

Exhibit No.:

Issue(s): Cost Causation/Affordability/
Net Zero Pledge/BESS Fire Suppression
And Incident Response Plans

Witness/Type of Exhibit: Marke/Rebuttal

Sponsoring Party: Public Counsel

Case No.: EA-2025-0238

REBUTTAL TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of the Office of the Public Counsel

**UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI**

CASE NO. EA-2025-0238

Denotes Highly Confidential Information that has been redacted

December 12, 2025

PUBLIC

TABLE OF CONTENTS

<u>Testimony</u>	<u>Page</u>
Introduction	1
Cost Causation	4
Affordability	19
Net Zero Pledge	26
BESS Fire Suppression and Incident Response Plans	28
35	

REBUTTAL TESTIMONY**OF****GEOFF MARKE****UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI****CASE NO.: EA-2025-0238****1 I. INTRODUCTION****2 Q. Please state your name, title, and business address.****3 A.** Geoff Marke, PhD, Chief Economist, Office of the Public Counsel (OPC or Public Counsel),
4 P.O. Box 2230, Jefferson City, Missouri 65102.**5 Q. What are your qualifications and experience?****6 A.** I have been in my present position with OPC since 2014 where I am responsible for economic
7 analysis and policy research in electric, gas, water, and sewer utility operations.**8 Q. Have you testified previously before the Missouri Public Service Commission?****9 A.** Yes. A listing of the Commission cases in which I have previously filed testimony and/or
10 comments is attached in Schedule GM-1.**11 Q. What is the purpose of your rebuttal testimony?****12 A.** To provide a response to the direct testimony filed by Ameren Missouri witnesses including
13 Steven M. Wills, Matt R. Michels, Ajay K. Arora, and Andrew M. Meyer.**14 Q. What are your recommendations in this case?****15 A.** Given the approved parameters and rationale articulated by the Commission in recent cases,
16 namely Case Nos. ET-2025-0184 (Union Electric Company d/b/a Ameren Missouri
17 (“Ameren Missouri” or the “Company”) large load tariff docket) and EO-2025-0154
18 (Evergy Metro, Inc. d/b/a Evergy Missouri Metro/Evergy Missouri West, Inc. d/b/a Evergy
19 Missouri West (collectively “Evergy”) large load tariff docket), I am adopting conditional
20 support of Ameren Missouri’s procurement of the approximate 1.2 MW of generation
21 (combined natural gas and battery investment) proposed in the Application to meet the
22 speculative demand of the large load hyperscale customer(s) Ameren Missouri is attempting

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 to accommodate. With that in mind, my endorsement is dependent on several conditional
2 recommendations:

3 First, I recommend that Ameren Missouri provide positive affirmation that the attendant
4 costs of this application should be borne by the cost causer, in this case, specifically, the
5 hyperscale users that demand it.

6 There is no need to procure additional generation, especially in a cost-constrained
7 environment, at a grossly inflated premium, when seemingly every utility is building out
8 natural gas generation investments *unless* it is being used to meet the load demanded by
9 data center buildout.

10 A declarative public notice in this docket affirming that assumption along with attached
11 (confidential) signed and binding contracts verifying the demand needed for service from
12 the data centers would be consistent with Ameren Missouri's filed Direct Testimony, the
13 legislative intent of the recently enacted Senate Bill 4 ("SB 4"), and the Commission-
14 articulated directives at the recent "Special Agenda" in late November.

15 If Ameren Missouri rejects the argument that Big Hollow is being undertaken to meet data
16 center load but is instead being undertaken to purely accelerate generation investment, then
17 I recommend the Commission reject this application on the grounds of not meeting the
18 Tartan criteria based on 1.) need; 2.) economic feasibility; 3.) and public interest.

19 If Ameren Missouri provides a non-answered position to this condition (e.g., cost allocation
20 issues are not germane to this docket and should be addressed in a future rate case), then
21 this filed testimony serves as a public declaration of my position based on the available facts
22 known to me at this time and OPC can litigate this issue in a future rate case proceeding
23 with that documented support, if appropriate. I am comfortable with offering this third
24 outcome option, in part, because Ameren Missouri has stated in discovery that it will not
25 seek Construction Work in Progress ("CWIP") accounting treatment for costs associated
26 with this Application.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Second, I request that Ameren Missouri file in surrebuttal testimony what more than \$16
2 billion in planned capital expenditures (“CAPEX”) in five years will mean to their existing
3 customers’ rates in the near future (five to eight-year timeframe). Restated, what can
4 existing customers reasonably expect the percentage bill increase from their current bill to
5 be moving forward for however many rate cases Ameren Missouri believes it will need to
6 file and how much load they hope (or will need) to attract to recover the investments that
7 more than double its existing rate base in such a short time frame. This “sanity check”
8 request is also consistent with language embedded in SB 4 that requires utilities to provide
9 rate impact projections for its top four preferred resource plans.¹

10 To the extent that Ameren Missouri rejects this request, I recommend that the Commission
11 order Ameren Missouri to provide a reasonable range of answers so no one can be accused
12 of being “caught off guard” by future rate relief requests. I am not requiring perfection here
13 and would not consider this to be binding percentage estimates, but a reasonable range of
14 outcomes and probabilities will at least afford all parties, the Commission, and customers
15 an opportunity to plan and react accordingly to the investment being sought after in this
16 docket as well as the more than \$16 billion of additional CAPEX spend over the next five
17 years.

18 Third, I recommend that Ameren Missouri publicly withdraw its 2045 net-zero carbon
19 emission pledge in light of its approved (Castle Bluff), proposed (Big Hollow), and planned
20 (the additional 4.5 GW of natural gas investment above and beyond Castle Bluff and Big
21 Hollow identified in its most recently filed Integrated Resource Plan (“IRP”)) large, fossil-
22 fuel investments. Alternatively, if the Company continues to maintain its 2045 net-zero
23 proclamation it should explain in surrebuttal testimony how its aspirational goal (“net-zero
24 emissions”) can be intellectually consistent with its 6.1 GW of planned fossil-fuel
25 generation. More germane to this docket, Ameren Missouri should explain what the
26 assumed mitigation costs will be in the future to bring its new planned natural gas

¹§ 393.1900.3 (7) RSMo.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 investments into net-zero compliance. To the best of my knowledge, that assumed cost
2 input is missing in this application and should be considered as an expected cost in
3 calculating my earlier request that Ameren Missouri be required to provide rate near-term
4 impact calculations.

5 Finally, if the Battery Energy Storage System (“BESS”) feature of this application is
6 approved by the Commission, I recommend that Ameren Missouri be required to meet with
7 OPC and Staff and file a report within 90 days of the operation of law date that provides
8 details on the battery system’s fire suppression features and incident response plans with
9 first responders.

10 The Commission and parties should note that my silence in regard to any issue not addressed
11 from the aforementioned Company testimony should not be construed as an endorsement
12 of Ameren Missouri’s position.

13 **II. COST-CAUSATION**

14 **Q. Does Ameren Missouri’s testimony suggest that this planned investment is being used to
15 serve speculative data centers?**

16 **A.** Yes. That is clear from the testimony.

17 Consider the following statements from Ameren Missouri witness Steven M. Wills:

18 As discussed in the Direct Testimonies of Company witnesses Matt Michels,
19 Andrew Meyer, and Ajay Arora, the Projects are needed to develop capacity
20 required to ensure reliability with the growth in demand expected from large load
21 customers, such as data centers and other advanced manufacturing customers that
22 are seeking, or may seek in the near future, retail electric service from the Company.²

² Case No. EA-2025-0238 Direct Testimony of Steven M. Wills p. 3, 13-17.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Ameren Missouri witness Ajay K. Arora makes similar statements:

2 The main challenge utilities face in meeting their regulatory obligation to connect
3 large load customers to their system is building enough generation in a timely
4 manner to provide capacity and energy to reliably serve all customers while meeting
5 the timelines for ramping up to the full demand that the new customers need.³

6 Ameren Missouri witness Andrew M. Meyer also states:

7 This capacity addition nearly offsets the 1,000 MW large load ramp assumption in
8 2028.⁴

9 Further, Ameren Missouri witness Matt R. Michels:

10 The purpose of my Direct Testimony is . . . describe the need for the facility to
11 provide dispatchable capacity for the primary purpose of meeting the demand of new
12 large load customers (“LLC”) consistent with the Company’s preferred resource
13 plan (“PRP”).⁵

14 **Q. What is the statutory requirement regarding cost allocation for hyperscale customers?**

15 A. § 393.130(7), RSMo states:

16 Each electrical corporation providing electric service to more than two hundred fifty
17 thousand customers shall develop and submit to the commission schedules to
18 include in the electrical corporation’s service tariff applicable to customers who are
19 reasonably projected to have above an annual peak demand of one hundred
20 megawatts or more. The schedules should reasonably ensure such customers'
21 rates will reflect the customers' representative share of the costs incurred to
22 serve the customers and prevent other customer classes' rates from reflecting
23 any unjust or unreasonable costs arising from service to such customers. Each
24 electrical corporation providing electric service to two hundred fifty thousand or

³ Case No. EA-2025-0238 Direct Testimony of Ajay K. Arora p. 8, 9-12.

⁴ Case No. EA-2025-0238 Direct Testimony of Andrew M. Meyer p. 9, 14-15.

⁵ Case No. EA-2025-0238 Direct Testimony of Matt R. Michels p. 2, 14, 19-21.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 fewer customers as of January 1, 2025, shall develop and submit to the commission
2 such schedules applicable to customers who are reasonably projected to have above
3 an annual peak demand of fifty megawatts or more. The commission may order
4 electrical corporations to submit similar tariffs to reasonably ensure that the rates of
5 customers who are reasonably projected to have annual peak demands below the
6 above-referenced levels will reflect the customers' representative share of the costs
7 incurred to serve the customers and prevent other customer classes' rates from
8 reflecting any unjust or unreasonable costs arising from service to such customers.

9 **Q. Has the Commission issued an order in the Ameren Missouri large load data center
10 docket in Case No. ET-2025-0184?**

11 A. Yes, the Commission supported the non-unanimous stipulation and agreement put forward
12 by the utilities and data centers in that docket. Shortly after that stipulation was filed, at the
13 Special Agenda held on November 24, 2025, Chair Hahn provided vocal affirmation for the
14 agreement as follows:

15 After reviewing this agreement, the Commission finds this is a reasonable resolution
16 of the case and is consistent with the statutory requirement that large users pay their
17 fair share of costs. The rates and terms in the agreement are just and reasonable and
18 not only protect customers but provide a mechanism for Ameren's customers to
19 benefit from the addition of large users.⁶

20 Commissioner Coleman for her part stated:

21 I'm satisfied that large load customers will pay their fair share, that customers are
22 not going to be burdened by this decision, and it's important to me that there are
23 protections in this agreement.⁷

⁶ Missouri Public Service Commission (2025) Special Agenda 11-24-25. *YouTube*.
<https://www.youtube.com/watch?v=y3XVTeFx6E&t=1334sb> 23:42

⁷ *Ibid.* 24:38

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Commissioner Kolkmeyer stated:

2 Thank you, Madam Chair. I'm not sure I can add any more than, than you and
3 Commissioner Coleman did. I want to thank everybody for working on this and
4 coming up with this. I like the safeguards and the guard rails that are put in on this.
5 So, uh with that, I will be supporting this order.⁸

6 And finally, Commissioner Mitchell provided his support:

7 Well, thank you, Madam Chair, and I agree with what's been stated here, and the
8 framework is largely the same as the large load tariff that we just approved for the
9 western side of the state.⁹

10 **Q. What should the Commission note from Ameren Missouri's testimony in this case, the
11 statutory language covering large load customers and the Commission's comments over
12 the non-unanimous stipulation and agreement for Ameren Missouri's large load tariff at
13 Agenda?**

14 A. My assessment of these assertions is that everyone appears to agree that existing ratepayers
15 should be held harmless from costs incurred by Ameren Missouri to serve this unique subset
16 of data center customers.

17 **Q. Do you have reason to doubt that conclusion?**

18 A. Content from at least three recent articles, two from the *Montgomery Standard* and one recently
19 from KRCG TV give me some pause.

20 The first, titled "Ameren: Data centers won't raise customer rates" includes the following
21 passage:

22 [Rob] Dixon [Senior Director of Economic, Community and Business
23 Development] explained that the PSC is the independent state agency that regulates
24 Ameren and ultimately it will be for them to make sure large load customers such as
25 data centers pay their fair share. Dixon added that the rate plan filed with the PSC

⁸ *Ibid.* 25:18.

⁹ *Ibid.* 25:43.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 puts in place certain contractual provisions that are not required for traditional
2 customers that in fact protect those customers from any costs relating to data centers.

3 Specifically, he said that when new data centers request to connect to the grid, they
4 have to pay 100 percent up front for all the direct costs to make that interconnection.
5 Which means they are paying for line extensions, substations, switch gears and any
6 other items related to their interconnection. . . .

7 “At the end of the day what has to happen, the PSC has to make sure that whatever
8 number it is set at, those terms ensure that those customers pay their fair share and
9 are not passing costs off to other customers,” Dixon said. “I think folks can feel
10 confident that at the end of it...the PSC is going to make a decision that is compliant
11 with the law.”¹⁰

12 **Q. What are your concerns from this passage?**

13 A. Two things immediately strike me from this article.

14 The first concern is that Ameren Missouri appears to be placing the responsibility of future
15 “cost allocation” entirely on the Commission.

16 As the electric provider tasked with procuring and seeking recovery for the CAPEX investment
17 necessary to serve data centers, Ameren Missouri itself has enormous control in ensuring that
18 data centers won’t raise existing customers rates, even if it is the Commission that ultimately
19 orders effective rates. Thus, the lack of implied agency in this outcome from the Company in
20 this article gives me some pause.

21 This brings me to my second concern, despite the article’s headline “Ameren: Data Centers
22 won’t raise customer rates,” that phrase is never articulated by Ameren Missouri or explicitly
23 echoed in the text. Instead, the closest the article gets to affirming the headline can be found in
24 the following text that paraphrases Ameren Missouri Senior Director Robin Dixon stating:

¹⁰ Carroll, W. (2025) Ameren: Data centers won’t raise customer rates *Montgomery Standard*.
<https://www.mystandardnews.com/stories/ameren-data-centers-wont-raise-customer-rates,133104> see also GM-2.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

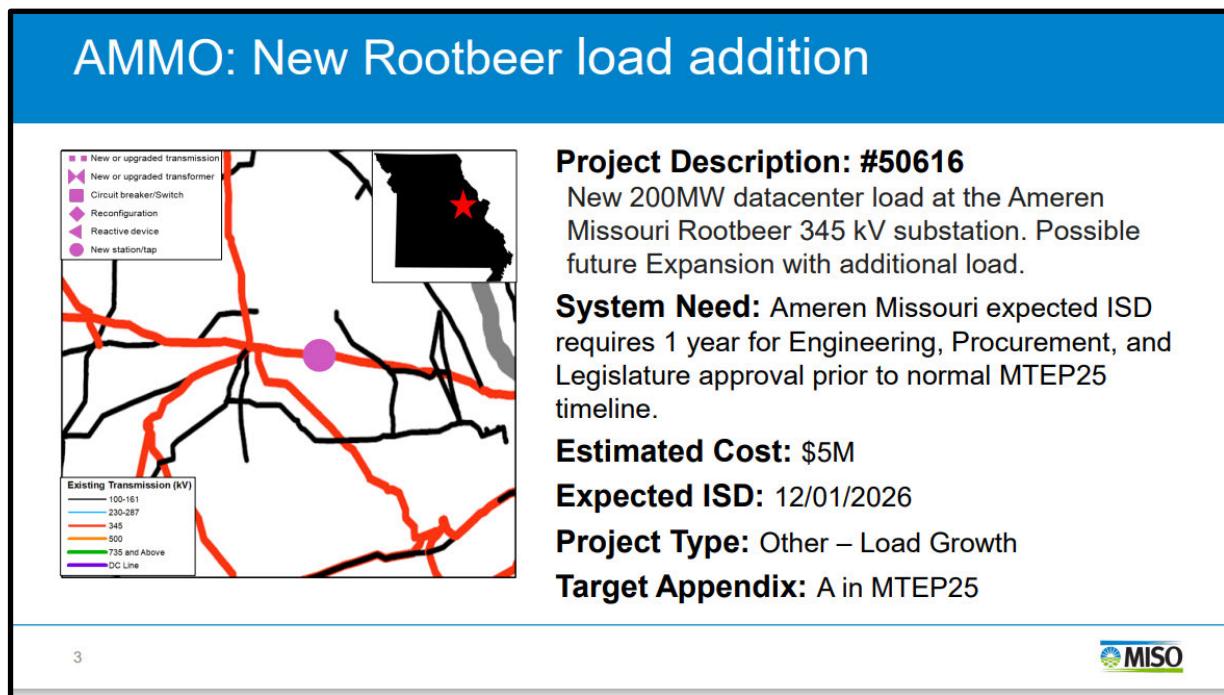
1 Specifically, he said that when new data centers request to connect to the grid, they
2 have to pay 100 percent up front for all the direct costs to make that interconnection.
3 Which means they are paying for line extensions, substations, switch gears and any
4 other items related to their interconnection. . . .¹¹

5 What gives me pause is Mr. Dixon's emphasis on interconnection costs alone.

6 **Q. What would be an example of an interconnection investment Mr. Dixon speaks of?**

7 A. The investment that immediately comes to mind is the 345 KV "Rootbeer" substation under
8 construction and highlighted in this April 26, 2025 MISO presentation as a datacenter induced
9 investment:

10 Figure 1: Ameren Missouri's 200 MW load at the "Rootbeer Substation"¹²



¹¹ *Ibid.*

¹² MISO (2025) New Rootbeer 345 kV Load Addition.

<https://cdn.misoenergy.org/20250407%20CTSTF%20Item%2001b%20Ameren%20EPR%20Rootbeer%20345%20kV%20Load%20Addition689443.pdf>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Absent a large data center coming online in that location, at this time, it makes very little sense
2 to make that investment. In that regard, I would agree with Mr. Dixon that direct assignment
3 of interconnection costs to the cost causer are necessary to ensure compliance with §
4 393.130(7), RSMo. I also believe the same logic largely applies to the generation investment
5 requested in this docket especially in a cost-constrained environment, at a grossly inflated
6 premium. It would make very little sense to file this docket, at this time, if no data center
7 demand existed.

8 **Q. What about the second article?**

9 A. The second article, titled “Amazon announces it will own data center in Montgomery County”
10 includes the following excerpt:

11 One of the concerns of local residents has been the effect large-load customers like data
12 centers could potentially have regarding residential electric rates. In a previous
13 interview, Ameren Missouri Senior Director of Economic, Community and Business
14 Development Rob Dixon said that such customers will pay their fair share of rates,
15 including the entire costs of any infrastructure improvements relating to their facilities.
16 Kellogg said the potential Amazon facility will be served through the existing grid
17 planning process and would not require any new electricity generating facility.¹³

18 **Q. What should the Commission note from that excerpt?**

19 A. That there appears to be a possible misunderstanding regarding the current resource planning
20 needs that merits agreed-to confirmation. Amazon states that its facility "will be served through
21 the existing grid planning process and would not require any new electricity generating
22 facility."

23 I disagree.

24 To be clear, this case represents the “new electricity generating facility.”

¹³ Carroll, W. (2025) Amazon announces it will own data center in Montgomery County. *Montgomery Standard*. <https://www.mystandardnews.com/stories/amazon-announces-it-will-own-data-center-in-montgomery-county.136956> see also GM-3.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

Without that large data center load, we have to reasonably assume that Ameren Missouri would not have had to update its PRP and the Big Hollow CTG would not exist, and the battery system would either not exist or would exist further in a future at a more cost-effective price.

To suggest otherwise is not true.

Q. You mentioned a third article. What is contained in that?

A. The third article, titled “Residents resist proposed Amazon development, data center projects in Montgomery County” includes the following excerpt, from Mr. Dixon:

Rob Dixon, with Ameren Missouri, addressed electricity concerns at the meeting. **We can serve them, we've got the power to do so. We've got the power to continue to serve all of our customers. And we can do it in a way that makes sure that they are going to pay their fair share.**

Both Dixon and Etcher referenced Missouri regulations that ensure large users pay their fair share for electricity.

But among many residents, doubt still remains.

"Everybody can say things. **We want it in writing.** We want to know that our community is protected when we are doing this," Ridgely said. (emphasis added)¹⁴

Ameren Missouri does not have the power to serve large data center customers today and, like the concerned citizen, I too would like to see “it in writing.” With “it” specifically referring to the fact that Ameren Missouri confirming the data centers will pay for the investment sought after in this docket. That is my interpretation of “fair share.” If Ameren Missouri has a different definition, then now is the time to articulate it.

¹⁴ Cummings, S. (2025) Residents resist proposed Amazon development, data center projects in Montgomery County. 13 KRCG. <https://krcgtv.com/news/local/residents-resist-proposed-amazon-development-data-center-projects-in-montgomery-county> See also GM-4.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 **Q. On several occasions you have suggested that this application would not be prudent but**
 2 **for the data center load coming online to pay for it. Can you expound on why that is the**
 3 **case?**

4 A. Sure. There are four primary reasons.

5 **1.) We have enough generation to cover our existing load today.**

6 In part, because Ameren Missouri in the past two years has asked and received approval for
 7 Boomtown Solar (150 MW), Huck Finn Solar (200MW) Cass County Solar (150MW),
 8 Vandalia Solar (50MW), Bowling Green Solar (50MW), New Florence Solar (7MW), Split
 9 Rail Solar (300MW) and natural gas investment at its Castle Bluff site (800MW). In fact,
 10 Ameren Missouri's updated 2025 IRP executive summary emphasizes exactly why the PRP
 11 was changed—because of new load from data centers as seen in Figure 2:

12 **Figure 2: Snipped of Ameren's 2025 updated IRP executive summary highlighted for emphasis:**

Ameren Missouri selected a new preferred resource plan (PRP) with its 2025 Change in Preferred Plan filing in February 2025 and continues to execute on this resource plan. The timeline in Figure 1.1 shows the PRP planned additions and retirements. The following are changes represented in the Company's new PRP relative to its prior PRP and the rationale:

- The new PRP includes the addition of large loads with cumulative demand reaching 1.5 GW by 2032 and 2.5 GW by 2040.
- The new PRP includes Missouri Energy Efficiency Investment Act (MEEIA) programs through 2043 at levels similar to those recently approved by the Missouri Public Service Commission (MPSC) instead of at the Realistic Achievable Potential (RAP) level.
- The new PRP includes the same total solar additions as the prior PRP – 2,700 MW – but with accelerated timing for the additions to provide energy for new demand growth and clean energy to support the corporate clean energy goals of new large customers.
- The new PRP includes acceleration and expansion of Battery Energy Storage Systems (BESS) to provide flexible capacity for new demand and integrate renewable resources, with 1,000 MW in service by the end of 2030, another 400 MW by the end of 2035, and another 400 MW by the end of 2042. This represents an overall increase in BESS of 1,000 MW relative to the prior PRP, driven by significant new load additions and the reduction in expected demand savings from MEEIA programs.
- The new PRP includes total natural gas and nuclear generation additions of 7,600 MW (3,300 MW natural gas-fired combined cycle (NGCC), 2,800 MW natural gas-fired combustion turbine generator (CTG), 1,500 MW nuclear) compared to 4,400 MW of natural gas (1,200 MW NGCC, 800 MW CTG) and "clean dispatchable" resources (2,400 MW) in the prior PRP.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 2.) We are operating in a cost-constrained environment with uncertain load forecasts.

2 Ameren Missouri's recent 12.5% rate increase challenges the assumed narrative that its bills
3 are currently affordable and the planned investment of over \$16 billion over the next five years
4 paints an intimidating picture regarding future bill impacts. Especially in light of the financial
5 realities many of Ameren Missouri's existing customers are experiencing as highlighted in a
6 recent article in Figure 3.

7 Figure 3: KSDK (NBC) headline of Ameren Missouri's recent disconnection numbers¹⁵

LOCAL NEWS

Ameren cut off over 17,000 Missourians from electricity in October

The monopoly utility made \$640 million in profits last quarter as future energy assistance for Missouri's families is threatened.

8 Compounding this pressure is the uncertainty surrounding the long-term commitment of its
9 projected load growth. Again, per the updated 2025 IRP executive summary:

10

- 11 • Load growth uncertainty - Mainly due to developments in artificial intelligence,
12 there has been a significant and rapid increase in requests for electricity service,
13 which resulted in Ameren Missouri adopting a new preferred resource plan in
14 February of 2025. Ameren Missouri will be continually monitoring its load growth

¹⁵ Bassler, H. (2025) Ameren cut off over 17,000 Missourians from electricity in October. *KSDK News*. <https://www.ksdk.com/article/news/local/ameren-missouri-cut-off-power-to-thousands-in-october-2025-as-profits-spike/63-a94b2d42-259a-4a4c-8b61-cf5cf41f88ed>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

assumptions and revising its assumptions for expected load growth as appropriate to plan for reliable service to an expanding customer and load base.¹⁶

3.) There is an excessive cost premium to procure the investment today.

Castle Bluff (approved in 2025) and Big Hollow (anticipated approval in 2026) each individually represent 800MW of natural gas generation investment and are projected to be operational within of year of each other; however there is a non-risk adjusted delta (or premium) of *** _____ *** in their overall price. That increase can almost entirely be attributed to my 4th point that there is a run on the natural gas market to meet the projected data center demand.

4.) Every utility is seemingly building natural gas plants today.

As highlighted in the headline of December 11th's cover story on *UtilityDive*: "GE Vernova expects to end 2025 with an 80-GW turbine backlog that stretches into 2029". Per the article:

GE Vernova's Power segment backlog continues to expand thanks to strong demand for its gas turbines. It has booked 18 GW of turbine orders thus far in the fourth quarter and expects to end 2025 with an 80-GW backlog that stretches into 2029, according to the company. **Pricing remains strong, with new reservations pricing above current orders.** . . .

Strazik and Parks talked up the more efficient, higher-capacity turbine models that large gas-fired power plants favor, **but they said data centers and other energy-intensive customers are also interested in older, smaller aeroderivative models to supply "bridge power" for new facilities.** The company will split the planned 4 GW of new production capacity roughly evenly between the French factory that

¹⁶ Ameren Missouri (2025) Integrated Resource Plan Update, p. 4. <https://www.ameren.com/-/media/files/our-company/irp/25-irp-annual-update.ashx>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 makes those turbines and the South Carolina plant that makes the larger models, they
2 said.¹⁷ (emphasis added)

3 If the MISO market is flooded with natural gas units and demand does not materialize as
4 contemplated, these units will almost certainly be challenged economically if Ameren
5 Missouri and the rest of the country finds itself with excess natural gas capacity. That
6 scenario is even more likely as solar continues to come online and/or if there is any material
7 advancement in cost-effective small modular nuclear reactors.

8 **Q. Are the natural gas plants contemplated in this case the efficient, higher-capacity turbine
9 models or older, smaller aeroderivative models?**

10 A. The latter.

11 Unlike the Mullin Creek natural gas investment recently approved for Evergy West in
12 Case No. EA-2025-0075, this application procures traditional, older simple cycle plants.¹⁸

13 **Q. Are there other plausible variables that could influence whether or not these investments
14 will be economic into the future?**

15 A. Of course. The economics behind the large investments in this docket are dependent on the
16 data centers materializing and staying on long enough to justify it. Based on my assessment of
17 the data center boom, there are many plausible variables that could negatively influence the
18 economics of the Big Hollow moving forward. A non-exhaustive list includes whether or not:

¹⁷ Martucci, B. (2025) GE Vernova expects to end 2025 with an 80-GW turbine backlog that stretches into 2029. *UtilityDive*. <https://www.utilitydive.com/news/ge-vernova-gas-turbine-investor/807662/>

¹⁸ Case No. EA-2025-0238 Direct Testimony of Christopher A. Stumpf:

Ameren Missouri's equipment requirements continue to be based on historically proven "F" class gas turbine engines in simple cycle service rather than the newer and larger advanced class engines which have recently become available. . . . It should be noted that during this period of time, the combustion turbine market became very constrained; in fact, during the bid review phase for Castle Bluff, Siemens informed us that it could not timely offer production slots for the engines, which prevented Siemens from being a viable supply option. p. 6, 5-7 & 16-19.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

- 1 • Private, institutional, and public investors will continue to invest trillions of dollars
2 in data center build out to support AI advancement without a clear path as to how
3 said investments will result in a profit;
- 4 • The public at large will support continued electric infrastructure investment to build
5 out data centers in their communities at the scale contemplated for load that is
6 premised on advancing the automation of the US labor force;
- 7 • Any AI-enabled ethical or safety focal events (e.g., cyber security crimes, fake
8 news, AI-induced psychosis, rolling blackouts, etc...) occur that substantially
9 challenge the continued “regulatory-free AI industry” position currently embraced
10 at the state and federal level;
- 11 • Cost-effective and more environmentally friendly dispatchable generation
12 resources advance in the near future such as small modular nuclear reactors;
- 13 • Future data center load is sited in the United States or in outer space;
- 14 • The public’s overall temperament and acceptance in allowing a handful of for-
15 profit companies (or one company if ultimately a zero-sum outcome) the runway
16 to usurp human control over much (all?) of the economy; and
- 17 • The overall status of the U.S. economy and the consistency of its governing policy
18 directives materially change.

19 Which is a round-about way of saying that there should be a healthy degree of skepticism if
20 Ameren Missouri’s response is anything but “data center load will pay 100% of data center
21 load.”

22 **Q. Are there any other notable statutory provisions that were signed into law from SB 4 that
23 are relevant to this discussion?**

24 A. Two additional provisions within that bill warrant further discussion. The first is the “Watt for
25 Watt” language found in § 393.401 RSMo which states:

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Prior to the closure of an existing electric generating power plant in Missouri if the
2 closure occurs on or after January 1, 2026, and subject to subsection 3 of this section,
3 an electrical corporation registered and doing business in this state shall first certify to
4 the public service commission that such utility company has secured and placed on the
5 electric grid an equal or greater amount of reliable electric generation as accredited
6 power resources based on the regional transmission operator's resource accreditation
7 for the reliable electric generation technology at issue with consideration of the
8 electrical corporation's anticipated loss of load, if any.

9 And the second is the Construction Work in Progress ("CWIP") found in § 393.135.2 (1)
10 RSMo which states:

11 An electrical corporation may be permitted, subject to the limitations in this subsection,
12 to include construction work in progress for any new natural gas-generating unit in rate
13 base. The inclusion of construction work in progress allowed under this subsection
14 shall be in lieu of any otherwise applicable allowance for funds used during
15 construction that would have accrued from and after the effective date of new base
16 rates that reflect inclusion of the construction work in progress in rate base.

17 **Q. Why is the Watt-for-Watt language germane to this discussion?**

18 A. Ameren Missouri witness Matt Michels suggests that the Commission should approve this
19 application, in part, because the current Ameren IRP envisions retiring the 972 MW Sioux
20 Coal Plant at the end of 2033, 1,186 MW of the combined Labadie Coal Plant at the end of
21 2036 and the remaining 1,186 MW load at Labadie by the end of 2042. Thus, according to Mr.
22 Michels, Big Hollow serves as a reasonable, partial substitute, for future coal retirements and
23 is directionally consistent with the intent of the "watt-for-watt" provision.

24 **Q. Do you agree with this assertion?**

25 A. No. For three primary reasons. The first is that the costs associated with this planned investment
26 are inflated because many utilities in the United States are attempting to procure dispatchable
27 generation to serve data centers all at the same time. All things being equal, the costs of new

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 generation will almost certainly be smaller when demand is not so high in the future and/or as
2 supply increases. Ameren Missouri is paying a hefty cost premium to procure this investment
3 now.

4 Second, the Commission should be skeptical regarding *any* IRP more than a few years out into
5 the future. Look no further than Figure 1 which includes a snippet of Ameren Missouri's 2020
6 preferred resource plan in which it proclaimed that all future resource acquisitions for the next
7 23 years would be renewables. In this plan, filed only five years ago, Ameren Missouri's
8 preferred resource acquisition strategy revolved around retiring Meramec, Sioux, Labadie and
9 Rush Island without bringing on any dispatchable generation to replace it. Such a plan made
10 no sense at the time (or today) and would not be legally permissible now because service would
11 cease to be reliable.

12 Figure 4: Ameren Missouri 2020 Preferred Resource Plan Scenario¹⁹



14 Third, there is reason to believe that the demise of coal plants as a stable, reliable generating
15 unit may be ending based, in part, on recent executive-level actions to keep planned retirements
16 of coal plants at bay and to keep those plants online.²⁰ The Department of Energy also recently

¹⁹ Case No. EO-2021-0021 Ameren Missouri 2020 IRP, Executive Summary p. 2.

²⁰ Best, A. (2025) Colorado made plans to close coal plants. Trump agenda could force a reversal. *Colorado Newsline*. <https://coloradonewsline.com/2025/11/05/colorado-coal-plants-trump/>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 announced \$625 million to “reinvigorate and expand America’s coal industry”²¹ This seems
2 to suggest that most baseload coal plants are not likely to retire anytime soon.

3 With those three facts in mind, I recommend that the Commission reject the argument that the
4 Watt-for-Watt statutory requirement justifies the excessive costs and accelerated timing
5 associated with the generation specified in this application.

6 **Q. What about the availability of CWIP accounting treatment as a recently afforded
7 opportunity for electric utilities?**

8 A. In Case Number ET-2025-0184 I raised concerns surrounding existing customers paying for
9 generation to serve large load customers before those customers come online which would
10 seemingly be in direct conflict with the statutory provision that large load customers pay for
11 the costs that they incur. In an attempt to find out if Ameren Missouri shared this perspective,
12 I issued OPC DR 2008 where I posed this question. Ameren Missouri’s response is as follows:

13 No, the Company does not anticipate requesting CWIP for Big Hollow CTG and BESS
14 Project.²²

15 **Q. Does the Company’s response appease your concerns?**

16 A. It does. Assuming Ameren Missouri does not pivot from this perspective, I am satisfied that
17 this is not an issue moving forward. Further affirmation that this is true in surrebuttal
18 testimony from the Company would of course provide greater assurance.

19 **III. AFFORDABILITY**

20 **Q. Could you summarize why affordability of service to existing ratepayers is of
21 particular concern as it relates to this application?**

22 A. Sure. The proposed application in this docket:

²¹ US Department of Energy (2025) Energy Department Announces \$625 Million Investment to Reinvigorate and Expand America’s Coal Industry. <https://www.energy.gov/articles/energy-department-announces-625-million-investment-reinvigorate-and-expand-americas-coal>

²² OPC DR-2008. See GM-5.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

- 1 • Is not needed to meet the needs of existing customers;
- 2 • Is subject to an excessive cost premium due to the hyperscaler market demand (i.e.,
3 the costs of natural gas plant are categorically more expensive today than they were in
4 2024 due to the demand for dispatchable, natural gas generation);
- 5 • Will be locking Ameren Missouri into a long-lived, path dependent fossil-fuel
6 generation investment with the attendant risks associated with volatility from the
7 natural gas fuel market²³ and future environmental considerations²⁴ at a time when
8 many experts have suggested we may be on the cusp of a nuclear renaissance.²⁵ It will
9 do so to serve a specific subset of opaque customers whose business-model has no
10 clear, articulated path towards profitability and may be fueling an economic bubble.²⁶
- 11 • Is being undertaken after Ameren Missouri customers were asked to shoulder:
 - 12 ○ A 12.5% rate increase (a \$355,000,000 agreed-to increase) per the outcome of
13 Ameren Missouri's April rate increase (Case No. ER-2024-0319);²⁷ and
 - 14 ○ Cost recovery of \$461,418,810 in Rush Island Securitization charges from this
15 past June (Case No. EF-2024-0021) due to the Company's Clean Air Act
16 violation;²⁸
- 17 • As well as future cost recovery of recently approved and/or pending approval of
18 supply-side investment including:

²³ Dezember, R (2025) Natural-gas prices hit highest level since invasion of Ukraine. *The Wall Street Journal*. <https://www.wsj.com/finance/commodities-futures/natural-gas-prices-hit-highest-level-since-invasion-of-ukraine-b21409bb>

²⁴ Copley, M. (2025) Data centers are booming. But there are big energy and environmental risks.. *NPR*. <https://www.npr.org/2025/10/14/nx-s1-5565147/google-ai-data-centers-growth-environment-electricity>

²⁵ Kratsios, M. (2025) Opinion: Trump unleashes US nuclear renaissance with bold executive orders. *Fox News*. Reprinted at <https://www.whitehouse.gov/articles/2025/05/opinion-trump-unleashes-us-nuclear-renaissance-with-bold-executive-orders/>

²⁶ Fried, I. (2025) Yes, AI is in a bubble. No, it's not just hype. *Axios*. <https://www.axios.com/2025/12/08/ai-bubble-open-ai-google-bret-taylor>

²⁷ Missouri Public Service Commission (2025) PSC approves agreement in Ameren Missouri Electric Rate Case. https://psc.mo.gov/Electric/PSC_Approves_Agreement_in_Ameren_Missouri_Electric_Rate_Case--pr-25-33

²⁸ Missouri Public Service Commission (2025) PSC Issues Decision in Ameren Missouri Securitization Case. https://psc.mo.gov/Electric/PSC_Issues_Decision_in_Ameren_Missouri_Securitization_Case--pr-24-146

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

- 1 ○ An estimated \$900,000,000 for 800 MW of natural gas generating power units
2 at the Castle Bluff site (Case No. EA-2024-0237);²⁹
- 3 ○ A risk-adjusted cost estimate of *** _____ *** for 250 MW of utility-
4 scale solar and a switching station at the Company's proposed Reform Solar
5 site (Case No EA-2025-0239);³⁰
- 6 ○ An estimated *** _____ *** for 300 MW of solar at its Split Rail site
7 (Case No. EA-2023-0286);³¹
- 8 ○ An estimated *** _____ *** for 50 MW of solar at its Vandalia site
9 (Case No. EA-2023-0286);³² and
- 10 ○ An estimated *** _____ *** for 50 MW of solar at its Bowling Green
11 site (Case No. EA-2023-0286).³³

12 Importantly, these costs do not consider the additional CAPEX expenditures contemplated by
13 the Company and articulated in the direct testimony of Ameren Missouri witness Steven M.
14 Wills who states:

15 The Company's existing rate base—financed by an appropriate balance of debt and
16 equity—exceeds \$13 billion [today], and its planned capital additions over the coming
17 five years (not including the Projects) also exceeds \$16 billion.³⁴

18 In a relatively short amount of time (approximately five years), Ameren Missouri plans to
19 spend roughly 150% more than the entirety of its existing rate base valuation. What this means
20 to existing ratepayers and whether they will continue to be able to afford their electric bill in
21 the face of uncertain load forecasts is my primary concern and should be top of mind for this
22 and future Commissions as they are being tasked with approving massive amounts of CAPEX.

²⁹ Case No. EA-2024-0237 Direct Testimony of Christopher A. Stumpf p. 7, 2.

³⁰ Case No EA-2025-0239 Direct Testimony of Mitchell Lansford p. 3, 21.

³¹ Case No. EA-2023-0286 Direct Testimony of Scott Wibbenmeyer p. 6,1.

³² *Ibid.*

³³ *Ibid.*

³⁴ Case No. EA-2025-0238. Direct Testimony of Steven M. Wills, p. 8, 24 & p. 9, 1-2.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Of course, the Commission should be cognizant that the request for the proposed investments
2 in this CCN application as well as the forecasted additional \$16 billion in CAPEX build-out
3 over the next five years are occurring while cost increases are plaguing almost every feature of
4 ratepayers' consumer life. This includes inflation that has been stubbornly persistent,³⁵ weak
5 job growth,³⁶ increased defaults on house,³⁷ car,³⁸ credit,³⁹ and student loans,⁴⁰ and cuts (or
6 threatened cuts) to federal assistance for energy,⁴¹ housing,⁴² childcare,⁴³ medical insurance,⁴⁴
7 and food assistance⁴⁵ for much of the population. All of which are likely exacerbating both the
8 volume of disconnections and the average arrearage amounts.⁴⁶

9 **Q. What is your recommendation?**

10 A. I recommend that Ameren Missouri file in surrebuttal testimony what more than \$16 billion
11 in planned CAPEX in five years will mean to their existing customers rates explained in
12 terms of future rate increase requests. More to the point, what can existing customers

³⁵ Lu, M. (2025) Visualized: U.S. Inflation by Category in 2025. *Visual Capitalist*.

<https://www.visualcapitalist.com/visualized-u-s-inflation-by-category-in-2025/>

³⁶ Irwin, N. (2025) The weak-but-not-disastrous November jobs picture. *Axios*.

<https://wwwaxios.com/2025/12/05/adp-report-ai-fed-jobs-market>

³⁷ Osman, J. (2025) Mortgage Delinquencies Are Exploding: What Smart Investors See Coming. *Forbes*.

<https://www.forbes.com/sites/jimosman/2025/07/12/mortgage-delinquencies-are-exploding-what-smart-investors-see-coming/>

³⁸ Helmore, E. (2025) 'Finances are getting tighter': US car repossession surge as more Americans default on auto loans. *The Guardian*. <https://www.theguardian.com/business/2025/oct/17/us-car-repossessions-economy>

³⁹ White, A. (2025) Credit card debt in the U.S. hits all-time high of \$930 billion—here's how to tackle yours with a balance transfer. *CNBC*. <https://www.cnbc.com/select/us-credit-card-debt-hits-all-time-high/>

⁴⁰ Wheat, C. et al., (2025) Overdue student loans on the rise: Potential causes and implications for wage garnishment. *JPMorgan Chase*. <https://www.jpmorganchase.com/institute/all-topics/financial-health-wealth-creation/overdue-student-loans-and-wage-garnishment>

⁴¹ NEADA (2025) LIHEAP Still Here, But Threats Loom. <https://neada.org/press/liheap-under-threat/>

⁴² Acosta, A. & Gartland, E. (2025) House Bill Would Leave Over 400,000 More People Without Stable, Affordable Housing. *Center for Budget and Policy Priorities*. <https://www.cbpp.org/research/housing/house-bill-would-leave-over-400000-more-people-without-stable-affordable-housing>

⁴³ Mader, J. (2025) Child care crisis deepens as funding slashed for poor families. *The Hechinger Report*. <https://hechingerreport.org/child-care-crisis-deepens-as-funding-slashed-for-poor-families/>

⁴⁴ Mosbergen, D. et al., (2025) How Healthcare Cuts in the 'Big, Beautiful Bill' Will Affect Americans. *The Wall Street Journal*. <https://www.wsj.com/health/healthcare/medicaid-cuts-healthcare-trump-bill-7236d5e6>

⁴⁵ Kekatos, M. (2025) SNAP is back, but millions of Americans could lose benefits due to new restrictions. *ABC News*. <https://abcnews.go.com/Health/snap-back-millions-americans-lose-benefits-due-new/story?id=127593186>

⁴⁶ Grumke, K. (2025) Ameren Missouri cut off power for 17,000 customers in October. *STLPR*.

<https://www.stlpr.org/news-briefs/2025-11-12/ameren-missouri-disconnect-power-17-000-customers-october>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 reasonably expect the next five to eight years of future rate increase requests will be when
2 Ameren Missouri wants approval to finance a second utility and more worth of investment
3 to meet the speculative data center load over the next five years?

4 Ameren Missouri should provide this answer in terms of percentage increases and projected
5 rate case filings from its currently authorized bills.

6 To the extent that Ameren Missouri rejects this recommendation, I would encourage the
7 Commission to order the Company to provide such an analysis as a condition for approval
8 so no one can be accused of being “caught off guard” by future rate relief requests before
9 said investments are made.

10 **Q. Didn't Ameren Missouri witness Steven M. Wills conduct a risk analysis in Case ET-
11 2025-0184 that produced such a scenario?**

12 A. In part, and, to his credit, much more than I have seen anyone else attempt to date. However,
13 Mr. Wills' analysis is neither straightforward nor contemplates worst-case scenarios in
14 which data center actors are insolvent or the demand does not materialize as planned. More
15 to the point, the closest Mr. Wills comes to articulating what to expect for future rate
16 increases is as follows:

17 Both Company and Midwest and the national average trends show an acceleration
18 in rate growth, with the most recent levels—which I expect to be more in line with
19 the future—at or exceeding 4% CAGRs [compounded annual growth rate].⁴⁷

20 Mr. Wills (or another Ameren Missouri employee) now has the opportunity to be crystal
21 clear if last summer's rate increase (12.5%) will now be “the norm” or if there is reason to
22 believe it will be much greater moving forward.

23 **Q. Has anyone asked Ameren Missouri if they performed such an analysis already?**

24 A. In part. Staff DR-0152 requests and Ameren Missouri responds as follows:

⁴⁷ ET-2025-0184 Direct Testimony of Steven M. Wills, p. 33, 2-4.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 **Question:**

2 Did Ameren Missouri perform any analysis to determine the impact of the Big
3 Hollow Projects on ratepayer bills by rate class? If yes, provide such documentation
4 and the impact on a customer who uses 1,000 kWh a month. If no, please explain
5 why such an analysis was not performed?

6 **Response:** No such analysis was performed. In the many CCN cases the Company
7 has filed, no such analysis has ever been performed, and neither the Commission nor
8 any party has expressed or identified a need for such an analysis.⁴⁸

9 **Q. What is your response?**

10 A. I am now formally requesting this and a larger analysis of what the impact of more than \$16
11 billion in planned investment in five years will be for a customer that consumes 1,000 kWh
12 a month. Such a request may never have happened before, but to my knowledge, Ameren
13 Missouri has never publicly stated that it will more than double its rate base in a couple of
14 years either.

15 If rate impacts are going to largely be in line with historic norms, then that will no doubt go
16 a long way towards appeasing myself, the Commission, and presumably the public at large.
17 If not, how “bad” can it get should be out-in-the-open. To not undertake that endeavor would
18 be grossly negligent.

19 **Q. Won’t the future rate increases depend on how much load comes online?**

20 A. Yes, among other things. To be entirely transparent, I have no idea how much load is likely,
21 where that load will be placed, who is ultimately responsible for paying for that load and
22 under what terms. To be fair, the Commission just approved the non-unanimous stipulation
23 and agreement governing the data center load tariff, but questions remain as Ameren
24 Missouri seeks approval of the generation investments sought to serve that speculative load.

⁴⁸ See GM-6.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 **Q. Could you provide a real-world example that illustrates your concern?**

2 A. Sure. I believe it is very easy to assume data center build-out is entirely financed by the
3 major tech companies. The reality of the situation is much more complicated and opaque
4 as the terms, players, and attendant risk (to captive ratepayers) involved in any given data
5 center investment can vary considerably with actual ownership often misrepresented in the
6 press. For example, the \$30 billion, 5 GW planned Hyperion data center in Northeast
7 Louisiana is typically referred to as “Meta’s Hyperion Data Center.”⁴⁹ But in reality, Meta
8 will lease space at Hyperion under four-year contract terms and only own a 20% stake in
9 the actual data center itself. The remaining 80% of the \$30 billion investment is owned by
10 Blue Owl Capital (“Blue Owl”).

11 The question that should immediately arise is whether or not you believe Blue Owl or Meta
12 is likely to go under if the AI bubble pops and value is destroyed.

13 My position is that Blue Owl Capital is *much* more likely to go insolvent than Meta if we
14 find out that massive data center buildout was not warranted. The implications for the local
15 utility and the inelastic ratepayers taking service from that utility are immense if a massive
16 market correction were to occur and projected load growth never materializes. In the
17 Hyperion example, existing ratepayers and utility shareholders have greater risk under the
18 80 (Blue Owl) /20 (Meta) arrangement than if it was 100% owned by Meta, given Meta’s
19 diversified revenue stream.

20 For my part, today, I have no details of any of the terms of these contracts. That opaqueness
21 extends to the design of the data centers themselves (e.g., will it rely more on available
22 water resources to cool the facility or energy-intensive HVACs?) which also creates future
23 resource planning challenges.

⁴⁹ Wilkins, J. (2025) Meta’s \$27 billion datacenter is wreaking havoc on a Louisiana town. *Futurism*.
<https://futurism.com/artificial-intelligence/meta-hyperion-data-center-louisiana>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 **III. NET ZERO PLEDGE**

2 **Q. What is Ameren Missouri's stated climate goal?**

3 A. According to Ameren's sustainability web page titled "Air, Water & Climate Change" it
4 states:

5 Ameren has set ambitious goals to guide us on our path to a sustainable energy
6 future. We strive to achieve net-zero carbon emissions by 2045 and are targeting a
7 95% reduction of water withdrawn for thermal generation by 2045. Our goal is to
8 reduce carbon emissions 60% by 2030 and 85% by 2040, from 2005 levels. The new
9 goals accelerate and expand on our 2020 pledge and are consistent with the
10 objectives of the Paris Agreement in limiting global temperature rise to 1.5 degrees
11 Celsius.⁵⁰

12 **Q. How is that going?**

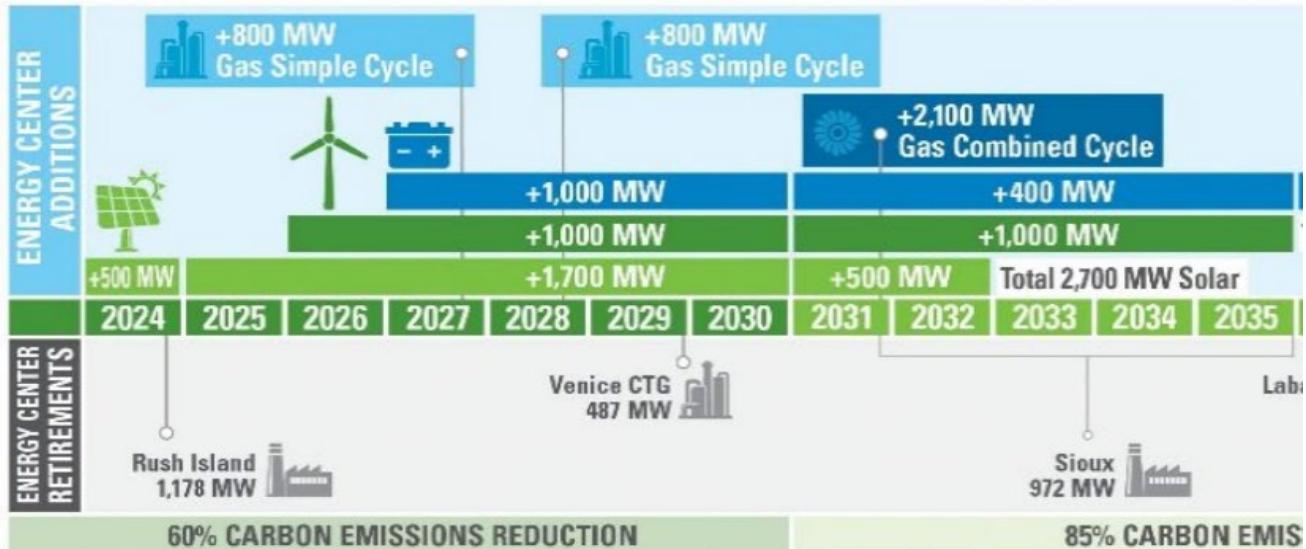
13 A. Not well.

14 There appears to be a healthy degree of cognitive dissonance occurring between Ameren
15 Missouri's aspirational goals and its actions. A look at the planned generation investment
16 build/retirement cycles included in Mr. Michel's testimony is illuminating and can be seen
17 in Figures 5 & 6 below.

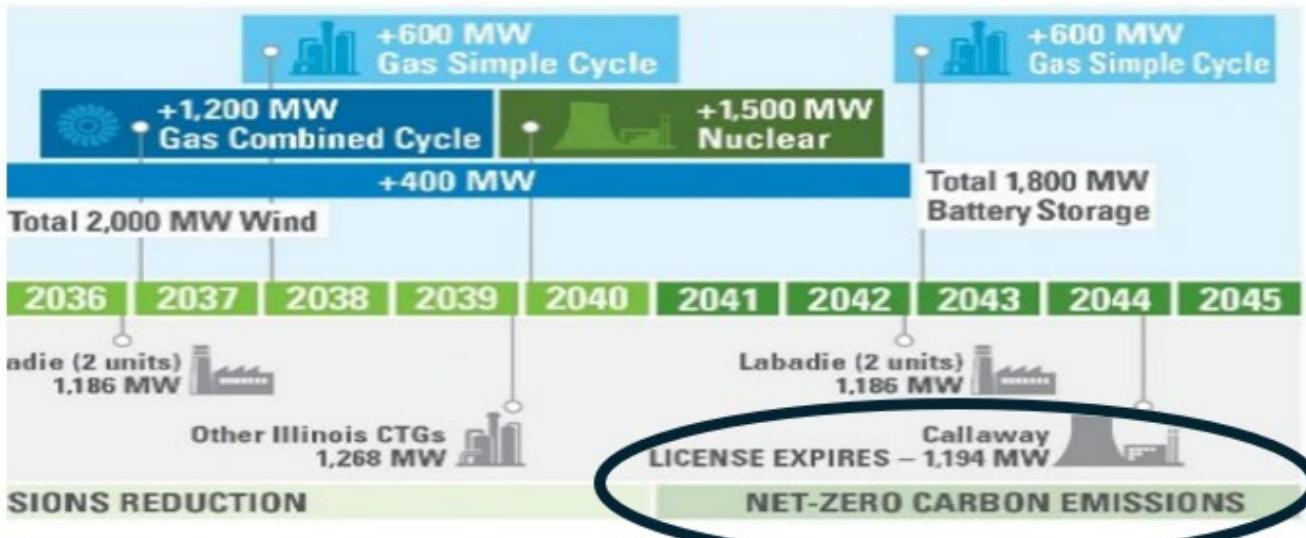
⁵⁰ Ameren (2025) Air, Water and Climate Change. <https://www.ameren.com/sustainability/air-water-climate>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Figure 5: 2024-2035 Ameren Missouri Build/Retirement Cycle



2
3 Figure 6: 2036 – 2045 Ameren Missouri Build/Retirement Cycle



4
5 Q. What should the Commission note from these figures?
6 A. First, that Ameren Missouri is planning on 6.1 GW of natural gas investment over the next
7 twenty years.

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 Second, that Ameren Missouri is claiming that in 2041 the Company will be “net-zero”
2 (highlighted in Figure 4).

3 To my knowledge those two facts are not possible unless cost prohibitive technologies are
4 adopted such as Carbon Capture, Utilization and Storage (“CCUS”) are adopted which will
5 likely impact the natural gas units plant efficiency.

6 **Q. Have those costs been contemplated in this filing?**

7 A. No.

8 **Q. What is your recommendation?**

9 A. My recommendation is for either Ameren Missouri to publicly declare they have dropped
10 this self-imposed initiative or calculate and include those expected costs in its surrebuttal
11 testimony.

12 **IV. BESS FIRE SUPPRESSION AND INCIDENT RESPONSE PLANS**

13 **Q. Do BESS units pose unique emergency planning challenges?**

14 A. Yes, utility-scale batteries pose unique emergency planning challenges due to thermal
15 runaway risks, toxic/flammable gas release (like hydrogen cyanide), difficult-to-extinguish
16 fires that can reignite, and hazardous runoff, requiring specialized training, and specific
17 tactics like "controlled burns" to manage environmental and health hazards effectively,
18 differing greatly from traditional fires.

19 **Q. Have there been any high profile examples that come to mind?**

20 A. Yes, a major fire erupted at Vistra's Moss Landing battery energy storage facility (the
21 world's largest battery facility) in California on January 16, 2025, damaging about 55% of
22 its 100,000 lithium-ion batteries, causing mass evacuation due to the release of toxic smoke
23 from heavy metals, leading to health concerns, lawsuits, and triggering significant
24 environmental cleanup efforts overseen by the EPA.⁵¹

⁵¹ US EPA (2025) Moss Landing Vistra Battery Fire Response. <https://www.epa.gov/ca/moss-landing-vistra-battery-fire>

Rebuttal Testimony of
Geoff Marke
File No.: EA-2025-0238

1 The fire at Moss Landing and its fallout holds lessons for stakeholders in this docket to plan
2 accordingly with local communities and first responders. Ensuring proper BESS
3 containment and monitoring and meeting and planning incident response plans with local
4 fire officials before new facilities open is imperative.

5 **Q. Have you any reason to doubt that Ameren Missouri has not or will not do that?**

6 A. I do not. My concern here is merely to highlight that utilities have little experience with
7 large-scale storage systems and we have every reason to believe that as the costs start to
8 drop for batteries we will see more of these units deployed. With that in mind, I believe it
9 is incumbent for Ameren Missouri to articulate the mitigation efforts it plans to undertake
10 with the Commission.

11 **Q. What is your recommendation?**

12 A. If the BESS feature of this application is approved by the Commission, I recommend that
13 Ameren Missouri be required to meet with OPC and Staff at least once to discuss the
14 mitigation efforts it plans to make along with a filed report within 90 days of the operation
15 of law date that provides details on the battery system's fire suppression features and
16 incident response plans with first responders.

17 **Q. Does that conclude your testimony?**

18 A. Yes.

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

In the Matter of the Application of Union Electric)
Company d/b/a Ameren Missouri for Permission) Case No. EA-2025-0238
and Approval and Certificates of Convenience)
and Necessity Authorizing it to Construct a New)
Generation Facility and Battery Energy Storage)
System)

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

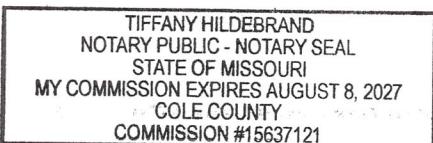
Geoff Marke, of lawful age and being first duly sworn, deposes and states:

1. My name is Geoff Marke. I am a Chief Economist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.



Geoff Marke
Chief Economist

Subscribed and sworn to me this 8th day of December 2025.



My Commission expires August 8, 2027.



Tiffany Hildebrand
Notary Public