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*Witness:* Kim Cox  
*Sponsoring Party:* MoPSC Staff  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**TARIFF/RATE DESIGN DEPARTMENT**

**DIRECT TESTIMONY**

**OF**

**KIM COX**

**THE EMPIRE DISTRICT ELECTRIC COMPANY,  
d/b/a Liberty**

**CASE NO. ER-2024-0261**

*Jefferson City, Missouri  
July 2025*

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**KIM COX**

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1 that underlie the Staff's fuel and production cost modeling, and will be the basis of Staff's  
2 recommended rate designs.

3 Q. Through this testimony, do you provide any recommendations that should be  
4 specifically reflected in the Commission's Report and Order in this case?

5 A. Yes, I recommend that the Commission Order reflect Staff's adjusted rate  
6 revenue as provided in my testimony and as updated in my true-up direct testimony along with  
7 the billing determinants which were used to calculate the adjusted rate revenue.

8 **RATE REVENUES AND BILLING DETERMINANTS**

9 Q. What are rate revenues?

10 A. Rate revenues are defined as the revenue a utility collects from its customers  
11 based on its Commission approved base rates.

12 Q. What are base rates?

13 A. Base rates are made up of a fixed monthly customer charge and variable rates  
14 that are dependent on usage (demand, energy, etc.) and the season (summer vs. winter).  
15 Rate revenues are the largest component of operating revenues.

16 Q. What are billing determinants?

17 A. Billing determinants are what a revenue requirement is divided by to produce  
18 rates. Billing determinants are the combination of components to which rates are applied to  
19 calculate the customer's bill. Examples of billing determinant components are customer charge,  
20 usage, peaks, and demand.

21 Q. How does Staff use billing determinants?

1           A.     Staff uses billing determinants in two ways. First, billing determinants are used  
2 to establish normalized revenues. Second, billing determinants are used to calculate the new  
3 base rates.

4           As an example, every month an Empire residential (“Res”) non-standard residential rate  
5 (“NS-RG”) customer<sup>1</sup> is billed a fixed monthly customer charge and an energy charge based  
6 on the season<sup>2</sup> and the block<sup>3</sup> in which the usage occurred. For Staff to calculate the NS-RG  
7 monthly rate revenue, the billing determinant components, the number of NS-RG customer  
8 charges and the usage per month, are multiplied by the applicable tariff rate. Also, once a  
9 revenue requirement has been established, the revenue requirement is divided by billing  
10 determinants to produce new rates.

11          Q.     What are operating revenues?

12          A.     Operating revenues are composed of three components: (1) Rate Revenue,  
13 (2) Other Operating Revenue, and (3) Off System Sales. This testimony will address rate  
14 revenues for Empire.

15          Q.     What is the purpose of calculating operating revenues?

16          A.     It is a test of the adequacy of the currently effective retail electricity rates<sup>4</sup> and  
17 the cost of service.

18          One of the major tasks in a rate case is to determine the magnitude of any deficiency  
19 (or excess) between cost of service and operating revenues. Once determined, the deficiency

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<sup>1</sup> Res non-standard rate is required for eligible customers without an AMI device and for eligible customers who opt of Schedule Time Choice Residential Plan (TC-RG).

<sup>2</sup> Empire summer season is the first four monthly billing periods billed on and after June 16, and the winter season is the remaining eight monthly billing periods of the calendar year.

<sup>3</sup> Empire Res non-standard customer’s summer usage is billed at the same rate while the winter usage is billed different rates for the first 600 kWh and over 600 kWh.

<sup>4</sup> The fixed monthly customer charge and variable rates that are dependent on usage and the season.

(or excess) can only be corrected (or otherwise addressed) by adjusting retail rates (i.e., rate revenue) prospectively.

Q. How did Staff determine the retail rate revenue for Empire's rate classes?

A. Staff adjusted Empire jurisdictional billing units and rate revenues based upon information that is "known and measurable" as of the end of the update period.<sup>5</sup> In this particular case, the test year is the 12 months ending September 30, 2023, updated for known and measurable changes through September 30, 2024, and trued-up as of March 31, 2025. The two major categories of revenue adjustments are known as "normalization" and "annualization."

Q. What is normalization?

A. Normalization is adjustments to a company's billing determinants to account for unusual and unlikely events that would not be repeated in the years when the new rates from this case are in effect, such as unusual weather events during the update period.

Q. What is annualization?

A. In this instance, annualization is adjustments to a company's billing determinants to reflect known conditions at the end of the update period. Adjustments for customer growth are an example of an annualization.

Q. What rate classes did Staff normalize and annualize?

A. All rate classes were analyzed<sup>6</sup> however, in this testimony Staff discusses the normalized and annualized billing determinants for the Res, general service ("GS"), large general service ("LGS"), and small primary service ("SPS").

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<sup>5</sup> For customer growth, Staff reviewed the customers through the true-up cut-off date of March 31, 2025.

<sup>6</sup> Staff witness Marina Gonzales discusses the large power service ("LP") rate class, Randall T. Jennings discusses transmission, and Hari K. Poudel, PhD. discusses lighting in their direct testimonies.

1 Q. What rate revenue adjustments did Staff make to these classes?

2 A. Staff made the following adjustments; however not all of these adjustments  
3 affect both sales and rate revenue dollars, and not all rate classes are subject to all adjustments.

- 4 a. Update period adjustment;
- 5 b. Manual adjustment;
- 6 c. Adjustments to December 19, 2024, data;
- 7 d. Rate switcher adjustment;
- 8 e. Weather normalization and 365 days adjustment;
- 9 f. Missouri Energy Efficiency Investment Act (“MEEIA”) adjustment;
- 10 g. Customer growth adjustment and intra-class switching;
- 11 h. Community solar;
- 12 i. Non-Missouri Kilowatt hour (“kWh”) adjustment; and,
- 13 j. Energy Efficiency Cost Recovery (“EECR”) adjustment.

14 **UPDATE PERIOD ADJUSTMENT**

15 Q. What is the update period adjustment?

16 A. The update period adjustment is the difference of billed usage and revenue  
17 through September 30, 2023, compared to the billed usage and revenue through the update  
18 period of September 30, 2024.

19 Q. Did Empire make any adjustments to test year billing determinants prior to the  
20 weather normalization and annualization adjustments?

21 A. Yes. Empire made a 12-month adjustment that is referenced in a workpaper<sup>7</sup>  
22 as kWh reconciled with revenue report. The total 12-month adjustment was added or removed  
23 to the billing determinants to equal the revenue report. The adjusted usage was applied based  
24 on actual usage in each block. Although it was minimal, Staff isn’t clear why the reports do  
25 not tie out. Staff used the billing determinants prior to the adjustment for the revenue report

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<sup>7</sup> Empire witness, Tim Lyons workpaper, WP (Input) – Billing Determinants (CONFIDENTIAL).

1 since it was the only data Staff was given that incorporated all billing determinants for  
2 each month.

3 Q. How did Staff calculate its update period adjustment for the Res, GS, LGS, and  
4 SPS rate classes?<sup>8</sup>

5 A. Staff first calculated the test year revenue<sup>9</sup> based on the billing determinants  
6 provided by Empire. Staff requested and Empire provided the billing determinants for  
7 October 2023 through September 30, 2024. Staff calculated the update period revenues. Staff's  
8 adjustment is the difference between the test year revenues and the update period revenues.

9 Q. Did Staff include the revenue for net metering,<sup>10</sup> transformer ownership credit,<sup>11</sup>  
10 and energy efficiency cost recovery ("EECR")<sup>12</sup> in the test year and update period revenues?

11 A. Yes.

## 12 **MANUAL ADJUSTMENTS**

13 Q. Did Empire make any manual adjustments to its billing determinants?

14 A. Empire's response to Staff Data Request ("DR") 0109 provided the following  
15 description of the manual adjustments.

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<sup>8</sup> Staff witness, Marina Gonzales discusses LP in her direct testimony and Staff witness, Hari K. Poudel, PhD discusses lighting in his direct testimony.

<sup>9</sup> Twelve months ending September 30, 2023.

<sup>10</sup> If the customer produced more kWh during the month than Empire supplied the customer receives a credit for the kWh.

<sup>11</sup> The customer receives a reduction of \$0.355 per kW towards the facilities charge when the customer supplies all facilities for utilization of service at the voltage of Empire's primary line feeding to such location. The months of April '24 through September '24 were not billed until December '24 and January '25.

<sup>12</sup> All non-residential customers that do not opt out of Empire's energy efficiency programs are charged \$0.00028 per kWh.



The billing determinant adjustments include:

**October 2023 through March 2023 Data (Pre-SAP)**

1. Cycle 21 Adjustments: – The adjustment includes moving Cycle 21 bills to their respective billing period.

2. TC-RG and LP Manual Adjustments – The adjustments include rebilling adjustments for certain customers.

**April 2024 through September 2024 Data (SAP)**

1. Late Bills: – These are a series of adjustments to move late bills to their respective billing period.

2. Profit Center Corrections: – The adjustment includes correcting profit centers of certain bills.

3. Unbilled: – The adjustment includes adding unbilled customer bills.

Specifically, each monthly adjustment is detailed in the table below:

Month	Billing Determinant Adjustments
October 2023	<ul style="list-style-type: none"><li>Remove: September Cycle 21 Billed in October</li><li>Add: October Cycle 21 Billed in November</li><li>Add: TC-RG Rebill Adjustment</li></ul>
November 2023	<ul style="list-style-type: none"><li>Remove: October Cycle 21 Billed in November</li><li>Add: November Cycle 21 Billed in December</li><li>Add: TC-RG Rebill Adjustment</li></ul>
December 2023	<ul style="list-style-type: none"><li>Remove: November Cycle 21 Billed in December</li><li>Add: December Cycle 21 Billed in January</li><li>Add: TC-RG Rebill Adjustment</li></ul>
January 2024	<ul style="list-style-type: none"><li>Remove: December Cycle 21 Billed in January</li><li>Add: TC-RG, LP Rebill Adjustment</li></ul>
February 2024	<ul style="list-style-type: none"><li>Add: LP Rebill Adjustment</li></ul>
March 2024	None.

1

Month	Billing Determinant Adjustments
April 2024	<ul style="list-style-type: none"><li>▪ Add: April Bills Late Billed in May-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>
May 2024	<ul style="list-style-type: none"><li>▪ Remove: April Bills Late Billed in May</li><li>▪ Add: May Bills Late Billed in June-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>
June 2024	<ul style="list-style-type: none"><li>▪ Remove: April-May Bills Late Billed in June</li><li>▪ Add: June Bills Late Billed in July-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>
July 2024	<ul style="list-style-type: none"><li>▪ Remove: April-June Bills Late Billed in July</li><li>▪ Add: July Bills Late Billed in August-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>
August 2024	<ul style="list-style-type: none"><li>▪ Remove: April-July Bills Late Billed in August</li><li>▪ Add: August Bills Late Billed in September-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>
September 2024	<ul style="list-style-type: none"><li>▪ Remove: April-August Bills Late Billed in September</li><li>▪ Add: September Bills Late Billed in October-November</li><li>▪ Add: Profit Center Corrections and Unbilled</li></ul>

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Q. Did Empire inform Staff of the process provided above?

4

A. Yes. Empire reached out to Staff prior to filing the rate case. A meeting was held on November 4, 2024. Empire explained that the conversion from its previous Customer Information System (“CIS”) billing system to SAP caused customers to not receive a bill, sometimes for months. Empire provided Staff with files that were discussed on November 13, 2024. The test year files did not include the monthly blocks and season billing determinants needing to calculate test year revenues. In addition, the files were extremely large and not fully viewable and required IT assistance. On December 3, 2024, Empire provided the test year monthly kWh blocks and season billing determinants.

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Q. On December 13, 2024, a joint proposed procedural schedule was filed and ordered that included the following conditioned items.

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**Items to be provided by the Company to parties on December 19, 2024:**

- Monthly kWh opt-out for applicable rate schedules [Test Year and Update Period]
- Monthly update Period of billing determinants for customer who switched rates [Update Period]
- Monthly transformer ownership and metering adjustments [Test Year and Update Period]
- Customer count of non-AMI data recorders [Test Year and Update Period]
- Monthly net metering kWh [Test Year and Update Period]
- Monthly Community solar availability and subscribed blocks [Test Year and Update Period]
- Preliminary Update Period Billing Determinants and Manual Adjustments in the format provided to Staff via email on December 11, 2024.

**Items to be provided by the Company on January 17, 2025:**

- Revenue Requirement Model incorporating Update Information and Final Billing Determinants (will also include the additional adjustments for weather, customer annualization and any other needed revenue adjustments)
- Final Adjusted Updated Billing Determinants and Manual Adjustments in format provided to Staff via email on December 11, 2024 [if any changes are necessary from the file provided on December 19, 2024]

Q. Did Staff receive the December 19, 2024 items?

A. Yes, Staff did receive the items. Staff and Empire exchanged many emails and had many phone calls to discuss the data. On January 15, 2025, Staff received corrected files.

**ADJUSTMENTS TO DECEMBER 19, 2024 DATA**

Q. Did Staff receive the January 17, 2025, items?

A. Yes, however the data was not provided in the correct format. Empire did not provide the additional manual adjustments to the December 19, 2024 data. Instead, Empire lumped the additional adjustments to the December 19<sup>th</sup> data in their annualization adjustment. Staff reached out to Empire on January 31, 2025, for clarification and requested a call to discuss. On February 5, 2025, a conference call took place and the following were action items for Empire.

Description	Date
1. Update DR 0109.1 to split out any late actuals versus estimations/annualizations. Will provide by rate class first and by customer level at a later date.	Company to provide summary data by rate code by 2/12/25; will provide date for customer level data at a later date
2. LP rate class switcher - Company to provide monthly billing determinants for November 2023 to March 2024. Company to also verify if there are other large customers with similar instances of multiple cancel/rebills and multiple periods of usage showing up in one month.	Company to provide customer data by 2/10/25 and will get back other customer data, <sup>13</sup> if any, by 2/14/25
3. TS- high usage in April 2024 and July 2024, but not seeing increase in demand; Company to confirm accuracy.	To provide response by 2/11/25
4. DR 0245- Update for all lighting charges with consumption, quantity and net amount fields.	To provide by 2/14/25; Company follow up questions sent to Staff 2/7/25
5. DR 0102 - Update with September 2024 data and effects on response to DR 0100, if any.	Will provide DR 0102 supplement by 2/11/25; DR 0100 will not be affected by update to DR 0102.
6. MEEIA - MEEIA TD kWh by rate class from October 23-September 2024.	TBD - Company to provide update on expected date for Staff to receive on 2/11/25

<sup>13</sup> Empire found several other customers where there were multiple months' worth of usage included in one revenue month.

1 Q. After the data above was provided on February 12, 2025, were there any  
2 additional updates?

3 A. Yes. Staff asked DR 0330:

4 Please provide billing determinants for October 2024, through  
5 February 2025, for each tariff schedule. Please provide the data in the  
6 same format as December 11, 2024.

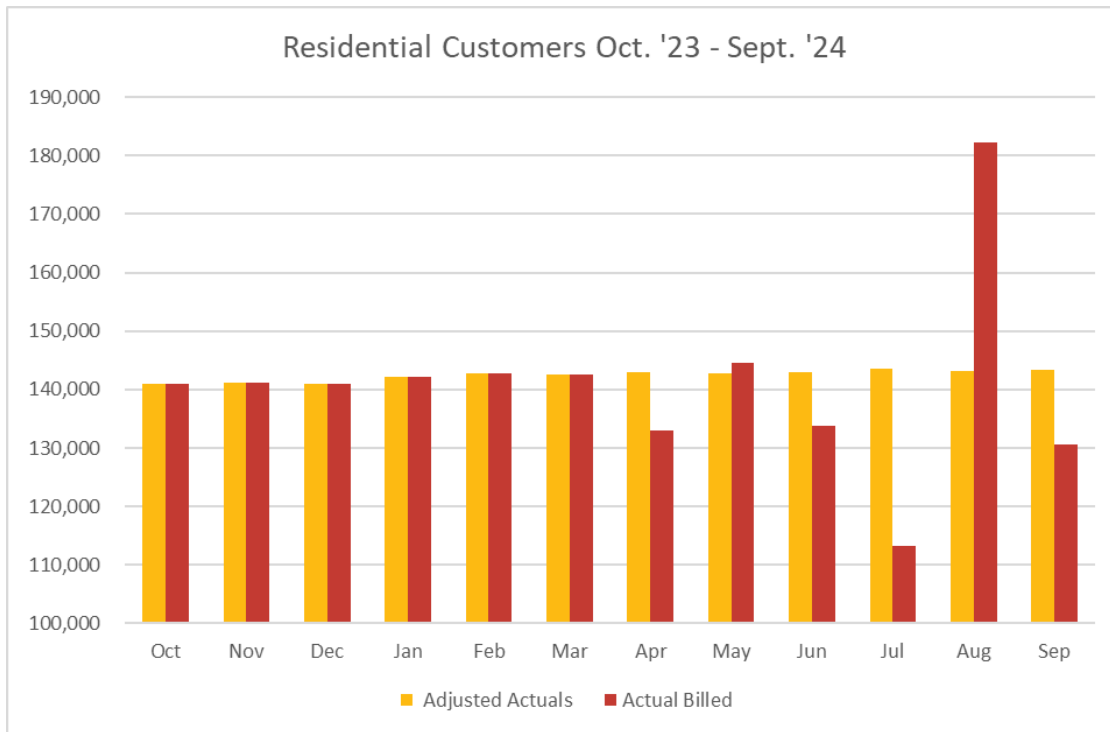
7 The data received March 25, 2025, included the requested data and additional manual  
8 adjustments to the update period.

9 Q. Is it common to have adjustments to the update period actual billing  
10 determinants before adjusting for switchers, weather, 365 days, MEEIA, and growth?

11 A. No. The billing determinants that a utility reports is what was actually billed to  
12 their customers. Empire's customers unfortunately were not billed correctly for months.  
13 The graph below<sup>14</sup> provides a visual of the Res customers that were not billed and then billed  
14 for multiple months.

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<sup>14</sup> DR response 0330 – Oct2023-Feb2025 Billing Determinants.



3 In August 2024, over 180,000 bills were sent to customers when the average monthly  
4 customer counts are approximately 142,000. Therefore, 40,000 bills were sent to customers for  
5 late bills, profit center corrections, and unbilled.

6 Q. Is the billing issue resolved?

7 A. No. As of February 2025, a significant number of Empire customers are still not  
8 being billed each month. In an email response on February 7, 2025, Empire noted that 1,406  
9 customers still had not been billed for varying months between April and September 2024.<sup>15</sup>

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<sup>15</sup> Staff witness Charles Tyrone Thomason discusses the issue further in his direct testimony.

Rate Class	April	May	June	July	Aug	Sept	# of Installations
NS-GS	1	1	11	6	1	1	21
NS-LG		1	1	1	1	2	6
TC-GS	3	2	3	18	54	116	196
TC-GS ESBPP						1	1
TC-LG		1					1
CSPP				1			1
NS-RG		1	12	10	8	5	36
TC-RG	7	9	27	98	355	561	1,057
TP-RG			2	1		3	6
PL	1	1	5	8	24	41	80
SPL				1			1
Total	12	16	61	144	443	730	1,406

Q. Did the manual adjustments resolve the issue of starting with actual billing determinants?

A. No. Empire had missing interval reads that were estimated. The on-peak and off-peak reads did not total the registered read. Empire took the difference and applied it to the off-peak read.<sup>16</sup> On-peak and off-peak have different rates based on the time of day and by applying the difference to off-peak, Empire is under-recovering the revenue that was designed for usage during that time.

Q. What impact does inaccurate billing determinants have in setting rates?

A. If billing determinants are not accurate then revenues will not be accurate. The accuracy of the rate revenue components of the net cost of service in a general rate case, as well as the rate design to recover the cost of service, is limited by the accuracy of the underlying billing determinants. At this point Staff is not certain that all manual adjustments have been completed for the update period and that the on-peak and off-peak usage is accurate.

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<sup>16</sup> Staff witness Charles Tyrone Thomason discusses the issue further in his direct testimony.

1 Q. Why is it important to have accurate actual starting billing determinants for the  
2 ordered test year and relevant test periods in a rate case?

3 A. It is imperative that the monthly billing determinants by rate code that a utility  
4 provides Staff are accurate because it is those determinants that are used in the rate revenue  
5 calculation and billing determinant calculation.<sup>17</sup> If the billing determinants are not accurate  
6 then each adjustment is not accurate thus the rates produced from the rate case may  
7 under/over recover.

8 **RATE SWITCHER ADJUSTMENT**

9 Q. What rate switcher adjustment did Staff make?

10 A. During the update period two LPS customers switched to LGS and one LPS  
11 customer switched to GS. Staff removed and added the customer billing units and revenue from  
12 the rate classes.<sup>18</sup>

13 **WEATHER NORMALIZATION AND 365 DAY ADJUSTMENT**

14 Q. How did Staff calculate the weather normalization and 365 days adjustments?

15 A. Staff witness Michael L. Stahlman provided the monthly weather normalization  
16 factor and the 365 days adjustment for each rate class. Mr. Stahlman discusses the data he  
17 provided in his direct testimony for this case.

18 Staff applied the combined weather normalization and 365 days factor to each month  
19 for each rate class. For example, if the normalized and annualized kWh factor is 0.97 for the

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<sup>17</sup> The billing determinants are also used for the weather normalization, net system input calculation (including information for calculating the fuel adjustment clause ("FAC") base factor), and also to be used in class cost of service studies.

<sup>18</sup> Staff witness Marina Gonzales provides testimony on the LPS rate switchers.



1 month of September in the Res rate class, then the total actual usage for that month and for that  
2 rate class is decreased by 0.03. Staff witness Stahlman also provided the Res and GS  
3 normalized first block percentage by rate code that was applied to distribute normalized and  
4 annualized monthly kWh to the rate blocks.<sup>19</sup> The total normalized and annualized rate block  
5 was multiplied by the appropriate rates.

#### 6 **MEEIA ADJUSTMENT**

7 Q. What MEEIA adjustment did Staff make?

8 A. Staff witness Hari K. Poudel, PhD, provided the total monthly kWh MEEIA  
9 adjustment<sup>20</sup> for the Res class and the monthly kWh MEEIA adjustments for the GS, LGS and  
10 SPS at the rate code level.<sup>21</sup> Staff developed and applied a monthly MEEIA factor equally to  
11 all rate blocks.<sup>22</sup> The total normalized and annualized usage was multiplied by the  
12 appropriate rates.

#### 13 **GROWTH ADJUSTMENT AND INTRA-CLASS SWITCHING**

14 Q. What is intra-class switching?

15 A. Intra-class switching is when a customer switches from one rate schedule to  
16 another within the same class. On October 15, 2022, a new time choice schedule<sup>23</sup> for Res, GS,  
17 LGS, and SPS classes became available to new and existing customers. The customer is

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<sup>19</sup> Staff witness Michael L. Stahlman discusses the normalized usage by rate block in his direct testimony.

<sup>20</sup> Staff witness Dr. Poudel discusses MEEIA and the calculation of the MEEIA kWh adjustment in his direct testimony.

<sup>21</sup> Staff witness Dr. Poudel provided LPS total kWh MEEIA adjustment to Staff witness Marina Gonzales. She discusses it in her direct testimony.

<sup>22</sup> The factor developed is the weather normalized and 365 days adjusted usage minus the MEEIA kWh divided by the weather normalized and 365 day adjusted usage.

<sup>23</sup> The time choice schedule includes an off-peak (10pm-6am) kWh credit.

1 automatically placed on the new rate schedule unless the customer elects to receive service  
2 under an optional rate.

3 Q. What is a customer growth adjustment?

4 A. A customer growth adjustment reflects the impact in the change of customer  
5 level on the update period's<sup>24</sup> kWh sales, kW demand, and revenues.

6 Q. What intra-class switching and customer growth adjustment did Staff make?

7 A. For each rate schedule<sup>25</sup> Staff applied the February 2025 customer counts to  
8 all 12 months of the update period. Staff developed a growth factor<sup>26</sup> and applied it to kWh  
9 sales and kW demand. The growth adjustment captured the intra-class switching as well.  
10 The total normalized and annualized usage for each rate and class was multiplied by the  
11 appropriate rates.

12 Q. Why did Staff apply the customer counts as of February 2025 as opposed to  
13 September of 2024 to determine the growth adjustment?

14 A. Staff attempts to annualize Empire's billing determinants to reflect known  
15 conditions at the end of the update period, however, in this case, the customer counts have been  
16 manually adjusted due to bills not being sent. In an email on February 7, 2025, Empire stated  
17 that they had a target date of March 2025 to catch up the customers that did not receive a bill  
18 between April and September 2024. Staff will review any new billing determinants that Empire  
19 provides and adjust if necessary at true-up direct.

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<sup>24</sup> Staff adjusted for growth through the true-up cut off in its direct filing.

<sup>25</sup> Staff calculated customer growth for the Res, GS, LGS, and SPS rate schedules.

<sup>26</sup> The growth factor is the customer count for February 2025 divided by each of the 12 months customer counts.

1 **COMMUNITY SOLAR**

2 Q. What is community solar?

3 A. Empire currently has a community solar pilot program (“CSPP”). It provides  
4 the opportunity for customer to subscribe voluntarily to the generation output of solar facilities  
5 owned and operated by Empire. The pilot program is offered to Res, GS, LGS, SPS, and LP  
6 rate classes. If available, a customer can subscribe to purchase the energy produced from a  
7 block equivalent to 500 watts of solar capacity. The customer’s billed kWh is reduced by the  
8 customer’s purchased quantity. If the purchased quantity is greater than the customer’s  
9 consumption, the customer will be credited for the excess.<sup>27</sup> In addition, LG and SP<sup>28</sup>  
10 customers receive a billing demand credit that is subtracted from their demand. However, the  
11 reduction is never reduced below the minimum billing demand set forth in the applicable rate  
12 schedule.

13 Q. What adjustment did Staff make for community solar?

14 A. Staff adjusted the solar facility charge (subscribed blocks) and the electric grid  
15 charge to reflect the program as fully subscribed.

16 **NON-MISSOURI KWH ADJUSTMENT**

17 Q. Did Staff encounter any issues with the non-Missouri kWh and customer counts?

18 A. Yes. Staff submitted DR 0321, requesting the kWh for non-Missouri  
19 jurisdictions and was directed to Empire’s response to Staff DR 0116. Staff reviewed Empire’s  
20 response to DR 0116<sup>29</sup> and determined the kWh and customer counts for Missouri did not tie

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<sup>27</sup> The excess purchased quantity will be credited by the applicable Net Metering Rider rate.

<sup>28</sup> For SP, TC-SP rate code is only applicable. CCSP is also available to LP customer. Staff witness Marina Gonzales accounts for any applicable revenue and kWh.

<sup>29</sup> DR 0116 and DR 0116.1 was submitted by Staff witness Alan J. Bax and he discusses the data further in his direct testimony.

1 out with the billing determinants provided by Empire. Staff questioned the accuracy of the  
2 non-Missouri kWh provided in DR 0316 since they too had billing issues. Staff submitted  
3 DR 0116.1 to inquire if Empire would be correcting, updating and/or revising the billing data<sup>30</sup>  
4 and the response was no. Staff and Empire exchanged emails and had phone calls to discuss  
5 the issue. On May 16, 2025, Empire provided Staff with corrected kWh for April 2024 through  
6 March 2025. On May 23, 2025, Empire provided October 2022 through March 2024  
7 corrected kWh.

8 Q. What adjustments did Staff make to non-Missouri usage?

9 A. Staff adjusted each classes' usage for non-Missouri customers for weather by  
10 applying the combined weather factor and days factor to the monthly kWh. Staff then  
11 calculated the growth adjustment for each class noted above. Staff developed the monthly use  
12 per customer by class and then multiplied it by the March 2025 customer class counts.

### 13 **EECR ADJUSTMENT**

14 Q. What is EECR and Staff's adjustment?

15 A. For customers that do not decline to participate in Empire's energy efficiency  
16 programs, a charge per kWh is added to the customer's bill. Staff removed the revenue that  
17 was collected during the update period as Empire has proposed to rebase the EECR to zero and  
18 should be fully collected by the effective date of new rates.<sup>31</sup>

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<sup>30</sup> Empire updated the billing determinants to reflect what should have been billed to the customers however; DR 0116 provided billed and unbilled kWh which did not tie to the raw billing determinants nor the updated billing determinants.

<sup>31</sup> Staff witness Nathan Bailey discusses the EECR in his testimony.

**CONCLUSION**

Q. Once Staff completed its analysis of the rate revenue adjustments as discussed above, what did Staff do with its results?

A. Staff provided the normalized and annualized usage for Empire to Staff witness Michael L. Stahlman for inclusion in his calculation of Net System Input (“NSI”), Staff witness Alan J. Bax for inclusion in jurisdictional allocations, and to Staff witness Shawn E. Lange for variable fuel expense. These witnesses provide more detail in their direct testimony. Staff also provided each revenue adjustment discussed above to Staff witness Melanie Marek to include in the overall revenue requirement.

Q. What are your recommended rate revenue adjustments?

A. The Commission should base its awarded revenue requirement on Staff’s rate revenue adjustments as provided below.<sup>32</sup>

Rate Class	Test Year Revenue	Update Period Adj.	Manual Adjustments	Adjustments to 12-19 Data	Rate Switching & Large Power Customer Annualization
Residential	\$241,736,956	-\$1,263,124	\$2,578,602	\$376,913	
General	\$59,721,199	\$181,736	\$1,266,248	\$247,971	\$68
Large General	\$114,419,380	-\$8,120,251	\$8,865,827	\$682,758	\$257,800
Small Primary	\$10,835,479	-\$256,102	\$275,596	\$169,795	
Large Power	\$70,052,624	-\$2,502,936	\$1,070,719	-\$135,440	-\$321,263
Lighting (MS)	\$15,018	-\$228			
Lighting (LS)	\$127,321	-\$3,080			
Lighting (PL)	\$4,243,325	-\$114,024			
Lighting (SPL)	\$ 2,337,578	-\$68,133			
Transmission	\$4,647,794	\$27,058			
	<b>\$508,136,674</b>	<b>-\$12,119,084</b>	<b>\$14,056,991</b>	<b>\$1,341,998</b>	<b>-\$63,394</b>

<sup>32</sup> Staff has accounted for growth through true-up in its direct filing. At this time, Staff does not anticipate any update for growth at true-up direct however, if given new data Staff will review and update as necessary.

Rate Class	Weather & Days Adj.	MEEIA Adj.	Growth Adjustment	Community Solar Grid Charge	EECR Revenue	Economic Development Rider	Community Solar Facility Charge	Total MO Normalized Revenue
Residential	\$2,763,372	-\$123,579	\$2,766,529	\$25,484	-\$486,484		\$28,494	\$248,403,164
General	-\$218,911	-\$211,081	\$412,991	\$292	-\$119,530		\$386	\$61,281,370
Large General	-\$1,312,340	-\$186,187	-\$527,772		-\$281,466	-\$24,231		\$113,773,518
Small Primary	-\$123,670	-\$56,982	-\$453,846	\$28,668	-\$19,977	-\$136,183	\$257,280	\$10,520,058
Large Power		-\$72,124			-\$77,312	-\$1,607,165		\$66,407,103
Lighting (MS)								\$14,790
Lighting (LS)								\$124,241
Lighting (PL)								\$4,129,302
Lighting (SPL)								\$2,269,445
Transmission								\$4,674,852
	<b>\$1,108,450</b>	<b>-\$649,953</b>	<b>\$2,197,902</b>	<b>\$54,444</b>	<b>-\$984,768</b>	<b>-\$1,767,579</b>	<b>\$286,160</b>	<b>\$511,597,842</b>

Q. Is Staff confident that the billing determinants provided by Empire are accurate representation of the actual amounts used by customers?

A. Although Empire has been readily available to Staff and has provided data and corrected data, Staff's adjustments above and the billing determinants as attached<sup>33</sup> are the result of many emails, conversations, corrections, adjusted actual billing determinants, and supplemental DR's. Staff's results are only as good as the data provided.

Q. Does this conclude your direct testimony?

A. Yes, it does.

<sup>33</sup> Schedule KC-d2

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

In the Matter of the Request of The Empire     )  
District Electric Company d/b/a Liberty for     )  
Authority to File Tariffs Increasing Rates     )  
for Electric Service Provided to Customers     )  
in Its Missouri Service Area                     )  
Case No. ER-2024-0261

**AFFIDAVIT OF KIM COX**

STATE OF MISSOURI     )  
                                   )  
COUNTY OF COLE     )     ss.

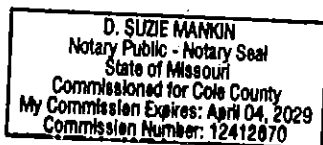
**COMES NOW KIM COX** and on her oath declares that she is of sound mind and lawful age; that she contributed to the foregoing *Direct Testimony of Kim Cox*; and that the same is true and correct according to her best knowledge and belief.

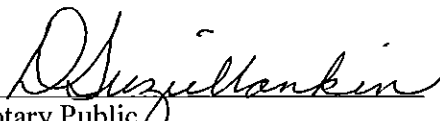
Further the Affiant sayeth not.

  
\_\_\_\_\_  
**KIM COX**

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27<sup>th</sup> day of June 2025.



  
\_\_\_\_\_  
Notary Public

## **KIM COX**

### **Education and Employment Background and Credentials**

I attended Central Missouri State University at Warrensburg, Missouri. In May 1996, I received a Bachelor of Science degree.

I am currently employed as a Senior Research/Data Analyst with the Tariff/Rate Design Department within the Industry Analysis Division of the Missouri Public Service Commission (“Commission”). I have been employed by the Commission since July, 2009. From July 2009 to June 2013, I worked in the Tariffs/Rate Design Section of the Energy Unit as a Rate and Tariff Examiner III, where my duties consisted of analyzing applications, reviewing tariffs and making recommendations based upon those evaluations. On June 16, 2013, I assumed the position of a Utility Policy Analyst II (which is now reclassified as a Senior Research/Data Analyst) within the same Section, where my duties consist of coordinating highly complex activities, analyzing applications, reviewing tariffs, and making recommendations based upon my evaluations. I currently serve on the NARUC Staff Subcommittee on Rate Design. Prior to joining the Commission, I held the position of a Quality Assurance Analyst in the regulatory field for ten years.



**KIM COX**

**Summary of Case Involvement**

	Company	Issue	Type of Filing
GR-2009-0434	The Empire District Gas Company	Weather Normalized Sales and Coincident-Peak Day Demand	Staff Report
GR-2010-0171	Laclede Gas Company	Weather Normalized Sales, Blocks and Coincident-Peak Day Demand	Staff Report
GR-2010-0171	Laclede Gas Company	Weather Normalized Sales	Rebuttal
GR-2010-0363	Union Electric d/b/a AmerenUE	Weather Normalized Sales, Blocks and Coincident-Peak Day Demand	Staff Report
GR-2010-0347	Southern Missouri Natural Gas	Weather Normalized Sales	Staff Report
GR-2010-0192	Atmos	Weather Normalized Sales and Coincident-Peak Day Demand	Staff Report
HR-2011-0241	Veolia	Weather Normalized Sales	Staff Report
ER-2012-0175	KCP&L and GMO	L&P Normalization and Annualization	Staff Report
GR-2014-0007 Coordinated	Missouri Gas Energy	Direct COS sponsor of Weather, Weather Normalization and Large Volume Customer Revenue Adjustment	Direct Testimony
GR-2014-0007 Coordinated	Missouri Gas Energy	Direct CCOS sponsor of Rate Design, Miscellaneous Tariff Issues, School Transportation Capacity, Gas Supply Incentive Plan and Staff's CCOS	Direct Testimony
GR-2014-0086	Summit Natural Gas	Lake Ozark Transportation	Staff Report
GR-2014-0152	Liberty Utilities	Special Contract, Large and Industrial Customers	Staff Report, Rebuttal and Surrebuttal
ER-2016-0023	Empire	Large Power Feed Mill Annualization	Staff Report
GR-2017-0215 and GR-2017-0216	Spire Missouri Inc.	Executive Summary, Background, Test Year/True-Up Period and Staff's Revenue Requirement Recommendation	Staff Report

	Company	Issue	Type of Filing
ER-2018-0145 and ER-2018-0146	Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company	Rate Revenues Introduction, The Development of Rate Revenue, Regulatory Adjustments to Test Year Sales and Rate Revenue, Customer Growth, and Adjustment for Non-Missouri classes	Staff Report
GR-2019-0077	Union Electric Company, d/b/a Ameren Missouri	Class Cost of Service, Rate Design and Bill Format Recommendation	Staff Report
ER-2019-0335	Union Electric Company, d/b/a Ameren Missouri	Cost of Service, Update Period Adjustments, Large Customer Annualization, MEEIA Revenue Adjustment, Weather Normalization of Revenue and 365 Day Adjustment	Staff Report
GR-2021-0108	Spire Missouri Inc.	Cost of Service, Large Customer Annualization, Weather Normalization of Revenue and 365 Day Adjustment, Rate Switching Adjustment and Growth Adjustment	Staff Report and Surrebuttal
ER-2021-0240	Union Electric Company, d/b/a Ameren Missouri	Cost of Service, Update Period Adjustments, Community Solar, Rate Switching, MEEIA Revenue Adjustment, Weather Normalization of Revenue and 365 Day Adjustment, and Growth Adjustment	Staff Report and Rebuttal Testimony
ER-2021-0312	The Empire District Electric Company, d/b/a Liberty	Cost of Service, Update Period Adjustments, Weather Normalization of Revenue and 365 Day Adjustment, Rate Switching, Customer Growth, Adjustments for Non-Missouri classes	Staff Report and Rebuttal Testimony

	Company	Issue	Type of Filing
ER-2022-0129 & 0130	Evergy Metro, Inc. d/b/a Evergy Missouri Metro & Evergy Missouri West, Inc. d/b/a Evergy Missouri West	Test year revenues, Update Period Adjustment, Rate Switchers, Weather Normalization, 365 days adjustment, MEEIA Revenue Adjustment, and Customer Growth	Direct Testimony, Rebuttal and Surrebuttal/True-up
ER-2022-0337	Union Electric Company, d/b/a Ameren Missouri	Cost of Service, Update Period Adjustments, Community Solar, Rate Switching, MEEIA Revenue Adjustment, Weather Normalization of Revenue and 365 Day Adjustment, and Growth Adjustment	Direct Testimony, Rebuttal and Surrebuttal/True-up
EO-2024-0002	Evergy Metro, Inc. d/b/a Evergy Missouri Metro & Evergy Missouri West, Inc. d/b/a Evergy Missouri West	Request for Customer Account Data	Rebuttal testimony
ER-2024-0189	Evergy Missouri West, Inc. d/b/a Evergy Missouri West	Test Year Revenues, Update Period Adjustment, Rate Switcher, Weather Normalization, 365 Days, MEEIA Revenue Adjustment, Customer Growth, Net Metering and Parallel Generation Annualization, and Opt Out Adjustment	Direct Testimony, Rebuttal and Surrebuttal/True-up
ER-2024-0319	Union Electric Company, d/b/a Ameren Missouri	Cost of Service, Update Period Adjustments, Community Solar, Rate Switching, MEEIA Revenue Adjustment, Weather Normalization of Revenue and 365 Day Adjustment, and Growth Adjustment	Direct Testimony, Rebuttal and Surrebuttal/True-up

**Empire ER-2024-0261**

<b>Residential</b>	<b>Staff Units</b>	<b>Summer</b>	<b>Winter</b>	<b>Rate</b>	<b>\$ Amount</b>
NS Customers	8,652	2,884	5,768	\$13.00	\$112,476
TC Customers	1,720,368	573,456	1,146,912	\$13.00	\$22,364,784
TP Customers	876	292	584	\$13.00	\$11,388
NS					
Summer					
First 600 kWh	1,442,330	1,277,302	165,028	\$0.13582	\$195,897
Over 600 kWh	1,964,457	1,798,900	165,557	\$0.13582	\$266,813
TC					
Summer					
First 600 kWh	292,836,071	258,217,567	34,618,504	\$ 0.14031	\$41,087,829
Over 600 kWh	329,710,586	309,396,913	20,313,673	\$ 0.14031	\$46,261,692
TP					
On Peak	178,669	61,410	117,259	\$ 0.2879	\$51,444
Off Peak	804,093	260,194	543,898	\$ 0.0857	\$68,903
TC off peak credit	493,507,891			\$ (0.020)	-\$9,870,158
NS					
Winter					
First 600 kWh	2,908,938	145,156	2,763,783	\$0.13582	\$395,092
Over 600 kWh	4,074,279	146,254	3,928,025	\$0.10938	\$445,645
TC					
Winter					
First 600 kWh	560,598,008	33,049,664	527,548,344	\$0.14031	\$78,657,507
Over 600 kWh	589,211,727	24,856,009	564,355,717	\$0.11651	\$68,649,058

NS Community solar grid kWh	18,696	6,232	12,464	\$0.04377	\$818
TC Community solar grid kWh	561,048	187,016	374,032	\$0.04377	\$24,557
TP Community solar grid kWh	2,484	828	1,656	\$0.04377	\$109
<b>Total kWh</b>	<b>1,784,311,386</b>	<b>629,403,445</b>	<b>1,154,907,942</b>		<b>\$248,723,854</b>
NS Community solar facility	180			\$5.36	\$965
TC Community solar facility	5,112			\$5.36	\$27,400
TP Community solar facility	24			\$5.36	\$129
Net metering summer	2,118,668	2,118,668		\$ (0.05380)	-\$113,984
Net metering winter	4,770,786		4,770,786	\$ (0.04930)	-\$235,200
				<b>Total Revenue</b>	<b>\$248,403,164</b>
<b>General</b>	<b>Staff Units</b>	<b>Summer</b>	<b>Winter</b>	<b>Rate</b>	<b>Total</b>
NS Customers	10,668	3,556	7,112	\$23.97	\$255,712
TC Customers	259,476	86,492	172,984	\$23.97	\$6,219,640
TP Customers	48	16	32	\$23.97	\$1,151
NS					
Summer					
First 700 kWh	1,704,176	1,473,350	230,826	\$0.13429	\$228,854
Over 700 kWh	2,262,706	1,941,456	321,250	\$0.13429	\$303,859
TC					
Summer					
First 600 kWh	38,504,661	33,812,724	4,691,938	\$0.13892	\$5,349,068
Over 600 kWh	115,308,002	104,887,300	10,420,702	\$0.13892	\$16,018,588
TP					
Summer					

On Peak	1,687	1,687		\$0.32196	\$543
Off Peak	5,913	5,913		\$0.08363	\$495
NS					
Winter					
First 700 kWh	3,411,001	228,409	3,182,592	\$0.13429	\$458,063
Over 700 kWh	3,706,156	240,877	3,465,279	\$0.12020	\$445,480
TC					
Winter					
First 600 kWh	76,031,884	4,586,032	71,445,853	\$0.13892	\$10,562,349
Over 600 kWh	187,619,739	12,017,103	175,602,637	\$0.12624	\$23,685,116
TP					
Winter					
On Peak	1,350		1,350	\$0.32196	\$435
Off Peak	6,364		6,364	\$0.08363	\$532
TC off peak kWh credit	109,067,252	35,805,856	73,261,396	(\$0.02000)	-\$2,181,345
TC Community solar grid kWh	7,476	2,492	4,984	\$0.03908	\$292
<b>Total kWh</b>	<b>428,571,116</b>	<b>159,197,341</b>	<b>269,373,775</b>		<b>\$61,348,830</b>
Net metering kWh summer	554,101.88	554,102		\$0.0538	-\$29,811
Net metering kWh winter	771,511.02		771,511	\$0.0493	-\$38,035
TC Community solar facility	72			\$5.36	\$386
				<b>Total Revenue</b>	<b>\$61,281,370</b>

<b>Large General</b>	Staff Units	Summer	Winter	Rate	Total
LG Customers	2,664	888	1,776	\$69.49	\$185,121
TC Customers	30,360	10,120	20,240	\$69.49	\$2,109,716
LG -Summer					
1st 150 hrs	20,005,029	17,890,948	2,114,081	\$0.0894	\$1,788,650
Next 200 hrs	18,376,035	16,371,098	2,004,937	\$0.0694	\$1,275,113
All additional	7,624,715	6,861,627	763,088	\$0.0623	\$475,096
LC -Summer					
1st 150 hrs	144,467,190	128,875,032	15,592,157	\$0.08998	\$12,999,158
Next 200 hrs	141,238,424	127,581,569	13,656,855	\$0.07091	\$10,015,217
All additional	52,503,190	48,156,907	4,346,283	\$0.06417	\$3,369,130
LG -Winter					
1st 150 hrs	36,826,201		36,826,201	\$0.07676	\$2,826,779
Next 200 hrs	32,792,348		32,792,348	\$0.06253	\$2,050,506
All additional	12,130,771		12,130,771	\$0.06198	\$751,865
LC -Winter					
1st 150 hrs	269,327,127		269,327,127	\$0.07793	\$20,988,663
Next 200 hrs	229,070,516		229,070,516	\$0.06436	\$14,742,978
All additional	78,849,323		78,849,323	\$0.06385	\$5,034,529
TC off peak kWh credit	248,254,055	87,996,951	160,257,104	(\$0.005)	-\$1,241,270
LG Demand	419,263	155,589		\$8.93	\$1,389,406
			263,674	\$6.96	\$1,835,173
TC Demand	3,059,400	1,056,160		\$8.93	\$9,431,504
			2,003,240	\$6.96	\$13,942,552
LG facilities demand	566,488	192,159	374,329	\$2.13	\$1,206,620

TC facilities demand	4,061,734	1,379,635	2,682,099	\$2.13	\$8,651,493
<b>Total kWh</b>	<u>1,043,210,870</u>	<u>345,737,181</u>	<u>697,473,688</u>		\$113,827,999
Net metering summer	212,681	212,681		\$0.0538	-\$11,442
Net metering winter	381,495		381,495	\$0.0493	-\$18,808
EDR					-\$24,231
			<b>Total Revenue</b>		<u>\$113,773,518</u>

<b>Small Primary</b>	<b>Staff Units</b>	<b>Summer</b>	<b>Winter</b>	<b>Rate</b>	<b>Total</b>
SP Customers	312	104	208	\$69.49	\$21,681
TC Customers	408	136	272	\$69.49	\$28,352
SP kWh Summer					
First 150 hrs use	11,258,822	10,978,129	280,693	\$0.08767	\$987,061
Next 200 hrs use	10,924,767	10,615,552	309,215	\$0.06804	\$743,321
All additional kWh	6,955,190	6,998,341	(43,151)	\$0.06110	\$424,962
TC kWh Summer					
First 150 hrs use	3,355,462	3,175,946	179,516	\$0.08823	\$296,052
Next 200 hrs use	3,381,490	3,192,284	189,207	\$0.06953	\$235,115
All additional kWh	708,843	708,843	-	\$0.06292	\$44,600
SP kWh Winter					
First 150 hrs use	20,931,063	203,116	20,727,946	\$0.07527	\$1,575,481
Next 200 hrs use	19,320,482	270,822	19,049,660	\$0.06131	\$1,184,539
All additional kWh	10,610,247	114,219	10,496,028	\$0.06077	\$644,785



TC kWh Winter					
First 150 hrs use	7,228,429		7,228,429	\$0.07641	\$552,324
Next 200 hrs use	6,368,102		6,368,102	\$0.06311	\$401,891
All additional kWh	1,213,748		1,213,748	\$0.06261	\$75,993
SP					
kW Billing Demand	234,240	81,369	152,871	\$8.75	\$711,978
				\$6.82	\$1,042,583
kW Facilities Demand	310,098	-	-	\$2.08	\$645,004
TC					
kW Billing Demand	77,303	25,055	52,248	\$8.75	\$219,235
				\$6.82	\$356,331
kW Facilities Demand	119,946			\$2.08	\$249,489
TC off-peak kWh credit	7,309,721	2,291,266	5,018,456	-\$0.0049	-\$35,818
SP Community Solar grid kWh	903,672	301,224	602,448	\$0.00575	\$5,196
TC Community Solar grid kWh	4,082,100	1,360,700	2,721,400	\$0.00575	\$23,472
<b>Total kWh</b>	<b>107,242,416</b>	<b>37,919,176</b>	<b>69,323,241</b>		<b>\$10,433,627</b>
Trans. Credit Rev.				-\$0.355	-\$34,666
SP Community Solar facility	8,700			\$5.36	\$46,632
TC Community Solar facility	39,300			\$5.36	\$210,648
EDR					-\$136,183
			<b>Total</b>		
			<b>Revenue</b>		<b>\$10,520,058</b>