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*Witness:* J Luebbert  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**INDUSTRY ANALYSIS DIVISION**

**TARIFF/RATE DESIGN DEPARTMENT**

**DIRECT TESTIMONY**

**OF**

**J LUEBBERT**

**Evergy Missouri West, Inc., d/b/a Evergy Missouri West**

**Case No. EC-2022-0315**

*Jefferson City, Missouri*  
*August 2022*

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3 **OF**

4 **J LUEBBERT**

5 **Evergy Missouri West, Inc., d/b/a Evergy Missouri West**

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1 Q. What knowledge, skills, experience, training, and education do you have in the  
2 areas of which you are testifying as an expert witness?

3 A. I have received continuous training at in-house and outside seminars on  
4 technical matters since I began my employment at the Commission. I have been employed by  
5 this Commission since 2016 and have submitted testimony numerous times on a wide variety  
6 of issues before the Commission. During my time as a member of the Energy Resources  
7 Department, I conducted extensive research regarding demand-side management of Evergy,  
8 other Missouri investor-owned utilities, and industry trends for energy efficiency and demand  
9 response programs. As Case Manager, I was involved in the settlement process of Case  
10 No. EO-2019-0244<sup>1</sup> and authored testimony regarding the Evergy companies' Southwest  
11 Power Pool ("SPP") resource adequacy requirements, including the \*\* [REDACTED]

12 [REDACTED]  
13 [REDACTED]. \*\*

14 **EXECUTIVE SUMMARY**

15 Q. What is the purpose of your direct testimony?

16 A. The purpose of my direct testimony is to provide evidence of EMW's violation  
17 of the Commission's report and order in Case No. EO-2019-0244 based upon the terms of the  
18 non-unanimous Stipulation and Agreement ("Stipulation") between EMW (formerly KCP&L  
19 Greater Missouri Operations Company), Commission Staff ("Staff"), and Nucor Steel Sedalia,  
20 LLC ("Nucor").<sup>2</sup> EMW agreed to the provisions of the Stipulation, which included provisions

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<sup>1</sup> Case No. EO-2019-0244 is the docket that the Commission ordered approval of Evergy Missouri West's Special Incremental Load tariff under which Nucor is currently served.

<sup>2</sup> 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 Confidential Schedule JL-d2 for reference.

1 which shield non-Nucor ratepayers from the costs incurred due to Nucor service. Absent  
2 active identification, mitigation, isolation, and removal of these costs from the FAC,  
3 non-Nucor ratepayers may end up subsidizing these costs.

4 EMW's interpretation and implementation of the provisions included in Paragraph 7.d.  
5 has resulted in EMW side-stepping the intent of the agreement, because \*\* [REDACTED]

6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]' \*\*<sup>3</sup> This practice ignores the cost consequences of the variations in Nucor load,  
9 shifts those cost consequences onto non-Nucor ratepayers through the FAC, and shields  
10 EMW's shareholders from the agreed upon non-Nucor ratepayer protections envisioned by the  
11 Stipulation and Schedule SIL. To the extent that EMW has not included Nucor load or not  
12 identified the finite expected hourly load of Nucor included in the SPP DA commitments,  
13 EMW as not complied with Paragraph 7.d. of the Stipulation. EMW has not provided  
14 Staff with the expected Nucor load included in the SPP DA commitments to date. As of the  
15 date of the filing of this direct testimony, EMW has failed to comply with the terms of  
16 Paragraph 7.d. for 902 days.<sup>4</sup>

17 Q. Based on EMW's failure to follow the terms of the Agreement, has the risk of  
18 increased costs been shifted to non-Nucor customers?

19 A. Yes. While Staff has estimated the range of non-Nucor ratepayer impact, in  
20 order to precisely quantify the cost impact of Nucor load imbalances on non-Nucor ratepayers,

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<sup>3</sup> EMW response to Staff Data Request No. 0249.4 in Case No. ER-2022-0130.

<sup>4</sup> March 1, 2020 through August 19, 2022.

1 EMW must keep records of the expected Nucor load included in the EMW SPP day-ahead  
2 commitments.

3 Q. Has Staff previously raised the issue of EMW's implementation of Schedule SIL  
4 in any other cases before the Commission?

5 A. Yes. In Case No. ER-2022-0130 I filed direct, rebuttal, and surrebuttal on this  
6 issue as it pertains to the general rate case. In Case No. EF-2022-0155, regarding EMW's  
7 request to securitize costs associated with winter storm Uri, I filed rebuttal testimony regarding  
8 Schedule SIL customer balancing events within the review period in that case.

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

11 A. Yes. Staff's recommendations for this case are primarily centered on the  
12 record-keeping necessary to determine the level of costs that should be withheld from  
13 non-Nucor ratepayers in future proceedings. Staff recommends that the Commission  
14 order EMW to:

- 15 1. Accurately account for the cost of capacity necessary to serve the entirety of  
16 Nucor's peak demand in all future Cost and Revenue tracking reports in  
17 accordance with Paragraph 7 of the Agreement;
- 18 2. Establish and maintain consistent communication with Nucor to understand  
19 what impacts the expected operations at the plant will have on Southwest  
20 Power Pool ("SPP") purchased power expenses in order to facilitate accurate  
21 records;
- 22 3. Keep records of the finite expected hourly load of Nucor's next day  
23 operations as reflected in the EMW day-ahead ("DA") commitments in the  
24 event an adjustment in accordance with Paragraph 7.d. of the Stipulation is  
25 necessary in a future case;

- 1 4. Identify additional SPP-related costs resulting from unexpected operational  
2 events that meet the criteria set forth in paragraph 7.d. of the Stipulation;
- 3 5. Quantify the balancing relationship between the hourly and DA prices to  
4 identify the effect of unplanned load changes that are not included in  
5 EMW's SPP DA commitments to apportion any additional SPP balancing  
6 charges; and
- 7 6. Incorporate the effect of DA and real-time ("RT") imbalances attributed to  
8 differences between actual Nucor operations and expected Nucor operations  
9 included in EMW's SPP DA commitments into the tracking of Nucor costs.
- 10 7. Audit EMW's provision of service to Nucor from its inception to date to  
11 accurately determine the costs, if any, improperly borne by non-Nucor  
12 ratepayers and allocate those identified costs to EMW's shareholders.

13 **BACKGROUND OF SCHEDULE SIL AND NUCOR**

14 Q. What is Nucor?

15 A. Nucor Corporation and its affiliates are engaged in the manufacture of steel and  
16 steel products at over 60 facilities in the United States, including 21 steel mills that use electric  
17 arc furnaces to produce steel.<sup>5</sup> Nucor Corporation constructed a steel rebar producing  
18 "micro mill" in Sedalia, Missouri, which utilizes an electric arc furnace to recycle scrap steel  
19 into steel rebar. I will refer to the Sedalia facility as Nucor throughout the remainder of my  
20 testimony. Nucor receives energy under a unique arrangement made possible through EMW's  
21 Schedule SIL,<sup>6</sup> the Special Incremental Load Rate Contract, and Schedule SIL-1 which  
22 contains the rates specific to Nucor service. According to the Purpose section of Schedule SIL,  
23 the rate schedule is "designed to provide certain Customers with new or incremental increases

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<sup>5</sup> Page 3 of the direct testimony of Kevin Van de Ven in Case No. EO-2019-0244.

<sup>6</sup> Confidential Schedule JL-d2, contains Schedule SIL, pages 17-20.

1 in load, access to a special rate that is not based on the Company's cost of service like generally  
2 available tariff rates, but is designed to recover no less than the incremental costs of serving the  
3 new load.”<sup>7</sup> Schedule SIL is limited to customers with new, incremental load who:

- 4 • Have a facility whose primary industry is the smelting of aluminum and  
5 primary metals, (Standard Industrial Classification Code 3334); or,
- 6 • Have a facility whose primary industry is the production or fabrication of  
7 steel (North American Industrial Classification System 331110); or,
- 8 • Operate a facility with an increase in load equal to or in excess of a monthly  
9 demand of fifty megawatts.

10 Furthermore, The Special Incremental Load Rate Contract for Nucor includes a ten-year  
11 term that began January 1, 2020, and the rate “will be designed to recover no less than the  
12 incremental cost to serve the Customer over the term of the Special Incremental Load Rate  
13 Contract. Non-participating customers shall be held harmless from any deficit in revenues  
14 provided by any customer served under this tariff.”<sup>8</sup>

15 Q. How does Nucor’s load compare to other EMW customers?

16 A. At this time, Nucor’s demand is larger than any other EMW customer.  
17 During Staff’s update period<sup>9</sup> for the general rate case,<sup>10</sup> Nucor’s maximum load exceeded

18 \*\* [REDACTED] \*\*. Nucor’s load comprised approximately \*\* [REDACTED]

19 [REDACTED]

20 [REDACTED]

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<sup>7</sup> Schedule SIL - P.S.C. MO. No. 1 Original Sheet No. 157.

<sup>8</sup> Schedule SIL - P.S.C. MO. No. 1 Original Sheet No. 157.2.

<sup>9</sup> 12-month period ending December 31, 2021.

<sup>10</sup> Case No. ER-2022-0130.



1 [REDACTED] 11 [REDACTED]

2 [REDACTED] 12 [REDACTED] 13 \*\*

3 Q. Why is Nucor’s load relative to other EMW customers relevant to this rate case?

4 A. Nucor’s relative load is important to consider because the load of Nucor  
5 dramatically impacts the overall purchased power costs of EMW through SPP. Furthermore,  
6 based on EMW responses to Staff data requests in Case No. ER-2022-0130, Nucor is the largest  
7 contributor to EMW’s \*\* [REDACTED]

8 [REDACTED]. \*\* Changes in actual operational  
9 loads of Nucor compared to expected loads that are not reflected in EMW’s bids for load  
10 purchases from SPP can cause imbalances in the overall purchased power costs that will flow  
11 through the FAC if they are not identified and isolated. Furthermore, EMW entered into a wind  
12 Purchased Power Agreement (“PPA”) to offset the energy needs of Nucor and partially offset  
13 its capacity needs. Wind resources are intermittent generation resources, meaning that they are  
14 not dispatched based on load needs. Said another way, the wind resource generates electricity  
15 when weather conditions allow and that generation is variable depending on those weather  
16 conditions. Nucor operations do not follow the generational output of the PPA and there will  
17 be times that a sizeable amount of Nucor load is served primarily through SPP market energy  
18 purchases without an offsetting injection of wind energy from the PPA. Some of these

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<sup>11</sup> Average daily maximum load minus average daily minimum load.

<sup>12</sup> \*\* [REDACTED] \*\*

<sup>13</sup> In its Report and Order in File No. EO-2019-0244 at page 5 the Commission included as a finding of fact that “The mill will take electric power with a high load factor,” citing “Ives Direct, Ex. 2, Page 8, Lines 19-21. The numbers shown in the testimony are confidential.” In that testimony, Mr. Ives stated “Nucor is a large electric customer with an anticipated total load of \*\* [REDACTED].” \*\* A higher load factor would generally indicate that a more stable level of consumption can be expected in a given interval than a lower load factor, within the mathematical range established by that load factor.

1 purchases may be offset at later time periods when the PPA produces more electricity than the  
2 needs of the Nucor plant, but different market conditions occur during different time periods.  
3 Absent active identification, mitigation, isolation, and removal of these costs from the FAC,  
4 non-Nucor ratepayers may end up subsidizing these costs. While this was all known and  
5 contemplated at the time that this tariff was approved, the provisions of the tariff and the  
6 Stipulation are integral to insulating non-Nucor ratepayers from these effects.

7 Q. What level of information would it be prudent for EMW to obtain from Nucor  
8 in the ordinary course of business?

9 A. Given the impact that the Nucor load has on EMW's SPP purchased power  
10 expense and capacity requirements, EMW should obtain and understand Nucor's operational  
11 requirements on a daily basis. Further, due to the hold-harmless provisions contemplated by the  
12 tariff and the Stipulation, a high level of EMW understanding of Nucor's load is appropriate to  
13 minimize, mitigate, and isolate the impacts of Nucor operations on SPP purchased power  
14 expense and capacity purchases that flow to other ratepayers.

15 **BACKGROUND OF HOLD-HARMLESS PROVISIONS AND EMW**  
16 **REPRESENTATIONS**

17 Q. Does Schedule SIL contain hold-harmless provisions?

18 A. Yes. Under the Special Rate, Provisions, and Terms section of Schedule SIL,  
19 "Non-participating customers shall be held harmless from any deficit in revenues provided by  
20 any customer served under this tariff."<sup>14</sup> Schedule SIL goes on to state that:

21 The Company will make provisions to uniquely identify the costs and  
22 revenues for each respective Special Incremental Load Rate Contract  
23 within its books and records. This information will be available to  
24 support periodic reporting as ordered by the Commission. At the time of

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<sup>14</sup> Schedule SIL - P.S.C. MO. No. 1 Original Sheet No. 157.2.

1 a general rate proceeding the portion of the Company's revenue  
2 requirement associated with the incremental costs net of PPA net  
3 revenues to serve the Customer shall be assigned to the Customer. The  
4 Customer's rate revenues shall be reflected in Company's net revenue  
5 requirement. If the Customer's rate revenues do not exceed the  
6 incremental cost to serve the Customer as reflected in the revenue  
7 requirement calculation, the Company shall make an additional  
8 revenue adjustment covering the shortfall to the revenue requirement  
9 calculation through the true-up period, to ensure that non-Schedule SIL  
10 customers will be held harmless from such effects from the service  
11 under Schedule SIL. In no event shall any revenue deficiency (that is, a  
12 greater amount of the Customer's incremental costs compared to the  
13 Customer's revenues) be reflected in the Company's cost of service in  
14 each general rate proceeding for the duration of service to the  
15 Customer(s) during the terms of the contract between Company and  
16 Customer served under this tariff.<sup>15</sup>

17 Q. Was a hold-harmless agreement included in the Stipulation?

18 A. Yes. Paragraph 8 of the Agreement reads as follows:

19 Ratemaking Treatment – At the time of a general rate proceeding the  
20 portion of GMO's revenue requirement associated with the incremental  
21 costs net of PPA net revenues to serve Nucor consistent with Exhibit 1  
22 shall be assigned to Nucor. Nucor's rate revenues shall be reflected in  
23 GMO's net revenue requirement. If Nucor's revenues do not exceed  
24 Nucor's costs as reflected in the revenue requirement calculation through  
25 the true-up period, GMO will make an additional revenue adjustment  
26 covering the shortfall to the revenue requirement calculation through the  
27 true-up period, to ensure that non-Nucor GMO customers will be held  
28 harmless from such effects from the Nucor service. In no event shall any  
29 revenue deficiency (that is, a greater amount of Nucor incremental costs  
30 compared to Nucor revenues) be reflected in GMO's cost of service in  
31 each general rate proceeding for the duration of Nucor service during the  
32 terms of the contract between GMO and Nucor (Confidential Schedule  
33 DRI-2 of GMO witness Darrin R. Ives).

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<sup>15</sup> Schedule SIL - P.S.C. MO. No. 1 Original Sheet No. 157.2.

1 Q. What components are included in Exhibit 1 of the Stipulation?

2 A. At a high level, Exhibit 1 is broken into three categories: Rate Base, Net Cost of  
3 Service, and Overall Cost of Capital. My direct testimony will focus primarily on the inputs of  
4 the Net Cost of Service portion of the Exhibit.

5 Q. What components are explicitly spelled out in the Net Cost of Service portion  
6 of Exhibit 1 to the Agreement?

7 A. The Net Cost of Service portion of Exhibit 1 explicitly states the following  
8 cost categories:

- 9 1. Purchased Power
- 10 2. Customer Event Balancing
- 11 3. Other Sales for Resale
- 12 4. Transmission Costs
- 13 5. Net Capacity Costs
- 14 6. Administration Costs
- 15 7. Other Contingency Costs

16 Q. Which of the aforementioned cost categories do you plan to address in more  
17 detail through this direct testimony?

18 A. My testimony will address or refer to customer event balancing and net  
19 capacity costs.

20 Q. Did EMW counsel and witnesses discuss the protections expected to be provided  
21 to non-Nucor ratepayers through the terms of the agreement during the hearing proceedings for  
22 Case No. EO-2019-0244?

23 A. Yes. EMW counsel, James Fischer, discussed the protections and EMW witness  
24 Darrin R. Ives testified during the hearing regarding the non-Nucor ratepayer safeguards. I will  
25 provide a few excerpts of the representations before the Commission on behalf of EMW related

1 to non-Nucor ratepayer protections that are relevant to Staff's recommended reporting  
2 requirements in this case.

3 **EMW representation of Non-Nucor Ratepayer Protections**

4 "There are also significant customer protections to ensure that other customers are  
5 not adversely affected by the Nucor contract or its operation. The specifics of those  
6 protections -- are contained in paragraph 7 and paragraph 8 of the stipulation."<sup>16</sup>

7 "...the Company will also identify and isolate the supply costs attributable to Nucor."<sup>17</sup>

8 "The Company will monitor Nucor's operations and will identify additional SPP-related  
9 costs resulting from unexpected operational events. If these unexpected operational events  
10 would happen to increase costs to non-Nucor customers, the amount of the increased costs will  
11 be identified and reflected in the subsequent FAC rate changes and appropriate adjustments  
12 would be made."<sup>18</sup>

13 "In other words, we expect this to be a profitable contract that will benefit all customers,  
14 but in no event will any revenue deficiency from the Nucor operations be reflected in the rates  
15 of other customers.

16 There will also be communication between Nucor and the Company related to things  
17 like planned outages, maintenance outages and similar operational details that the Company  
18 will be in a position to carefully monitor what's going on at the plant and what effects that would  
19 have on its electric system."<sup>19</sup>

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<sup>16</sup> Page 28 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>17</sup> Page 29 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>18</sup> Page 29 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>19</sup> Page 30 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

1           “And that's why we felt it was important to put the hold harmless protection in so that  
2 non-Nucor customers would -- would not be in a position of subsidizing service to Nucor...”<sup>20</sup>

3           “And then finally, because of some of the things I discussed about timing and  
4 intermittence of supply, we've provided a hold harmless to ensure that if there were a situation  
5 where non-Nucor customers would be asked to subsidize, that we will make an adjustment to  
6 make sure that does not happen.”<sup>21</sup>

7           “So when we look at those actual costs during that period compared to the actual  
8 revenues generated from -- from serving Nucor, if those costs were in excess of those revenues  
9 in that period, then in effect, shareholders will be covering that differential because we'll make  
10 an adjustment in the rate case to ensure non-Nucor customers are not impacted.”<sup>22</sup>

11           “So there certainly will be periods where we'll have to serve, you know, from -- from  
12 other energy supply.

13           And that's why it was important to Staff, and us as well, to have the detail in the -- the  
14 monitoring and -- and reporting mechanism so that we can -- we can identify those costs and  
15 make sure that that's part of our comparison to costs -- of costs to revenues from Nucor.”<sup>23</sup>

16           “And we -- we felt so strongly that we wanted to build a rate for Nucor that would cover  
17 their costs over the ten-year term, that we said in a given case if it doesn't, we'll make an  
18 adjustment to assure that it doesn't have a negative impact on non-Nucor customers.”<sup>24</sup>

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<sup>20</sup> Page 116 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>21</sup> Page 118 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>22</sup> Pages 130-131 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>23</sup> Page 134 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>24</sup> Page 147 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

1 Q. Why are the numerous representations of EMW in Case No. EO-2019-0244  
2 relevant to this proceeding?

3 A. The representations of EMW along with the hold-harmless provisions provided  
4 assurances that non-Nucor ratepayers would not be asked to subsidize the costs of serving  
5 Nucor during the 10-year term of the contract between EMW and Nucor. These representations  
6 and the underlying terms in the Stipulation and SIL tariff were instrumental in Staff's  
7 acceptance of the terms of the agreement. EMW was willing to agree to the hold-harmless  
8 provisions and should therefore be held accountable to keep the records necessary to implement  
9 those agreements and representations in future cases. Further, the Report and Order in File No.  
10 EO-2019-0244 at page 7-8 includes the factual findings that:

11 The stipulation and agreement also **includes provisions to protect**  
12 **EMW's other customers from any adverse effects from the special**  
13 **rate being provided to Nucor.** EMW expects that the overall aggregate  
14 revenues it receives from Nucor over the ten-year period of the special  
15 contract and rate will exceed the company's incremental cost to provide  
16 that service. However, **EMW acknowledges that on a month-to-**  
17 **month view, conditions could fluctuate enough to produce an under-**  
18 **recovery of incremental costs in a specific month or months of the**  
19 **test year used to establish rates in a future rate case.** The stipulation  
20 and agreement addresses that possibility by providing that no such  
21 revenue deficiency would be reflected in EMW's cost of service during  
22 the ten-year term of the special contract and rate. In other words, **EMW's**  
23 **shareholders would be responsible for any such revenue shortfall,**  
24 **not ratepayers.** [Emphasis added.]

25 An exact quantification of the under-recovery as part of Staff's review of the general  
26 rate case was difficult, in that an element of EMW's imprudence is that it has not retained the  
27 data necessary to determine the hours in which payments were due in combination with the

1 Stipulation, nor had EMW been properly accounting for the extent to which EMW has incurred  
2 capacity expenses due to Nucor service \*\* [REDACTED] \*\*. \*\*

3 **Comparison of rate revenue and costs of service attributable to Nucor**

4 Q. Why is the accuracy of the calculation of EMW's incremental cost to serve  
5 Nucor important?

6 A. Accurately accounting for the incremental cost of service that is attributable to  
7 Nucor is crucial in order to minimize the impact on non-Nucor ratepayers as envisioned by  
8 Paragraph 8 of the Stipulation and the hold harmless provisions included in the tariff. If the  
9 incremental costs are not accurately accounted for, non-Nucor ratepayers are left to subsidize  
10 the additional costs, which directly conflicts with the intent of the Stipulation and the language  
11 included in the tariff.

12 Q. Did other parts of the Stipulation address some of the components that should  
13 be included in the calculation envisioned by Paragraph 8?

14 A. Yes. Paragraph 7 of the Stipulation is related to the tracking of revenues from,  
15 and costs of providing service to, Nucor. It requires EMW to uniquely identify and track, for  
16 reporting and general rate case purposes, all incremental costs associated with serving Nucor.<sup>25</sup>  
17 It further requires EMW to monitor and report to Staff and OPC whether the revenues received  
18 under the special contract rate cover the incremental cost of providing service to Nucor.

19 Q. Have the quarterly reports provided by EMW to Staff in accordance with the  
20 Stipulation accurately account for EMW's incremental cost to serve Nucor?

21 A. No. EMW's originally provided quarterly reports have not accurately  
22 accounted for the Net Capacity Costs to serve Nucor or Customer Balancing Events resulting

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<sup>25</sup> As provided for in Exhibit 1 of the Stipulation.



1 from changes to expected hourly Nucor operations. On June 1, 2022, EMW provided a second  
2 supplemental response to Staff Data Request No. 0248 in Case No. ER-2022-0130, which  
3 contained \*\* [REDACTED]  
4 [REDACTED]. \*\* However, the updated reports still do not account for customer  
5 event balancing costs associated with Nucor and Staff has concerns with the determination of  
6 the capacity costs included in the updated reports. Furthermore, while Paragraph 7 of the  
7 Stipulation indicates that EMW will provide reports bi-annually during the second and third  
8 years of service to Nucor, the paragraph goes on to state that:

9 \*\* [REDACTED]  
10 [REDACTED]  
11 [REDACTED] \*\*

12 While Staff expects that EMW will include the capacity costs attributable to Nucor in  
13 the reporting going forward, based in part on EMW's representation that the costs were  
14 inadvertently excluded, Staff has yet to receive an original report from EMW that includes  
15 such costs. To date in 2022, EMW has not provided to Staff any of the required cost and  
16 revenue tracking reports despite the fact that Evergy's Annual 10-K SEC filing was on  
17 February 25, 2022, and Evergy's Quarterly 10-Q SEC filings were on May 5, 2022, and  
18 August 4, 2022. EMW provided the first report associated with Paragraph 7 of the Stipulation  
19 on August X, 2022.

20 **CUSTOMER EVENT BALANCING**

21 Q. Are there any other portions of Paragraph 7 of the Stipulation that are especially  
22 relevant to your testimony in this case?

1           A.     Yes. Paragraph 7.d. of the Stipulation explains the required treatment of the  
2 “balancing relationship between the hourly and day-ahead prices to identify the effect of the  
3 unplanned load change” of Nucor.

4           Q.     Has EMW accounted for any costs of Customer Event Balancing in the cost and  
5 revenue tracking reports provided to Staff to date?

6           A.     No. EMW has completely side-stepped the intent of this ratepayer protection as  
7 envisioned by the Commission-approved Stipulation, likely resulting in ratepayer harm through  
8 increased costs that have flowed to non-Nucor ratepayers through the FAC.

9           Q.     Has EMW made specific adjustments to the FAC to remove the costs of the load  
10 imbalances attributable to Nucor service?

11          A.     My understanding is that EMW has not made specific adjustments to the FAC  
12 to remove the costs of load imbalances that are attributable to Nucor service.

13          Q.     Has EMW imprudently implemented any other aspect of the Stipulation?

14          A.     Yes. Paragraph 7.d. of the Stipulation states in part that:

15                   GMO will monitor Nucor operations and **will identify additional SPP**  
16 **related costs resulting from unexpected operational events. If actual**  
17 **Nucor load experiences a 25% deviation from the expected Nucor**  
18 **load for more than 4 hours and that load change is not reflected in**  
19 **the GMO day-ahead commitments,** GMO will quantify the balancing  
20 relationship between the hourly and day-ahead prices to **identify the**  
21 **effect of the unplanned load change to apportion any additional SPP**  
22 **balancing charges** and will incorporate the effect attributed to Nucor  
23 into the tracking of Nucor costs. **If the effect of this relationship increases**  
24 **costs to non-Nucor customers, the amount will be reflected in a**  
25 **subsequent FAC rate change filing and the portion attributed to Nucor**  
26 **will be identified with supporting work papers and removed from the**  
27 **Actual Net Energy Cost prior to the calculation of the FAC rates.**  
28 **(Emphasis added)**

1           The emphasized portions of Paragraph 7.d. of the Stipulation cited above necessarily  
2 involves a comparison of actual Nucor load to the expected load of Nucor which is included in  
3 EMW's SPP DA commitments. To the extent that EMW has not included Nucor load or not  
4 identified the finite expected hourly load of Nucor included in the SPP DA commitments,  
5 EMW has not complied with Paragraph 7.d. of the Stipulation. EMW has not provided Staff  
6 with the expected Nucor load included in the SPP DA commitments to date. As of the date of  
7 the filing of this direct testimony, EMW has failed to comply with the terms of Paragraph 7.d.  
8 for 902 days.<sup>26</sup>

9           Q.     How might additional SPP-related costs result from unexpected  
10 operational events?

11           A.     Variations in actual Nucor operational load from the expected Nucor operational  
12 load coupled with the differences in Real-Time Locational Marginal Prices and Day-Ahead  
13 Locational Marginal Prices can result in additional costs. If Real-Time SPP Locational  
14 Marginal Prices and Real-Time Nucor load exceed the Day-ahead Locational Marginal Prices  
15 and expected Nucor load, additional costs will be incurred. Conversely, if Real-Time Locational  
16 Marginal Prices and Real-Time Nucor load are less than the Day-Ahead Locational Marginal  
17 Prices and the expected load, additional costs will be incurred.

18           I will provide a simplified example that illustrates the potential for these additional  
19 SPP-related costs resulting from unexpected Nucor operations. The aforementioned example  
20 will assume that the load of Nucor is bid and purchased independently of the rest of the  
21 EMW load. While I recognize that does not reflect the reality of EMW's SPP purchases to

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<sup>26</sup> March 1, 2020 through August 19, 2022.

1 serve the load of ratepayers, it does illustrate the need for EMW to monitor, quantify, and isolate  
2 those costs in order to shield costs of serving Nucor from non-Nucor ratepayers.

3 If EMW expects Nucor load to be 20 MW for a period of 6 hours and the DA LMP is  
4 \$10/MWh, but actual Nucor load was 30 MW and the RT LMP was \$25/MWh for that time  
5 period, an additional cost of \$900 would be incurred for that time period.<sup>27</sup> The estimation that  
6 I used for determining the estimated impact of these imbalances compares the expected load of  
7 Nucor and DA LMP to the actual Nucor load and RT LMPs. To the extent that these types of  
8 costs are incurred, they will flow through the EWM FAC unless the costs are identified,  
9 quantified, and removed from the FAC.

10 Q. Are the aforementioned costs limited to periods of time that actual Nucor loads  
11 deviate from expectation by more than 25%?

12 A. No. The costs can result in any time increment that actual Nucor load deviates  
13 from the expected load.

14 Q. Are the aforementioned costs limited to periods of time that actual Nucor loads  
15 deviate from expectation for a period of more than 4 hours?

16 A. No. As I stated previously, additional costs can result in any time increment that  
17 actual Nucor load deviates from the expected load. However, Paragraph 7.d. of the Stipulation  
18 is the result of negotiations between the signatories and only requires EMW to quantify the cost  
19 impacts when “actual Nucor load experiences a 25% deviation from the expected Nucor load  
20 for more than 4 hours and that load change is not reflected in the GMO DA commitments.”

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<sup>27</sup> The estimation determines the cost in a given hour based on the following formula: (DA LMP \* DA Load)  
+ (RT Load-DA Load)\*RT LMP)-(DA LMP\*RT Load). For the example shown: ((\$10/MWh \* 20MWh) +  
(30 MWh – 20 MWh) \* \$25/MWh) – (\$10/MWh \* 30 MWh))\*6 hours = \$900.

1 Q. Has EMW prudently implemented Schedule SIL in accordance with  
2 Paragraph 7.d. of the Stipulation?

3 A. No. EMW has completely side-stepped the intent of this ratepayer protection as  
4 envisioned by the Commission-ordered Stipulation, likely resulting in ratepayer harm. Staff  
5 has included the range of cost impacts from load imbalances based upon various expected load  
6 assumptions in the Section titled Cost Impact of Customer Event Balancing. Based on EMW  
7 response to Staff Data Request No. 0249.1 in Case No. ER-2022-0130,

8 \*\* [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16 [REDACTED] <sup>28</sup> [REDACTED]  
17 [REDACTED] <sup>29</sup> \*\*

18 Q. Does the fact that EMW has \*\* [REDACTED]  
19 [REDACTED] \*\* relieve EMW from the obligations of the Stipulation and Schedule SIL?

20 A. No. EMW has not identified an “unexpected operational event” nor quantified  
21 the financial harm to the non-Nucor ratepayers through the FAC simply because EMW has  
22 interpreted Paragraph 7.d. to allow this absurd “operational load band” that would essentially  
23 allow EMW to turn a blind eye to any potential non-Nucor ratepayer harm so long as Nucor

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<sup>28</sup> EMW response to Staff Data Request No. 0249.3 in Case No. ER-2022-0130.

<sup>29</sup> Ibid.

1 operates somewhere between \*\* [REDACTED] <sup>30</sup> [REDACTED]  
2 [REDACTED]  
3 [REDACTED]. <sup>31</sup> \*\* In 2021, Nucor never operated outside of  
4 the EMW described “operational load band,” therefore Evergy did not identify time periods for  
5 “unexpected operational events,” quantify the financial impact of the changes in actual load  
6 compared to expected load in a given hour, or remove those financial impacts from the FAC.  
7 The result of EMW’s lack of identification, quantification, and removal of these costs from the  
8 FAC is that Evergy shareholders have been insulated from their financial impact to the  
9 detriment of non-Nucor ratepayers. However, no such band is contemplated in the Stipulation,  
10 and this interpretation is either a bad faith implementation of the agreement, or an imprudent  
11 execution of the Stipulation. The intent of the Stipulation was that non-Nucor ratepayers would  
12 not experience any financial impact at all.

13 Q. Was Staff able to precisely quantify the ratepayer harm from EMW’s practice  
14 of assuming this \*\* [REDACTED] ? \*\*

15 A. Unfortunately, because EMW did not provide finite expected loads for Nucor  
16 and insisted that Nucor operations \*\* [REDACTED]  
17 [REDACTED] \*\* Staff is unable to precisely quantify the ratepayer harm. However,  
18 Staff has included the range of cost impacts from load imbalances based upon various expected  
19 load assumptions in the Section titled Cost Impact of Customer Event Balancing. If EMW had

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<sup>30</sup> \*\* [REDACTED] in Case No. ER-2022-0130 [REDACTED]  
[REDACTED]  
[REDACTED] \*\*

<sup>31</sup> EMW response to Staff Data Request No. 0249.4 in Case No. ER-2022-0130.

1 provided this information on an hourly or intra-hourly basis, Staff would have been able to  
2 provide a more precise estimate of the harm caused to non-Nucor ratepayers through the FAC.

3 Q. Did Staff request the methodology that EMW would utilize to quantify the  
4 balancing relationship between hourly RT and DA prices attributable to Nucor in accordance  
5 with Paragraph 7 of the Stipulation?

6 A. Yes. Staff Data Request No. 0249.2 in Case No. ER-2022-0130 asked EMW to  
7 define this “balancing relationship” and provide examples of contemplated scenarios that may  
8 result in quantification of such a “balancing relationship.” The methodology utilized to  
9 determine the cost impacts of Customer Balancing Events included in Staff’s revenue  
10 requirement adjustment in Case No. ER-2022-0130 is substantially similar to the methodology  
11 provided by EMW in response to that data request.

12 Q. Earlier in your testimony you cited that EMW committed to “monitor Nucor  
13 operations and will identify additional SPP related costs resulting from unexpected operational  
14 events” and “quantify the balancing relationship between the hourly and day-ahead prices to  
15 identify the effect of the unplanned load change to apportion any additional SPP balancing  
16 charges and will incorporate the effect attributed to Nucor into the tracking of Nucor costs.”<sup>32</sup>  
17 Based on the language included in the Stipulation, the representations of EMW, and the  
18 variability of Nucor operations, what level of communication would you expect for EMW to  
19 have had with Nucor?

20 A. When the discovery process began for the general rate case I expected to find  
21 that EMW was in near constant communication with Nucor to evaluate, mitigate, and isolate

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<sup>32</sup> Paragraph 7.d. of the Stipulation.

1 potential costs of serving Nucor from non-Nucor ratepayers. Based on the responses from  
2 EMW, my assumptions were incorrect. EMW has indicated that \*\* [REDACTED]  
3 [REDACTED]  
4 [REDACTED]. \*\* I will provide excerpts  
5 from Staff Data Request No. 0249.5<sup>33</sup> in Case No. ER-2022-0130 and the EMW response,  
6 which further illustrate Staff's concern with EMW's adherence to the representations and  
7 commitments EWM made to Staff and the Commission.

8           \*\* [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12           [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]  
16           [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19           [REDACTED]  
20           [REDACTED]  
21 [REDACTED]  
22           [REDACTED]  
23 [REDACTED]  
24 [REDACTED]

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<sup>33</sup> EMW response to Staff Data Request No. 0249.5 in Case No. ER-2022-0130 is attached as Confidential Schedule JL-d4.



1 [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
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25 [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 1. [REDACTED]

7 [REDACTED]

8 2. [REDACTED]

9 [REDACTED]

10 3. [REDACTED]

11 4. [REDACTED]

12 [REDACTED]

13 5. [REDACTED]

14 [REDACTED]

15 [REDACTED]\*\*

16 Q. If the costs of the “additional SPP related costs resulting from unexpected  
17 operational events” is not being identified and/or quantified by EMW, does that mean that they  
18 do not exist?

19 A. No. The costs certainly exist based on the interaction of SPP’s DA and RT  
20 markets, the relative size of Nucor’s load, and the variability of Nucor’s operations.

21 Q. If the costs of the “additional SPP related costs resulting from unexpected  
22 operational events” is not being identified and/or quantified by EMW and excluded from  
23 EMW’s FAC, how are those costs recovered?

24 A. These costs are recovered through EMW’s FAC from all non-Nucor ratepayers.

1 Q. Does that align with the representations and commitments of EMW?

2 A. No, it does not. For that reason, it is not a prudent implementation of  
3 Schedule SIL in accordance with the Stipulation.

4 Q. Is monthly monitoring as part of the billing process reasonable given  
5 Nucor's relative size, EMW's representations that non-Nucor ratepayers will be held-harmless,  
6 and the potential for non-Nucor ratepayer harm through the FAC?

7 A. No. \*\* [REDACTED]  
8 [REDACTED]  
9 [REDACTED]

10 [REDACTED]<sup>34</sup> \*\* EMW should be consistently communicating and monitoring the  
11 operations of Nucor and keeping records of the expected hourly Nucor load included in the  
12 EMW SPP DA commitments in order to fulfill EMW's representation that the company will  
13 monitor, mitigate, and isolate costs of serving Nucor from non-Nucor ratepayers.

14 Q. Does the Stipulation contemplate a grace period for compliance with the terms  
15 while Nucor operational load "normalizes"?

16 A. No. If EMW felt that a grace period was necessary, then it could have negotiated  
17 suchfor inclusion in the Stipulation. Based on Evergy's "operational load band," in order for  
18 Nucor operations to exceed the 25% variance envisioned by Paragraph 7.d. of the Stipulation,  
19 Nucor would need to achieve and maintain a load of \*\* [REDACTED] \*\* for more than 4 hours.

20 \*\* [REDACTED]<sup>35</sup> \*\* The Stipulation was  
21 based upon negotiations among the parties and EMW could have abstained from the agreement.

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<sup>34</sup> EMW response to Staff Data Request No. 0249.5 in Case No. ER-2022-0130.

<sup>35</sup> EMW response to Staff Data Request No. 0249 in Case No. ER-2022-0130.

1 However, that was not the case and EMW is required by Commission order to comply with the  
2 terms of the Stipulation.

3 Q. Are there financial incentives for EMW to continue to imprudently implement  
4 Schedule SIL and the Agreement?

5 A. Yes. Absent adjustments, EMW shareholders are shielded from the hold-  
6 harmless provisions articulated in Schedule SIL, the Agreement, and throughout the testimony  
7 in Case No. EO-2019-0244 to the detriment of non-Nucor ratepayers.

8 Q. Has review of the rebuttal testimony EMW's witnesses in Case No.  
9 ER-2022-0130 caused Staff to change its position on the importance of EMW's adherence  
10 to the requirements of paragraph 7. of the Stipulation?

11 A. No. In many instances, the EMW testimony further supports Staff's position  
12 and highlights the importance of this provision as a protection for non-Nucor ratepayers.  
13 Mr. Lutz explains that EMW "was not aware of the challenge associated with obtaining load  
14 projections suitable for our daily forecasting... Had we known of the forecast suitability  
15 concerns, our approach toward monitoring would have been defined in the SIL Stipulation  
16 accordingly."<sup>36</sup> The terms of the Stipulation were not premised on the accessibility or ease of  
17 predicting the expected operational load of Nucor. Paragraph 7.d. of the Stipulation is designed  
18 to minimize the potential non-Nucor customer impacts of load imbalances of Nucor by  
19 requiring EMW to quantify and isolate the cost imbalances from FAC recovery. EMW has yet  
20 to provide Staff with the expected hourly Nucor loads as reflected in EMW's DA SPP  
21 commitments. EMW's lack of recordkeeping related to the load expectations of Nucor reflected  
22 in the DA commitments creates an additional barrier when attempting to determine the cost

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<sup>36</sup> Page 4 of the rebuttal testimony of Bradley D. Lutz in Case No. ER-2022-0130.

1 impacts of the load imbalance. EMW’s criticisms of Staff’s proposed Schedule SIL adjustment  
2 in Case No. ER-2022-0130 serve to highlight the inaction by EMW to properly account for  
3 Nucor’s next day operations in the DA commitments.

4 Q. Have you reviewed the workpaper provided in support of Mr. Carlson’s rebuttal  
5 testimony in Case No. ER-2022-0130?

6 A. Yes.

7 Q. In his criticism of Staff utilizing a static load to determine the impacts of  
8 customer-event balancing, Mr. Carlson’s rebuttal testimony in Case No. ER-2022-0130  
9 indicates that utilization of load forecasting is needed to more accurately calculate the impacts  
10 of potential operational events. Does Mr. Carlson’s discussion regarding the load forecasting  
11 of EMW load by Tesla Forecasting Solutions (“Tesla”) align with the assumptions utilized in  
12 his workpaper?

13 A. No. Mr. Carlson explains that the forecasting utilized by EMW for SPP DA  
14 commitments utilizes 11 years of historical load data with a weighting formula that makes the  
15 most recent data more impactful to the forecast. He also states that the forecasting service  
16 accounts for “weather forecasts and many other variables.”<sup>37</sup> However, Mr. Carlson’s  
17 workpaper provided in support of his rebuttal testimony in Case No. ER-2022-0130 includes  
18 the previous year’s hourly load of Nucor, which is labeled “DA Forecast Load” to compare  
19 against RT load of Nucor. The column title of “DA Forecast Load” is misleading because the  
20 values do not account for the historical load weighting described by Mr. Carlson nor the “many  
21 other variables” that affect the forecasted load included in EMW’s SPP DA commitments.  
22 Therefore, the values provided by Mr. Carlson do not serve as evidence of the actual Nucor

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<sup>37</sup> Page 6 of the rebuttal testimony of John Carlson in Case No. ER-2022-0130.

1 load expectation included in the EMW SPP DA commitments. Based on the weighting formula  
2 provided in Mr. Carlson’s rebuttal testimony in Case No. ER-2022-0130, a majority of the load  
3 weighting utilized by Tesla for the forecasting service does not account for Nucor operational  
4 load. Furthermore, the Nucor load from the previous year should not be relied upon as the  
5 expected day-ahead load of Nucor as EMW witnesses have testified that EMW expects that the  
6 loads are variable,<sup>38</sup> it may take time for the facility to achieve operational stability,<sup>39</sup> load was  
7 lower relative to current operations,<sup>40</sup> Nucor continues to modify operations,<sup>41</sup> and Nucor  
8 responds to demands for their product.<sup>42</sup>

9 Q. Was the set-point<sup>43</sup> utilized by Staff to quantify the cost impacts of  
10 customer-event balancing in Case No. ER-2022-0130 “arbitrary” as Mr. Carlson suggests?

11 A. No. Staff requested the hourly expected Nucor loads from EMW and sent  
12 follow-up requests because the answers repeatedly relied upon the assumption that

13 \*\* [REDACTED]

14 [REDACTED]

15 [REDACTED]<sup>44</sup> \*\* I reviewed several

16 different set-point levels and selected \*\* [REDACTED] \*\* because it indicated the fewest hours of

17 load imbalance. Based on the workpaper provided in support of Mr. Carlson’s rebuttal

18 testimony in Case No. ER-2022-0130,<sup>45</sup> utilizing the 2020 hourly Nucor load as the

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<sup>38</sup> Page 3 of the rebuttal testimony of Bradley Lutz in Case No. ER-2022-0130.

<sup>39</sup> Ibid.

<sup>40</sup> Page 7 of the rebuttal testimony of John R. Carlson in Case No. ER-2022-0130.

<sup>41</sup> Page 4 of the rebuttal testimony of Bradley Lutz in Case No. ER-2022-0130.

<sup>42</sup> Ibid.

<sup>43</sup> The setpoints reviewed to estimate the financial impact of the DA and RT imbalances can be considered a proxy for the expected load of Nucor.

<sup>44</sup> EMW response to Staff data request 249, 249.1, and 249.3 in Case No. ER-2022-0130.

<sup>45</sup> File named 20220715 Nucor RR adj workpaper – Corrected.xlsx in Case No. ER-2022-0130.

1 “forecasted” load results in greater than 95% of the hours in 2021 having greater than  
2 25% variance from actual Nucor loads. While I recognized in my direct testimony in Case No.  
3 ER-2022-0130 that the cost estimation required some less than ideal assumptions due to  
4 EMW’s lack of expected Nucor load record- keeping, the solution offered by Mr. Carlson does  
5 not provide a reasonable estimation of the financial impact of variations in Nucor operational  
6 load from expectations.

7 Q. What additional context does Mr. Lutz’s rebuttal testimony in Case No.  
8 ER-2022-0130 provide for EMW’s decision to \*\* [REDACTED]  
9 [REDACTED] \*\* based on availability of Nucor load  
10 information?

11 A. Mr. Lutz briefly describes the difficulty of producing load projections for Nucor  
12 during early interactions with Nucor operations staff.<sup>46</sup> He explains that projections would  
13 “change reacting to start-up conditions” and that the “pace of possible load change from hour  
14 to hour was problematic.”<sup>47</sup> He also asserts that there was \*\* [REDACTED]  
15 [REDACTED] <sup>48</sup> [REDACTED]  
16 [REDACTED]  
17 [REDACTED] ”\*\*<sup>49</sup>

18 Q. Does the context provided by Mr. Lutz regarding the \*\* [REDACTED] \*\*  
19 of Nucor change Staff’s position regarding the importance of the customer protections included  
20 in the Stipulation and Schedule SIL?

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<sup>46</sup> Page 5 of the rebuttal testimony of Bradley Lutz in Case No. ER-2022-0130.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.



1           A.     No. The difficulty of forecasting the next-day load of Nucor and the pace of  
2 changes in load expectation are reasons that the customer protections that EMW agreed to, and  
3 subsequently failed to implement are important. EMW found that accurately forecasting the  
4 next-day load of Nucor was difficult. Instead of refining the process to forecast the next-day  
5 load as accurately as possible, EMW evidently continued to forecast DA load for all customers  
6 with a business-as-usual approach.

7           The terms of the Stipulation were not reliant on an expectation that EMW would  
8 perfectly forecast the next-day operations of Nucor. One of the reasons to implement the  
9 terms of the Stipulation was an inherent assumption that actual operations would differ from  
10 expected operational loads and that EMW would need to quantify the effects of those events in  
11 order to remove the resulting costs from the FAC to protect non-Nucor customers from any  
12 financial impact.

13           Q.     Do Evergy Missouri West's SPP day-ahead commitments allow for actual  
14 operational bands that insulate the Company, or its ratepayers, from costs associated with  
15 deviations within specified bands?

16           A.     \*\* [REDACTED] \*\*<sup>50</sup> he variation of Nucor load \*\* [REDACTED]  
17 [REDACTED]  
18 [REDACTED] \*\* Absent adjustments to remove the costs of the unexpected  
19 operational events the \*\* [REDACTED] \*\* is provided to  
20 EMW by the non-Nucor ratepayers of EMW through the FAC. EMW did not identify  
21 unexpected operational events so long as Nucor load remained within the \*\* [REDACTED]  
22 [REDACTED] \*\* and therefore found it unnecessary to quantify the financial impact of events.

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<sup>50</sup> EMW response to Staff data request 249.3 in Case No. ER-2022-0130.

1 Q. To summarize, what is the outcome if EMW is allowed to evade the Stipulation  
2 requirement to identify, quantify, and remove the financial impact of load imbalances from  
3 unexpected operational events?

4 A. Any increased costs will be borne by non-Nucor ratepayers, which directly  
5 conflicts with the intent of the hold-harmless provisions of the Stipulation and Schedule SIL.

6 Q. What steps can be taken to avoid the aforementioned outcome?

7 A. The first step would be for EMW to keep the records recommended by Staff that  
8 would allow other parties to evaluate the costs incurred in a more transparent manner. This  
9 improved transparency will allow parties, other than EMW, to review the cost impacts of load  
10 imbalances of Nucor and improve the accuracy of recommended adjustments in future cases.  
11 The next step, which is contemplated within the Staff recommendation, is for EMW to  
12 accurately track the cost implications of the inclusion of expected hourly Nucor loads in EMW's  
13 SPP DA commitments compared to actual costs incurred and removing those cost impacts, as  
14 necessary, from non-Nucor ratepayer recovery. Ideally, if EMW accurately tracks and  
15 subsequently removes the cost impacts of the load imbalances attributable to Nucor, the record  
16 keeping recommended by Staff would allow other parties to determine whether future  
17 adjustments made by EMW were reasonable.

18 Q. In his rebuttal testimony in Case No. ER-2022-0130 Mr. Lutz states, \*\* [REDACTED]

19 [REDACTED]

20 [REDACTED] 51\*\*

21 Has EMW quantified this relationship to support this claim?

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<sup>51</sup> Page 5 of the rebuttal testimony of Bradley Lutz in Case No. ER-2022-0130.

1           A.     I do not believe so. EMW's responses to Staff data requests in Case No.  
2 ER-2022-0130 indicate that the Company has not identified any unexpected operational events  
3 so long as Nucor continued to operate \*\* [REDACTED] \*\*, and therefore has  
4 not quantified the cost impacts.<sup>52</sup> Furthermore, EMW has not identified \*\* [REDACTED]  
5 [REDACTED] <sup>53</sup> [REDACTED]  
6 [REDACTED] \*\*<sup>54</sup>

7           Q.     Does the \*\* [REDACTED]  
8 [REDACTED] \*\* ensure that non-Nucor ratepayers are held  
9 harmless from the effects of imbalances?

10          A.     No. Absent identification, mitigation, isolation, and removal of the effects of  
11 these load imbalances, non-Nucor ratepayers will not be held harmless. EMW witnesses have  
12 explained in Case No. ER-2022-0130 that the Company has continued to forecast the EMW  
13 load for purposes of SPP DA commitments utilizing a business-as-usual approach, which does  
14 not account for specific expectations of Nucor's next-day operations, and only includes the load  
15 of Nucor as a small portion of the weighted historical load.<sup>55</sup>

16          Q.     Based upon responses to discovery in Case No. ER-2022-0130, is EMW's  
17 record-keeping of expected Nucor next-day load sufficient to precisely identify, isolate, and  
18 remove the effects of load imbalances from the FAC.

19          A.     No. The responses to Staff data requests provided by EMW in Case No.  
20 ER-2022-0130 to date have not included the expected hourly loads of Nucor for the review

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<sup>52</sup> EMW response to Staff data requests 249, 249.1, 249.3, 249.4 in Case No. ER-2022-0130.

<sup>53</sup> EMW response to Staff data request 249.5 in Case No. ER-2022-0130.

<sup>54</sup> EMW response to Staff data request 249.4 in Case No. ER-2022-0130.

<sup>55</sup> Pages 5-7 of the rebuttal testimony of John R. Carlson in Case No. ER-2022-0130.

1 period and indicate that Evergy has not established expected Nucor loads.<sup>56</sup> EMW's assumption  
2 that \*\* [REDACTED] \*\* should  
3 be rejected.

4 Q. Is it reasonable to assume that that the level of costs attributed to Nucor load  
5 imbalances will be consistent?

6 A. No. Given the level of volatility of the factors that impact the costs of  
7 load imbalances,<sup>57</sup> it is important to consider the specifics of a given review period to  
8 determine the cost impacts. This is highlighted by the difference in Staff's estimated cost  
9 of unexpected operational events between the update period and the true-up period in  
10 Case No. ER-2022-0130. It is also important to note that the cost impact estimates that  
11 Staff included in Case No. ER-2022-0130 include off-setting cost savings. Those periods  
12 of costs savings are included due to the uncertainty of the hourly expected Nucor loads to  
13 quantify a conservative estimate of the cost impacts. The order of magnitude of an  
14 appropriate adjustment in future cases is likely to change depending on the differences in the  
15 SPP LMPs (DA and RT) and the amount of load included in EMW's SPP DA commitments for  
16 Nucor load compared to the actual operations of Nucor.

17 Q. Mr. Lutz alludes to \*\* [REDACTED]  
18 [REDACTED]  
19 [REDACTED] \*\*<sup>58</sup> do you think that Evergy  
20 would have taken the same approach to "forecasting" Nucor load?

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<sup>56</sup> EMW response to Staff data request 249, 249.1, and 249.3 in Case No. ER-2022-0130.

<sup>57</sup> Nucor load (expected and actual) and SPP LMPs (DA and RT).

<sup>58</sup> Page 6 of the rebuttal testimony of Bradley D. Lutz in Case No. ER-2022-0130.

1           A.       I do not. Absent the \*\* [REDACTED]  
2           [REDACTED] \*\* provided to EMW through the FAC, the financial impacts of these events would  
3           be borne by EMW. \*\* [REDACTED]  
4           [REDACTED]  
5           [REDACTED] \*\* I expect that the potential for  
6           EMW financial losses would have provided a greater incentive to refine the forecasting process  
7           in order to minimize those impacts. \*\* [REDACTED]  
8           [REDACTED] \*\* the process of determining costs necessary to serve Nucor would also be more  
9           transparent and avoid many of the EMW perceived barriers to cost identification.

10          Q.       Does EMW’s current treatment of the costs that are being excluded from the  
11          FAC resolve the issue of load imbalances resulting in additional costs to non-Nucor ratepayers  
12          through the FAC as alluded by Mr. Lutz and Ms. Nunn in their respective rebuttal testimonies  
13          in Case No. ER-2022-0130?

14          A.       No. Ms. Nunn describes the calculation of a purchased power rate to determine  
15          an “all-in hourly rate.”<sup>59</sup> The calculation that Ms. Nunn describes results in an average hourly  
16          cost for all of EMW’s load, multiplied by the hourly Nucor load. This “all-in hourly rate”  
17          accounts for the combined DA and RT costs resulting from the load of all EMW customers, but  
18          the EMW approach does not account for potential cost increases resulting from changes of  
19          actual Nucor load compared to the expected load. These variations in Nucor load can impact  
20          the purchased power costs that flow through the FAC. Absent a transparent method to  
21          determine the financial impacts of those load variations and removal of those costs from the  
22          FAC, non-Nucor ratepayers may have to bear those costs through higher fuel and purchased

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<sup>59</sup> Page 32 of the rebuttal testimony of Linda J. Nunn in Case No. ER-2022-0130.

1 power expenses experienced by EMW to cover the load imbalance.<sup>60</sup> In order to identify the  
2 correct costs, EMW needs to keep records of the expected hourly loads of Nucor included in  
3 the EMW SPP DA commitments.

4 Q. What is the main conclusion that should be drawn from Mr. Carlson's discussion  
5 included in his rebuttal testimony in Case No. ER-2022-0130 regarding the load forecasting for  
6 SPP DA commitments, his statement that Nucor load was excluded from the forecast model  
7 prior to March 1, 2021, and his analysis that indicates that including Nucor's usage from the  
8 prior year as a proxy "expected" usage resulted in a benefit to non-Nucor ratepayers?

9 A. First, Mr. Carlson's testimony indicates that Nucor load was excluded from the  
10 EMW SPP DA commitments prior to March 1, 2021. The omission of the expected load of  
11 Nucor from the DA commitments for an entire year is not compliant with the requirements of  
12 Paragraph 7.d. of the Stipulation. Furthermore, the values provided are unadjusted previous  
13 year hourly Nucor loads and should not be accepted as the expected Nucor load included in  
14 the EMW SPP DA commitments. If one were to accept that EMW included the unadjusted  
15 hourly load of Nucor from the previous year as the expected next-day load of Nucor in the  
16 EMW DA commitment as represented in Mr. Carlson's rebuttal workpaper,<sup>61</sup> the logical  
17 conclusion is that EMW knowingly excluded the load impacts of Nucor in the EMW DA  
18 commitments prior to March 1, 2021, then relied upon the previous year's hourly Nucor load  
19 data that EMW witnesses indicated are not a reliable indication of operational expectations.<sup>62</sup>  
20 The result of that conclusion is that the "expected load" has been consistently understated

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<sup>60</sup> All else being equal.

<sup>61</sup> I previously explained that this is not an accurate representation based upon the additional historically weighted EMW load as well as multiple other factors that Mr. Carlson mentions being included in the forecasting model.

<sup>62</sup> Pages 3 and 4 of the rebuttal testimony of Bradley D. Lutz and page 7 of the rebuttal testimony of John R. Carlson in Case No. ER-2022-0130.

1 since Nucor service began under Schedule SIL. If that were the case, EMW would need to  
2 have identified and removed the cost impacts from those load imbalances. Evergy did not  
3 identify any load imbalance events or quantify the effects of those imbalances in Case  
4 No. ER-2022-0130 or any FAC filing that I am aware of due, at least in part, to the assumption  
5 that customer balancing events did not occur so long as Nucor operated within the

6 \*\* [REDACTED] \*\*. <sup>63</sup>

7 Q. Are DA and RT load imbalances independent of the DA LMP and RT LMP at  
8 the EMW load node?

9 A. Yes.

10 Q. Mr. Carlson indicated in his rebuttal testimony in Case No. ER-2022-0130 that  
11 average RT LMPs were lower than DA LMPs for the EMW load node in calendar year 2021. <sup>64</sup>  
12 Are DA LMPs always higher than RT LMPs on an hourly basis?

13 A. No. RT LMPs regularly exceed DA LMPs at the EMW load node. If RT LMPs  
14 exceed the DA LMPs and the expected Nucor load included in EMW's SPP DA commitments  
15 are unreasonable low, substantial costs would be incurred due to the load imbalance. Even if  
16 the average DA LMP exceeds the average RT LMP for a given period, load imbalances can  
17 cause large cost increases in a short time period. <sup>65</sup> Absent those events being identified and the  
18 costs removed from the FAC, non-Nucor ratepayers would be harmed.

19 Q. What could occur if EMW is consistently underestimating the expected load of  
20 Nucor included in the SPP DA commitments while simultaneously operating under the

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<sup>63</sup> EMW response to Staff data request 0249 in Case No. ER-2022-0130.

<sup>64</sup> Page 7 of the rebuttal testimony of John R. Carlson in Case No. ER-2022-0130.

<sup>65</sup> The workpaper provided in support of my direct testimony in Case No. ER-2022-0130 indicated several cost increases greater than \$50,000 for a single hour of load imbalance.

1 assumption that EMW need not identify, quantify, and remove the cost impacts of load  
2 imbalances so long as Nucor operates within the “normal operating conditions?”

3 A. EMW would be subjecting all non-Nucor ratepayers to potentially substantial  
4 risks. Staff recommends that the Commission require EMW to keep records of the Nucor load  
5 expectations included in the EMW DA commitments as envisioned by the Stipulation and  
6 Staff’s recommended recordkeeping requirements.

7 Q. Should EMW be allowed to continue to evade the non-Nucor ratepayer  
8 protections of paragraph 7.d. of the Stipulation by avoiding identification and quantification  
9 of cost impacts of load imbalances so long as Nucor operations remain within the  
10 \*\* [REDACTED] \*\*?

11 A. No.

12 Q. Why are the Staff recommended record-keeping requirements necessary on a  
13 going-forward basis?

14 A. Since EMW has failed to identify and quantify any unexpected operational  
15 events<sup>66</sup> to date due to unreasonable \*\* [REDACTED] \*\* assumptions, other parties need  
16 additional information in order to precisely estimate the impacts of Nucor DA and RT load  
17 imbalances. Absent the Commission requiring EMW to perform the record-keeping necessary  
18 to quantify the cost impact of load imbalances, and allowing the Company to continue to avoid  
19 identification and removal of costs incurred due to load imbalances, will render the non-Nucor  
20 ratepayer protection provided by paragraph 7.d essentially useless. To increase transparency  
21 and enable other parties to reasonably estimate the impacts of DA and RT load imbalances in

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<sup>66</sup> As required by paragraph 7.d. of the Stipulation.



1 future cases, Staff recommends that the Commission order the reporting requirements provided  
2 in my testimony on pages 5 and 6.

3 Q. Please provide a brief overview of the issue of quantification and removal of  
4 Customer Event Balancing costs.

5 A. The implementation of the process to determine the effects of the Customer  
6 Event Balancing costs sounds complicated, but the issue and the resolution are fairly  
7 simple. EMW agreed to hold-harmless provisions in both the Stipulation and Schedule SIL.  
8 One part of holding non-Nucor ratepayers harmless is the identification, mitigation, isolation,  
9 and removal of the costs incurred based on differences in SPP DA LMPs and RT LMPs  
10 coupled with variations in expected Nucor operations and actual Nucor operations. EMW  
11 agreed to the provisions of the Stipulation, which included provisions that shield non-Nucor  
12 ratepayers from the costs incurred due to Nucor service. Absent active identification,  
13 mitigation, isolation, and removal of these costs from the FAC, non-Nucor ratepayers may  
14 end up subsidizing these costs. EMW's interpretation and implementation of the provisions  
15 included in Paragraph 7.d. has resulted in EMW evading the intent of the agreement, because

16 \*\* [REDACTED]

17 [REDACTED]

18 [REDACTED] \*\*<sup>67</sup> This practice ignores the cost consequences of the variations  
19 in Nucor load, shifts those cost consequences onto non-Nucor ratepayers through the FAC, and  
20 shields EMW's shareholders from the agreed upon non-Nucor ratepayer protections envisioned  
21 by the Stipulation and Schedule SIL. To the extent that EMW has not included Nucor load or

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<sup>67</sup> EMW response to Staff Data Request No. 0249.4 in Case No. ER-2022-0130.

1 not identified the finite expected hourly load of Nucor included in the SPP DA commitments,  
2 EMW has not complied with Paragraph 7.d. of the Stipulation. EMW has not provided Staff  
3 with the expected Nucor load included in the SPP DA commitments to date.

4 **COST IMPACT OF CUSTOMER EVENT BALANCING**

5 Q. Has Staff been able to precisely quantify the cost impacts of the Schedule SIL  
6 load imbalances based on EMW's SPP day-ahead and real-time markets?

7 A. No.

8 Q. What does Staff need to make a precise quantification of the cost impacts?

9 A. Staff needed the expected Nucor load that was included in EMW's SPP  
10 Day-Ahead commitments. As explained throughout this testimony, EMW has not provided  
11 this data.

12 Q. Even without this required information, has Staff estimated the cost impacts?

13 A. Yes.

14 Q. Please describe the method that Staff used to calculate its estimate cost impacts.

15 A. Due to the lack of hourly expected Nucor loads being provided by EMW,  
16 I utilized set-point loads, or proxy expected load of Nucor to estimate the impact of the  
17 Schedule SIL load imbalances for several reasons. I want to reemphasize that this estimation  
18 is not how I would have expected to account for the impacts of Nucor's load when estimating  
19 the ratepayer harm. Because EMW \*\* [REDACTED] \*\*  
20 the Company did not identify any "unexpected operational events," which would result in a  
21 quantification of costs to be adjusted from FAC costs. EMW also did not provide Staff  
22 with finite hourly-expected loads for Nucor, which are necessary to determine a more precise  
23 cost impact.

1 Q. What is the range of costs due to the load imbalances based upon the various  
2 proxy expected loads that you analyzed for the period of March 1, 2020, through May 31, 2022?

3 A. Table 1 below provides a summary of the cost impacts and number of hours that  
4 unexpected operational events<sup>68</sup> occurred for the aforementioned period. Column C indicates  
5 the sum of the costs and potential cost savings over the period based on the various proxy load  
6 assumptions. Column D indicates the sum of only cost increases over the period based on the  
7 various proxy load assumptions.

8 Table 1<sup>\*\*69</sup>



9 \*\*

10 Q. Why did you utilize set-points, or proxy expected loads of Nucor to estimate the  
11 Customer Event Balancing costs included in Staff's revenue requirement adjustment?

12 A. Paragraph 7.d. requires EMW to "identify additional SPP related costs resulting  
13 from unexpected operational events" and "incorporate the effect attributed to Nucor into the  
14 tracking of Nucor costs." Absent the data necessary to quantify a more accurate estimate,  
15 I utilized \*\* [REDACTED] \*\*. The cost analysis that I provided in this  
16 estimation also accounts for periods of cost savings that serve as offsets to costs incurred during

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<sup>68</sup> Load imbalance that varies from the expected load by 25% for more than four hours.

<sup>69</sup> The values included in Table 1 include the month of February 2021. The issue of the recovery of costs associated with the load imbalances that were incurred during the month of February 2021 have been resolved between Staff and EMW based upon the non-unanimous Stipulation and Agreement that was filed on August 1, 2022 in Case No. EF-2022-0155. Through this testimony, Staff is not proposing to include those balances in a disallowance or adjustment, but providing the estimated cost impacts based upon the data available.

1 the hypothetical “unexpected operational events”. Given the inability to provide an estimation  
2 of costs based upon finite expected hourly loads, I believe the quantification of the imbalance  
3 utilizing the lowest hours of deviation<sup>70</sup> and the inclusion of both the costs and potential cost  
4 savings associated with the events based upon the proxy expected load results in a conservative  
5 estimate of the potential ratepayer harm.

6 Q How did you estimate the Customer Event Balancing costs based upon the  
7 various set-points, or proxy expected loads of Nucor, which were included in Table 1?

8 A. After determining a set-point to compare to actual Nucor RT operations,  
9 I identified the hours in which Nucor operational load was 25% greater than or less than  
10 the various set-points reviewed for periods of four or more hours as envisioned by  
11 Paragraph 7.d. of the Stipulation. For the hours identified, I calculated and summed the  
12 cost impacts (both negative and positive) based on the differences in the hourly SPP RT LMPs  
13 and DA LMPs for the EMW load node and the actual Nucor load compared to the proxy  
14 expected load set-points.<sup>71</sup> Based on the set-points analyzed in support of this testimony, the  
15 Customer Event Balancing costs range from \*\* [REDACTED] \*\* when accounting  
16 for the potential cost savings that may have occurred using the proxy expected loads. When  
17 only considering increased costs, the range is equal to \*\* [REDACTED] \*\*. \*\* It is  
18 important to note that the magnitude of the cost impacts is heavily dependent on the expected  
19 Nucor load included in the SPP day-ahead commitments, the time period reviewed, and the  
20 SPP market settlements during the review period.

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<sup>70</sup> Of those reviewed in my analysis.

<sup>71</sup> The estimation determines the cost in a given hour based on the following formula: (DA LMP \* DA Load) + (RT Load-DA Load)\*RT LMP)-(DA LMP\*RT Load).

1 Q. Did you request the methodology that EMW would utilize to quantify the  
2 balancing relationship between hourly RT and DA prices attributable to Nucor in accordance  
3 with Paragraph 7 of the Stipulation?

4 A. Yes. Staff Data Request No. 0249.2 asked EMW to define this “balancing  
5 relationship” and provide examples of contemplated scenarios that may result in quantification  
6 of such a “balancing relationship.” The methodology utilized to determine the cost impacts of  
7 a given Customer Balancing Event included in Staff’s analysis is substantially similar to the  
8 methodology provided by EMW in response to that data request.

9 **CAPACITY COSTS**

10 Q. What specific provisions of Paragraph 7.b. of the Stipulation are especially  
11 relevant to your recommendations in this testimony?

12 A. Paragraph 7.b. of the Stipulation states in part that:

13 b. GMO will identify and isolate supply costs attributable to Nucor.  
14 At this time these costs are expected to consist of:

15 i. energy as obtained through the SPP integrated marketplace  
16 including applicable ancillary services and transmission costs, and all  
17 transactions associated with the renewable supply source obtained via a  
18 Power Purchase Agreement (“PPA”).

19 ii. Incremental capacity costs acquired from third parties, including  
20 affiliates, will be determined annually in the assessment of GMO capacity  
21 requirements. The portion of GMO capacity acquired attributable to Nucor  
22 will be separately identified for inclusion in Exhibit 1.

23 Q. Did EMW witnesses discuss the expected cost of capacity to serve Nucor during  
24 the hearing proceedings for Case No. EO-2019-0244?

25 A. Yes. EMW witness Darrin R. Ives testified during the hearing regarding the cost  
26 of capacity to serve Nucor which is to be included in Exhibit 1 of the Stipulation. I have  
27 provided a few excerpts from the transcript of Mr. Ives’ testimony provided during that hearing.

1           “Point being we have priced into the rate for Nucor an expected cost of capacity to serve  
2 them because they are new incremental load to GMO's system.”<sup>72</sup>

3           “So it covers the expected cost of capacity to serve them...”<sup>73</sup>

4           “And then capacity will -- there will be a need to -- to have capacity from resources  
5 other than the single source energy supply wind resource.”<sup>74</sup>

6           Q.     Does EMW need the capacity resulting from this contract to meet SPP resource  
7 adequacy requirements?

8           A.     \*\* [REDACTED]  
9 [REDACTED]

10 [REDACTED]  
11 [REDACTED] <sup>\*\*75</sup> However,

12 according to EMW, \*\* [REDACTED]  
13 [REDACTED] <sup>\*\*76</sup>

14           Q.     Was the capacity purchase agreement entered into prior to Nucor taking service  
15 from EMW on Schedule SIL?

16           A.     Yes.

17           Q.     Does that matter for purposes of calculating “the portion of [EMW] capacity  
18 acquired attributable to Nucor”<sup>77</sup> within the context of this rate case?

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<sup>72</sup> Page 123 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>73</sup> Page 125 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>74</sup> Page 137 of Transcript – Volume 3 (Evidentiary Hearing) October 17, 2019 in Case No. EO-2019-0244.

<sup>75</sup> EMW response to Staff Data Request No. 0248.2 in Case No. ER-2022-0130.

<sup>76</sup> Ibid.

<sup>77</sup> Paragraph 7.b.ii. of the Stipulation.

1 A. No. The agreement between EMW and \*\* [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]<sup>78</sup>

10 Q. [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 A. [REDACTED]<sup>79</sup>

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]<sup>80</sup> [REDACTED]

20 [REDACTED]

21 [REDACTED]

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<sup>78</sup> \*\* [REDACTED] \*\* is attached to this testimony as Confidential Schedule JL-d3.

<sup>79</sup> EMW response to Staff Data Request No. 0248.2 in Case No. ER-2022-0130.

<sup>80</sup> EMW response to Staff Data Request No. 0248.1 in Case No. ER-2022-0130.

1 [REDACTED]

2 [REDACTED]<sup>81</sup> [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 Q. [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 A. [REDACTED]<sup>82</sup>

11 Q. [REDACTED]

12 [REDACTED]

13 A. [REDACTED]<sup>\*\*83</sup> Said another way, but for the peak demand impact of Nucor operations,

14 EMW could reduce the contractual obligation to purchase capacity \*\* [REDACTED] \*\* The load

15 of Nucor impacts the system peak of EMW and the cost of that incremental capacity is directly

16 attributable to Nucor. Therefore, the incremental costs should be reflected in supply costs

17 attributable to Nucor. Whether the contract was originally entered prior to EMW providing

18 service to Nucor is irrelevant to the cost of service analysis. Absent Nucor's load, the cost of

19 capacity resulting from \*\* [REDACTED]

20 [REDACTED]. \*\*

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<sup>81</sup> EMW response to Staff Data Request No. 0248.2 in Case No. ER-2022-0130.

<sup>82</sup> Ibid.

<sup>83</sup> Ibid.



1 Q. Do any other factors within the Stipulation impact the calculation of the  
2 incremental capacity cost to serve Nucor?

3 A. Yes. As stated in Paragraph 7.b.ii., “The accredited capacity attributable to  
4 Nucor’s share of the PPA, will be netted against the capacity requirements of the Nucor load,  
5 including the SPP reserve margin requirements...” The SPP accredited capacity should serve  
6 as an offset to the incremental capacity cost to serve Nucor.

7 Q. Is the cost of capacity attributable to serve Nucor expected to be a stagnant  
8 annual dollar value going forward?

9 A. No. Changes to Nucor’s peak demand may increase the incremental amount of  
10 capacity \*\* [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED].<sup>84</sup> \*\*

14 **CONCLUSION**

15 Q. Briefly summarize the issue before the Commission regarding record keeping  
16 and future adjustments necessary to fulfill the hold harmless provisions of Schedule SIL and  
17 the Stipulation.

18 A. The issue before the Commission regarding the implementation of Schedule SIL  
19 and the Stipulation is relatively straightforward. EMW agreed to “make an additional revenue  
20 adjustment covering the shortfall to the revenue requirement calculation through the true-up  
21 period, to ensure that non-Nucor GMO customers will be held harmless from such effects from

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<sup>84</sup> This means that the costs included in this direct filing includes the \*\* [REDACTED]  
[REDACTED] \*\* months ending December 31, 2021.

1 the Nucor service. In no event shall any revenue deficiency (that is, a greater amount of Nucor  
2 incremental costs compared to Nucor revenues) be reflected in GMO's cost of service in each  
3 general rate proceeding for the duration of Nucor service during the terms of the contract  
4 between GMO and Nucor."<sup>85</sup> However, EMW has not identified the costs caused by load  
5 imbalances attributable to Schedule SIL service in the SPP DA and RT markets. EMW's lack  
6 of record-keeping of the hourly expected loads included in the EMW SPP DA commitments  
7 attributable to Schedule SIL service has made the calculation of the cost impacts of load  
8 imbalances unnecessarily opaque.

9 Q. How does Staff recommend the Commission resolve the issues raised in this  
10 direct testimony?

11 A. Staff recommends that the Commission order EMW to:

- 12 1. Accurately account for the cost of capacity necessary to serve the entirety of  
13 Nucor's peak demand in all future Cost and Revenue tracking reports in  
14 accordance with Paragraph 7 of the Agreement;
- 15 2. Establish and maintain consistent communication with Nucor to understand  
16 what impacts the expected operations at the plant will have on Southwest Power  
17 Pool ("SPP") purchased power expenses in order to facilitate accurate records;
- 18 3. Keep records of the finite expected hourly load of Nucor's next day operations  
19 as reflected in the EMW day-ahead ("DA") commitments in the event an  
20 adjustment in accordance with Paragraph 7.d. of the Stipulation is necessary in  
21 a future case;
- 22 4. Identify additional SPP-related costs resulting from unexpected operational  
23 events that meet the criteria set forth in paragraph 7.d. of the Stipulation;

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<sup>85</sup> Paragraph 8 of the Stipulation.

- 1           5. Quantify the balancing relationship between the hourly and DA prices to identify  
2           the effect of unplanned load changes that are not included in EMW's SPP DA  
3           commitments to apportion any additional SPP balancing charges;
- 4           6. Incorporate the effect of DA and real-time ("RT") imbalances attributed to  
5           differences between actual Nucor operations and expected Nucor operations  
6           included in EMW's SPP DA commitments into the tracking of Nucor costs; and
- 7           7. Audit EMW's provision of service to Nucor from its inception to date to  
8           accurately determine the costs, if any, improperly borne by non-Nucor  
9           ratepayers and allocate those identified costs to EMW's shareholders.
- 10          Q.    Does this conclude your direct testimony for this case?
- 11          A.    Yes.



**Case Participation of  
J Luebbert**

<b>Case Number</b>	<b>Company</b>	<b>Issues</b>
EO-2015-0055	Ameren Missouri	Evaluation, Measurement, and Verification
EO-2016-0223	Empire District Electric Company	Integrated Resource Planning Requirements
EO-2016-0228	Ameren Missouri	Utilization of Generation Capacity, Plant Outages, and Demand Response Program
ER-2016-0179	Ameren Missouri	Heat Rate Testing
ER-2016-0285	Kansas City Power & Light Company	Heat Rate Testing
EO-2017-0065	Empire District Electric Company	Utilization of Generation Capacity and Station Outages
EO-2017-0231	Kansas City Power & Light Company	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2017-0232	KCP&L Greater Missouri Operations Company	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2018-0038	Ameren Missouri	Integrated Resource Planning Requirements
EO-2018-0067	Ameren Missouri	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2018-0211	Ameren Missouri	Avoided Costs and Demand Response Programs
EA-2019-0010	Empire District Electric Company	Market Protection Provision
GO-2019-0115	Spire East	Policy
GO-2019-0116	Spire West	Policy
EO-2019-0132	Kansas City Power & Light Company	Avoided Cost, SPP resource adequacy requirements, and Demand Response Programs

<b>Case Number</b>	<b>Company</b>	<b>Issues</b>
ER-2019-0335	Ameren Missouri	Unregulated Competition Waivers and Class Cost Of Service
ER-2019-0374	Empire District Electric Company	SPP resource adequacy
EO-2020-0227	Evergy Missouri Metro	Demand Response programs
EO-2020-0228	Evergy Missouri West	Demand Response programs
EO-2020-0262	Evergy Missouri Metro	Demand Response programs
EO-2020-0263	Evergy Missouri West	Demand Response programs
EO-2020-0280	Evergy Missouri Metro	Integrated Resource Planning Requirements
EO-2020-0281	Evergy Missouri West	Integrated Resource Planning Requirements
EO-2021-0021	Ameren Missouri	Integrated Resource Planning Requirements
EO-2021-0032	Evergy	Renewable Generation and Retirements
GR-2021-0108	Spire Missouri	Metering and Combined Heat and Power
ET-2021-0151	Evergy	Capacity costs
ER-2021-0240	Ameren Missouri	Market Prices, Construction Audit, Smart Energy Plan, AMI
ER-2021-0312	Empire District Electric Company	Construction Audit, Market Price Protection, PISA Reporting
EO-2022-0193	Empire District Electric Company	Retirement of Asbury

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of the Application of )  
KCP&L Greater Missouri Operations Company )  
For Approval of a Special Rate for a Facility ) File No. EO-2019-0244  
Whose Primary Industry is the Production or )  
Fabrication of Steel in or Around Sedalia, Missouri. )

**NON-UNANIMOUS STIPULATION AND AGREEMENT**

COME NOW KCP&L Greater Missouri Operations Company (“GMO” or “Company”), the Staff (“Staff”) for the Missouri Public Service Commission (“Commission”), Nucor Steel Sedalia, LLC (“Nucor”), (collectively, “Signatories”) by and through their respective counsel, and for their Non-Unanimous Stipulation and Agreement (“Stipulation”), respectfully state to the Commission:

**BACKGROUND**

1. On July 12, 2019, GMO filed its Application requesting Commission authority for a special incremental load rate for a steel production facility in Sedalia, Missouri, along with direct testimony in support.
2. On July 22, 2019, Midwest Energy Consumers Group (“MECG”) intervened.
3. On July 31, 2019, Nucor Steel Sedalia, LLC (“Nucor”) intervened.
4. The Signatories agree to the following terms and conditions regarding the Application and the approval of the special incremental load rate.

**AGREEMENTS**

5. **Contract** – The Signatories agree that the Commission should approve the Contract between GMO and Nucor, attached to the Direct Testimony of Darrin Ives as Confidential Schedule DRI-2.

6. **Special Incremental Load Tariff** – The Signatories agree that the Special Incremental Load (“SIL”) tariff attached to the Direct testimony of Darrin Ives as DRI-2, as modified and attached as Exhibit 4 to this Stipulation, should be approved by the Commission and become effective no later than January 1, 2020. Service under the SIL tariff has a term of no greater than 10 years. If an extension to the service of Nucor pursuant to the SIL tariff is not approved by the Commission, the Company will request Commission approval to serve all of GMO’s retail customers with the associated wind energy used to serve Nucor and for the related costs for that wind to be recovered by the Company through its Fuel Adjustment Clause, or sell the associated wind energy to a customer or customers who wish to purchase the renewable energy resource directly. This agreement is not evidence of the prudence of GMO’s or an affiliate’s entry into any PPA.

7. **Cost and Revenue Tracking** – GMO will monitor and report to Staff and OPC whether the revenues received under the special contract rate cover the incremental cost of providing service to Nucor. This reporting will be submitted quarterly for the first year following the effective date of the SIL tariff and the associated contract with Nucor, bi-annually for the second and third year, and annually thereafter. The Company will solicit feedback from Staff and the Office of Public Counsel up to and including meetings to evaluate and assess the content of the reports and any changes that may be needed to Exhibit 1 as a result of that feedback. The reporting will be submitted within 15 days after each of Evergy’s SEC 10-Q or 10-K filings are made and will detail Nucor-related transactions on a rolling twelve-month basis. GMO will uniquely identify and track for reporting and general rate case purposes all incremental costs



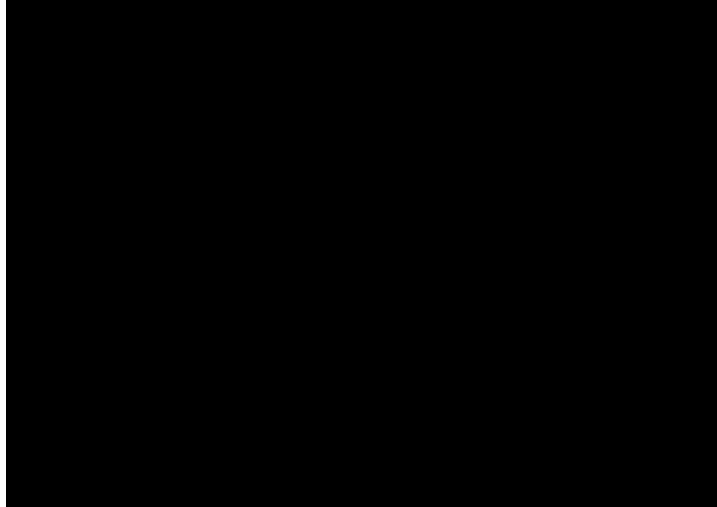
associated with serving Nucor<sup>1</sup>. An example of the anticipated reporting format is provided in Exhibit 1 to this Stipulation.

- a. GMO will identify and isolate the plant costs to provide service to Nucor.
- b. GMO will identify and isolate supply costs attributable to Nucor. At this time these costs are expected to consist of:
  - i. energy as obtained through the SPP integrated marketplace including applicable ancillary services and transmission costs, and all transactions associated with the renewable supply source obtained via a Power Purchase Agreement (“PPA”).
  - ii. Incremental capacity costs acquired from third parties, including affiliates, will be determined annually in the assessment of GMO capacity requirements. The portion of GMO capacity acquired attributable to Nucor will be separately identified for inclusion in Exhibit 1. Similarly, if GMO constructs or acquires capacity during the term of the contract rather than purchasing capacity, or otherwise modifies its capacity source, capacity costs to Nucor will be calculated annually using prices as follows and be separately identified for inclusion in Exhibit 1. The accredited capacity attributable to Nucor’s share of the PPA, will be netted against the capacity requirements of the Nucor load, including the SPP reserve margin requirements, prior to pricing as described above for inclusion in Exhibit 1.

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<sup>1</sup> As provided for in Exhibit 1.

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- c. GMO will modify its Fuel Adjustment Clause (“FAC”) accounting to ensure Nucor-related costs are not included in the FAC charge recovered from other customers. Exhibit 2 to this Stipulation details the expected modifications, including:
- i. **Power Purchase Agreement Cost** – Costs to follow conventional PPA accounting, with Nucor portion tracked separately from other PPA transactions completed by the Company. Costs to be recorded to a SIL-specific 555 subaccount and identifiable to Nucor. These costs will be specifically identified in the FAC monthly reports submitted to the Commission.
  - ii. **Production Market Cost** – Revenue from the sale of the energy from the PPA will be tracked in a separate SIL-specific 447 subaccount and identifiable to Nucor. These revenues will be specifically identified in the FAC monthly reports submitted to the Commission. The net effect of the sale of PPA purchase and the

Nucor load are to be recorded within the SIL-specific 447 and 555 subaccounts and identifiable to Nucor.

- iii. **Transmission Market Cost** – If occurring, costs would accompany the associated Southwest Power Pool (“SPP”) sale or purchase transactions and are to be recorded within SIL-specific 561, 565, and 575 subaccounts and identifiable to Nucor and created for the purpose of tracking these costs. These costs will be specifically identified in the FAC monthly reports submitted to the Commission.

Load purchased for Nucor will be calculated at the five minute level, aggregated to the hour as demonstrated in Exhibit 3. Based upon GMO load node locational marginal price.

- d. GMO will monitor Nucor operations and will identify additional SPP-related costs resulting from unexpected operational events. If actual Nucor load experiences a 25% deviation from the expected Nucor load for more than 4 hours and that load change is not reflected in the GMO day-ahead commitments, GMO will quantify the balancing relationship between the hourly and day-ahead prices to identify the effect of the unplanned load change to apportion any additional SPP balancing charges and will incorporate the effect attributed to Nucor into the tracking of Nucor costs. If the effect of this relationship increases costs to non-Nucor customers, the amount will be reflected in a subsequent FAC rate change filing and the portion attributed to Nucor will be identified with supporting work papers

and removed from the Actual Net Energy Cost prior to the calculation of the FAC rates.

For any incremental Nucor costs not specifically listed in Exhibit 1, including GMO internal costs attributable to Nucor, the costs will be uniquely recorded after they are incurred consistent with the cause of the cost and identified as contingency cost category within Exhibit 1.

8. **Ratemaking Treatment** – At the time of a general rate proceeding the portion of GMO’s revenue requirement associated with the incremental costs net of PPA net revenues to serve Nucor consistent with Exhibit 1 shall be assigned to Nucor. Nucor’s rate revenues shall be reflected in GMO’s net revenue requirement. If Nucor’s revenues do not exceed Nucor’s costs as reflected in the revenue requirement calculation through the true-up period, GMO will make an additional revenue adjustment covering the shortfall to the revenue requirement calculation through the true-up period, to ensure that non-Nucor GMO customers will be held harmless from such effects from the Nucor service. In no event shall any revenue deficiency (that is, a greater amount of Nucor incremental costs compared to Nucor revenues) be reflected in GMO’s cost of service in each general rate proceeding for the duration of Nucor service during the terms of the contract between GMO and Nucor (Confidential Schedule DRI-2 of GMO witness Darrin Ives).

9. **Section 393.1655 RSMo. treatment** – The Signatories agree that because Nucor’s rate will be fixed for ten years and because the incremental cost to serve Nucor will be excluded from the revenue requirement of other customers: (1) Nucor’s average rate and kilowatt hours usage shall not be included in the rate limitation calculations performed under section 393.1655 RSMo.; (2) Nucor’s rate shall not be affected by the rate limitation provisions of 393.1655

RSMo.; and (3) Nucor shall not be considered to be, in whole or in part, a member of GMO's large power service rate class under section 393.1655.7(4) RSMo.

10. **Operational Communications** – Under the terms of the contract between GMO and Nucor (Confidential Schedule DRI-2), Nucor is obligated to notify GMO of planned outages, including maintenance outages, to a designated representative (section 4.3). Nucor is also obligated under the contract to notify GMO of any changes or additions of equipment or operations that would result in a material changes to the Nucor facility's peak demand that could impact GMO's transmission system (section 4.4). GMO has designated and will retain for the duration of service to Nucor a Customer Solutions Manager to Nucor to receive these notices. Nucor commits to providing the above notifications and coordinating with GMO to execute planned outages to minimize the impact on the GMO system.

11. **Future Commission proceedings** – Neither the Commission, Staff, OPC nor any other party shall be prejudiced, bound by, or in any way limited in litigating the allocation, tracking, or treatment of costs or revenues associated with serving Nucor under this Stipulation and Agreement in future FAC filings and general rate proceedings before the Commission. See section 13 in General Provisions below.

### **GENERAL PROVISIONS**

12. Contingent upon Commission approval of this Stipulation without modification, the Signatories hereby stipulate to the admission into the evidentiary record of the testimony of their witnesses, and the witnesses of the parties who do not oppose this Stipulation, on the issues that are resolved by this Stipulation.

13. This Stipulation is being entered into solely for the purpose of settling the issues/adjustments in this case explicitly set forth above. Unless otherwise explicitly provided

herein, none of the Signatories to this Stipulation shall be deemed to have approved or acquiesced in any ratemaking or procedural principle, including, without limitation, any cost of service methodology or determination, method of cost determination or cost allocation or revenue-related methodology.

14. This Stipulation is a negotiated settlement. Except as specified herein, the Signatories to this Stipulation shall not be prejudiced, bound by, or in any way affected by the terms of this Stipulation: (a) in any future proceeding; (b) in any proceeding currently pending under a separate docket; and/or (c) in this proceeding should the Commission decide not to approve this Stipulation, or in any way condition its approval of same. No Signatory shall assert the terms of this agreement as a precedent in any future proceeding.

15. This Stipulation has resulted from extensive negotiations among the Signatories, and the terms hereof are interdependent. If the Commission does not approve this Stipulation unconditionally and without modification, then this Stipulation shall be void and no Signatory shall be bound by any of the agreements or provisions hereof.

16. This Stipulation embodies the entirety of the agreements between the Signatories in this case on the issues addressed herein, and may be modified by the Signatories only by a written amendment executed by all of the Signatories.

17. If approved and adopted by the Commission, this Stipulation shall constitute a binding agreement among the Signatories. The Signatories shall cooperate in defending the validity and enforceability of this Stipulation and the operation of this Stipulation according to its terms.

18. If the Commission does not approve this Stipulation without condition or modification, and notwithstanding the provision herein that it shall become void, (1) neither this

Stipulation nor any matters associated with its consideration by the Commission shall be considered or argued to be a waiver of the rights that any Signatory has for a decision in accordance with RSMo. §536.080 or Article V, Section 18 of the Missouri Constitution, and (2) the Signatories shall retain all procedural and due process rights as fully as though this Stipulation had not been presented for approval, and any suggestions, memoranda, testimony, or exhibits that have been offered or received in support of this Stipulation shall become privileged as reflecting the substantive content of settlement discussions and shall be stricken from and not be considered as part of the administrative or evidentiary record before the Commission for any purpose whatsoever.

19. If the Commission accepts the specific terms of this Stipulation without condition or modification, only as to the issues in these cases explicitly set forth above, the Signatories each waive their respective rights to present oral argument and written briefs pursuant to RSMo. §536.080.1, their respective rights to the reading of the transcript by the Commission pursuant to §536.080.2, their respective rights to seek rehearing pursuant to §536.500, and their respective rights to judicial review pursuant to §386.510. This waiver applies only to a Commission order approving this Stipulation without condition or modification issued in this proceeding and only to the issues that are resolved hereby. It does not apply to any matters raised in any prior or subsequent Commission proceeding nor any matters not explicitly addressed by this Stipulation.

**WHEREFORE**, the Signatories respectfully request the Commission to issue an order in this case approving the Stipulation subject to the specific terms and conditions contained therein.

Respectfully submitted,

*/s/ Roger W. Steiner*

Robert J. Hack, #36496  
Roger W. Steiner, #39586  
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[rob.hack@evergy.com](mailto:rob.hack@evergy.com)  
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*/s/ Nicole Mers*

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MISSOURI OPERATIONS COMPANY**

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*/s/ Stephanie S. Bell*

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**ATTORNEYS FOR NUCOR STEEL  
SEDALIA, LLC**



**CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing have been mailed, hand-delivered, transmitted by facsimile or electronically mailed to all counsel of record this 19<sup>th</sup> day of September 2019.

*/s/ Roger W. Steiner*

\_\_\_\_\_  
Roger W. Steiner

Exhibit 1

Evergy Missouri West				
NUCOR				
Tracking Report				
Period Ending March 31, 2020				
<b>CONFIDENTIAL</b>				
<u>Rate Base:</u>				
Plant in Service	End of Period	XX,XXX,XXX		
Less: Reserve for Depreciation	End of Period	X,XXX		
Net Plant in Service			XX,XXX,XXX	
Less:				
Accumulated Deferred Income Taxes	End of Period		XX,XXX	
NUCOR Rate Base			XX,XXX	
Current Month Rate of Return			X.XX%	
Rate of Return on Rate Base				XX,XXX
<u>Net Cost of Service:</u>				
	Rolling 12 Months			
Purchased Power			XXX,XXX	
Customer Event Balancing			XX,XXX	
Other Sales for Resale			(XXX,XXX)	
Transmission Costs			XX,XXX	
Net Capacity Costs			XX,XXX	
Administration Costs			X,XXX	
Other Contingency Costs:				
REC Fees			XXX	
Maintenance/Other O&M			XXX	
Depreciation			XXX	
X			XXX	
Y			XXX	
Z			XXX	
Net Cost of Service				XXX,XXX
Total Cost - NUCOR				XXX,XXX
NUCOR Revenue				(XXX,XXX)
(Over)/Under Recovered				XXX,XXX
<b>Overall Cost of Capital (Evergy Missouri West)</b>				
	Amount ('\$ in 000's)	Percent	Cost	Weighted Cost
Long Term Debt	X,XXX,XXX	XX.XX%	X.XX%	X.XX%
Common Equity	X,XXX,XXX	XX.XX%	9.50%	X.XX%
Total Overall Capital	X,XXX,XXX	100.00%		X.XX%
<p>Note: The indicated ROE value of 9.50% will be fixed until GMO's next general rate case. All other amounts will represent GMO's actual costs associated with service to Nucor.</p>				

## Exhibit 2

Kansas City Power & Light Company - GMO			
FAC Calculation			
Before Wind Farm			
All numbers are hypothetical for illustration purposes only			
Account	GMO		
Total Production Fuel (Fuel Operations)	7,341,235.78		
Less: Fuel Handling	332,128.39		
Less: 557100	2,591,314.70		
Less: Labor Residuals 501420	-		
Less: Labor in Residuals 501400	1,076.52		
Less: Steam Operations 501700 (501730-501734)	568,940.68		
Less: Natural Gas Demand 501000 RES 6025 (501228)	17,943.06		
Less: Natural Gas Demand 547027	285,842.34		
Less: Landfill Gas 547000 RES 6036	-		
Less: Unit Train BIT 501000 RES 6003 (501028)	-		
Less: Unit Train PRB 501000 RES 6008 (501029)	71,919.20		
Less: Book 11 Fuel 501033	-		
Less: RECs 509000 RES 6070 (509500)	-		
Plus: RECs sold 509000 RES 6174 (509500)	-		
Less: Book 11 Fuel 547033	-		
<b>Total Fuel and Emissions (FC + EC)</b>	<b>3,472,070.89</b>		
Total Purchased Power	12,132,424.20		
Less: Purchased Power -Nucor	487,667.11		
Less: Capacity 555005	2,578.13		
Plus: Short Term Capacity (Query)	-		
Less: Book 11 555032	-		
<b>Total Purchased Power (PP)</b>	<b>11,642,178.96</b>		
Total Transmission (565)	2,796,351.19		
Less: Historical Z2 (Query)	-		
Less: Non-recoverable SPP schedules	-		
Less: Crossroads (Query)	777,654.84		
Less: 52.80% of SPP Transmission	1,016,554.41		
<b>Total Transmission (TC)</b>	<b>1,002,141.94</b>		
		SPP Transmission (Query)	1,978,923.08
		Less: Transmission -Nucor	53,630.64
		Eligible SPP Transmission	1,925,292.44
		47.20% of SPP Transmission	908,738.03
<b>Total Wholesale Sales</b>	(2,036,337.39)		
Other Sales for Resale-Nucor	-		
Other Sales for Resale-Municipals 447103	(68,857.76)		
Other Sales for Resale-Private Utilities 447101	(921.53)		
Less: Book 11 Sales 447031	-		
Less: Book 11 Sales 447032	-		
Less: Book 11 Sales 447034	-		
<b>Total Off System Sales Revenue (OSSR)</b>	<b>(1,966,558.10)</b>		
<b>TEC (FC+EC+PP-OSSR)</b>	<b>14,149,833.69</b>		
Retail Sales	596,523,014.03		
Other Sales for Resale-Municipals	1,147,431.00		
Sales -Nucor	(20,311,000.00)		
Other Sales for Resale-Border	37,288.02		
Estimated Losses	40,326,288.56		
Est. Losses - Prior Period Corr.	(4,379,103.00)		
Unaccounted for kWh	-		
Used by Company	1,377,081.00		
<b>kWh Net System Input</b>	<b>614,720,999.61</b>		
Base Energy Cost	0.0224		
<b>Total Base Energy Cost</b>	<b>13,769,750.39</b>		
(TEC - B)	380,083.30		
(TEC - B) * 5%	19,004.17		
(TEC - B) * 95%	361,079.14		
Revenue Mwh	596,523,014.03		
Residential	215,695,533.01	0.37	
Commercial	219,250,635.14	0.38	
Industrial (less Nucor)	139,549,922.56	0.24	
Streightights	1,715,923.32	0.00	Industrial 159,860,922.56
Govt-Other	-	-	Nucor 20,311,000.00
Total CIS+	576,212,014.03		
Municipals	1,147,431.00	0.00	
Total	577,359,445.03	1.00	
Residential	134,895.45		
Commercial	137,118.79		
Industrial	87,274.17		
Streightights	1,073.13		
Govt-Other	-		
Total CIS+	360,361.54		
Municipals	717.80		
Total	361,079.14		

## Exhibit 2 (continued)

Kansas City Power & Light Company - GMO			
FAC Calculation			
After Wind Farm			
All numbers are hypothetical for illustration purposes only			
Account	GMO		
Total Production Fuel (Fuel Operations)	7,341,235.78		
Less: Fuel Handling	332,128.39		
Less: 557100	2,591,314.70		
Less: Labor Residuals 501420	-		
Less: Labor in Residuals 501400	1,076.52		
Less: Steam Operations 501700 (501730-501734)	568,940.68		
Less: Natural Gas Demand 501000 RES 6025 (501228)	17,943.06		
Less: Natural Gas Demand 547027	285,842.34		
Less: Landfill Gas 547000 RES 6036	-		
Less: Unit Train BIT 501000 RES 6003 (501028)	-		
Less: Unit Train PRB 501000 RES 6008 (501029)	71,919.20		
Less: Book 11 Fuel 501033	-		
Less: RECs 509000 RES 6070 (509500)	-		
Plus: RECs sold 509000 RES 6174 (509500)	-		
Less: Book 11 Fuel 547033	-		
<b>Total Fuel and Emissions (FC + EC)</b>	<b>3,472,070.89</b>		
Total Purchased Power	11,930,945.92		
Less: Purchased Power -Nucor	286,188.83		
Less: Capacity 555005	2,578.13		
Plus: Short Term Capacity (Query)	-		
Less: Book 11 555032	-		
<b>Total Purchased Power (PP)</b>	<b>11,642,178.96</b>		
Total Transmission (565)	2,796,351.19		
Less: Historical Z2 (Query)	-		
Less: Non-recoverable SPP schedules	-		
Less: Crossroads (Query)	777,654.84		
Less: 52.80% of SPP Transmission	1,016,554.41		
<b>Total Transmission (TC)</b>	<b>1,002,141.94</b>		
		SPP Transmission (Query)	1,978,923.08
		Less: Transmission -Nucor	53,630.64
		Eligible SPP Transmission	1,925,292.44
		47.20% of SPP Transmission	908,738.03
<b>Total Wholesale Sales</b>	(2,036,337.39)		1,016,554.41
Other Sales for Resale-Nucor	-		
Other Sales for Resale-Municipals 447103	(68,857.76)		
Other Sales for Resale-Private Utilities 447101	(921.53)		
Less: Book 11 Sales 447031	-		
Less: Book 11 Sales 447032	-		
Less: Book 11 Sales 447034	-		
<b>Total Off System Sales Revenue (OSSR)</b>	<b>(1,966,558.10)</b>		
<b>TEC (FC+EC+PP-OSSR)</b>	<b>14,149,833.69</b>		
Retail Sales	596,523,014.03		
Other Sales for Resale-Municipals	1,147,431.00		
Sales -Nucor	(20,311,000.00)		
Other Sales for Resale-Border	37,288.02		
Estimated Losses	40,326,288.56		
Est. Losses - Prior Period Corr.	(4,379,103.00)		
Unaccounted for kWh	-		
Used by Company	1,377,081.00		
<b>kWh Net System Input</b>	<b>614,720,999.61</b>		
Base Energy Cost	0.0224		
<b>Total Base Energy Cost</b>	<b>13,769,750.39</b>		
(TEC - B)	380,083.30		
(TEC - B) * 5%	19,004.17		
(TEC - B) * 95%	361,079.14		
Revenue Mwh	596,523,014.03		
Residential	215,695,533.01	0.37	
Commercial	219,250,635.14	0.38	
Industrial (less Nucor)	139,549,922.56	0.24	
Streetlights	1,715,923.32	0.00	Industrial 159,860,922.56
Govt-Other	-	-	Nucor 20,311,000.00
Total CIS+	576,212,014.03		
Municipals	1,147,431.00	0.00	
Total	577,359,445.03	1.00	
Residential	134,895.45		
Commercial	137,118.79		
Industrial	87,274.17		
Streetlights	1,073.13		
Govt-Other	-		
Total CIS+	360,361.54		
Municipals	717.60		
Total	361,079.14		

## Exhibit 2 (continued)

Scenario A (After Wind Farm)	Scenario B (Before Wind Farm)		
<b>All numbers are hypothetical for illustration purposes only</b>			
<b>Inputs:</b>	<b>Inputs:</b>		
Wind Farm Purchase (MWh) 26,828	Wind Farm Purchase (MWh) 0		
Nucor Load Purchases (MWh) 20,311	Nucor Load Purchases (MWh) 20,311		
Wind Farm Contract Price \$ 16.50	Wind Farm Contract Price \$ 16.50		
GMO Load Purchase Price \$ 24.01	GMO Load Purchase Price \$ 24.01		
Nucor Retail Rate \$ 35.00	Nucor Retail Rate \$ 35.00		
<hr/>			
<b>Hourly Energy Calculations</b>	<b>Hourly Energy Calculations</b>		
<b>Wind Farm Purchase by GMO to Developer</b>			
Wind Farm Purchase (MWh) 26,828	Dr. 555xxx 442,662		
Wind Farm Contract Price \$ 16.50	Cr. 232xxx (442,662)		
\$ 442,662			
<b>GMO sells wind MWH to SPP at load node (BSS)</b>			
SPP BSS Settlement (MWh) (26,828)	Dr. 143xxx 644,140		
Load node Price \$ 24.01	Cr. 447xxx (644,140)		
\$ (644,140)	SPP Netting FERC Order 668		
	Dr. 447xxx 644,140		
	Cr. 555xxx (644,140)		
<b>GMO purchases all Load from SPP (including Nucor)</b>			
Nucor Load Purchases (MWh) 20,311	Dr. 555xxx 487,667		
GMO Purchase Price \$ 24.01	Cr. 232xxx (487,667)		
487,667			
<b>GMO Retail Transactions</b>			
Nucor Load Purchases (MWh) 20,311	Dr. 142xxx 710,885		
Retail Rate \$ 35.00	Cr. 442xxx (710,885)		
\$ 710,885			
<hr/>			
<b>Monthly Calculations</b>	<b>Monthly Calculations</b>		
<b>Example:</b>			
GMO load for May (MWh) 635,032	GMO load for May (MWh) 635,032		
Nucor monthly usage (MWh) 20,311	Nucor monthly usage (MWh) 20,311		
Nucor's Percentage of Load 0.032	Nucor's Percentage of Load 0.032		
GMO monthly load (Mw) 2,179	GMO monthly load (Mw) 2,179		
Nucor monthly load (Mw) 59	Nucor monthly load (Mw) 59		
Nucor's Percentage of Load 0.027	Nucor's Percentage of Load 0.027		
<b>SPP Transmission charges driven by load</b>			
Fee Type	Admin	Sched 11	Sched 12
Fee Amount \$	461,693	\$ 1,974,154	\$ 65,382
Ratio	0.032	0.027	0.032
Nucor Share \$	14,774	\$ 53,500	\$ 1,772
Eligible to include in FAC \$	-	\$ 1,920,654	\$ -
FAC%	47.2%	47.2%	47.2%
Included in FAC \$	-	\$ 906,549	\$ -
			Z2
			4,096
			0.032
			131
			3,965
			47.2%
			1,872
<hr/>		<hr/>	
Wind farm purchase is at GMO load node so no TCRs or ARRs or network service is required.		Wind farm purchase is at GMO load node so no TCRs or ARRs or network service is required.	

Exhibit 3

SPP hourly load purchases					Load purchased for Nucor will be calculated at the 5 minute level, aggregated to the hour per the example below.								
GMO Load Hub													
All numbers are hypothetical for illustration purposes only													
GMO Load Point	Year	Month	Day	HE	DA Load (MWh)	DA LMP (\$/MWh)	DA Charges Load (\$)	RT Meter Load (MWh)	RT LMP (\$/MWh)	RT Charges Load (\$)	RT Load MWh	Load \$	Load \$/MWh
MPS_MPS	2019	May	1	1	713	\$24.97	(\$17,807)	689.7541667	\$18.33	\$448	689.75	\$ 17,358.62	25.166
MPS_MPS	2019	May	1	2	684	\$22.47	(\$15,370)	668.5195833	\$19.84	\$307	668.52	\$ 15,063.71	22.533
MPS_MPS	2019	May	1	3	669	\$22.98	(\$15,374)	655.59425	\$18.62	\$250	655.59	\$ 15,123.86	23.069
MPS_MPS	2019	May	1	4	664	\$23.08	(\$15,326)	657.6149167	\$19.35	\$123	657.61	\$ 15,202.98	23.118
MPS_MPS	2019	May	1	5	680	\$24.59	(\$16,722)	682.0743333	\$19.32	(\$43)	682.07	\$ 16,765.28	24.580
MPS_MPS	2019	May	1	6	733	\$28.55	(\$20,925)	720.4675833	\$44.02	(\$97)	720.47	\$ 21,021.52	29.178
MPS_MPS	2019	May	1	7	814	\$36.38	(\$29,616)	803.52725	\$40.66	\$881	803.53	\$ 28,735.48	35.762
MPS_MPS	2019	May	1	8	857	\$38.84	(\$33,288)	842.016	\$23.55	\$354	842.02	\$ 32,934.08	39.113
MPS_MPS	2019	May	1	9	873	\$41.43	(\$36,169)	844.2758333	\$23.53	\$676	844.28	\$ 35,493.34	42.040
MPS_MPS	2019	May	1	10	880	\$42.30	(\$37,226)	850.3253333	\$25.82	\$763	850.33	\$ 36,463.12	42.881
MPS_MPS	2019	May	1	11	887	\$43.34	(\$38,444)	847.0004167	\$26.69	\$1,068	847.00	\$ 37,375.81	44.127
MPS_MPS	2019	May	1	12	887	\$43.48	(\$38,567)	839.5871667	\$27.17	\$1,283	839.59	\$ 37,284.13	44.408
MPS_MPS	2019	May	1	13	867	\$44.49	(\$38,575)	833.6218333	\$26.60	\$886	833.62	\$ 37,689.18	45.211
MPS_MPS	2019	May	1	14	846	\$44.12	(\$37,326)	835.8728333	\$27.03	\$271	835.87	\$ 37,055.64	44.332
MPS_MPS	2019	May	1	15	849	\$41.33	(\$35,089)	831.39175	\$25.77	\$454	831.39	\$ 34,634.83	41.659
MPS_MPS	2019	May	1	16	861	\$40.59	(\$34,945)	831.0279167	\$28.49	\$855	831.03	\$ 34,089.56	41.021
MPS_MPS	2019	May	1	17	875	\$40.08	(\$35,071)	839.6754167	\$24.48	\$865	839.68	\$ 34,206.18	40.737
MPS_MPS	2019	May	1	18	908	\$36.13	(\$32,804)	847.0579167	\$21.29	\$1,296	847.06	\$ 31,508.40	37.197
MPS_MPS	2019	May	1	19	911	\$33.42	(\$30,445)	850.9856667	\$21.22	\$1,273	850.99	\$ 29,171.83	34.280
MPS_MPS	2019	May	1	20	970	\$35.95	(\$34,874)	854.0291667	\$26.16	\$3,027	854.03	\$ 31,846.86	37.290
MPS_MPS	2019	May	1	21	969	\$39.00	(\$37,786)	874.2036667	\$26.42	\$2,504	874.20	\$ 35,282.00	40.359
MPS_MPS	2019	May	1	22	931	\$32.46	(\$30,217)	842.4994167	\$21.92	\$1,866	842.50	\$ 28,350.24	33.650
MPS_MPS	2019	May	1	23	846	\$27.08	(\$22,907)	771.5226667	\$22.89	\$1,686	771.52	\$ 21,220.81	27.505
MPS_MPS	2019	May	1	24	763	\$20.81	(\$15,877)	711.3428333	\$15.68	\$844	711.34	\$ 15,032.43	21.132
SPP 5 minute load purchases					GMO Load Hub								
All numbers are hypothetical for illustration purposes only													
ReportingID	Year	Month	Day	HE	Minutes	DA Charges Load (\$)	DA Load (MWh)	RT Meter Load (MWh)	RT Charges Load (\$)				
MPS_MPS	2019	May	1	1	0	(\$17,807)	713	705	\$14				
MPS_MPS	2019	May	1	1	5	\$0	713	704	\$4				
MPS_MPS	2019	May	1	1	10	\$0	713	697	\$20				
MPS_MPS	2019	May	1	1	15	\$0	713	696	\$27				
MPS_MPS	2019	May	1	1	20	\$0	713	696	\$28				
MPS_MPS	2019	May	1	1	25	\$0	713	687	\$46				
MPS_MPS	2019	May	1	1	30	\$0	713	688	\$40				
MPS_MPS	2019	May	1	1	35	\$0	713	684	\$49				
MPS_MPS	2019	May	1	1	40	\$0	713	682	\$52				
MPS_MPS	2019	May	1	1	45	\$0	713	679	\$58				
MPS_MPS	2019	May	1	1	50	\$0	713	679	\$56				
MPS_MPS	2019	May	1	1	55	\$0	713	680	\$54				
										\$448			



**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

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For Missouri Retail Service Area

**Special Rate for Incremental Load Service  
 Schedule SIL**

**TERMS & CONDITIONS:**

Service under this rate schedule requires a written contract between the Company and the Customer. Each Special Incremental Load Rate Contract shall collect at least the incremental cost incurred by the Company to serve the Customer. Incremental costs shall be calculated, and profitability must be demonstrated at the time the contract is approved to confirm that revenues to be received from Customers under this Schedule are expected to be sufficient to cover the Company's increased costs to offer service pursuant to each Special Incremental Load Rate Contract. All charges for service under this rate schedule shall be limited to the charges contained in the contract between the Company and the Customer.

**CONTRACT DOCUMENTATION:**

At least 60 days prior to the effective date of the Special Incremental Load Rate Contract, the Company will file the individual Special Incremental Load Rate Contract and supporting documentation with the Commission for approval. The supporting documentation will include the following items:

1. Customer Needs: Company shall provide a narrative description of the reasons why the Special Incremental Load Rate is necessary for this Customer.
2. Customer Alternatives: Company shall describe competitive alternatives available to the Customer.
3. Incremental Costs: Company shall quantify the expected incremental cost associated with the Special Incremental Load Rate Contract Customer.
4. Profitability: Company shall quantify the expected profitability of the Special Incremental Load Rate Contract as the difference between the revenues expected to be generated from the pricing provisions in the Special Incremental Load Rate Contract compared to Company's expected incremental costs. All significant assumptions shall be identified that affect this quantification.
5. Other Ratepayer Benefits: Company shall quantify the benefits that it believes will accrue to other ratepayers from the Special Incremental Load Rate Contract. All significant assumptions shall be identified that affect this quantification.
6. Other Economic Benefits to the Area: the Company and/or local economic development agency shall quantify the economic benefits to the state, metropolitan area, and/or local area that Company projects to be realized as a result of the Special Incremental Load Rate Contract. The Company will also file an affidavit from the state, metropolitan area and/or local area economic development agency that is also providing benefits to the customer.



**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

**P.S.C. MO. No.** 1                      Original Sheet No. 157.2

Canceling P.S.C. MO. No. 1                      Original Sheet No.                     

For Missouri Retail Service Area

**Special Rate for Incremental Load Service  
Schedule SIL**

**TERM:**

The initial term may vary for each customer served under this rate schedule but in no instance, should the term be greater than ten (10) years. Prior to the end of the term, the Company and Customer will work together to evaluate an extension of the term and if mutually appropriate, work together to secure any required approvals for an extension of the term. Each subsequent extension shall not exceed an additional ten (10) years.

**SPECIAL RATE, PROVISIONS, AND TERMS:**

1. The Special Incremental Load Rate will be determined for each Customer based on expected loads and the renewable energy resource planned to serve the Customer. Details about the rate including all terms and conditions related to the Special Incremental Load Rate will be documented through a Special Incremental Load Rate Contract.
2. The Special Incremental Load Rate will be designed to recover no less than the incremental cost to serve the Customer over the term of the Special Incremental Load Rate Contract. Non-participating customers shall be held harmless from any deficit in revenues provided by any customer served under this tariff.
3. All Special Incremental Load Rate Contracts executed under this tariff will include the following provisions:
  - a. Special Rate – details about the structure and rate to be paid by the Customer.
  - b. Agreement Term – clear identification of the dates associated with the Special Rate, particularly the start date for contract term.
  - c. Confidentiality – terms to establish protections needed to protect data under competitive conditions.
  - d. Operational Parameters – details about the expected operation of the facility to be served.
4. The Company will make provisions to uniquely identify the costs and revenues for each respective Special Incremental Load Rate Contract within its books and records. This information will be available to support periodic reporting as ordered by the Commission. At the time of a general rate proceeding the portion of the Company’s revenue requirement associated with the incremental costs net of PPA net revenues to serve the Customer shall be assigned to the Customer. The Customer’s rate revenues shall be reflected in Company’s net revenue requirement. If the Customer’s rate revenues do not exceed the incremental cost to serve the Customer as reflected in the revenue requirement calculation, the Company shall make an additional revenue adjustment covering the shortfall to the revenue requirement calculation through the true-up period, to ensure that non-Schedule SIL customers will be held harmless from such effects from the service under Schedule SIL. In no event shall any revenue deficiency (that is, a greater amount of the Customer’s incremental costs compared to the Customer’s revenues) be reflected in the Company’s cost of service in each general rate proceeding for the duration of service to the Customer(s) during the terms of the contract between Company and Customer served under this tariff.

**REGULATIONS:**

Subject to Rules and Regulations filed with the State Regulatory Commission.

**KCP&L GREATER MISSOURI OPERATIONS COMPANY**

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For Missouri Retail Service Area

<b>Special Rate for Incremental Load Service Schedule SIL</b>
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**SPECIAL INCREMENTAL LOAD RATE CONTRACTS:**

<b>Start Date of Special Incremental Load Rate Contract</b>	<b>Name of Customer</b>	<b>Address</b>	<b>Term of Special Incremental Rate</b>
January 1, 2020	Nucor Steel Sedalia, LLC	500 Rebar Rd, Sedalia, MO	10 years

**SCHEDULE JL-d3**

**HAS BEEN DEEMED**

**CONFIDENTIAL**

**IN ITS ENTIRETY**

**SCHEDULE JL-d4**

**HAS BEEN DEEMED**

**CONFIDENTIAL**

**IN ITS ENTIRETY**