Exhibit No. 245P

MoPSC Staff – Exhibit 245P
J Luebbert
Rebuttal Testimony
File Nos. ER-2022-0129 & ER-2022-0130

Exhibit No.:	
Issue(s):	*MEEIA demand annualization, Schedule SIL*
Witness:	*J Luebbert*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case Nos.:	*ER-2022-0129 and ER-2022-0130*
Date Testimony Prepared:	*July 13, 2022*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF/RATE DESIGN DEPARTMENT

REBUTTAL TESTIMONY

OF

J LUEBBERT

Evergy Metro, Inc. d/b/a Evergy Missouri Metro
Case No. ER-2022-0129

Evergy Missouri West, Inc. d/b/a Evergy Missouri West
Case No. ER-2022-0130

Jefferson City, Missouri
July 2022

****** Denotes Confidential Information ******

TABLE OF CONTENTS

OF

REBUTTAL TESTIMONY OF

J LUEBBERT

Evergy Metro, Inc. d/b/a Evergy Missouri Metro
Case No. ER-2022-0129

Evergy Missouri West, Inc. d/b/a Evergy Missouri West
Case No. ER-2022-0130

REBUTTAL TESTIMONY

OF

J LUEBBERT

Evergy Metro, Inc. d/b/a Evergy Missouri Metro
Case No. ER-2022-0129

Evergy Missouri West, Inc. d/b/a Evergy Missouri West
Case No. ER-2022-0130

Q. Please state your name and business address.

A. My name is J Luebbert. My business address is P. O. Box 360, Suite 700, Jefferson City, MO 65102.

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

A. I am the Tariff/Rate Design Department Manager for the Missouri Public Service Commission ("Commission").

Q. Are you the same J Luebbert that filed direct testimony in this case on June 8, 2022?

A. Yes.

EXECUTIVE SUMMARY

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony is responding to the lack of adjustments to Evergy Missouri West's ("EMW") proposed revenue requirement as required by the Schedule SIL and based upon the terms of the non-unanimous Stipulation and Agreement ("Stipulation") between EMW (formerly KCP&L Greater Missouri Operations Company), Commission Staff ("Staff"),

and Nucor Steel Sedalia, LLC ("Nucor").[1] I will also address Evergy Missouri Metro's ("EMM") and EMW's proposed annualization of demand savings attributable to the respective companies' Missouri Energy Investment Act ("MEEIA") portfolio.

REVENUE REQUIREMENT ADJUSTMENT FOR SCHEDULE SIL

Q. Has Staff's recommendation for the revenue requirement adjustment associated with service of Schedule SIL changed since the filing of direct testimony?

A. No. I continue to recommend the resolutions described in my direct testimony in this case.

Q. What is Schedule SIL?

A. Schedule SIL[2] is the Special Rate for Incremental Load Service, which is the applicable rate for Nucor[3] service. Nucor is currently the sole EMW customer served under Schedule SIL.

Q. Why is an adjustment to EMW's revenue requirement related to Schedule SIL service necessary in this case?

A. As discussed more thoroughly in my direct testimony in this case, the incremental cost to serve Nucor exceeds the EMW revenues from Nucor service for the 12-month period ending December 31, 2021.[4] Schedule SIL and the Stipulation include provisions that non-Schedule SIL customers will be held harmless from the service under Schedule SIL.[5] Based on updated quarterly reports[6] contemplated by the Stipulation, the costs

[1] Non-Unanimous Stipulation and Agreement filed on September 19, 2019 in Case No. EO-2019-0244 and approved by the Missouri Public Service Commission on November 13, 2019. The Stipulation is included as appendix JL-d2 for reference.
[2] Schedule SIL - P.S.C. MO. No. 1 Original Sheet Nos. 157, 157.1, 157.2, and 157.3.
[3] My direct testimony in this case provides some background of Schedule SIL as well as Nucor.
[4] The 12-months ending December 31, 2021 coincides with the update period utilized by Staff in this case.
[5] The Stipulation is attached to my direct testimony in this case as confidential Schedule JL-d2.
[6] Provided by EMW as a second supplemental response to Staff Data Request No. 0248.

to serve Nucor exceeded the EMW revenues from Schedule SIL-1[7] by ** [redacted] ** for the 12-months ending June 30, 2021 and ** [redacted] ** for the 12-months ending December, 2021. The values included in the quarterly reports originally provided by EMW inappropriately excluded capacity costs, and both the originally provided quarterly reports and the updated quarterly reports provided by EMW inappropriately fail to account for the costs of Customer Event Balancing as required by paragraph 7 of the Stipulation, which is discussed more thoroughly in my direct testimony in this case.

Q. Should an adjustment to EMW's revenue requirement have been included in EMW's direct testimony in this case based on the hold harmless provisions of the Schedule SIL tariff sheets and the Stipulation?

A. Yes.

Q. Did EMW propose an adjustment to the revenue requirement based on the hold harmless provisions of the Schedule SIL tariff sheets or the Stipulation?

A. No.

Q. Staff made a previous reference to updated quarterly reports from EMW regarding the cost of capacity attributable to Nucor service. Has Evergy updated its case to reflect the information contained in the updated quarterly reports?

A. No. Despite Staff inquiries regarding the omission of capacity costs attributable to Nucor service more than two months prior to the filing of direct testimony of non-EMW parties to this case, EMW still has not updated its case to include the costs of capacity to date.

Q. Please provide some additional context regarding the timing and content of EMW's responses related to the inclusion of capacity costs attributable to Nucor service.

[7] Schedule SIL-1 was attached to the direct testimony of EMW witness Darrin Ives as Confidential Schedule DRI-2 , pages 89-90.

A. On January 7, 2022, EMW witness Linda Nunn provided less than one page of testimony regarding the Nucor contract and the Stipulation. In her direct testimony, Ms. Nunn concluded that Nucor revenues were sufficient to cover Nucor incremental costs and that no adjustment was necessary. Staff first issued data requests to EMW regarding the failure to include capacity costs in the quarterly reports on February 22, 2022.[8] EMW's initial response to the data request indicated that ** [redacted] **[9] Following this initial response from EMW, Staff requested that EMW supplement the initial response to fully address the initial inquiry regarding the contribution of Nucor load on the capacity purchase amounts from Evergy Missouri Metro ("EMM"). EMW's first supplemental response[10] to the data request indicated that the contracted capacity purchase ** [redacted] ** but did not address EWM's failure to account for the capacity costs when determining the incremental costs of Nucor service.

[8] Staff Data Request No. 0248.
[9] EMW initial response to Staff Data Request No. 0248 on March 16, 2022, which is attached to my testimony as confidential Schedule JL-r1.
[10] Provided on March 25, 2022.

On May 11, 2022, EMW issued an amended response[11] to Staff Data Request No. 0248 indicating that ** [redacted] **

On May 12, 2022, Staff filed a complaint[12] against EMW regarding the Company's failure to account for capacity costs and customer event balancing costs in its quarterly reporting as required by the Stipulation. On May 19, 2022, EMW filed a notice of errata to the direct testimony of Linda Nunn. However, the notice did not address the failure to account for the capacity costs nor the need to make an adjustment to the revenue requirement associated with hold harmless provisions of Schedule SIL or the Stipulation. On June 1, 2022, three months after Staff's initial inquiry regarding the omission of capacity costs from the quarterly reporting documents, EMW provided its second supplemental response to Staff Data Request No. 0248 that ** [redacted].[13] **

Q. If EMW has provided updated quarterly reports ** [redacted] ** has the Company fulfilled its obligations of Schedule SIL and the Stipulation?

[11] EMW amended response to Staff Data Request No. 0248 is attached to this testimony as confidential Schedule JL-r2. The amended response is marked confidential, but the response document carries a public designation in EFIS. Out of an abundance of caution, Staff has designated the response and discussion of the contents confidential in this testimony.
[12] Case No. EC-2022-0315.
[13] ** [redacted] **

A. No. ** [redacted] [14] [redacted] ** does not fulfill the requirement to make a revenue requirement adjustment to account for the revenue shortfall of Schedule SIL service.

Q. Will EMW update its case to include an adjustment to the revenue requirement in subsequent rounds of testimony?

A. At this point in time, Staff does not know. Staff initially provided notice of the issue of the exclusion of capacity costs from the revenue deficiency analysis to EMW on February 22, 2022 via Staff data requests and issued multiple follow up data requests regarding the issue. EMW initially ** [redacted] [15] [redacted] ** and then chose not to address the issue in testimony despite the opportunity to do so along with filing of the notice of errata to Ms. Nunn's direct testimony. At this point, it is unclear if EMW will deem rebuttal testimony to be the "appropriate time" to finally address the revenue requirement adjustment that was most appropriate to have been included in direct testimony of EMW.

Q. Is rebuttal testimony the appropriate time for EMW to include the adjustment to the revenue requirement for the revenue shortfall?

[14] Prior to the inclusion of costs of customer event balancing.
[15] EMW response to Staff Data Request No. 0248.

A. No, EMW should have included the adjustment in the filing of direct testimony[16] prior to the time of this filing. Since EMW did not include the adjustment to the revenue requirement in direct testimony, EMW should update its case in rebuttal testimony to include such an adjustment. Since I provided a fairly extensive discussion about the inclusion of the costs of capacity and customer event balancing in my direct testimony in this case, I expect that EMW will, at minimum, respond to Staff's recommended adjustment through rebuttal testimony of at least one EMW witness, but that does not guarantee that EMW will propose its own revenue requirement adjustment.

MEEIA DEMAND ADJUSTMENTS

Q. Have you reviewed EMM's and EMW's calculation of the MEEIA demand (kW) adjustments?

A. Yes.

Q. What demand components did EMM and EMW adjust in order to calculate the MEEIA revenue adjustments?

A. EMM and EMW adjusted billing demand and facilities demand. A customer's billing demand is either the customer's metered demand or the minimum billing demand as established in the tariff, whichever is higher. For purposes of calculating revenue, a customer's billing demand should not be less than the minimum demand as established in the tariff. Lastly, a customer's facility demand is the highest metered demand measured in the last 12 months, but no less than the minimum demand as established in the tariff.

[16] Or included the adjustment as supplemental direct testimony or along with the notice of errata filed by EMW for the direct testimony of Linda Nunn or Darrin Ives.

Q. Does Staff disagree with how the MEEIA kW adjustments were applied to class billing determinants?

A. Yes. Staff did not make the same kW adjustments, which Staff views as inaccurate, to the demand billing determinants.

Q. Why are EMM's and EMW's MEEIA adjustments to monthly demands inaccurate?

A. There are many reasons that the approach is not reasonable and results in inaccurate demand adjustments that should not be relied upon in this rate case. The primary reasons that Staff disagrees with the approach EMM and EMW utilized to adjust the demand determinants in this case include, but are not limited to:

1. The EMM and EMW developed factors do no account for the fundamental difference of the demand savings estimates determined through the EM&V process and the customer demand utilized to determine demand billing determinants;
2. The estimated demand adjustments do not reflect realistic reductions in actual demand billing determinants;
3. The demand shapes are not verified through the EM&V process;
4. The demand adjustments do not account for differences in demand determinants of participants,[17] non-participants,[18] and opt-out customers;[19]

[17] Customers that participated in EMM or EMW MEEIA programs during the test period.
[18] Customers that have not opted-out of participation of EMM's or EMW's MEEIA programs but did not participate in the respective companies' MEEIA programs.
[19] Customers that have opted out of participation of EMM's or EMW's MEEIA programs. Opt-out customers are not subject to the respective Demand-Side Investment Mechanism recovery charges.

5. The demand shapes utilized do not account for differences in the "planned measure installations" and the actual measure installations; and

6. The demand shapes are appropriately excluded from the respective companies' tariff.

For the non-Large Power classes, EMM and EMW developed a general demand factor for each month, or a percentage in which to adjust monthly demand, for each rate class. The monthly demand savings estimates are based upon "demand load shapes" that are misleading in the context of estimating billing determinants and the associated billed revenues. The load shapes utilized do not lead to accurately estimated annualized billing impacts of demand savings attributable to the EMM and EMW respective MEEIA portfolios. The methodology utilized by EMM and EMW to adjust the demand billing determinants based on the "annualized demand savings" is unreasonable and leads to inaccurate results that should not be relied upon when setting rates in this rate case.

Q. Has Staff previously raised concerns with the MEEIA demand annualization approach that EMM and EMW have proposed in this case?

A. Yes. Staff has consistently opposed the approach proposed by EMM and EMW in this case. Staff raised concerns in the most recent general rate cases for EMM[20] and EMW[21] as well as the MEEIA Cycle 3 case.[22,23] Staff has never accepted any MEEIA adjustments of kW demand billing determinants in a general rate case because of the unpredictability of

[20] Case No. ER-2018-0145.
[21] Case No. ER-2018-0146.
[22] Case No. EO-2019-0132.
[23] An excerpt from Staff's rebuttal report regarding rate case annualization of MEEIA demand savings is attached to my testimony as Schedule JL-r3.

aggregate usage behavior changes.[24] Therefore, Staff recommends that no adjustment to kW demand billing determinants based on MEEIA energy savings be made for this general rate case.

Q. Why is the issue an important consideration for the Commission for purposes of this rate case?

A. EMM's and EMW's application of the MEEIA demand factors results in inappropriate adjustments to demand billing determinants and revenues during the test year. These adjustments result in unrealistic decreases in demand billing units and billed revenue for the test period. All else being equal, relying on these artificially depressed revenues[25] and demand billing determinant assumptions will lead to fewer determinants causing increased rates that are not reflective of a reasonable estimate of demand determinants going forward.

Q. What is a reasonable remedy to avoid that outcome?

A. Staff recommends that the Commission rely on Staff's calculated revenues and billing determinants for purposes of setting rates in this case.

Q. What is the difference between coincident peak demand and non-coincident peak demand?

A. System coincident peak demand ("CP") refers to load in the hour in a given month (or year) when the system has the highest energy usage. Each class within the system also has a CP, defined as when that class has the highest energy usage. Non-Coincident Peak ("NCP") refers to a given classes' load or a given customer's load in the hour it is the highest

[24] Staff rebuttal report in Case No. EO-2019-0132.
[25] Because these determinants are also used to calculate current revenues, if artificially reduced determinants are used to calculate test year revenues and if a revenue requirement increase is ordered in terms of the gross revenue requirement minus current revenues, then the improper application of the demand determinant adjustments will actually result in a doubling of the over-recovery.

in a given month (or year).[26] So, a class's NCP may not occur at the same time as when the system peak occurs, and a customer's NCP may not occur when the class's CP occurs.

Q. How are billing demands determined for a given customer?

A. Billing demand is set by a customer's NCP. A customer's NCP is that customer's maximum 15 minutes of demand at any point during a month. If a customer's NCP is below the rate class minimum, the customer pays as though the customer met the minimum demand. Within a class, each customer's NCP could occur on different days and at different times of the day. A cement kiln, a hospital, and a factory should not be expected to have its monthly peak at the same time of day.

Q. Does the Evaluation Measurement and Verification ("EM&V") process conducted for EMM and EMW MEEIA programs attempt to determine the non-coincident demand savings attributable to a given MEEIA program?

A. No. The EM&V process for the EMM and EMW respective MEEIA programs attempts to quantify the **system coincident peak ("CP") demand** savings of a given program in a given year, meaning the estimates seek to quantify the demand impacts of the MEEIA portfolio on a single point in time, coincident with the system peak, over the course of the year being evaluated. The demand savings determined through the EM&V process are then utilized to determine the respective annual Earnings Opportunity amounts for the EMM and EMW MEEIA portfolios. I am unaware of any savings estimates being verified through the EM&V process on a monthly customer NCP basis for the EMM and EMW respective MEEIA programs.

[26] NCP can vary depending on the test subject (i.e. customer, rate code, rate class, etc.) and the time period reviewed (i.e. month or year). An individual customer's monthly NCP will likely differ from the monthly NCP of the rate class.

Q. What are some factors that lead you to believe that EMM's and EMW's proposed application of demand shapes to the annual CP savings estimates of a given program to determine a monthly impact on demand billing determinants is flawed?

A. First, and most importantly, the application of the factors does not result in an estimation of the NCP demand impact that will be realized through a reduction in demand billing determinants for the class as a whole. Even if the demand factors utilized by Evergy resulted in accurate estimations of demand reductions coincident with the monthly class peak,[27] it is not reasonable to assume that the participating customer NCPs coincided with the class CP in that month. The hour in which the NCP of a specific customer is determined for demand billing components is likely to occur on different days, and in different hours of the day, when compared to other customers within the same rate class.

Second, installation of energy efficiency measures result in varying degrees of demand savings depending on the specific measure installed, the efficiency of the equipment being replaced, weather, the time of day, customer load, and the end-use.[28] At best, EMM and EMW's application of the demand shapes to the estimated demand savings from the MEEIA programs could be described as a poorly estimated demand reduction for a single point in time during each month.[29] Demand reductions for a single point in time in a given month is not an appropriate proxy for estimating the bill impacts of the demand components because the demand billing determinants are based upon individual customers' monthly NCP. These estimates are then utilized by EMM and EMW to determine a demand factor, or percentage

[27] Assumption flaws and failure to account for key variables in the EMM and EMW make this an unlikely outcome.
[28] This is not an exhaustive list of variables that affect the demand impact of a given energy efficiency measure.
[29] Additional flaws exist with the approach utilized to estimate the demand savings even within the context being discussed.

reduction, which is inappropriately applied by EMM and EMW to the demand components of the entire class.

Each MEEIA program includes a variety of different types of energy efficiency measures that have unique load characteristics. Unless an installed energy efficiency measure impacts the demand of a given customer during that customer's peak-usage hour in a given month, the demand portion of the customer's bill would not be impacted by the installation of the measure. The demand factors utilized by EMM and EMW over-simplify the estimation of the demand impact on a given class for each MEEIA program, and then the calculated demand savings are inappropriately applied to each demand billing component regardless of the actual impact on those billing determinants within the test period. The result of the MEEIA demand adjustments proposed by EMM and EMW is an overestimation of the impact on demand billing determinants of each rate class. Given the highly variable and customer specific nature of the hour determining the demand components of those customers bills and the varying degrees of energy savings which is also dependent on a variety of factors, applying a monthly factor to the assumed annual CP demand savings is unlikely to result in a reliable estimate of the impact on demand billing determinants.

Q. Even if the EM&V process verified monthly CP demand savings, would it be reasonable to apply those savings to the demand billing determinants in this general rate case?

A. No. The CP demand savings in a given month should not be applied as an adjustment to the billing determinants because the customer demands applicable to demand charges are not determined based on customer CP demand.

Q. Is it possible to accurately quantify the impact of energy efficiency measure installations on billed demand at the class level?

A. No. It is impossible to reliably estimate spontaneous electric demand of an individual customer for every 15-minute interval, which is the unit that sets billing demand. Aggregating the demand billing determinant impacts from MEEIA programs on a class level is not possible to do accurately given the customer specific nature of the determination of the billing components and the installation of the energy efficiency measures.

Q. Did the Companies' MEEIA demand adjustment take into consideration minimum billing demand?

A. No. EMM and EMW did not consider customers whose billing demands were at the minimum when the customer's billing demand was decreased due to the customer's participation in a MEEIA energy efficiency program. It is not appropriate to adjust this customer's billing demand below the minimum because the tariff does not allow the customer to be billed for a lower demand amount.

Q. Did the Companies' MEEIA demand adjustment take into consideration that a customer's peak demand determinant used to set a customer's facilities charge may be in effect for 12 months unless a higher demand is established in less than 12 months?

A. No. EMM and EWM decreased the billed facility demand for every month by the general demand factor, creating an assumption that the customer's facility demand in those months would be lower if the energy efficiency measures had been installed at the beginning of the test period. However, the Companies failed to evaluate if the reduction of the customer's facilities demand was reasonable, given measured demands that occurred after the installation of the energy efficiency measure. As explained above, a customer's facility demand is the highest metered demand measured in the last 12 months; therefore, if a customer's metered demand was higher, then a customer's facility demand should not be decreased since the

customer will be responsible for paying the higher demand for the next 12 months. This was not accounted for by EMM and EMW in the MEEIA demand adjustments to facilities demand.

Q. Did the Companies' MEEIA demand adjustment take into consideration the difference in usage characteristics of participants, non-participants, and opt-out customers within each class?

A. No. The Company developed a class level demand factor[30] that was applied to the demand billing determinants of the entire class. Customers that have opted-out of participation within the MEEIA programs and the corresponding DSIM charge will not have any reductions in their respective demand billing determinants. Those customers that have opted-out of the programs may also have differing usage characteristics from the proportion of the class that has not opted-out.

Q. Did the Companies' MEEIA demand adjustment take into consideration differences in the energy efficiency measure mix assumed for purposes of developing the monthly demand shapes and the measure mix installed by rate class prior to applying the demand factor to the demand billing determinants?

A. No. The energy efficiency measure mix affects the CP demand savings of a given program. The energy and demand savings of energy efficiency measures can vary drastically, both in terms of estimated savings and the time period in which savings are likely to occur.

CORRECTIONS TO DIRECT TESTIMONY

Q. Do you have any corrections to your direct testimony in this case?

[30] With the exception of Large Power.

A. Yes. On page 11 of my direct testimony in this case, I referenced the transcript from Case No. EO-2019-0244. I incorrectly attributed all of the quoted EMW representations to the testimony of EMW witness Darrin Ives, but some of the quoted statements were made by EMW counsel James Fischer. To correct for this mistake, the contents of page 11 lines 3 through 9 should be replaced with the following:

> Q. Did EMW counsel and witnesses discuss the protections expected to be provided to non-Nucor ratepayers through the terms of the agreement during the hearing proceedings for Case No. EO-2019-0244?
>
> A. Yes. EMW counsel, James Fischer, discussed the protections and EMW witness Darrin R. Ives testified during the hearing regarding the non-Nucor ratepayer safeguards. I will provide a few excerpts of the EWM representations before the Commission on behalf of EMW related to non-Nucor ratepayer protections that are relevant to Staff's recommended revenue requirement adjustment in this case.

Q. Do you have any other corrections to your direct testimony in this case?

A. Yes. For clarity, the word "combination" should replace the word "accordance" on page 4, line 5 of my direct testimony. I am not aware of any other necessary changes to my direct testimony in this case at this time.

CONCLUSION

Q. Please provide a brief summary of your testimony and restate the optimal resolution of the issues discussed.

A. EMW failed to account for known incremental costs of serving Nucor when determining if an adjustment was necessary. Evergy has since failed to update its direct case despite ample time and multiple opportunities to do so. Staff continues to recommend that the

Commission order the adjustment related to Schedule SIL service as discussed more thoroughly in my direct testimony in this case.

The MEEIA demand adjustments proposed by EMM and EMW are flawed and result in inappropriate and unrealistic adjustments to demand billing determinants and the EMM and EMW calculated revenues. Staff recommends utilization of the Staff billing determinants[31] in setting rates in this case.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.

[31] Staff did not make MEEIA demand annualization adjustments due to the impossibility of accurately determining the impact of the EMM and EMW MEEIA programs on the demand billing determinants as presently defined by the EMM and EMW tariffs.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Evergy Metro, Inc. d/b/a Evergy Missouri Metro's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2022-0129
In the Matter of Evergy Missouri West, Inc. d/b/a Evergy Missouri West's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2022-0130

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW J LUEBBERT and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of J Luebbert*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

J LUEBBERT

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 6th day of July, 2022.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

Notary Public

SCHEDULE JL-r1

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE JL-r2

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY

ii. Rate Case Annualization

kW Demand

KCPL/GMO propose, in the Application, a test period kW demand adjustment of each customer class by adding back the monthly kW demand savings by class, incurred during the test period, from all active MEEIA programs in both Cycle 2 and Cycle 3, excluding programs with a one-year measure life. KCPL/GMO explains that the adjustment to kW demand is determined using the methodology described for kWh energy savings in the DSIM rider.[158]

Staff has concerns about the adjustment to kW demand billing determinants of energy savings in a general rate case. First, it is impossible to reliably estimate spontaneous electric demand of an individual customer for every 15-minute interval, which is the unit that sets billing demand. In addition, it is impossible to calculate aggregate class level peak demand response adjustments based on energy saving measures.

Billing demand is set by a customer's non-coincident peak ("NCP"). A customer's NCP is that customer's maximum 15 minutes of demand at any point during a month. If a customer's NCP is below the rate class minimum, the customer pays as though the customer met the minimum demand. A given customer's NCP can happen at any time. Within a class, each customer's NCP could occur at different times. A cement kiln, a hospital, and a factory should not be expected to have a peak at the same time of day.

There are also differences in how each class charges for billing demand. For example, the residential class has an hourly demand in Net System Input ("NSI") for each hour, but does not have any demand charge or any sort of demand billed to the individual customers. For the non-residential classes, a class hourly demand is the sum of each customer's usage in that hour; where a customer's billing demand may be the highest usage a customer experienced in that billing month, or it may be the highest usage a customer experienced in a prior billing month.

Certain KCPL and GMO non-residential rate schedules require a customer to pay the minimum demand to be served on that rate schedule, even though the customer's metered demand may be less. For example, the minimum demand for a KCPL LGS customer served at secondary voltage is 200 kW. Even if the customer's actual metered kW for that month is less than 200 kW the customer's billing demand will still be 200 kW. In this situation, it is not

[158] Page 14 in MEEIA Cycle 2 Stipulation & Agreement of Case Nos. EO-2015-0240 and EO-2015-0241.

appropriate to adjust this customer's billing demand below the minimum because the tariff does not allow the customer to be billed for a lower demand amount.

Furthermore, according to KCPL's response to Staff DR No. 0081 in Case No. EO-2019-0132, KCPL was not able to provide a year normalized hourly saving load shape ("HSLS") of energy efficient saving measures ("EESM") because the HSLS of EESM is not an input into DSMore. However, it is questionable to estimate peak demand saving without any estimation of HSLS of EESM. In the real world, the peak time of kW demand keeps changing; therefore, one must know the HSLS of EESM to properly adjust kW demand of energy efficient savings. According to the response for Staff DR No. 0099(6), KCPL and GMO do not calculate the coincident peak time for the test period kW demand adjustment. However, Staff cannot calculate a kW demand adjustment of energy efficient savings without the energy savings amount at the time of peak demand of both customer and class.

More interestingly, in KCPL's response to Staff DR No. 0099(9) in Case No. EO-2019-0132, KCPL admits that the kW demand savings can be adjusted in each month of the test year based on the monthly peak demand load shapes without the amount of savings at the peak demand time. However, this is theoretically impossible. Actually, the class level kW demand billing determinant is not just dependent on weather but is in fact more dependent on the electricity usage behavior pattern of each customer in the class. This is the reason Staff does not make a weather normalization adjustment for the kW demand billing determinant in a general rate case.

In summary, based on current available information, proper estimation of the adjustment to kW demand billing determinants for energy efficiency saving is impossible. Furthermore, Staff has never accepted any adjustments of kW demand billing determinants in a general rate case because of the unpredictability of aggregate usage behavior changes. Therefore, Staff recommends that no adjustment to kW demand billing determinants of energy savings are made for a general rate case.

Staff Experts/Witnesses: Robin Kliethermes and Seoung Joun Won, PhD

Saving Hourly Load Shape

KCPL/GMO failed to provide the HSLS of energy efficient savings, which Staff needs for each class to calculate NSI and Class Cost of Service ("CCOS") analysis. Even though calculating the exact amount of kW demand saving for each class is impossible, if KCPL/GMO are able to provide the hourly saving load (365-day x 24-hour data points) of each class or the HSLS of EESM, Staff is able to derive a more reasonable NSI and CCOS analysis.

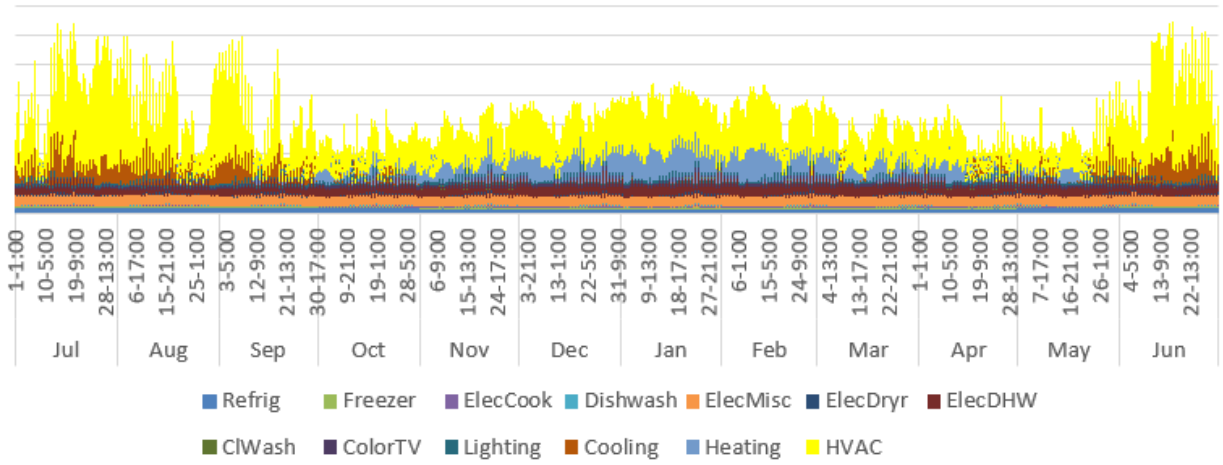
Footnote 7 of the MEEIA Cycle 2 Stipulation & Agreement of Case Nos. EO-2015-0240 and EO-2015-0241 provides as follows:

> Step 1. Begin with kW demand per class provided by Company. Step 2. Compute Monthly kW demand per program in the same manner as used for TD calculation. Step 3. kW demand before application of Energy Efficiency (EE) adjustment. Step 4. Cumulative Annual kW demand per program computed in the same manner as TD calculation as of Rebase Date. Step 5. Monthly Load Shape percentage per program converted to billing month equivalent by using a weighted average calendar month Load Shape percentage based on billing cycle information of the rate case. Step 6. Monthly EE Rebase Adjustment. Step 7. kW demand rebased for EE.

To complete this process, the HSLS of each class is required. For purposes of weather normalization and estimating fuel and purchased power expense, Staff, KCPL and GMO each prepare a model of how much energy is used by each class in each hour. This model is known as NSI. The usage (measured in kWh) that occurs in each hour is also that hour's demand (measured in kW). The S&A excerpt above describes how the kW levels for each of the 8,760 hours in a year should be annualized to reflect the changes caused by MEEIA to the level of energy consumed in each hour. For calculating the peak demand for CCOS, the HSLS is also necessary.

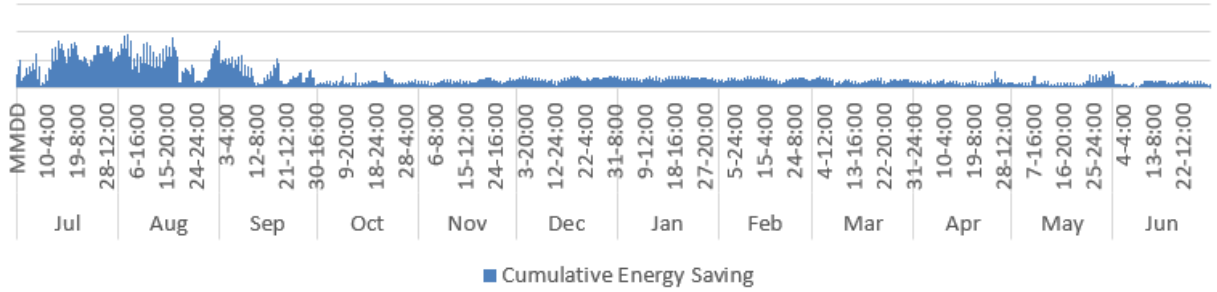
To explain how the HSLS of EESM is used for NSI and CCOS, a real example using Ameren Missouri data from its last general rate case is useful. Ameren Missouri provided the HSLS of EESM for NSI and CCOS in its rate case, Case No. ER-2016-0179. The HSLS of EESM with the 8,760 (356 x 24) hours of the year data points for each measures are presented in Figure 1.

Figure 1 Hourly Saving Load Shape of Energy Efficient Saving Measures



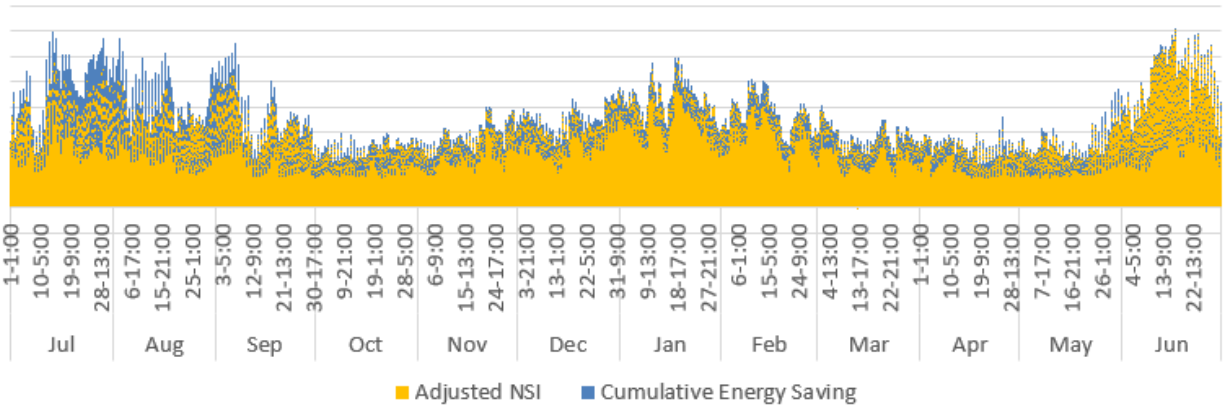
Some saving measures were not implemented at the beginning of the test period. Using the HSLS of EESM, the hourly load shape of unrealized cumulative energy savings for each rate class can be determined. Figure 2 is the HSLS of unrealized cumulative energy efficient savings in the residential class.

Figure 2 Unrealized Cumulative Hourly Energy Saving of Residential Class



After a weather normalization adjustment, the weather normalized hourly load shape is obtained. However, this hourly load includes the unrealized energy savings when energy efficient measures are implemented during the test period. Therefore, a proper hourly load shape should exclude unrealized cumulative energy savings from the weather normalized hourly load. In Figure 3, the orange-colored area represents the adjusted hourly load shape after removing the cumulative energy savings and the blue-colored area represents the cumulative energy savings.

Figure 3 Annualized Hourly Load Shape



After removing unrealized energy efficiency savings from the weather normalized load for each hour, a more improved hourly load shape for each class can be produced for NSI and CCOS analysis. Therefore, to derive a more reasonable NSI and CCOS analysis, Staff recommends that KCPL and GMO provide the hourly load shapes of energy efficient savings measures for any future KCPL and GMO general rate cases.

Staff Experts/Witnesses: Robin Kliethermes and Seoung Joun Won, PhD

iii. Earnings Opportunity Component

In their Applications, KCPL and GMO are proposing to use the existing EO matrix $/unit values applied in their MEEIA Cycle 2 for MEEIA Cycle 3 as a reasonable precedent for earnings opportunity value. KCPL's and GMO's proposed EO is contained in Appendix 8.7 of the Application and would result in a range[159] of pre-tax EO of $7.9 – 11.3 million for KCPL and $10.1 – 14.4 million for GMO.

As discussed earlier in this Report, KCPL/GMO's capacity requirements for SPP resource adequacy requirements are based on the joint capacity positions of the two companies. Through the KCPL/GMO joint resource planning process, KCPL/GMO MEEIA Cycle 3 alternative resource plan ("ARP"), ARP9, does not defer any new capacity needs identified in

[159] Ranges are from 100% of target for each EO performance metric to a set "cap" amount for each EO performance metric.