

Exhibit No.:  
Issue: Nucor Issues  
Witness: John R. Carlson  
Type of Exhibit: Surrebuttal Testimony  
Sponsoring Party: Evergy Missouri West  
Case No.: EF-2022-0155  
Date Testimony Prepared: July 22, 2022

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO.: EF-2022-0155**

**SURREBUTTAL TESTIMONY**

**OF**

**JOHN R. CARLSON**

**ON BEHALF OF**

**EVERGY MISSOURI WEST**

**Kansas City, Missouri  
July 2022**

**SURREBUTTAL TESTIMONY**

**OF**

**JOHN R. CARLSON**

**Case No. ER-2022-0129 / 0130**

**I. INTRODUCTION**

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

A: My name is John R. Carlson. My business address is 1200 Main, Kansas City, Missouri 64105.

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

A: I am employed by Evergy Metro, Inc. and serve as Senior Manager – Market Operations for Evergy Metro, Inc. d/b/a as Evergy Missouri Metro (“Evergy Missouri Metro”), Evergy Missouri West, Inc. d/b/a Evergy Missouri West (“Evergy Missouri West”), Evergy Metro, Inc. d/b/a Evergy Kansas Metro (“Evergy Kansas Metro”), and Evergy Kansas Central, Inc. and Evergy South, Inc., collectively d/b/a as Evergy Kansas Central (“Evergy Kansas Central”) the operating utilities of Evergy, Inc.

**Q: On whose behalf are you testifying?**

A: I am testifying on behalf of Evergy Missouri West. (“Company”).

**Q: What are your responsibilities?**

A: My primary responsibilities include oversight of the Company’s Market Operations. This includes daily submittals to the Southwest Power Pool (“SPP”), including generation and load and the procurement of natural gas for generation assets.

1 **Q: Please describe your education, experience and employment history.**

2 A: I received a Bachelor of Science degree in Architectural Engineering from the University  
3 of Kansas in 1997. In 2004, I received a Master of Business Administration from the  
4 University of Chicago Booth School of Business. I joined KCP&L in 2006 as an Energy  
5 Consultant in the Delivery Division. My responsibilities included managing all facets of  
6 the customer relationship for KCP&L's large industrial customers and developing  
7 solutions that met the customer's needs, as well as demand response and energy efficiency  
8 opportunities. In 2007, I became Manager of Market Competitiveness where I was  
9 responsible for developing and implementing non-regulated products and services for  
10 residential, commercial and industrial customers. In 2010, I moved to the Supply Division  
11 at KCP&L and started work as an Originator of wholesale power transactions. Since 2017  
12 I have been in market operations and manage the group responsible for submitting assets  
13 and load to the SPP daily.

14 **Q: Have you previously testified in a proceeding at the Missouri Public Service**  
15 **Commission ("MPSC" or "Commission") or before any other utility regulatory**  
16 **agency?**

17 A: Yes. I have testified before the MPSC.

18 **Q: What is the purpose of your surrebuttal testimony?**

19 A: I will be responding to the rebuttal testimony of Staff witness J Luebbert.

20 **Q: Does Staff witness Luebbert correctly describe on pgs. 14-15 of his rebuttal testimony**  
21 **the aspects of Paragraph 7.d. of the non-unanimous Stipulation and Agreement**  
22 **("Stipulation") between the Company, Commission Staff and Nucor?**

23 A: Yes, he does.

1 **Q: Was there anything wrong with how witness Luebbert calculated the balancing**  
2 **relationship contemplated in Paragraph 7.d of the Stipulation?**

3 A: Yes, there was. The Stipulation states “If actual Nucor load experiences a 25% deviation  
4 from the expected Nucor load for *more than 4 hours* (emphasis added) and that load change  
5 is not reflected in the GMO day-ahead commitments...” GMO will quantify the effect of  
6 the unplanned load. In Mr. Luebbert’s analysis he accounted for any time there was an  
7 assumed variance that was *4 hours or more* (emphasis added). Mr. Luebbert’s analysis  
8 should have looked at those times when there was a valid variance for 5 hours or more (i.e.,  
9 more than 4 hours).

10 **Q: Earlier you mentioned an “assumed variance” calculated by Mr. Luebbert. What did**  
11 **you mean by that?**

12 A: Witness Luebbert randomly selected day-ahead (“DA”) MW levels for Nucor’s load when  
13 calculating a potential imbalance. Instead of a particular load shape, Mr. Luebbert utilized  
14 a range of static value to represent the Nucor load at all hours of the day. Of the five  
15 “setpoints” analyzed, Mr. Luebbert selected **\*\* [REDACTED] \*\*** as the correct value to use for  
16 Nucor’s DA position even though that value is not based on the actual operations of the  
17 Nucor facility. Issues with this approach and how it relates to the expectations for Nucor  
18 are described more fully in the surrebuttal testimony of Company witness Bradley Lutz.  
19 Inherent in this analysis approach is that there had to be incremental costs resulting from  
20 unexpected operational events.

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1 **Q: Based on your evaluation of the Nucor loads and understanding of the market, were**  
2 **there any incremental costs for February 2021 from operational events as defined in**  
3 **Paragraph 7.d. of the Stipulation?**

4 A: No, there were not.

5 **Q: How could one more accurately calculate the impacts of potential operational events?**

6 A: To more accurately calculate the impacts of potential operational events one needs to take  
7 into account load forecasting. The Company's load forecasting is provided by Tesla  
8 Forecasting Solutions ("Tesla"), a third-party vendor. As discussed in the Company's  
9 response to DR 0249.3,

10 Evergy Missouri West utilizes a load forecast service for determining  
11 system load to bid into the SPP market on a day-ahead basis. This forecast  
12 service uses historical load data and weather forecasts to project day-ahead  
13 load for Evergy Missouri West. Nucor load is included in the historical load  
14 data used to project day-ahead load for Evergy Missouri West.

15 Tesla currently has 11 years of historical load data from the Company, and every day the  
16 Company sends Tesla a file of that day's actual load. Tesla uses that historical load data,  
17 along with weather forecasts and many other variables to forecast loads for their customers.  
18 The 11 years of historical load data is weighted so that the most recent data is more  
19 impactful to the forecast versus the 11th year. In particular, the Tesla model weights are  
20 shifted on a rolling 365-day basis so that the previous 365 days' data is weighted a 1.0. The  
21 weightings are based on the following formula, with n = the number years back in history:

22 
$$\text{Weighting} = 1/1.3^{n-1}$$

23  
24 With this model, data 11 years back would have a weighting of 0.07.

1 **Q: To confirm, the Evergy Missouri West Day-Ahead commitments included provisions**  
2 **for Nucor based on Nucor’s prior year actual loads?**

3 A: Yes.

4 **Q: What does Tesla’s forecasting service tell us about Nucor load included in the**  
5 **Company’s DA load forecast?**

6 A: Because of the weighting described previously, we know that the previous year’s historical  
7 load data is most impactful to the DA load forecast. We know that a portion of the  
8 Company’s load forecast from Tesla includes Nucor load, and we can conservatively  
9 estimate that Nucor’s load from 365 days prior to the operating day (since it is fully  
10 weighted in the Tesla model) is included in the Evergy Missouri West load forecast from  
11 Tesla. The only adjustment is having to account for Nucor starting operations in March  
12 2020.

13 We can assume that any forecast from Tesla prior to March 1, 2021 (e.g., February  
14 2021) would not have included Nucor load because there would not have been any  
15 historical data to point to in the model, given that Nucor started operations in March 2020.

16 **Q: When witness Luebbert’s analysis is updated to include historical Nucor load in the**  
17 **forecast instead of the static setpoint, how does that change the estimated impact from**  
18 **operational events?**

19 A: The change is dramatic and represents a more reasonable impact between the DA and real  
20 time (“RT”) markets when the Nucor load is appropriately reflected in the Company’s DA  
21 position. The calculated customer event balancing flips from \*\* [REDACTED]

22 [REDACTED]

23 [REDACTED] \*\*

1 **Q: Why is there such a difference between an arbitrary \*\* [REDACTED] \*\* setpoint for the**  
2 **DA load forecast and actual historical data being used in the load forecast?**

3 A: First, in 2020 Nucor had just started operations and its load was lower relative to where it  
4 operates today. This resulted in a lower MW value being included in the DA forecast from  
5 Tesla. Second, for the Evergy Missouri West load node, the average DA LMP was higher  
6 than the average RT LMP in February 2021. Therefore, buying more load in the RT market  
7 versus DA was advantageous in February 2021.

8 **Q: What was the impact in February of 2021?**

9 A: In February of 2021 the average DA LMP for the Evergy Missouri West load node was  
10 \$548.07 while the average RT LMP was \$191.83. Buying more load in the RT market  
11 was, on average, much more advantageous. For Evergy Missouri West there would have  
12 been no Nucor load included in the Tesla forecast for February (recall that Tesla uses  
13 historical load data in their model, and with Nucor starting operations in March 2021 there  
14 was no historical data for Tesla to use). Ultimately, it was \*\* [REDACTED] \*\* more  
15 beneficial to purchase all Nucor load in the RT market, versus the DA market, in February  
16 2021.

17 **Q: Please summarize your testimony?**

18 A: Regarding customer event balancing and the Nucor Stipulation, there were two issues of  
19 note. First, Staff witness Luebbert incorrectly applied the specifics of Paragraph 7.d. in the  
20 Stipulation when calculating the event balancing (i.e., using “4 or more” hours instead of  
21 the correct “more than 4 hours” methodology). While there is no financial impact from  
22 Mr. Luebbert’s calculation error (all hours were > 25% variance in February due to there

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1 being no Nucor load in the forecast until March 2021 (see below)), from a process  
2 perspective it is worth pointing out.

3 Second, appropriately accounting for Nucor load that was included in the  
4 Company's DA load forecast from its third-party vendor versus assigning a random  
5 "setpoint" significantly changes the balancing event analysis. The revised analysis shows  
6 a \*\* [REDACTED] \*\* benefit in February 2021 due primarily to much higher DA LMPs  
7 versus RT LMPs during that month. As a result, witness Luebbert's adjustment is  
8 unwarranted and should not be adopted by the Commission.

9 **Q: Does that conclude your testimony?**

10 A: Yes, it does.

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

In the Matter of the Application of Evergy )  
Missouri West, Inc. d/b/a Evergy Missouri )  
West for a Financing Order Authorizing the )  
Financing of Extraordinary Storm Costs )  
Through an Issuance of Securitized Utility )  
Tariff Bonds. )

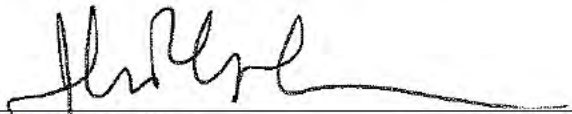
Case No. EF-2022-0155

**AFFIDAVIT OF JOHN R. CARSLON**


**STATE OF MISSOURI**    )  
  ) ss  
**COUNTY OF JACKSON**    )

John R. Carlson, being first duly sworn on his oath, states:

1. My name is John R. Carlson. I work in Kansas City, Missouri, and I am employed by Evergy Metro, Inc. as Senior Manager – Market Operations.
2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Evergy Missouri West consisting of seven (7) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

  
\_\_\_\_\_  
John R. Carlson

Subscribed and sworn before me this 22<sup>nd</sup> day of July 2022.

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

My commission expires: 4/26/2025

