

Exhibit No.:
Issue(s): *Business Demand Response
and MISO PRA*
Witness: *Jordan T. Hull*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case No.: *EO-2023-0136*
Date Testimony Prepared: *March 1, 2024*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENERGY RESOURCES DEPARTMENT

DIRECT TESTIMONY

OF

JORDAN T. HULL

**UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI**

CASE NO. EO-2023-0136

*Jefferson City, Missouri
March, 2024*

**TABLE OF CONTENTS OF
DIRECT TESTIMONY
OF
JORDAN T. HULL**

**UNION ELECTRIC COMPANY,
d/b/a AMEREN MISSOURI
CASE NO. EO-2023-0136**

1		
2		
3		
4		
5		
6		
7		
8		
9	EXECUTIVE SUMMARY	1
10	ARCS AND BDR BUDGETS.....	2
11	CHANGES IN MISO PRA.....	4

1 **DIRECT TESTIMONY**

2 **OF**

3 **JORDAN T. HULL**

4 **UNION ELECTRIC COMPANY,**

5 **d/b/a AMEREN MISSOURI**

6 **CASE NO. EO-2023-0136**

7
8 Q. Please state your name and business address.

9 A. Jordan T. Hull, 200 Madison Street, Jefferson City, Missouri 65102.

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

11 A. I am employed by the Missouri Public Service Commission (“Commission”)
12 as an Associate Engineer in the Energy Resources Department.

13 Q. Please describe your educational background and work experience.

14 A. Please refer to the attached Schedule JTH-d1.

15 Q. Have you previously filed testimony before this Commission?

16 A. Yes, I have. Please refer to the attached Schedule JTH-d1 for a list of cases in
17 which I have previously filed testimony.

18 **EXECUTIVE SUMMARY**

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

20 A. I support Staff’s overall recommendation in this case that it is not reasonable
21 at this time for the Commission to approve a MEEIA program portfolio and its corresponding
22 cost recovery. My direct testimony discusses certain aspects of Aggregator of Retail
23 Customers (“ARCs”), Union Electric Company d/b/a Ameren Missouri’s (“Ameren”)
24 Business Demand Response (“BDR”), and the Midcontinent Independent System Operator
25 (“MISO”) Planning Resource Auction (“PRA”). If the Commission determines that

1 MEEIA programs should continue, my direct testimony will provide certain issues the
2 Commission should consider.

3 **ARCs AND BDR BUDGETS**

4 Q. What is an ARC?

5 A. According to MISO,

6 An ARC is a Market Participant (“MP”) that represents demand response on behalf of
7 one or more eligible retail customers, for which the participant is not such customers’
8 Load Serving Entity (“LSE”), and intends to offer demand response directly into the
9 Transmission Provider’s Energy and Operating Reserve Markets as a Demand
10 Response Resource (“DRR”), as a Planning Resource such as a Load Modifying
11 Resource (“LMR”) or an Emergency Demand Response (“EDR”) resource.”¹

12 Q. Are ARCs now able to operate in Missouri?

13 A. Yes, the Commission opened a working docket, EW-2021-0267, to receive input and
14 determine how the Commission may best respond to the changes that will result from
15 implementation of the Federal Energy Regulatory Commission’s (“FERC”) Order No. 2222,
16 and to review the Commission’s current practices in the areas affected by that order. Initial
17 comments in March and April of 2021 requested the Commission re-examine its 2010 Order
18 temporarily prohibiting the demand response load reductions of customers of the
19 four Missouri electric utilities regulated by the Commission from being transferred to the
20 wholesale electricity markets directly by retail customers or third-party aggregations of retail
21 customers. In the EW-2021-0267 order, the Commission lifted a portion of the prohibition to
22 allow larger commercial and industrial (“C&I”) customers (100 kW or larger) to participate
23 in demand response programs in wholesale electricity markets directly or through an ARC.
24 The original order was to be effective December 11, 2023; however, on November 29, 2023,

¹ Miso.org, Frequently Asked Questions: Aggregator of retail Customers (ARC), page 3

1 the Commission issued an order extending the effective date of its partial modification order
2 to January 1, 2024.

3 Q. What is a Business Demand Response (BDR) Program?

4 A. Per the Department of Energy, “Business demand response allows commercial and
5 industrial organizations to play a significant role in balancing the supply and demand of
6 electricity. During peak periods or times of grid stress, businesses can voluntarily reduce or
7 shift their electricity usage. By doing so, they contribute to maintaining grid stability and
8 preventing overloads. Utilities or grid operators pay these businesses for their participation in
9 demand response programs. Essentially, companies receive compensation for adjusting their
10 energy consumption when needed. Power companies can cycle air conditioners and water
11 heaters on and off during peak demand in exchange for financial incentives and lower
12 electric bills.”²

13 Q. Can retail customers participate in a utility Missouri Energy Efficiency Investment Act
14 (“MEEIA”) BDR program and be a participant in an ARC’s demand response program?

15 A. No, the Commission’s order in EW-2021-0267 does not allow for it.

16 Q. If the Commission determines that ratepayer funded BDR programs should continue,
17 should a MEEIA business demand response program budget decrease with the Commission’s
18 lifting of the ARC prohibition?

19 A. Staff would expect some business customers to move from utility BDR programs to
20 ARCs. Staff would expect the BDR budgets to decrease over time as businesses start
21 recognizing this new emerging market with more opportunities. From a fair competition

² [Demand Response | Department of Energy](https://www.energy.gov/demand-response), www.energy.gov

1 perspective, Staff would also expect the utility company's BDR incentives to not be higher
2 than the ARCs.

3 **CHANGES IN MISO PRA**

4 Q. What is the MISO PRA?

5 A. The MISO PRA is an annual capacity auction through which electricity providers can
6 procure planning resources to meet MISO's resource adequacy requirements.
7 Electric generators and aggregators of demand-side resources (like demand response) can sell
8 resources into the auction, and electric providers serving customers can buy resources from
9 the auction. The auction helps to determine whether there are adequate electric supplies to
10 meet the anticipated peak customer demands for the entire MISO footprint, as well as whether
11 there is enough supply in each local resource zone to ensure reliability of the grid at
12 a local level.

13 Q. What significant change did MISO make for the 2023/2024 PRA?

14 A. MISO's PRA is now a seasonal construct, accepted by FERC in September 2022, that
15 introduces seasonal requirements to the PRA to account for the unique risk profile of each
16 season.³ MISO has defined the seasons as: Summer: June through August; Fall:
17 September through November; Winter: December through February; and Spring:
18 March through May. In this auction, individual Load Serving Entities (LSEs), such as
19 Ameren Missouri, can procure resources to cover their electricity load and a margin for likely
20 scenarios, collectively known as the Planning Reserve Margin Requirement (PRMR).
21 The auction is location-specific, encouraging the acquisition of resources in zones where they

³ Prior to 2022, MISO's PRA was held to meet peak summer load.

1 provide the most benefit. The MISO Planning Resource Auction (PRA) is based on several
2 key factors to ensure reliable resource availability and efficient market operations within
3 the Midcontinent Independent System Operator (MISO) region:

4 1. Planning Reserve Margin (PRM) Requirements:

- 5 ○ The PRM is determined for each Load Serving Entity (LSE) or
- 6 Electric Distribution Company (EDC).
- 7 ○ It is calculated as the forecasted Coincident Peak Demand, including
- 8 transmission losses, multiplied by one plus MISO's Planning Reserve Margin.

9 2. Resource Adequacy:

- 10 ○ Resource adequacy ensures that there is enough available power to meet peak
- 11 demand at all times.
- 12 ○ MISO serves as an intermediary between energy sellers and buyers through the
- 13 Planning Resource Auction.

14 3. Auction Clearing Prices (ACP):

- 15 ○ The PRA calculates ACP for each Local Resource Zone (LRZ) while
- 16 respecting sub-regional constraints and transmission limitations.
- 17 ○ These prices are essential for resource procurement and planning within MISO.

18 In summary, the MISO PRA combines load forecasts, reserve margin requirements, and
19 market mechanisms to maintain grid reliability and facilitate resource acquisition for
20 electricity providers.⁴

21 Q. Now that MISO has the seasonal construct for its PRA, what would Staff expect?

⁴ [Resource Adequacy \(misoenergy.org\)](https://www.misoenergy.org).

Direct Testimony of
Jordan T. Hull

1 A. MISO now determines its capacity needs for four distinct seasons, with a distinct
2 capacity value associated with each season. Ameren MEEIA programs should be mindful of
3 MISO capacity needs for each distinct season. Staff witness J Luebbert discusses avoided
4 costs and cost-effectiveness.

5 Q. Does this conclude your direct testimony?

6 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a)
Ameren Missouri's 4th Filing to Implement)
Regulatory Changes in Furtherance of Energy) Case No. EO-2023-0136
Efficiency as Allowed by MEEIA)
)

AFFIDAVIT OF JORDAN T. HULL

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW JORDAN T. HULL and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of Jordan T. Hull*; and that the same is true and correct according to his best knowledge and belief.

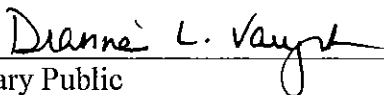
Further the Affiant sayeth not.



JORDAN T. HULL

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of February 2024.



Notary Public

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 18, 2027
Commission Number: 15207377

Jordan T. Hull

CURRENT POSITION:

I am currently an Associate Engineer in the Energy Resources Department, Industry Analysis Division, of the Missouri Public Service Commission.

EDUCATIONAL BACKGROUND & WORK EXPERIENCE:

I received my Bachelor of Science Degree in Biological Engineering from the University of Missouri-Columbia in May of 2016. In June of 2016 I began employment with the Missouri Department of Natural Resources in the Air Pollution Control Program as an Environmental Engineer I. In June of 2017, I was promoted to an Environmental Engineer II within the Air Pollution Control Program. I began employment with the commission in November of 2018.

Summary of Case Involvement:

Case Number	Utility	Type	Issues
EO-2019-0067	KCP&L GMO	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization
EO-2019-0068	KCP&L	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization
EO-2019-0049	Liberty-Empire Electric Company	Integrated Resource Plan	Misc.
EO-2019-0132 & EO-2019-0133	KCP&L	MEEIA	Misc.
EO-2019-0257	Ameren- Missouri	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization
ER-2019-0335	Ameren- Missouri	Rate Case	Heat Rates
ER-2019-0374	Liberty-Empire Electric Company	Rate Case	Heat Rates
EO-2020-0059	Liberty-Empire Electric Company	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization
EO-2020-0262	EvergyWest	FAC Prudency Review	Heat Rates, Plant Outages, Generation

			Utilization, Self-Commitment.
EO-2020-0263	Evergy Metro	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization, Self-Commitment
EO-2021-0060	Ameren- Missouri	FAC Prudency Review	Heat Rates, Plant Outages, Generation Utilization, Self-Commitment
EO-2021-0021	Ameren- Missouri	Integrated Resource Plan	Misc.
EO-2021-0281	Liberty- Empire	FAC Prudency Review	Heat Rate, Plant Outages, Generation Utilization, Self-Commitment
EO-2021-0035	Evergy- Metro	Integrated Resource Plan	Misc.
EO-2021-0036	Evergy- West	Integrated Resource Plan	Misc.
EO-2021-0060	Ameren- Missouri	FAC Prudency Review	Heat Rate, Plant Outages, Generation Utilization, Self-Commitment
ER-2021-0240	Ameren- Missouri	Rate Case	Heat Rate
ER-2021-0312	Liberty- Empire	Rate Case	Heat Rate
EO-2021-0331	Liberty Empire	Integrated Resource Plan	Misc.
EA-2022-0099	Ameren- Missouri	CCN	Qualified to construct
EO-2022-0337	Ameren- Missouri	Rate case	Heat Rate
E0-2022-0245	Ameren- Missouri	CCN	Qualified to construct
EO-2023-0087	Liberty- Empire	FAC Prudency Review	Heat Rate, Plant Outages, Generation Utilization, Self-Commitment
EA-2023-0017	Grain Belt Express LLC	CCN	Qualified to construct
EO-2023-0180	Ameren- Missouri	MEEIA Prudency Review	Demand Response