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Electric Company  
Case No.: ER-2021-0321  
Date Testimony Prepared: May 2021

**Before the Public Service Commission  
of the State of Missouri**

**Direct Testimony**

**of**

**Gregory W. Tillman**

**on behalf of**

**The Empire District Electric Company**

**May 2021**



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THE EMPIRE DISTRICT ELECTRIC COMPANY  
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. ER-2021-0321

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DIRECT TESTIMONY OF GREGORY W. TILLMAN  
THE EMPIRE DISTRICT ELECTRIC COMPANY  
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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

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

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Liberty Utilities Service Corp. as Senior Manager, Rates and  
7 Regulatory Affairs for Liberty Utilities' Central Region, which includes The Empire  
8 District Electric Company ("Empire" or "Company").

9 **Q. On whose behalf are you testifying in this proceeding?**

10 A. I am testifying on behalf of Empire.

11 **Q. Please describe your educational and professional background.**

12 A. I earned a Bachelor of Science in Electrical Engineering from the University of Tulsa  
13 in 1987. Prior to joining Liberty Utilities in May 2019, I had over 26 years of experience  
14 in the regulated and deregulated energy industry including roles in regulatory, pricing,  
15 billing, and metering information. In 1990, after serving on active duty as a Signal  
16 Officer in the United States Army, I joined Public Service Company of Oklahoma  
17 ("PSO"). From 1990 through 1997, I was employed in various positions at PSO,  
18 including in the Information Services, Business Planning, Rates and Regulatory, and  
19 Ventures departments. During my tenure with the Rates and Regulatory Department, I  
20 served as the Supervisor of Power Billing and Data Collection. In this position, I  
21 managed the billing for large industrial and commercial customers and led the

1 implementation of PSO's real-time pricing program. I also managed the  
2 implementation of real-time pricing for the three remaining utilities in the Central and  
3 South West Corporation – Southwestern Electric Power Company, Central Power and  
4 Light, and West Texas Utilities.

5 In 1997, I joined the Retail Energy Department of the Williams Energy  
6 Company as the Manager of Systems for the retail gas and electric data and billing. I  
7 also managed the customer billing function at Williams Thermogas as well as the  
8 billing and accounting systems support functions at Williams Communications. From  
9 2000 to 2002, I served as the Vice President of Energy Solutions for Automated  
10 Energy. In 2008, following several assignments as a consultant and project manager in  
11 various industries, I joined Oklahoma Gas & Electric Company (“OG&E”) as a Senior  
12 Pricing Analyst. I was promoted to Manager of Pricing in January 2010 and became  
13 the Product Development Pricing Leader in 2013. While at OG&E, I was instrumental  
14 in developing and managing OG&E's pricing strategy and products, including the  
15 design and implementation of OG&E's SmartHours™ rate. From November 2015 to  
16 May 2019, I was employed at Walmart, Inc. as a Senior Manager of Energy Regulatory  
17 analysis. In that role, I advocated for Walmart's positions in regulatory proceedings  
18 throughout the nation. I have been in my current position with Liberty Utilities since  
19 May 2019.

20 **Q. Have you previously testified before the Missouri Public Service Commission**  
21 **(“Commission”) or any other regulatory agency?**

22 A. I have not previously testified before the Commission. However, I have testified in  
23 more than 40 regulatory proceedings before 19 other state regulatory agencies. My

1 testimony addressed the topics of revenue requirement, rate design, revenue allocation,  
2 pricing, customer impacts, tariffs, and terms and conditions of service.

3 **Q. What is the purpose of your direct testimony in this proceeding?**

4 A. The purpose of my testimony is to sponsor certain pro forma billing and revenue  
5 adjustments for the Company, introduce rate schedules for time-of-use (“TOU”)  
6 pricing rates for certain customer classes, and propose a new green energy tariff  
7 schedule to allow customers to offset the carbon emissions of their electricity  
8 consumption through the purchase of renewable energy certificates (“REC”) associated  
9 with the Company’s wind facilities.

10 **II. REVENUE ADJUSTMENTS**

11 **Q. Which of the Revenue Adjustments are you sponsoring?**

12 A. I am sponsoring the following Revenue Adjustments:

- 13 Revenue Adjustment 3 Customer Annualization
- 14 Revenue Adjustment 4 Revenue Normalization
- 15 Revenue Adjustment 5 Customer Load Growth

16 **Q. Please describe Revenue Adjustment 3, Customer Annualization.**

17 A. The Customer Annualization adjustment ensures that the test year revenue and billing  
18 determinants for each of the weather normalized classes reflect the annualized number  
19 of Empire customers and their related consumption based on the customer count at the  
20 end of the test year. The customer count at the end of the test year and the resulting  
21 adjustments for each of these five classes are shown in Figure 1. The total revenue  
22 adjustment for customer annualization is an increase in test year revenue of \$1,296,257.

**Figure 1. Customer Annualization Adjustment**

<b>Class</b>	<b>Customer Count</b>	<b>Revenue Adjustment</b>
Residential General	133,124	\$1,089,565
Commercial Building	18,355	\$260,378
Small Heating	3,025	\$3,240
General Power	1,802	\$152,914
Total Electric Building	932	\$(209,839)
<b>Total</b>	<b>157,849</b>	<b>\$1,296,257</b>

1 **Q. Please describe Revenue Adjustment 4, Revenue Normalization?**

2 A. Revenue normalization refers to the adjustment necessary to remove the effects of  
3 temporary impacts to Test Year revenue due to external factors. Typically, this  
4 adjustment deals with the impact of weather on the revenue of weather sensitive  
5 classes; however, in this case, Empire also adjusted the test year billing determinants  
6 and revenue for certain other impacts and billing issues during the test year. In addition  
7 to the weather normalization adjustment, these impacts include:

8 1) Adjustments to remove the effects of the Covid-19 Pandemic:

9 a) on weather sensitive classes (this adjustment is combined with the weather  
10 normalization adjustment),

11 b) on the LP class' industrial customers;

12 2) An adjustment to remove the impacts of bill estimations that exceed a normal level;

13 3) An adjustment to remove the impacts of a net metering billing issue; and,

14 4) An adjustment to remove the impacts of a demand reset billing issue.

1 **Q. Please describe the Company's adjustment which includes the impacts of weather**  
2 **and the Covid-19 impact on sales to the weather sensitive classes.**

3 A. The revenue adjustment associated with the weather impact and Covid-19 impact to  
4 the weather sensitive classes incorporates the adjustments described in the Direct  
5 Testimony of Empire witness Eric Fox. This adjustment reflects a total revenue impact  
6 during the test year of \$2,972,146.

7 **Q. Was the Covid-19 impact limited to only these weather sensitive classes?**

8 A. No. Sales to the Company's Large Power ("LP") class, which consists primarily of our  
9 largest industrial customers were also impacted by the Covid-19 pandemic.

10 **Q. What was the impact from the Covid-19 pandemic on the LP class sales during**  
11 **test year?**

12 A. The impacts were based on an analysis of in the LP class based on the same weather  
13 and Covid-19 models used to normalize the weather sensitive classes. The models and  
14 sales adjustments for the LP class are presented and described in Witness Fox's  
15 testimony. To maintain the consistency between the adjustments for the LP class with  
16 the other classes there is a minimal adjustment due to weather in addition to the  
17 significant Covid-19 impacts on sales. The adjustment for the Covid-19 pandemic  
18 results in an increase to the revenue for the LP class of \$2,615,826.

19 **Q. Please describe the issue surrounding estimated meter reads included in the**  
20 **Company's recorded billing determinants.**

21 A. As described in the Direct Testimony of Empire witness, Jon Harrison, the billing data  
22 contains estimated reads during the test year. Generally, the number of estimates  
23 exceed the norm in the test year and could impact the accuracy of the Company's class  
24 cost of service study and rate design.

1 **Q. Does the estimated meter read issue affect the overall consumption included in the**  
2 **test year?**

3 A. The processes surrounding estimated reads leads to limited impacts on the test year  
4 sales data when viewed from an annual sales perspective. A certain portion of  
5 estimated reads are eliminated during the normal billing process as they are cancelled  
6 and re-billed to ensure more accurate billing. The cancel/re-bill process replaces the  
7 original estimate with an adjusted, more accurate, reading in the billing data. The  
8 remaining estimated reads have a limited impact on the billing determinants for the test  
9 year since the estimates themselves are trued up using an actual read in the ensuing  
10 month. The actual read data in the ensuing month ensures that the total consumption  
11 billed over the period which includes estimated reads followed by an actual read  
12 reflects the actual consumption over the same period.

13 **Q. Given this, why is an adjustment necessary?**

14 A. Estimates that occur either prior to or at the end of the test year may result in an impact  
15 to the test year billing determinants and should be adjusted. Additionally, inaccurate  
16 estimates may cause billing determinants to be inadvertently shifted between seasons,  
17 billing periods, or blocks within a billing period. Empire has introduced pro forma  
18 adjustments to utilize improved estimation routines to mitigate the impact of any  
19 inaccurate estimated reads from the test year.

20 **Q. Please summarize the process Empire took to remove the impacts of the estimated**  
21 **reads from the Company's total billing determinants.**

22 A. First, Empire created a listing of all estimated reads that were not cancelled and rebilled  
23 during the test year. Next, estimates were re-calculated using improved estimation  
24 routines. Next, the monthly net changes to billing determinants were determined by



1 summing the individual changes. Finally, the weather impacts were applied to the data  
2 and the revenue associated with the net billing determinant changes was calculated.

3 **Q. What is the resulting revenue adjustment?**

4 A. The adjustment to remove the impact of estimated reads was a decrease to revenue of  
5 \$17,917.

6 **Q. Do the results of the Company's adjustments to address estimated reads provide  
7 a more accurate reflection of the sales for the class cost of service and rate design?**

8 A. Yes. The adjustments to the billing determinants and associated revenue to remove the  
9 impact of abnormal estimations result in a reasonable reflection of the actual sales for  
10 each month of the test year.

11 **Q. Please describe the net metering billing issues which required adjustments to the  
12 test year billing determinants and revenue data.**

13 A. Due to a meter reading issue for net metering customers, in which the meter reads were  
14 inappropriately entered, excessive net metering credits were calculated and recorded to  
15 some net metering customer accounts. These credits were applied to the billing for  
16 ensuing months resulting in reduced revenue and kWh sales data being billed and  
17 recorded.

18 **Q. How did the Company calculate the adjustments necessary to remove the impact  
19 of the net metering billing issue from the test year sales and revenue data?**

20 A. The Company recalculated the billing for each month in which a customer was credited  
21 for the excessive balance of net metering credits. The net change in what was recorded  
22 for kWh sales and revenue for each month was calculated as well as the associated  
23 revenue and the credits were removed from the test year data.

24 **Q. What was the impact on the test year revenue resulting from this adjustment?**

1 A. The net impact totaled an increase to revenue of \$93,903

2 **Q. What was the demand reset billing issue?**

3 A. The Company discovered a billing issue which had a limited effect on the test year  
4 data. This issue resulted from an issue with demand metering following the installation  
5 of an AMI meter. The demand reads were not being reset while the meters were still  
6 being manually read resulting in demand reads not being accurate in the ensuing month  
7 if the monthly maximum demand did not exceed the previous months demand.

8 **Q. What is a demand reset and how does the failure to perform the reset affect the**  
9 **billing determinants?**

10 A. The demand register records the maximum value of consumption during any pre-  
11 defined interval of time. In this instance, it is any 15-minute period during the billing  
12 month. A demand reset consists of resetting the demand register in the meter to a value  
13 of 0 after the meter is read each month. If the meter reader fails to reset the demand  
14 register, the previous month's demand reading remains in the register. If, in the  
15 following month the maximum demand does not exceed the previous month's reading,  
16 the demand reading will reflect the reading from the previous month and not that of the  
17 current billing month. This causes the reading to exceed the actual maximum demand  
18 and results in an over-billing for the ensuing period.

19 **Q. What was the revenue impact resulting from the pro forma adjustment?**

20 A. This adjustment removed revenue totaling \$3,582.

21 **Q. Please describe Revenue Adjustment 5, Large Customer Load Growth.**

22 A. This adjustment ensures that the test year reflects sales for new customers and increased  
23 loads which were added after the start of the test year.

24 **Q. What is the revenue adjustment due to Large Customer Load Growth?**

1 A. The net increase for this adjustment is \$5,934,722.

2 **III. TIME OF USE SCHEDULES**

3 **Q. Is the Company proposing new rate options in this docket?**

4 A. Yes. Empire is proposing a Residential Time-of-Use schedule and a Commercial  
5 Time-of-Use schedule (“RGT” and “CBT”, respectively) for its residential and small  
6 commercial customers. Additionally, the Company is proposing a Large Power Time-  
7 of-Use (“LPT”) rate schedule available to certain large LP customers.

8 **Q. What are TOU rates?**

9 A. TOU rates present different prices associated with the corresponding costs to provide  
10 electricity during pre-determined times of the day. In its simplest form, the structure  
11 includes two time periods typically referred to as on-peak and off-peak. The on-peak  
12 period is broadly defined by the periods of the day in which system loads are highest  
13 and off-peak times are associated with the remaining periods in which loads are  
14 typically lower. Costs of providing electricity are different during these defined time  
15 periods. It follows that the prices during the on-peak are somewhat higher than the  
16 prices during the off-peak time periods. As customers respond to the pricing signals  
17 by reducing or shifting load away from the on-peak periods, they reduce demands on  
18 the system resulting in more efficient use of system resources and lower overall costs  
19 for all customers.

20 **Q. What are the primary goals associated with the introduction of TOU rates?**

21 A. The over-arching goal is to provide a tool for customers to have more control of their  
22 electricity bill. For example, if a customer shifts load from the higher priced on-peak  
23 period to the lower-priced off-peak period, she will create a direct reduction to her  
24 electric bill. Additionally, another primary goal is supported because she is using

1 system resources more efficiently and reducing the overall cost of providing service to  
2 all customers.

3 **Q. Do non-participants benefit from the more efficient use of system resources**  
4 **encouraged by TOU rates?**

5 A. Absolutely. While there is no direct bill impact to non-participants as TOU participants  
6 shift load from the on-peak period, overall costs are reduced for the utility. In the near  
7 term, the overall costs of energy supply are reduced since more efficient generating  
8 units provide a higher portion of the energy needs. The reduced demand during high  
9 load periods leads to a reduction in the capacity requirements to serve our customers  
10 and the associated costs of providing the required capacity.

11 **Q. What are the primary drivers for introducing the TOU rate schedules?**

12 A. These rate schedules are the initial steps and an integral part of a strategy to modernize  
13 the Company's rate structures. Current rate structures provide little choice to  
14 customers, are antiquated, and only loosely tie prices to the underlying cost of  
15 providing electric service to customers. Modernization of our rates will address these  
16 shortcomings. Since the cost of energy varies with the time that the customer uses  
17 electricity, the Company desires to establish rate structures that support our  
18 modernization strategy and provide choices to customers.

19 **Q. Briefly describe the overall objectives of Empire's rate modernization strategy?**

20 A. The Company hopes to accomplish three objectives. First, we believe it is critical to  
21 connect the price signals more directly to the underlying costs of providing service.  
22 Second, our goal is to incentivize efficient customer behavior through these pricing  
23 products. Finally, and, we believe, most importantly, Empire hopes to provide  
24 customers with a choice of pricing products. Customers have a wide range of needs

1 and desires, which we believe we can address through the introduction of a range of  
2 pricing products. The introduction of TOU rate structures in this proceeding lays the  
3 groundwork for establishing the Company's overall strategy.

4 **Q. Why is Empire able to propose TOU rates at this time?**

5 A. Empire's implementation of the automated metering infrastructure ("AMI") enables  
6 the introduction of time-based rates since the time-based energy consumption data is  
7 now available to support the measurement, pricing, and billing of this more advanced  
8 pricing structure.

9 **Q. Are customers generally receptive to time-based rate structures?**

10 A. As discussed earlier, customers have a wide range of needs and desires when it comes  
11 to their preferred pricing structures. Many customers are attracted to the savings  
12 opportunities available with the TOU rate structure; however, they must first  
13 understand the pricing structure itself and overcome any perceived risks of bill  
14 increases under the rates structures due to the inability to reduce or shift load during  
15 the on-peak pricing period.

16 **Q. Does the Company's proposal address the need for customer understanding of the  
17 rates being offered and to mitigate the customers' perceived risk of higher bills  
18 under the TOU rate?**

19 A. Yes. To increase customer understanding of these new pricing programs, the Company  
20 proposes a customer education program to communicate the availability of the new rate  
21 structure and its features and benefits to customers. In order to alleviate any perceived  
22 risks of bill increases, Empire has included a first year, "best-bill guarantee" within its  
23 proposed RGT and CBT rates.

1 **Q. Please provide an overview of the proposed customer education program.**

2 A. The customer education program consists of two parts. The first is geared toward  
3 providing our customers with general information regarding the benefits of a time-of-  
4 use rate structure and how their choices on the program will impact their electric bill.  
5 The TOU Subscription Program is focused on the recruitment and enrollment of the  
6 customers into the TOU program. Company witness Tisha Sanderson describes the  
7 TOU education program in her testimony.

8 **Q. How would the best-bill guarantee work for customers that opt into the TOU**  
9 **rates?**

10 A. The best-bill guarantee promises that if, after 12-months of receiving service on the  
11 TOU rate, the customer has paid more under the TOU rate than they would have under  
12 the standard tariff rate, the Company will calculate the difference and refund that  
13 amount to the customer in the form of a bill credit. Following the customer's first year  
14 on the TOU rate, the customer may switch back to the standard rate or remain on the  
15 TOU rate without the benefit of the best-bill guarantee.

16 **Q. Will these rate schedules be made available to all customers in their respective**  
17 **classes?**

18 A. Not initially. Due to limitations on the availability of AMI metering and the need to  
19 understand the impact of these rates on both the customers and the Company, Empire  
20 is proposing to limit the availability of the proposed rates during the first year. In the  
21 case of the residential and small commercial programs, the Company is proposing to  
22 limit availability to no more than 500 residential and no more than 200 commercial  
23 customers in the Joplin and Webb City districts of our service territory. After the first

1 year, the Company will determine if the program should be expanded incrementally or  
2 possibly made available to all residential and small commercial customers.

3 For the LPT rate, the Company is proposing to limit the rate to no more than 3  
4 current LP customers that have a maximum demand of 5 MW or greater during the  
5 previous 12-month period. After the first year, the Company may expand the program  
6 incrementally or to make the rate available to any customer taking service on the LP  
7 rate schedule.

8 **Q. Has the Company created new rate classes within its class cost of service study to**  
9 **reflect the TOU rates?**

10 A. No. While the Company will include the rate classes within the class cost of service  
11 for the TOU classes in a future case, we currently lack the data necessary to accurately  
12 assign costs to the TOU classes within the current case. New rate classes would require  
13 information, which is currently unavailable, about the customers that will eventually  
14 choose to subscribe to the TOU rates and how those customers will modify their usage  
15 based on the TOU rates.

16 **Q. How does Empire propose to establish the costs associated with these new rate**  
17 **structures in the absence of established TOU rate classes?**

18 A. The proposed TOU rates were designed based on the underlying embedded costs  
19 associated with the respective classes for which the TOU rates are being developed. In  
20 other words, the TOU rates are revenue neutral to the standard rate classes. This means  
21 that, on average, customers in the class would pay the same for their consumption  
22 regardless of the rate they choose. If an average customer switches from the standard  
23 rate to the TOU rate and does not modify his usage pattern, his bill for the TOU rate  
24 will be the same as if he were billed on the standard rate.

1 **Q. You described that a change in a customer's usage pattern will impact his bill.**  
2 **Does this change also impact the Company's overall revenue relative to the**  
3 **standard base rate revenue?**

4 A. Yes. If a customer shifts consumption from the on-peak period to the off-peak period  
5 relative to average consumption, the base rate revenue related to that consumption will  
6 be decreased. Similarly, if the customer's consumption shifts from the off-peak period  
7 to the on-peak period, the base rate revenue will increase. These changes in revenue  
8 include shifts in both the base fuel portion of the customer bill and the non-fuel base  
9 rate portion of the customer bill.

10 **Q. Does the Company's proposal address the impact to fuel and non-fuel revenue**  
11 **based on changes in customer behavior?**

12 A. Yes. The proposed rates are designed to be revenue neutral at the class level. This  
13 means that, on average, customers in the class would pay the same for their  
14 consumption regardless of the rate they choose. However, the goal of the proposed  
15 TOU rate structure is to encourage customers to shift load from the peak period to the  
16 off-peak period. As customers shift load and become more efficient, revenues are  
17 impacted by that change. This includes a change in the fuel revenue as well as a change  
18 in the non-fuel revenue collected by the Company.

19 **Q. Is this change in revenue consistent with cost-causation principles?**

20 A. Yes. The change in revenue for the participating customers reflects the changes in the  
21 underlying costs resulting from the change in the customers behavior.

22 **Q. How is fuel revenue impacted by a change in the customers consumption pattern?**

23 A. Shifts in consumption from the on-peak period to the off-peak period will reflect the  
24 associated change in fuel costs on the customer's bill and the fuel revenue associated



1 with the change in the consumption pattern. Empire's base rates contain a certain  
2 amount of fuel costs associated with the kWh consumed by the customer. The standard  
3 rate applies the average fuel cost, or base fuel rate, to all kWh regardless of the time  
4 the kWh is consumed. The TOU rate differentiates the base fuel rate for kWh  
5 consumed in the on-peak period from that consumed in the off-peak period. This  
6 differentiation is reflected in the fuel portion of revenue as customer consumption  
7 patterns change.

8 **Q. Does the current treatment of fuel in the Company's FAC adequately address the**  
9 **changes in the fuel portion of the revenue?**

10 A. No. The calculation of the Net Base Energy Cost ("NBEC") in the FAC does not  
11 accommodate the difference in fuel revenue for TOU customers. Empire is proposing  
12 to include a TOU NBEC adjustment to account for these differences. The update to  
13 the FAC tariff is described in the Direct Testimony of Empire witness Aaron J. Doll.

14 **Q. How does the change in non-fuel revenue impact the Company's financials?**

15 A. A change in non-fuel revenue due to differences between a TOU customer's  
16 consumption and the normal consumption patterns will lead to a change in the revenue  
17 associated with the new TOU rates when compared to the standard rates. Similar to  
18 the impact in the fuel revenue portion of the bill, as customers shift consumption to the  
19 lower priced periods, the revenue will be decreased for each kWh shifted. This will  
20 reduce the non-fuel portion of the customers' bills and impact the Company's recovery  
21 of its authorized return.

22 **Q. How will this impact be resolved in future rate cases?**

23 A. As more customers opt into the TOU rate schedules and participation stabilizes, the  
24 Company will establish corresponding TOU rate classes and appropriately allocate

1 costs and revenues to the new classes. Additionally, as the Company understands the  
2 migration of customers from the standard rate schedule to the TOU rate schedule pro  
3 forma adjustments can be created to adequately mitigate revenue erosion due to  
4 customer migration to the TOU rates. These actions will provide reasonable protection  
5 to the Company's opportunity to recover its authorized revenue.

6 **Q. How does the Company propose to address non-fuel revenue impacts due to the**  
7 **introduction of the TOU rates prior to the next rate case?**

8 A. The Company proposes to calculate a non-fuel revenue impact and track the revenue  
9 impact through a newly established retail purchased power tracker.

10 **Q. What is retail purchased power?**

11 A. Retail purchased power refers to the costs associated with programs that create a  
12 reduction in retail load. Other examples of retail purchased power include revenue  
13 reductions associated with successful energy efficiency projects, credits paid for  
14 voluntary load reduction programs, and credits paid to net metering customers that  
15 install rooftop solar panels.

16 **Q. How will the impact be calculated?**

17 A. The Company will calculate the non-fuel portion of the base rate for each customer's  
18 monthly consumption at the standard rate and at the TOU rate and determine the  
19 difference in the revenue. These differences will be accumulated in a retail purchased  
20 power tracker.

21 **Q. Is Empire requesting Commission approval to establish a tracker for the retail**  
22 **purchased power costs?**

23 A. Yes. As the Company does not have a history regarding the impact on the revenue  
24 related to the non-fuel portion of the TOU rate and in order to mitigate the potential

1 impact on the Company's recovery of its authorized revenue, Empire is requesting a  
2 tracker for these costs. During Empire's next Missouri rate case, the Company will  
3 request the recovery of the balance recorded in the tracker.

4 **Q. Earlier in your testimony, you stated that the proposed TOU rate schedules are**  
5 **the initial steps following AMI implementation that the Company is proposing to**  
6 **modernize its rate structures. Generally, what steps does Empire plan to take in**  
7 **the future to continue its strategy of modernizing its rates?**

8 A. The Company intends to establish TOU rates that would apply to all major non-lighting  
9 customer classes. To that end, establishing a TOU rate structure for the General Power  
10 ("GP") and Total Electric Building ("TEB") classes will be of utmost importance.  
11 Beyond the introduction of TOU rate options to these customers, the Company will be  
12 conducting additional research and analyses to guide the continued modernization of  
13 its rate structures and pricing options available to customers.

14 **Q. Has the Company agreed to any additional research and analyses of rate**  
15 **structures in previous proceedings?**

16 A. Yes. In the most recent rate case, Case No. ER-2019-0374, the Company agreed to  
17 work with parties to explore modification of the rate structures of its rate schedules to  
18 subdivide its winter billing months into a peak winter and shoulder month seasons to  
19 reflect, at a minimum, the difference in the cost of market energy among current winter  
20 months to the extent is consistent with reasonable rate design principles. While this  
21 item has not yet been completed by Empire, it will be addressed in conjunction with  
22 the overall rate structure modernization being pursued by the Company.

23 **Q. What other items will the Company address in its rate modernization strategy?**

1 A. Empire expects to identify required data and establish an integrated data warehouse and  
2 analysis model consisting of its AMI data, marginal and embedded cost data and  
3 customer preference data to support its rate modernization efforts. As we better  
4 understand our customers' preferences and can identify the appropriate offerings to  
5 meet their needs, the data from our AMI system coupled with the underlying cost  
6 information and customer specific consumption information will enable the design of  
7 new options that will be reviewed with the key stakeholders and potentially become  
8 new rate options available to customers. While not all opportunities have been  
9 identified, the Company expects that additional TOU options with dynamic pricing  
10 components, price security options, and special end-use rates such as EV charging or  
11 renewable offerings will be assessed for introduction in future proceedings.

12 **IV. RENEWABLE ENERGY PURCHASE SCHEDULE**

13 **Q. Is Empire proposing to incorporate a schedule for the purchase of RECs by its**  
14 **non-residential customers?**

15 A. Yes. The Company is proposing the Renewable Energy Purchase ("REP") schedule, a  
16 new schedule that will allow non-residential customers to purchase RECs to offset the  
17 carbon emissions of up to 100% of their electricity purchases from Empire.

18 **Q. Has the REC purchase schedule been the subject of a prior Commission case?**

19 A. Yes. The Company agreed in the Non-Unanimous Stipulation and Agreement in Case  
20 No. EA-2019-0010 to allow non-residential customers to purchase a portion of RECs  
21 received from the wind project. The Commission subsequently found in its Report and  
22 Order in that case (p. 47) that "formalizing the process for the sale of RECs from the  
23 Wind Projects to non-residential customers is a reasonable and necessary condition to  
24 the granting of the certificates."

1 **Q. How does the sale of RECs benefit Empire's customers?**

2 A. The availability of RECs for purchase will allow Empire's commercial and industrial  
3 customers to reduce the environmental footprint associated with their electricity  
4 purchases from the Company while simultaneously providing a direct reduction to the  
5 cost of the wind projects to Empire's Missouri customers.

6 **Q. How is the price for the REC Purchase Schedule determined?**

7 A. The price for REC sales will reflect the average weighted price for the Company's REC  
8 sales for the previous calendar year. This price will approximate the value of the RECs  
9 associated with the Company's wind resources for our customers and ensure that the  
10 value they receive for the RECs are commensurate with market conditions. The initial  
11 price of RECs will reflect the sale of RECs for the 12-months ending December 31,  
12 2021. Subsequent REC price updates will be published by February 1<sup>st</sup> based on the  
13 previous calendar year REC sales and shall become effective with the first billing cycle  
14 in March. Additionally, in order to respond to changes in market conditions, if the  
15 value of RECs changes by more than five percent during any quarterly period the price  
16 will be updated to reflect the updated value.

17 **Q. How will the proceeds from the REP schedule be treated?**

18 A. Proceeds from the sale of RECs, net of any transaction costs, will be credited to  
19 customers through the Company's fuel adjustment clause rider as REC revenue. This  
20 treatment is consistent with the treatment of other REC sales, as discussed by witness  
21 Doll.

22 **Q. Are there limits to the RECs that any individual customer can purchase?**

23 A. A customer can purchase RECs to offset the emissions of up to 100 percent of  
24 electricity purchases in increments of 25 percent.

1 **Q. How will the RECs purchased by customers be treated?**

2 A. The Company will retire all RECs purchased under this schedule on behalf of each  
3 participating customer.

4 **V. OTHER TARIFF CHANGES**

5 **Q. Are you proposing other changes to the Company's tariff sheets?**

6 A. Yes. I am proposing two additional changes to the tariff. Empire is replacing the  
7 Special Transmission Service Contract: Praxair Schedule SC-P and Special  
8 Transmission Service Schedule ST with a new Transmission Service Schedule TS.  
9 Also, the Company is proposing to close the Optional Time of Use Adjustment Rider  
10 OTOU.

11 **Q. Why is the Company proposing to replace Schedules SC-P and ST with Schedule  
12 TS?**

13 A. The Company is proposing this change to reflect the nature of the service as  
14 transmission service and to eliminate the reference to the customer's former name.

15 **Q. Is the Company's proposal to close Rider OTOU related to the proposed TOU  
16 rates?**

17 A. Yes. Rider OTOU is no longer needed since the Company is introducing new TOU  
18 rate options for customers.

19 **VI. CONCLUSION**

20 **Q. Does this conclude your Direct Testimony?**

21 A. Yes.

**VERIFICATION**

I, Gregory W. Tillman, under penalty of perjury, on this 28th day of May, 2021, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/ Gregory W. Tillman