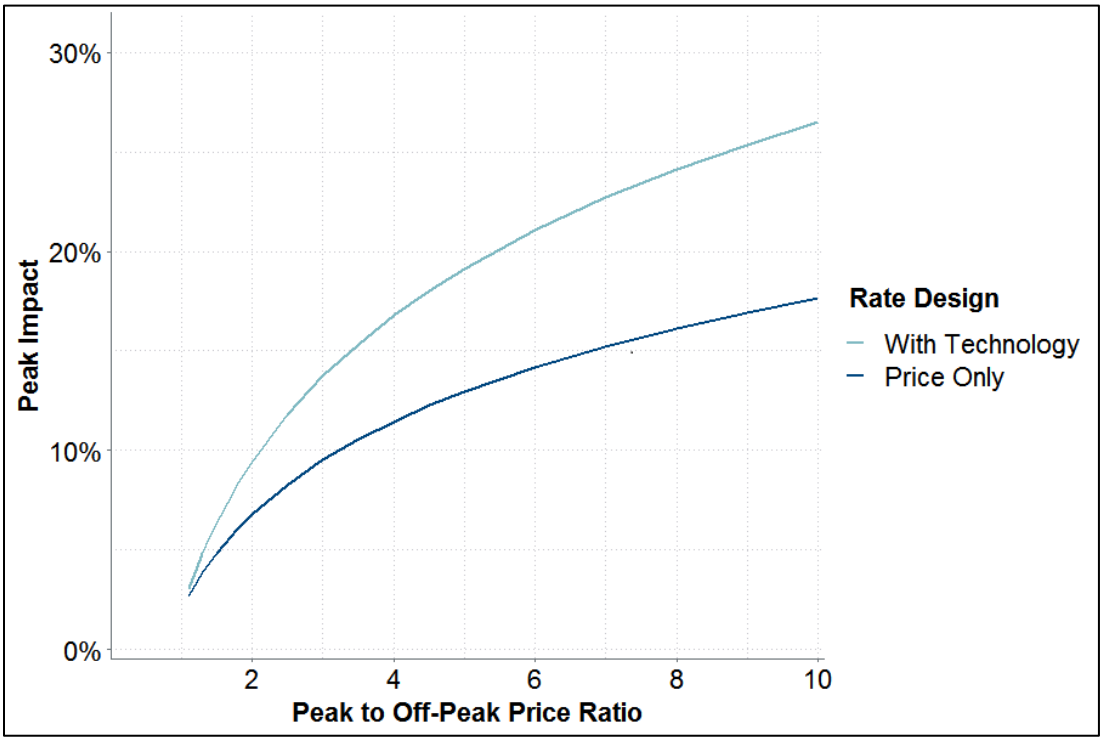


Q. With respect to price signals for TOU rates, how should the desired ratio be determined?

A. As discussed previously, the prices should be cost-based. An analysis of the underlying costs, for each period would provide an indicator of the price signals. Following the determination of the peak and off-peak prices, one can use the ratio to assess the expected impact on peak load based on the resulting prices. The impact to peak demands, as one might expect, is correlated to the ratio of peak to off-peak prices. In its 2019 rate case, Ameren Missouri presented, within Dr. Ahmad Faruqui's testimony, an empirical assessment of this relationship based on multiple utility programs. This relationship is shown in Figure 4.[15]

[15] Missouri Public Service Commission, File No. ER-2019-0335, Direct Testimony of Ahmad Faruqui, p. 12, Figure 2.

Figure 4



As can be seen in that chart, a ratio in the 3:1 to 4:1 range would be expected to produce a peak load reduction in the ten to twelve percent range. If technology is applied the impact on peak demands would be expected to be much higher.

Q. Does Staff's proposed structure for the residential and small general TOU rates incorporate a price differential designed to elicit a meaningful response?

A. No. Staff's preferred rate includes a price ratio of 1.06 in the Summer and between 1.06 and 1.08 in the winter. However, it is Staff's stated desire to prioritize mitigation of customer impact.[16] Customer impact is mitigated with the low ratios proposed by staff, which also mitigates customer response and impact on system peaks. Minimal ratios will also impact our understanding of customer response to price differentiated rates.

[16] Staff Report, p. 6, lines 6-10.

Q. What are the proposed ratios in Empire's TOU rates?

A. The ratios for the residential and small general TOU rates are 3.45:1 and 3.82:1, respectively. This ratio might be expected to lead to a reduction in peak load for those customers of slightly more than 10%.

Q. Are the Empire proposed on-peak and off-peak prices cost based?

A. Yes. These prices were designed to present price signals that reflect the underlying costs associated with production, transmission, and distribution costs to serve each customer class.

Q. In your Direct Testimony, the Company proposed to incorporate time differentiation in fuel costs, customer bill assurances, and a revenue tracker to address the possible impact of customer response to TOU rates. Has the Company's position changed on these issues?

A. No. The Company continues to believe that these actions are needed to enhance the overall success of the introduction of more modern rates at Empire.

Q. What is your recommendation regarding Staff's proposal to restructure the rate design applicable to residential and small general customers to a TOU structure?

A. I recommend that the Commission reject Staff's proposal to restructure the Company's current residential and small general customers rate designs to simple TOU rates. Instead, the Commission should begin the process of modernizing Empire's rates by adopting the Company's proposed phased approach of introducing TOU rates designed to reflect the characteristics of effective time-varying rates.

Q. What are the Company's concerns with Staff's proposal for the Large Power rate schedule?

A. As discussed, the Company is concerned with the time periods established within the rate. In addition to the misalignment to the system peak demands as discussed earlier, the Company believes that three periods are not necessary to produce the desired results. Empire believes that its proposed limited introduction of the simpler two-period rate allows for the development of a deeper understanding of customer response, as well as, the ability to make a more meaningful assessment of the appropriate structure with respect to time periods. The Company has similar concerns with customer aversion to the implementation of a mandatory TOU rate across the LP class. Additionally, The LP class consists of very large customers and the revenue impacts of the introduction of a time-varying rate designed to incent these customers to shift load in order to create bill savings might be quite significant and should be limited until it is better understood. Empire's preferred phased approach will allow all stakeholders to better understand the rate's impact on the customers and the Company.

Q. What is your recommendation regarding Staff's proposed LP rate design?

A. I recommend that the Commission reject Staff's proposed mandatory TOU rate design for LP customers. Instead, the Commission should begin the process of modernizing Empire's rates for LP customers by adopting the Company's proposal for a limited availability TOU rate designed to reflect the characteristics of effective time-varying rates.

Q. In its order approving the settlement in Ameren's last rate case (File No. ER-2019-0335), did the Commission approve the implementation of new TOU rates for residential customers?

A. Yes. In addition to retaining the existing basic service rate, the Commission approved a TOU rate similar to Staff's proposal in this case, and three additional opt-in TOU

rates more aligned with the objectives identified for TOU rates discussed in my testimony. The three opt-in TOU rates are similar and differentiated by the introduction of a demand component and adjusted TOU periods.

Q. Is the Ameren solution of introducing four new TOU rates an appropriate solution for Empire?

A. No. Ameren's solution addressed only the residential customer class; Empire and Staff are proposing to implement TOU for multiple classes of Empire's customers in this case. The implementation of TOU rates for multiple classes adds complexity which Empire has mitigated extensively in its designs through simplicity and consistency of design across classes in the Company's proposal. Introducing multiple TOU rates to each class will require a more extensive implementation process than the Company could reasonably be expected to accomplish in the same time frame required to introduce its proposed TOU option.

Additionally, it is not clear that a Company the size of Empire has sufficient residential customers to support the number of TOU options agreed to in the Ameren case. At a minimum, each rate requires its own set of educational materials, customer tools, meter configuration, billing system development, and analyses. Spreading the costs of the implementation of four new rates across 1 million residential customers at Ameren compared to spreading similar implementation costs over about 130,000 residential customers leads one to contemplate a more streamlined approach to rate offerings at the smaller utility to reduce customer impact of introducing new rates.

Q. Were Ameren's new default rate and TOU rates implemented immediately following the conclusion of its case?

A. No. It is my understanding that the new default rate was approved in March 2020 and made available the following January. The rate is being designated the default rate for customers over an extended period based on when a customer's advanced meter is installed. The optional TOU rates proposed by Ameren appear to have become effective on April 1, 2020 shortly after approval.

Q. If the Commission were to order a rate solution like Ameren's approach, should the scope encompass multiple rate classes?

A. No. If the Commission were to order Empire to implement a rate solution like Ameren's, the scope should be, like Ameren's initial implementation, limited to only the residential class. An attempt to implement a similar program across multiple rate classes would require more resources and introduce additional implementation risk for these rates.

Q. If the Commission were to order a rate solution modeled after the Ameren approach, what rates should be included in the portfolio of options for residential customers?

A. If the Commission chooses to implement a solution modeled after Ameren's approach, the portfolio of residential rate options should include the current base rate ("RG"), a modified version of Staff's proposed rate, and the Company's proposed Residential TOU rate.

Q. Is it critical that the current RG base rate remain in place?

A. Yes. The current base rate should be retained 1) to ensure that the rate design properly reflects the revenue authorized by the Commission in this case, 2) as an optional rate following the transition of the default rate to the TOU structure, and 3) as a contingency rate if AMI metering is not available to a specific customer.

Q. What modifications should be made to Staff's proposed residential rate to increase its effectiveness?

A. The Commission should make four changes:

1. The on-peak period should be adjusted to match the Company's proposed TOU rate on-peak period to ensure a consistent message to customers about periods of high costs.
2. The initial rate differential should be designed based on costs, yet should maintain Staff's goal of minimizing the impact to customers.
3. The rate should not be available nor designated as the default rate until one year after approval to ensure the Company has sufficient time to educate its customers regarding the pending transition.
4. The rate should be identified as a transitory rate in which the price differential is periodically increased, and block sizes are periodically decreased, to ensure the rate is transitioned over time into an effective time-varying rate structure.

Q. Should the Commission address bill assurance, revenue impact, and fuel differentiation issues that may result from the implementation of the modified Staff rate?

A. Yes. Addressing these issues will provide customers with a level of comfort to remain on the rate for at least one year, ensure the Company is not financially harmed by customer response to time-varying rates, and properly allocate fuel costs to customer's based on their response to TOU rates. This can be accomplished through the tracker mechanism that I sponsored in my direct testimony.

Q. Should the Commission adopt similar approaches for the remaining rate classes at this time?

A. No. As stated, the effort required will be extensive and it may be unreasonable to expect a successful simultaneous implementation of this approach across all classes. This approach, if successful could be incorporated into the Company's modernization strategy for other rate classes in a future rate proceeding.

Q. If the Commission orders the alternative approach for residential customers based on Ameren's solution, should it also adopt the implementation of the Company's TOU rate proposals for the small general and LP classes?

A. Yes. If the Commission orders the alternative approach for residential customers, it should also adopt the Company's proposed rates for the small general service and LP rate classes. Effective, limited availability, TOU rates should be authorized for as many customer classes as practical. It's important to begin the process of modernizing rates for rate classes other than residential customers. Introduction of TOU rates, even on a limited availability basis, across several classes in this case will provide valuable data and information to the Company and the Commission as we move forward.

IV. REP SCHEDULE

Q. Please summarize Staff's recommendations regarding the REP Schedule as presented in the Staff Report.

A. Staff recommends that any REP schedule approved in this case incorporate the provisions intended for the service agreement. Additionally, Staff recommends a percentage cap on the number of RECs available to the program to ensure REC availability for the statutory RES standard is prioritized.[17]

Q. What is your response to Staff's recommendations?

A. Empire does not oppose Staff's recommendations.

[17] Staff Report, p. 28, lines 16-20.

Q. Did Staff propose a value for the recommended percentage cap on RECs available through the program?

A. Staff did not propose a value for percentage cap on the number of RECs available to the program.

Q. What is the Company's proposed cap?

A. The Company suggests that a cap be set at 15% of the production of the Neosho Ridge, Kings Point, and North Fork Ridge wind projects. The Company also suggest an annual review of the cap to ensure that it reflects current demand and availability.

Q. Please summarize MECG's recommendations as presented in the testimony of Mr. Chriss.

A. Mr. Chriss recommended the following changes to the tariff:

- That the tariff specify the wind resources from which the RECs would be sourced.
- That the Company be required to provide an annual attestation to each participating customer specifically delineating the RECs retired on behalf of that customer.
- That the foregoing requirement for attestation be included in the tariff.[18]

Q. Does the Company oppose MECG's recommendation to specify the wind resources from which the RECs are sourced in the tariff?

A. No. The tariff should specify that the RECs will be sourced from the Company's recently acquired wind projects - namely, Neosho Ridge, Kings Point, and North Fork Ridge.

Q. Does the Company oppose the MECG recommendation that Empire should be required to provide an annual attestation to each customer of the RECs retired on behalf of that customer?

[18] Direct Testimony and Exhibits of Steve W. Chriss, p. 4, lines 5-12.

A. No. The Company agrees that this requirement is important to its customers and believes it should be included in the tariff.

V. AMI DATA AVAILABILITY

Q. What is MECG's recommendation regarding AMI data access?

A. MECG makes the following recommendations:

- The Commission should require the Company to provide customers the ability to retrieve and download energy usage interval data for multiple accounts, up to and including all accounts, through one file;
- The Commission should require the Company to take the steps necessary to become Green Button Connect My Data ("CMD") compatible; and
- The Commission should establish a stakeholder process for engaged customers and other interested stakeholders to discuss data access needs [with] the Company, and, if the Commission determine it appropriate, all regulated utilities in the state, in order to ensure that the Company's efforts will result in customer needs being fully met.[19]

Q. Is the Company opposed to providing online access to AMI data to support customers' ongoing data needs?

A. No. While the Company must take steps to ensure the security and privacy of individual customer consumption data, it agrees that access should be available to customers, or their designees, for their own consumption data through a readily accessible portal.

Q. Is Empire currently able to provide data to customers in a way that conforms to MECG recommendations?

[19] Direct Testimony and Exhibits of Andrew D. Teague, p. 3, lines 6-17.

A. No. These capabilities have yet to be implemented. It is my understanding that customers can review and download consumption data using the Company's recently released MyAccount portal. These capabilities are limited however, and the ability to download data for multiple accounts in a single file is not available.

Q. Is the Company currently researching the AMI system capabilities, as well as the requirements and costs associated with a solution that allows access to customer data which would satisfy MECG's proposals?

A. Yes. However, the Company's research is in its early stages, and the most effective method of providing customer access to data has yet to be determined. The Company must ensure that the cost to the Company and its customers of providing data access, which are geared for only a few customers, are reasonable. If the costs are too high, Empire expects to work with its customers to evaluate other feasible solutions.

Q. Is the Company willing to commit to identifying and providing a reasonable, cost-effective solution to provide customer access to data that is acceptable to its customers within a reasonable timeframe?

A. Absolutely. The Company is committed to supporting its customer's needs and will work to implement an acceptable, reasonably priced solution.

Q. Does Empire support MECG's recommendation to establish stakeholder process to ensure that customer needs are being met?

A. Yes. While the issue may appear relatively straightforward, other issues and challenges may arise as we navigate through the process of determining the best solution. Empire is supportive of a Commission established stakeholder process or working docket in Missouri to address data access issues. Additionally, the Company believes that such

a forum would be instrumental in addressing questions that will arise with the increased availability and accessibility of data in the state.

Q. Does this conclude your Rebuttal Testimony at this time?

A. Yes.

VERIFICATION

I, Gregory W. Tillman, under penalty of perjury, on this 20th day of December, 2021, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Gregory W. Tillman