Exhibit No. 37

Liberty – Exhibit 37
Timothy S. Lyons
Rebuttal Testimony
File No. ER-2021-0312

Exhibit No.:
Issues: Class Cost of Service Study, Rate Design, Cash Working Capital/ Lead-Lag Study
Witness: Timothy S. Lyons
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: The Empire District Electric Company
Case No.: ER-2021-0312
Testimony Prepared: December 2021

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

Timothy S. Lyons

on behalf of

The Empire District Electric Company
A Liberty Utilities Company

December 2021

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THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Timothy S. Lyons. My business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts, 01581.

Q. Please describe your current position.

A. I am a Partner at ScottMadden, Inc. ("ScottMadden").

Q. Are you the same Timothy S. Lyons who previously sponsored Direct Testimony in this proceeding?

A. Yes, I am. I sponsored direct testimony ("Direct Testimony") on behalf of The Empire District Electric Company ("Empire" or the "Company") in this proceeding before the Missouri Public Service Commission (the "Commission").

Q. What is the purpose of your Rebuttal Testimony?

A. The purpose of this Rebuttal Testimony is to address recommendations by the Staff of the Commission ("Staff") in its class cost of service report ("Staff CCOS Report") related to the Company's proposed class cost of service study and rate design and to address recommendations by Kavita Maini representing Midwest Energy Consumers Group ("MECG") in her direct testimony related to the Company's proposed class cost of service study and rate design. With my Rebuttal Testimony, I also respond to the recommendations by Staff in their cost of service report related to the Company's Cash Working Capital ("CWC") requirement and to the recommendations by John S. Riley on behalf of the Office

of the Public Counsel ("OPC") in his direct testimony related to the Company's CWC requirement.

II. SUMMARY OF STAFF'S RATE DESIGN AND COST ALLOCATION RECOMMENDATIONS

Q. Please summarize Staff's rate design and cost allocation recommendations.

A. Staff's recommendations are summarized below.

1. Staff recommends this case be used as an opportunity to begin to modernize Empire's rate structures. Specifically, Staff states: "…all rate schedules be transitioned to simple time of use ("TOU") rate structures in this case, with an eye towards eventual transition to more complex time-variant rate structures that better reflect cost causation."[1]
2. Staff has not performed a CCOS study for this rate case. Staff recommends that mitigation of customer impacts should be prioritized and does not recommend any changes in revenue responsibility for any class. Staff states: "In rolling out the TOU framework, customer impact mitigation takes precedence over adherence to an imprecise cost study." [2]
3. Staff recommends that the ideal TOU rates should reflect marginal cost of energy and access to energy infrastructure. In this case, Staff has recommended rates to be based on embedded costs.
4. Staff recommends current residential rates be restructured to TOU rates with no Opt-out provision. Staff developed TOU seasons and periods based on hourly

[1] Staff CCOS report, p. 4.
[2] Id., p. 6.

residential loads. Staff recommends 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. [3]

5. Staff recommends consolidation of Schedules CB and SH into a Small General class.[4] Staff recommends 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.

6. Staff recommends either: 1) consolidation of General Power ("GP") and Total Electric Building ("TEB") schedules into a 'Medium General' class, or 2) consolidation of GP and TEB into two new schedules: 'Large General Secondary Service', and 'Small General Primary Service'. Staff recommends that the new classes have rate structures similar to Residential Option 4 and Staff's recommended Large Power ("LP") rate structure if sufficient hourly data becomes available.[5]

7. Staff recommends the Feed Mill and Grain Elevator Service ("PFM") schedule be eliminated with customers transitioned to Medium General service schedule. [6]

[3] Ibid., pp. 10-18.
[4] Id., pp. 18-21.
[5] Id., pp. 21-22.
[6] Id.

8. 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.[7] Staff developed TOU periods based on a review of average daily LP load by hour.

III. THE COMPANY'S RESPONSE TO STAFF'S RECOMMENDATIONS

Q. Does the Company agree with Staff's recommendation to begin modernization of Empire's rate structure?

A. Yes. The Company agrees with Staff that this rate case is an opportunity to begin modernization of the Company's rate structure; namely, to implement TOU or time variant rates. The Company also agrees with Staff that there are benefits associated with TOU rates, including provision of price signals that encourage customers to shift consumption away from peak hours to off-peak hours. TOU rates represent an opportunity to achieve certain economic and environmental benefits, including (1) avoided or deferred facility costs, (2) customer savings, and (3) improved price signals, particularly for distributed energy resources.

The Company, however, does not agree with Staff on the general approach to achieve those benefits. The Company believes a phased approach better facilitates implementation of TOU rates by: (1) developing TOU rate options that best meet customer needs, (2) creating price signals that reflect peak hour requirement by season; (3) reviewing and evaluating changes in customer consumption in response to the price signals; and (4) preparing research and analysis on effective approaches to customer education and communication.

[7] Id., pp. 22-23.

Q. What is the Company's phased approach to modernize the Company's rate structure?

A. As described by Company witness Greg Tillman, the Company proposes a phased approach to implementation of TOU rates that would enable the Company and a limited subset of its customers to measure and track the benefits of TOU rates and then proceed to full deployment for all customers.

Specifically, the Company proposes to implement TOU rates on a limited basis now and then implement TOU rates for all customers in the Company's next rate case. This phased approach will allow the Company and customers to learn from the initial TOU phase, drawing insights in areas that include: (1) customer education and communications, (2) customer preferences for TOU rate options, (3) customer changes in consumption in response to the price signals, and (4) rate implementation and administration.

Q. Do industry studies support the Company's two-phased approach?

A. Yes, industry studies describe the benefits of a limited initial offering, or pilot program, to better design and implement TOU rates.

> "Well designed pilots are critical to proving the benefits of time-varying rates. Before deploying time-varying rates at scale, conducting pilots with a limited number of customers will help to understand what works and what does not. Prudent pilot design involves several key steps, including choosing the right type of pilot, defining the specific rates to be tested, establishing two comparable groups of customers (one enrolled in the new rates and the other serving as a "baseline for

comparison purposes, and identifying the most effective ways to recruit participants into the pilot."[8]

Q. Does industry experience also support the Company's phased approach?

A. Yes, industry experience indicates the benefits of limited initial offerings. In California, for example, TOU rates were first developed and implemented as pilot programs. In 2003-2004, a pricing pilot program, known as the Statewide Pricing Pilot ("SPP"), was carried out by Southern California Edison ("SCE"), Pacific Gas & Electric ("PG&E"), and San Diego Gas & Electric ("SDG&E").[9] The SPP tested Critical Peak Pricing ("CPP") and TOU pricing with and without enabling technologies, and had approximately 2,500 participants including residential and small-to-medium commercial and industrial customers. Goals of the program included:

- Measure the impact of time-varying rates on energy use by rate period and develop models that can be used to predict impacts under alternative pricing plans.
- Determine customer preferences and market shares for time-varying rate options.
- Evaluate the effectiveness of and customer perceptions about pilot features and educational materials.

There were two peak-to-off peak ratios tested in the SPP: high-price ratio, and low-price ratio. The high-price ratio customers were charged $0.24 per kWh during peak periods and $0.09 per kWh during off-peak periods, with a peak-to-off-peak ratio of 2.7-to-1. The low-price ratio was 1.7 to 1. The peak period was set at five hours from 2:00 p.m. to 7:00 p.m.

[8] Time-Varying and Dynamic Rate Design (Can be accessed at: https://www.raponline.org/wp-content/uploads/2016/05/rap-faruquihledikpalmer-timevaryingdynamicratedesign-2012-jul-23.pdf)
[9] Impact Evaluation of The California Statewide Pricing Pilot (March 16, 2005). Can be accessed at: (http://sites.energetics.com/madri/toolbox/pdfs/pricing/cra_2005_impact_eval_ca_pricing_pilot.pdf)

Another statewide pricing pilot was implemented in California by SCE, PG&E, and SDG&E in 2016-2017. The pilot programs included approximately 50,000 households who were offered nine TOU rate options.

As summarized in the final evaluation report:

> "A key objective of the pilots was to develop insights that would help guide the IOUs' applications filed in January 2018 proposing the implementation of default TOU pricing for the majority of residential electricity customers and the CPUC's [California Public Utilities Commission's] policy decisions regarding default pricing."[10]

Q. Please summarize the benefits of a phased implementation of TOU rates.

A. Key benefits of a phased implementation of TOU rates include:

- test the effectiveness of utilities' informational and education material;
- better understand customer preferences and perceptions regarding rate options;
- evaluate the impact of TOU rates on system demands and load curves;
- evaluate the bill impacts associated with rate options, particularly on economically vulnerable customers; and
- evaluate the reasonableness of TOU rates as default rates.

Q. What lessons can be learned from a phased implementation of TOU rates?

A. The Regulatory Assistance Project (RAP) notes pilot programs identify factors that affect the degree to which customers shift load in response to time-varying rates, including weather, end-use, saturation, price level, sociodemographic characteristics.

[10] California Statewide Opt-in Time-of-Use Pricing Pilot, Final Report (March 30, 2018)

Importantly, RAP notes the importance of price signals,

> "Load shifting increases as the strength of the price signal increases."[11]

Similarly, The Brattle Group evaluated time-varying rates across the globe and presented findings to the National Association of Regulatory Utility Commissioners ("NARUC") Staff Subcommittee on Rate Design.[12] The report notes,

> "Unless new rates have savings opportunities, customers will either not join or not alter their usage habits to respond. Savings opportunities can be maximized by discounting off-peak prices substantially compared to the existing rate"

Finally, under the Smart Grid Investment Grant Program, the U.S. Department of Energy partnered with several electric utilities to conduct consumer behavior studies to advance understanding of time-based rates. On customer peak usage response to TOU prices, the study found:

> "Peak period demand reductions were far less, on average, for the lowest peak to off-peak price ratios (6% for treatments with a peak to off-peak price ratio less than 2:1) than for the highest price ratios (18% for treatments with a peak to off-peak price ratio greater than 4:1)"[13]

Q. Is "strength of price signal" an important element of TOU rates?

A. Yes, as discussed above, one of the lessons learned is that strength of price signal is an important element of TOU rates in providing customer incentives to shift customer consumption.

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11 Time-Varying and Dynamic Rate Design, at p.8. Can be accessed at: https://www.raponline.org/wp-content/uploads/2016/05/rap-faruquihledikpalmer-timevaryingdynamicratedesign-2012-jul-23.pdf

12 Moving Ahead with Time-Varying Rates (TVR): US and Global Perspectives. Can be accessed at: http://files.brattle.com/files/5923_a_global_perspective_on_time-varying_rates_faruqui_061915.pdf

13 U.S. Department of Energy. American Recovery and. Reinvestment Act of 2009: Customer Acceptance, Retention, and. Response to Time-Based Rates from the Consumer Behavior Studies (November 2016) at Page viii

Q. What is the Company's strength of price signal in its TOU rates proposal?

A. The Company's proposal offers a distinct difference between peak and off-peak prices. The Company's proposed TOU rates vary depending on time of year and day from the high of $0.29288 per kWh during summer peak period, to the low of $0.08490 per kWh during summer off-peak period.[14] This translates to a peak-to-off peak ratio of 3.45 to 1. Industry research suggests offering larger differentials to generate larger customer savings and consumption shifts away from the peak.

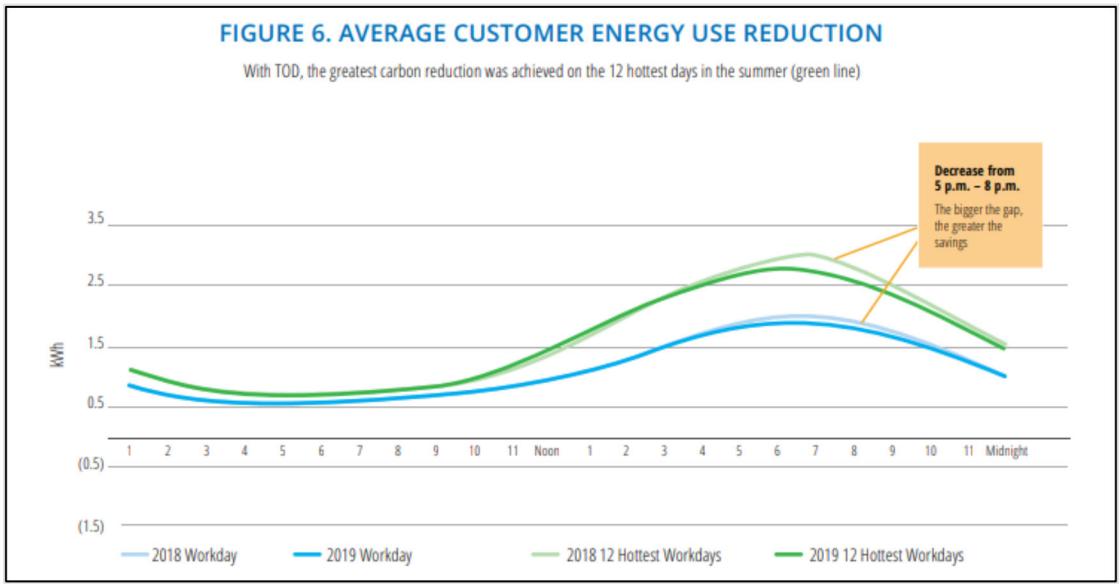
In addition, the Company proposes that the peak prices remain in effect over a shorter period – specifically, in those hours related to the system peak. The Company proposes an on-peak price period of between 3 and 5 hours in length from 2:00 p.m. to 7:00 p.m. during summer, and 6:00 a.m. through 9:00 a.m, and 6:00 p.m. through 9:00 p.m. during winter. The Company's proposed approach of large price differentials, as more fully described in Company witness Greg Tillman's Rebuttal Testimony, have been shown to be effective in shifting customer consumption. A study by The Brattle Group found that: "On average, residential customers reduce their on-peak usage by 6.5% for every 10% increase in the peak-to-off-peak price ratio."[15]

Q. Has a phased approach helped shape full deployment of Time- of-Use Rates elsewhere in the industry?

A. Yes, the Sacramento Municipal Electric Utility's (SMUD) program is a good example, as the results of which are shown in Figure 1 (below).

[14] Company's proposed Tariff Sheet 1a.
[15] Moving Ahead with Time-Varying Rates (TVR): US and Global Perspectives. Can be accessed at: http://files.brattle.com/files/5923_a_global_perspective_on_time-varying_rates_faruqui_061915.pdf

Figure 1: SMUD Energy Use Reduction under Time-of-Use Rates[16]



The Figure shows the benefits of SMUD's default service TOU rate in shifting customer consumption from the peak period to the off the peak period.

Importantly, SMUD's process to achieve these benefits began with a multi-year pricing pilot that tested three time-variant pricing plans, including Time-of-Use, Critical Peak Pricing, and a combination of the two, as described below.

- TOU rate option – participants were charged an on-peak price of 27.00 cents/kWh between 4:00 p.m. and 7:00 p.m. on weekdays, excluding holidays, and then reverted to a rate of 8.46 cents/kWh for the first 700 kWh.
- Critical Peak Pricing (CPP) option – participants were charged 75 cents/kWh during CPP event hours, when temperatures were expected to be very high, and then reverted to 8.51 cents/KWh for the first 700 kWh.

[16] https://www.publicpower.org/system/files/documents/Moving-Ahead-Time-of-Use-Rates.pdf

It is important to note the SMUD TOU rate plans offered (1) several TOU rate options, (2) large price differentials between peak and off-peak prices, and (3) a 3-hour peak period.

Q. Does the Company believe that Empire and its customers would benefit from a similar phased approach?

A. Yes, the Company believes its phased approach will provide the Company and its customers with an opportunity to study and evaluate how TOU rates will work in Missouri for the Company's customers prior to full deployment of TOU rates, as described in the Direct and Rebuttal Testimonies of Company witness Tillman.

Q. Does the Company have concerns with the billing determinants used to design Staff's proposed TOU rates?

A. Yes, the Company has concerns with the billing determinants used to design Staff's TOU rates since these were based on a sample rather than population of customer hourly usage data, which is generally the approach used in designing rates. The Company is concerned the sample data could over- or -under-estimate the full population data, leading to a potential over- or under-collection of the revenue requirement approved by the Commission.

Q. Did the Company utilize the sample data to design its proposed TOU rates?

A. Yes; however, the Company's proposed TOU rates were developed for 500 residential and 200 commercial customers as part of its phased approach to TOU rate offerings, whereas

Staff-proposed TOU rates were proposed for full deployment to all residential and small commercial customers. [17] [18]

Q. Can the billing determinants concerns be addressed?

A. Yes, the Company proposes to address the concerns regarding over- or under- collection of the authorized revenue requirement through the proposed Net Base Energy Cost ("NBEC") adjustment and retail purchased power tracker.[19] These mechanisms would allow the Company to refund or recover, respectively, the surplus or shortfall in revenue requirements.

Q. Does the Company have concerns related to potential customer bill impacts under TOU rates?

A. Yes. The Company is concerned that customer bills may be higher under TOU rates than under the current rate structure. To address this concern, the Company proposes that customers receive a "best bill guarantee" for the first year only when the customers sign up for TOU rates.

Q. What is a "best bill guarantee"?

A. "Best Bill Guarantee" means that customers who elect TOU rates would receive energy bills in the first year only that are not higher than they otherwise would have been under the current rate structure. For example, if a customer's annual bill under TOU rates in the first year is higher than it otherwise would have been under the current rate structure, the Company will refund the difference to the customer. Conversely, if a customer's annual bill under TOU rates during first year is lower than it otherwise would have been under the

[17] Direct Testimony of Company Witness Gregory W. Tillman, p. 9-18.
[18] Id., pp. 12-13.
[19] Direct Testimony of Aaron J. Doll, pp. 29-31, Direct Testimony of Gregory W. Tillman, pp. 15-17.

current rate structure, the customer will retain or keep the savings. The proposed approach is designed to be "risk free" in encouraging customers to participate in the TOU rate offerings.

Q. Is there industry precedent for Best Bill Guarantees?

A. Yes. Best Bill Guarantees or Bill Protection programs with TOU rates are offered at several companies. For example, PG&E in California,[20] Salt River Project ("SRP"), in Arizona,[21] and Oklahoma Gas & Electric in Oklahoma[22] currently have best bill programs in place.

Q. Does Staff suggest a tariff provision similar to the Best Bill Guarantee?

A. Yes, Staff suggests a "hold harmless" provision for its proposed Option 4 TOU rate may be appropriate. In discussing Option 4, Staff states: "Under this approach, a "hold harmless" tariff provision may be appropriate for the introductory period when customers are transitioning to this rate."[23] Staff has not proposed this provision for its other TOU rate options.

Q. What is the Company's response to Staff's recommendation to consolidate schedules CB and SH into a Small General service schedule?

A. The Company does not oppose Staff's recommendation to consolidate Schedules CB and SH into a Small General class. However, as discussed earlier, the Company recommends a phased approach to TOU rates for a limited number of customers and the current rate structure for the remainder of the rate class.

[20] See Risk-Free Bill Protection. https://www.pge.com/en_US/residential/rate-plans/rate-plan-options/time-of-use-base-plan/bill-protection-time-of-use-customers.page
[21] See 90-day risk-free guarantee. https://www.srpnet.com/prices/home/ez3.aspx
[22] See Best Bill Provision in Standard Pricing Schedule R-TOU. Can be accessed at https://www.oge.com/
[23] Staff CCOS Report, p. 15.

The bill impacts for average CB and SH customers at Staff TOU rate structure and current rate structure[24] are presented in Figures 2A and 2B (below).

Figure 2A: Schedule CB Annual Bill Comparison (Base Rates Only)

Annual Use	Cumulative Bills	Cumulative Use	Staff TOU Rate Structure	Current Rate Structure	Difference $	Difference %
1,500	12%	0%	$ 469	$ 462	$ 7	1.5%
3,500	23%	2%	732	716	16	2.3%
6,000	33%	4%	1,061	1,033	28	2.7%
9,000	43%	7%	1,432	1,400	33	2.3%
12,000	51%	11%	1,769	1,746	22	1.3%
17,156	61%	17%	2,329	2,331	(3)	-0.1%
25,000	71%	27%	3,181	3,222	(41)	-1.3%
30,000	76%	32%	3,725	3,790	(65)	-1.7%
50,000	87%	51%	5,898	6,060	(162)	-2.7%
100,000	97%	82%	11,332	11,737	(405)	-3.4%

Figure 2B: Schedule SH Annual Bill Comparison (Base Rates Only)

Annual Use	Cumulative Bills	Cumulative Use	Staff TOU Rate Structure	Current Rate Structure	Difference $	Difference %
5,000	14%	1%	$ 929	$ 906	$ 23	2.6%
7,500	20%	2%	1,258	1,223	35	2.9%
10,000	26%	4%	1,562	1,525	37	2.4%
15,000	39%	9%	2,126	2,105	21	1.0%
17,500	43%	11%	2,403	2,392	11	0.5%
20,000	48%	14%	2,681	2,679	1	0.1%
24,954	56%	19%	3,230	3,248	(18)	-0.6%
30,000	63%	25%	3,789	3,827	(38)	-1.0%
40,000	72%	35%	4,897	4,975	(78)	-1.6%
50,000	79%	45%	6,005	6,122	(117)	-1.9%

The Figures show that CB and SH customers with average usage of 17,156 kWh and 24,954 kWh, respectively, would experience 0.10 percent and 0.60 percent reductions

[24] Current structure TOU rates developed on revenue neutral basis using Staff's Small General Class revenue requirements.

in annual bills under Staff's proposed TOU rate structure.[25] The Figures also show that CB and SH customers with lower usage would experience a 2.0 to 3.0 percent increase in annual bills under Staff's proposed TOU rate structure. For this analysis, Staff's alternative option for Small General Service class is utilized.

Q. What is the Company's response to Staff's recommendation to consolidate schedules GP and TEB into two new Primary and Secondary voltage schedules?

A. The Company does not oppose Staff's recommendation to consolidate Schedules GP and TEB into two new schedules: 'Large General Secondary Service', and 'Small General Primary Service'. The Company agrees with Staff's statement that: "The rates for the Primary and Secondary schedules should differ by an approximation of energy losses experiences in the transformations from primary to secondary voltage."[26]

Q. What is the Company's response to Staff's recommendation to merge schedule PFM into Medium General Service schedule?

A. The Company does not agree with Staff's proposal to merge Schedule PFM into the Medium General Service class. Schedule PFM's rate structure is different than the consolidated Schedules GP and TEB's rate structure. Specifically, Schedule PFM's rate structure consists of a head block for the first 700 kWh and a tail block for the remainder. This rate structure is not consistent with Schedules GP and TEB's rate structure, which currently consists of two demand charges and three-tiered energy rates.

As an alternative, the Company recommends merging Schedule PFM into Small General class as the rate structures are more comparable to the current CB and SH classes.

[25] For calculating bill impacts under Staff TOU rates, 71.0 percent of customer usage was considered On-Peak consistent with Staff billing determinants.
[26] Staff CCOS Report, p. 22.

Q. What is the Company's response to Staff's recommendation to restructure the large power rates?

A. Similar to its earlier recommendations, the Company recommends a phased approach to TOU rates for a limited number of customers and the current rate structure for the remainder of the rate class.

IV. MECG'S RATE DESIGN AND COST ALLOCATION RECOMMENDATIONS

Q. Please summarize MECG's rate design and cost allocation recommendations.

A. MECG's recommendations are summarized below.

1. MECG recommends setting class revenue requirements to reflect a 25.0 percent revenue neutral adjustment for Schedule RG to align with the class cost of service.
2. MECG recommends revised allocation of the cost of Schedule SC-P interruptible credits.
3. MECG recommends any revenue increase for GP, LP, and TS classes should be recovered through billing demand charges.
4. MECG recommends allocation of production-related costs based on the Average & Excess (A&E) method utilizing non-coincident demands from five peak months within 10.0 percent of system peak. [27] In addition, MECG recommends the load factor calculation for A&E method be based on single coincident peak.

Q. What is the Company's response to MECG's recommendation to incorporate a revenue neutral adjustment to reflect the results of the CCOS?

A. The Company supports the principles of fairness and equity raised by MECG; however, the Company is also concerned with customer bill impacts. As mentioned in direct

[27] Direct Testimony of Kavita Maini, pp. 14-22.

testimony, the Company believes the results of the class cost of service study support a higher rate increase for residential customers since their current rates recover less than the cost of service, consistent with the Company's rate design proposals in its filing. However, the Company believes that any revenue neutral adjustment should consider customer bill impacts.

Figure 3 (below) shows the comparison between base rate increase under Company's proposal and MECG's proposal.

Figure 3: Base Rate Increase: Company vs. MECG Proposal

Rate Class	Current Revenues Base Rates	Target Revenues Base Rates Company-Filed	Target Revenues Base Rates MECG	Proposed Increase % Company-Filed	Proposed Increase % MECG
RG-Residential	$ 216,643,580	$ 238,002,124	$ 247,812,659	9.9%	14.4%
CB-Commercial	43,154,231	48,746,420	46,200,709	13.0%	7.1%
SH-Small Heating	9,356,671	10,616,573	10,043,171	13.5%	7.3%
GP-General Power	82,423,398	91,638,698	88,771,526	11.2%	7.7%
TS-Transmission Service	4,394,565	4,595,972	4,416,011	4.6%	0.5%
TEB-Total Electric Bldg	35,162,161	39,039,004	37,833,776	11.0%	7.6%
PFM-Feed Mill/Grain Elev	78,262	87,934	83,539	12.4%	6.7%
LP-Large Power	67,281,045	75,073,862	72,932,274	11.6%	8.4%
MS-Miscellaneous	14,031	15,976	15,089	13.9%	7.5%
SPL-Municipal St Lighting	2,177,341	2,567,778	2,390,053	17.9%	9.8%
PL-Private Lighting	3,983,150	4,336,444	4,226,376	8.9%	6.1%
LS-Special Lighting	80,482	90,348	85,950	12.3%	6.8%
Total Company	**$ 464,748,916**	**$ 514,811,132**	**$ 514,811,132**		

The Figure shows under MECG's proposal, residential base rates increase by 14.4 percent. By comparison, under the Company's proposal, residential base rates increase by 9.9 percent.[28]

Q. Do you agree with MECG that the Company's residential rate proposal in this rate proceeding is contrary to its residential rate proposal in GR-2021-0320, the Empire Gas District's rate proceeding?

[28] Based on Company's filed revenue requirements.

A. No. The Company's residential rate proposals in both proceedings are designed to mitigate customer bill impacts through base rate increases just below 10.0 percent.[29]

Q. Would the Company support a revenue neutral adjustment if the residential rate impact was lower?

A. Yes. The Company supports the principles of fairness and equity raised by MECG, subject to bill impact considerations consistent with its filed position.

Q. What is the Company's response to MECG's recommendation to allocate the cost of schedule TS interruptible credits to all of the other rate classes?

A. The Company agrees with MECG's recommendation to remove interruptible load from the A&E allocator used to allocate interruptible credits. Figure 4 (below) shows the re-allocation of interruptible credit to all rate classes based on the adjusted A&E allocator.

Figure 4: Interruptible Credit Allocation

Rate Class	Target Revenues	Interruptible Credit Allocation Adjusted	Interruptible Credit Allocation Filed (Direct)	Difference ($)	Difference as % of Proposed Revenues
RG-Residential	$ 314,275,408	$ 180,858	$ 179,188	$ 1,670	0.00%
CB-Commercial	63,269,753	31,294	31,005	289	0.00%
SH-Small Heating	14,251,114	7,348	7,281	68	0.00%
GP-General Power	129,577,067	68,635	68,001	634	0.00%
TS-Transmission Service	7,977,370	-	3,490	(3,490)	-0.04%
TEB-Total Electric Bldg	54,467,480	26,938	26,689	249	0.00%
PFM-Feed Mill/Grain Elev	109,225	72	71	1	0.00%
LP-Large Power	114,775,451	58,522	57,982	540	0.00%
MS-Miscellaneous	22,039	7	7	0	0.00%
SPL-Municipal St Lighting	4,417,095	2,210	2,190	20	0.00%
PL-Private Lighting	4,973,975	1,714	1,698	16	0.00%
LS-Special Lighting	109,355	257	255	2	0.00%
Total Company	**$ 708,225,333**	**$ 377,856**	**$ 377,856**	**$ (0)**	

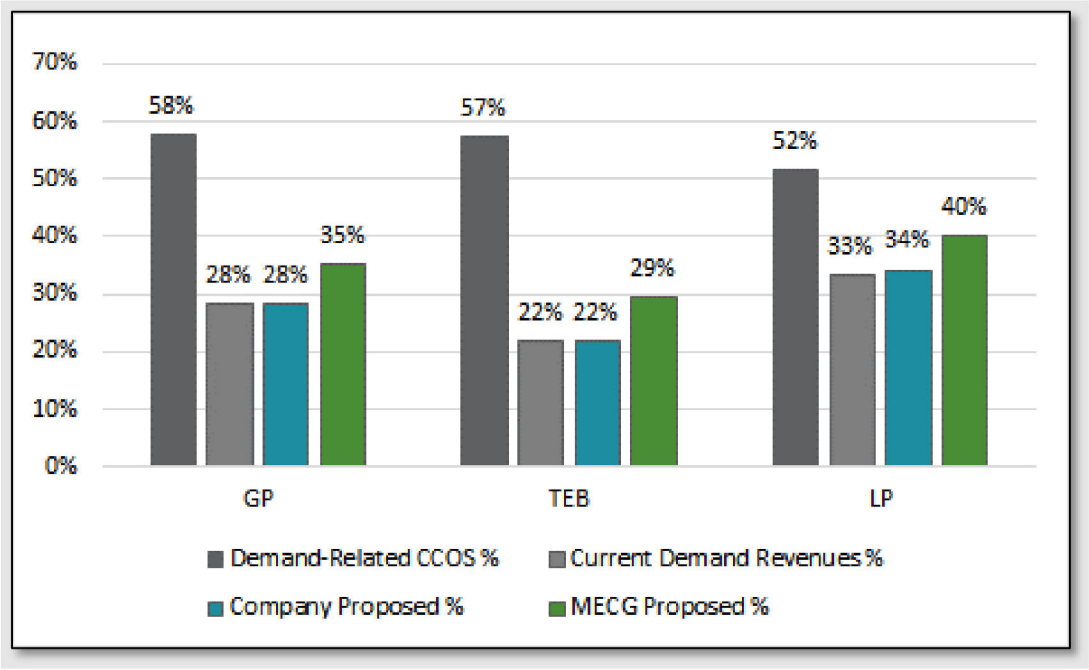
[29] Direct Testimony of Kavita Maini, p. 34.

The Figure shows that the revised interruptible credit allocation results in a 0.04% decrease in the TS class target revenues.

Q. What is the Company's response to MECG's recommendation to apply any schedule GP, TEB, and LP rate increases to the billing demand charges?

A. The Company does not oppose MECG's recommendation to apply increases for the GP, TEB, and LP classes to the billing demand charges, subject to bill impact considerations. This approach better aligns recovery of demand-related costs through demand charges and energy-related costs through energy-related charges, as shown in Figure 5 (below).

Figure 5: GP, TEB, LP Demand-Related Cost Recovery Comparison



The Figure shows that under MECG proposal, the demand charge revenues recover 35.0 percent, 29.0 percent, and 40.0 percent, respectively, of GP, TEB, and LP class revenue requirements. By comparison, the demand-related costs represent 58.0 percent, 57.0 percent, and 52.0 percent, respectively, of GP, TEB, and LP class revenue requirements.

Q. What is the Company's response to MECG's recommendation to allocate production costs utilizing A&E for 5 peak months that are within 10.0 percent of system peak?

A. The Company does not support MECG's recommendation to allocate production costs utilizing the A&E method for top 5 peak months (5NCP) since it is not consistent with the Company's capacity planning requirements. Specifically, the Company's capacity planning requirements are based on the Southwest Power Pool's ("SPP") resource adequacy requirements in the summer and winter periods. The summer requirements are based on peak load and reserve margin in the summer period (June through September), and the winter requirements are based on peak load and reserve margin in the winter period (December through March).

However, the Company would support a change to allocate production costs based on class demands in December through March and June through September (i.e., 8NCP), consistent with the months used in evaluation of the capacity planning requirements.

Q. What are the differences in A&E results under the 12NCP and 8NCP methods?

A. Figure 6 (below) shows a comparison between the Company's filed A&E method (12NCP) and the Company's alternative A&E method (8NCP).

Figure 6: A&E Allocator Comparison

Rate Class	A&E 12NCP Empire Filed [1]	A&E 8NCP Rebuttal [1]
RG-Residential	47.42%	47.76%
CB-Commercial	8.21%	8.33%
SH-Small Heating	1.93%	1.94%
GP-General Power	18.00%	17.88%
TS-Transmission Service	0.92%	0.92%
TEB-Total Electric Bldg	7.06%	7.14%
PFM-Feed Mill/Grain Elev	0.02%	0.02%
LP-Large Power	15.34%	14.97%
MS-Miscellaneous	0.00%	0.00%
SPL-Municipal St Lighting	0.58%	0.55%
PL-Private Lighting	0.45%	0.43%
LS-Special Lighting	0.07%	0.07%
Total	100.00%	100.00%
[1] w/ 12 CP LF		

The Figure shows that the residential customers are assigned 47.42 percent of production costs under the Company's filed A&E method (12NCP). In comparison, the residential customers are assigned 47.76 percent of production costs under the Company's alternative A&E method (8NCP).

Q. What is the Company's response to MECG's recommendation to calculate load factor utilized in the A&E method based on single coincident peak, instead of average of 12 monthly peaks?

A. The Company does not oppose MECG's recommendation to calculate load factor based on single coincident peak, as according to MECG the methodology is used by Ameren Missouri.

Figure 7 (below) shows the comparison between A&E 8NCP allocator based on 12 coincidental peaks (12CP) load factor and A&E 8NCP based on a single coincidental peak (1CP) load factor.

Figure 7: A&E Allocator 8NCP w/ 12CP Load Factor vs. w/ 1CP Load Factor

Rate Class	A&E 8NCP Rebuttal [1]	A&E 8NCP Rebuttal [2]
RG-Residential	47.76%	49.42%
CB-Commercial	8.33%	8.50%
SH-Small Heating	1.94%	1.95%
GP-General Power	17.88%	17.45%
TS-Transmission Service	0.92%	0.78%
TEB-Total Electric Bldg	7.14%	6.93%
PFM-Feed Mill/Grain Elev	0.02%	0.02%
LP-Large Power	14.97%	13.83%
MS-Miscellaneous	0.00%	0.00%
SPL-Municipal St Lighting	0.55%	0.57%
PL-Private Lighting	0.43%	0.45%
LS-Special Lighting	0.07%	0.08%
Total	100.00%	100.00%

[1] w/ 12 CP LF
[2] w/ 1 CP LF

The Figure shows the A&E allocator with a 1CP load factor results in a higher increase in the low load factor rate classes. For example, the Figure shows that the A&E 8NCP allocator with a 1CP load factor allocates 49.42 percent of production costs to Schedule RG while the A&E 8NCP allocator with a 12CP load factor allocates 47.76 percent of production costs to Schedule RG.

Q. Please summarize the Company's class cost of service and rate design recommendations.

A. The Company recommends the following:

- Approve a phased approach to TOU rate implementation, enabling the Company and its customers to measure, track and become suitably familiar with TOU rate design and its benefits prior to TOU rate implementation to all customers.

- Approve the Company's proposed NBEC adjustment and retail purchased power tracker, to address potential under- and over-collection of the Company's authorized revenues.
- Not oppose Staff's recommendation to consolidate Schedules CB and SH into a Small General class; however, the Company proposes to maintain the current rate structure while implementing a phased approach to TOU rate implementation.
- Not oppose Staff's recommendation to consolidate Schedules GP and TEB into two new schedules: 'Large General Secondary Service', and 'Small General Primary Service'; however, the Company proposes to maintain the current rate structure.
- Oppose Staff's proposal to merge Schedule PFM into the Medium General Service class; as an alternative, the Company recommends merging Schedule PFM into the Small General class as the rate structures are more comparable to the current CB and SH classes.
- Partially supports MECG's proposal for some level of revenue shift, subject to customer bill impacts consistent with the Company's filed position.
- Approve an A&E allocator to allocate interruptible credits that does not include interruptible load.
- Not oppose an A&E allocator that is based on 8NCP rather than MECG's proposal for an A&E allocator based on 5NCP.
- Not oppose MECG's proposal for an A&E allocator based on 1CP.

V. PURPOSE OF CASH WORKING CAPITAL AND LEAD LAG TESTIMONY

Q. What is the purpose of your Rebuttal Testimony relating to CWC?

A. The purpose of this portion of my Rebuttal Testimony is to respond to Staff's recommendations in their cost of service report related to the Company's CWC requirement. In addition, my rebuttal testimony responds to the recommendations by John S. Riley on behalf of OPC in his direct testimony related to the Company's CWC requirement.

Q. Have you prepared schedules to support this portion of your Rebuttal Testimony?

A. Yes, **Rebuttal Schedule TSL-R1**, which was prepared by me or under my direction.

VI. RESPONSE TO STAFF'S CASH WORKING CAPITAL RECOMMENDATIONS

Q. Please summarize Staff's recommendations related to the Company's lead-lag study.

A. Except for property taxes, Staff supports the Company's proposed approach of using the expense lead days approved by the Commission in Case No. ER-2019-0374, the Company's most recent rate case, since there have been no substantial changes in the Company's payment processes or practices during the test year that would result in a significant change in the expense lead days.[30] Regarding property taxes, Staff proposes to decrease the lead days associated with property taxes from 204.80 days to 181.24 days to reflect more recent experiences.[31] Staff also supports the Company's proposed revenue lag.

Q. Does the Company agree with Staff's recommendations?

A. Yes.

[30] Staff Report, Missouri Public Service Commission, p. 33.
[31] Ibid.

VII. RESPONSE TO OPC'S LEAD LAG RECOMMENDATIONS

Q. Please summarize OPC's recommendations related to the company's proposed lead-lag study.

A. OPC recommends an increase in expense lead days associated with federal and state income taxes from 39.38 days to 365.00 days.[32] OPC states the expense lead days, "…needs to reflect the fact that ratepayers fund the federal and Missouri state income tax expense built into rates but the money earmarked for the expenses are not being paid out due to tax deferments."[33]

Q. What is OPC's basis for saying money earmarked for income tax expenses is not being paid out due to tax deferments?

A. OPC supports their recommendation with the following statement:

> "My review of past The Empire District Electric Company federal and state income tax returns, as well as the recent returns of its new parent, Liberty, indicates that Empire will not be responsible for any income tax liability in the foreseeable future."[34]

OPC's statement is based on an assumption that Empire has a proforma net operating loss carryforward that would offset an otherwise income tax liability in the foreseeable future.

Q. Does the Company agree with OPC's statement that Empire will have no income tax liability in the foreseeable future?

A. No. While the Company agrees with OPC that Empire does not expect to have income tax liability in 2021 due to losses incurred from Storm Uri, the Company does expect The

[32] Direct Testimony of John S. Riley on behalf of OPC, p. 8.
[33] Ibid.
[34] Ibid. at p.7.

Empire District Electric Company will have income tax liability in 2022. Please refer to **Rebuttal Schedule TSL-R1**, which contains the Company's response to Staff's Data Request No. 0377. The response states, "The Empire District Electric Company expects to be in a taxable position for calendar 2022."

Q. Does OPC oppose the Company's lead days of 39.38 days assuming The Empire District Electric Company has income tax liability in the foreseeable future?

A. No. My understanding is OPC opposes the Company's lead days of 39.38 only on the basis that Empire has no income tax liability in the foreseeable future.

Q. Accepting for the moment OPC's position that Empire has no income tax liability in the foreseeable future, do you agree with OPC's recommendation to set the expense lead at 365.00 days?

A. No. OPC's recommendation to set the expense lead at 365.00 days is based on an assumption that the Company would receive on the first day of the year money "earmarked" for its annual income tax expenses. This is not accurate – the Company would not receive money on the first day of the year for its annual income tax expenses. Rather, the Company would receive money over the course of the year consistent with its billing practices – which for purposes of deriving an expense lead would be the midpoint of the year, or 182.50 days.

Thus, accepting for the moment OPC's position that Empire has no income tax liability in the foreseeable future, then the appropriate lead days for income tax expenses would be 182.50 days rather than 365.00 days. Lead days of 182.50 days are a more accurate representation of when the Company would receive the money for income tax expenses.

VIII. CASH WORKING CAPITAL-LEAD LAG RECOMMENDATIONS

Q. Please summarize the Company's CWC positions.

A. The Company:

- accepts Staff's proposal to reduce the lead days on property tax expenses to 181.24 days;
- recommends the Commission accept the Company's lead days associated with federal and state income taxes of 39.38 days;
- rejects OPC's argument that Empire will have no income tax liability in the foreseeable future; and
- if the Commission accepts OPC's argument that that Empire will have no income tax liability in the foreseeable future, recommends the Commission reject OPC's recommendation to increase the lead days on income tax expenses to 365.00 days and accept the Company's lead days of 182.50 since they more accurately reflect when the Company would receive the money for income tax expense.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

VERIFICATION

I, Timothy S. Lyons, 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/ Timothy S. Lyons