

SOUTHERN INDIANA GAS AND ELECTRIC COMPANY  
d/b/a CENTERPOINT ENERGY INDIANA SOUTH  
(CEI SOUTH)

IURC CAUSE NO. 43406 RCRA 21

DIRECT TESTIMONY  
OF  
F. SHANE BRADFORD

IURC  
PETITIONER'S  
EXHIBIT NO. 10-10-23  
DATE 10-10-23 REPORTER 2

VICE PRESIDENT OF POWER GENERATION OPERATIONS

ON

UPDATES ON CAPACITY PURCHASES

OFFICIAL  
EXHIBITS

PETITIONER'S EXHIBIT NO. 2  
DIRECT TESTIMONY OF F. SHANE BRADFORD

Cause No. 43406 RCRA 21

1    **INTRODUCTION**

2

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

4    A.     My name is F. Shane Bradford. My business address is 211 NW Riverside Drive,  
5            Evansville, Indiana, 47708.

6

7    **Q.     By whom are you employed?**

8    A.     I am employed by Southern Indiana Gas and Electric Company d/b/a CenterPoint  
9            Energy Indiana South ("CEI South").<sup>1</sup>

10

11   **Q.     On whose behalf are you submitting this direct testimony?**

12   A.     I am submitting testimony on behalf of CEI South, which is an indirect subsidiary of  
13            CenterPoint Energy, Inc.

14

15   **Q.     What is your role with respect to CEI South?**

16   A.     I am Vice President, Power Generation Operations.

17

18   **Q.     Please describe your educational background.**

19   A.     I received a Bachelor of Science in Civil Engineering (1992) from the University of  
20            Dayton and a Master's in Business Administration (2002) from Indiana State  
21            University.

22

23   **Q.     Please describe your professional experience.**

24   A.     I began my career in the utility industry at Dayton Power and Light Co. performing  
25            various maintenance and production roles within the electric generation division from  
26            1992 to 1999. In 1999, I joined Cinergy's electric generation division and carried out  
27            various maintenance and production responsibilities until 2003 when I became a plant  
28            manager for one of Cinergy's subsidiaries—Trigen Cinergy Solutions LLC. In 2004, I  
29            took a position with CEI South as a Power Plant Director responsible for providing

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1 For the sake of clarity, my testimony refers to CEI South, even though in certain situations, I may be referring to one of CEI South's predecessor companies.

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leadership and management focused on safe, environmentally responsible, reliable, and efficient electric generation. In 2021, I was reassigned to Director, Power Supply Service where I was responsible for Wholesale Power Marketing, Market Settlements, and Market Development. I was named to my current position in January 2023.

**Q. Please describe your present duties and responsibilities as CEI South's Vice-President, Power Generation Operations.**

A. As Vice President, Power Generation Operations, I am responsible for the overall budgeting, operation, maintenance, and personnel decisions for Petitioner's electric generation fleet. In addition, I have responsibility for ensuring demand of our customers is met at a reasonable cost through the production and purchase of electric energy (including fuel purchases) necessary to meet the needs of our jurisdictional customers. I am responsible for completing these functions while ensuring compliance with the environmental requirements of all applicable regulatory or governmental agencies. As part of overseeing Petitioner's generation assets, I supervise personnel providing cost inputs to the modeling associated with the Integrated Resource Plan ("IRP") process. In addition, I have responsibility for the commercial negotiations and dealings with generation resources.

**Q. Have you previously testified before the Indiana Utility Regulatory Commission ("Commission")?**

A. Yes. I provided testimony before the Commission in Cause No. 45501 in support of Petitioner's request for: (i) a Certificate of Public Convenience and Necessity ("CPCN") to purchase and acquire, indirectly through a Build Transfer Agreement ("BTA"), a 300 Megawatt alternating current ("MWac") solar facility in Posey County; and (ii) authorization to enter into a Power Purchase Agreement ("PPA") to purchase energy and capacity from a 100 MWac solar project in Warrick County ("Warrick County Solar Project"). I also provided testimony before the Commission in Cause No. 45564 in support of CEI South's request for a CPCN to construct two natural gas Combustion Turbines ("CTs") providing approximately 460 MW of capacity. In addition, I provided testimony before the Commission in: (1) Cause No. 45754 in support of CEI South's request for a CPCN to purchase and acquire, indirectly through a BTA, a 130 MWac

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1 solar facility in Pike County, Indiana (the "Pike County Solar Project"); (2) Cause No.  
2 45836 in support of CEI South's request for a CPCN to purchase and acquire,  
3 indirectly through a BTA, a wind facility (the "Wind Project"); and (3) Cause 45847 in  
4 support of CEI South's request for a CPCN to purchase and acquire, indirectly through  
5 an Amended and Restated BTA, a 191 MWac solar facility in Posey County, Indiana.  
6 Additionally, I have testified on behalf of Petitioner in its Fuel Adjustment Clause  
7 ("FAC") proceedings, sub-docket FAC 137 S1 under Cause No. 38708, its Clean  
8 Energy Cost Adjustment ("CECA") under Cause No. 44909, and its Environmental  
9 Cost Adjustment ("ECA") under Cause No. 45052.

10  
11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. I describe the need for bilateral capacity purchases made to cover the 2023/2024 and  
13 2024/2025 MISO planning seasons to provide capacity for the time between when  
14 A.B. Brown units 1 and 2 are retired, along with the anticipated exit of the joint  
15 operating agreement ("JOA") with Alcoa for Warrick unit 4, and when new natural gas  
16 combustion turbines and renewable projects are expected to come online.

17  
18 **Q. Are you sponsoring any attachments to your testimony?**

19 A. No.  
20

21 **Q. What steps does CEI South take to ensure it is able to meet its MISO planning**  
22 **reserve margin requirement ("PRMR")?**

23 A. CEI South uses a combination of owned generation resources, bilateral capacity  
24 purchases, and, when necessary, capacity market purchases to meet its PRMR.  
25

26 **Q. What happens if CEI South does not have enough capacity to meet its PRMR?**

27 A. If CEI South would not have enough owned capacity or bilateral capacity purchases  
28 to meet its PRMR, then CEI South would have to participate in the MISO Planning  
29 Resource Auction ("PRA"), which is an annual capacity auction where CEI South and  
30 other utilities can procure capacity to meet MISO's resource adequacy requirements.  
31

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1     **Q.     How does the PRA work?**

2     A.     MISO will clear resources from within each Local Resource Zone based upon  
3           economic merit, until each zone's local clearing requirement ("LCR") has been  
4           reached.<sup>2</sup> After the zone's LCR has been reached, MISO will continue to clear  
5           resources from both within and outside of the local zone based upon economic merit,  
6           until the zone's PRMR is reached. The auction clearing price is the price of the most  
7           expensive capacity resource that cleared in the auction. In the event that there are  
8           insufficient resources to meet the zone's LCR or the zone's PRMR, the auction  
9           clearing price will be the Cost of New Entry ("CONE"), which is the cost of a new  
10          natural-gas-fired combustion turbine facility in the zone.

11

12    **Q.     Can CEI South rely on the PRA to supply most of its capacity requirements?**

13    A.     No. Indiana House Enrolled Act 1007 was signed into law by Governor Eric J.  
14          Holcomb, with an effective date of July 1, 2023. The bill amended Ind. Code § 8-1-8.5-  
15          13, and requires that CEI South obtain no more than fifteen percent (15%) of its  
16          seasonal unforced capacity ("UCAP") requirements from capacity markets like the  
17          PRA. Prior to this change, the law allowed a public utility to acquire up to 30% of its  
18          UCAP requirements from capacity markets. If CEI South exceeds the 15% limit, it  
19          could be subject to investigation by the Commission.

20

21    **Q.     Does a capacity shortfall present risks to customers?**

22    A.     Yes, as MISO pointed out in their 2022 PRA results: "The auction results indicate that  
23          MISO North/Central Regions have a slightly increased risk of needing to implement  
24          temporary controlled load sheds."<sup>3</sup> The potential load shed impact to customers  
25          illustrates how imperative it is for each MISO zone, and each utility to meet its own  
26          PRMR.

27

28    **Q.     What were the results of the 2022 MISO PRA?**

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2 The LCR is defined on MISO's website at the following link:  
<https://help.misoenergy.org/knowledgebase/article/KA-01072/en-us>

3 See <https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf>

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1 A. MISO's 2022 PRA Results revealed a capacity shortfall for the MISO North and Central  
2 Regions, thus exposing utilities with net short positions to the PRA auction clearing  
3 price of CONE for the planning year – \$236.66/MW-Day. MISO commented in the  
4 2022 PRA results “The 2020-21 OMS-MISO survey projected a small surplus for  
5 planning year 2022-23, which was eroded by an increased load forecast, less capacity  
6 entering the auction as result of retirements, and the decreased accredited capacity of  
7 new resources.”<sup>4</sup>

8

9 **Q. What does the PRA clearing price of CONE really mean?**

10 A. Utilities that needed to purchase capacity in the 2022 PRA paid the CONE price of  
11 \$236.66/MW-day. For example, 100 MW capacity purchased in the 2022 PRA equated  
12 to approximately \$8.6 Million – which, as explained in further detail later in my  
13 testimony, represents a substantial risk to customers and illustrates that reliance on  
14 the PRA to meet CEI South's PRMR should not be a long-term strategy.

15

16 **Q. Has MISO changed its resource adequacy mechanism since the 2022 PRA?**

17 A. Yes. On August 31, 2022, FERC accepted MISO's proposal to move to seasonal  
18 resource adequacy requirements rather than a single requirement based on a summer  
19 peak. The seasonal construct was implemented in the 2023 PRA to help address  
20 declining reserve margins caused by ongoing retirements of dispatchable generation  
21 and the increased reliance on intermittent resources.

22

23 **Q. What were the results of the 2023 PRA?**

24 A. As shown in CEI South witness Jason Perry's testimony, zone 6 cleared at \$10 per  
25 MW-Day in the summer, \$15 per MW-Day in the fall, \$2 per MW-Day in the winter,  
26 and \$10 per MW-Day in the Spring.

27

28 **Q. Do you think the significantly lower results of the 2023 PRA are indicative of**  
29 **likely future PRA results?**

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4 See <https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf>

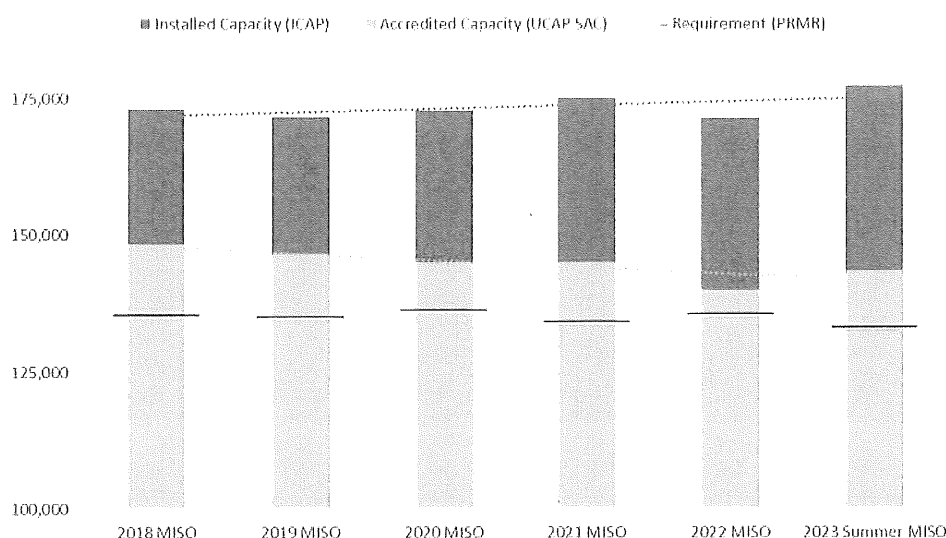
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No. While the 2023 PRA did not reach CONE at \$270/MW-day,<sup>5</sup> MISO explicitly warned that actions taken by market participants to provide adequate capacity this season may not be repeatable. The resulting prices in the 2023 PRA do not reflect the risk posed by the portfolio transition.<sup>6</sup> In other words, there continues to be ongoing risk of shortfalls and the potential to reach CONE.

**Q. Has MISO quantified the risk of capacity shortfalls in future years?**

A. Yes. MISO OMS-MISO Survey Results have consistently projected future deficits.<sup>7</sup> Similar to the 2022 PRA results, these deficits are restricted to the North/Central Regions. Capacity deficits are projected to widen in subsequent years primarily driven by demand growth and the continued retirements of coal fired resources. Graph FSB-1 illustrates that accredited capacity continues to decline.

**Graph FSB-1: MISO Historic Trends based on Member Announced Plans<sup>8</sup>**



<sup>5</sup> See [https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20\(PRA\)%20Results628925.pdf](https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20(PRA)%20Results628925.pdf)

<sup>6</sup> See [https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20\(PRA\)%20Results628925.pdf](https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20(PRA)%20Results628925.pdf)

<sup>7</sup> See <https://cdn.misoenergy.org/20220610%20OMS-MISO%20Survey%20Results%20Workshop%20Presentation625148.pdf>

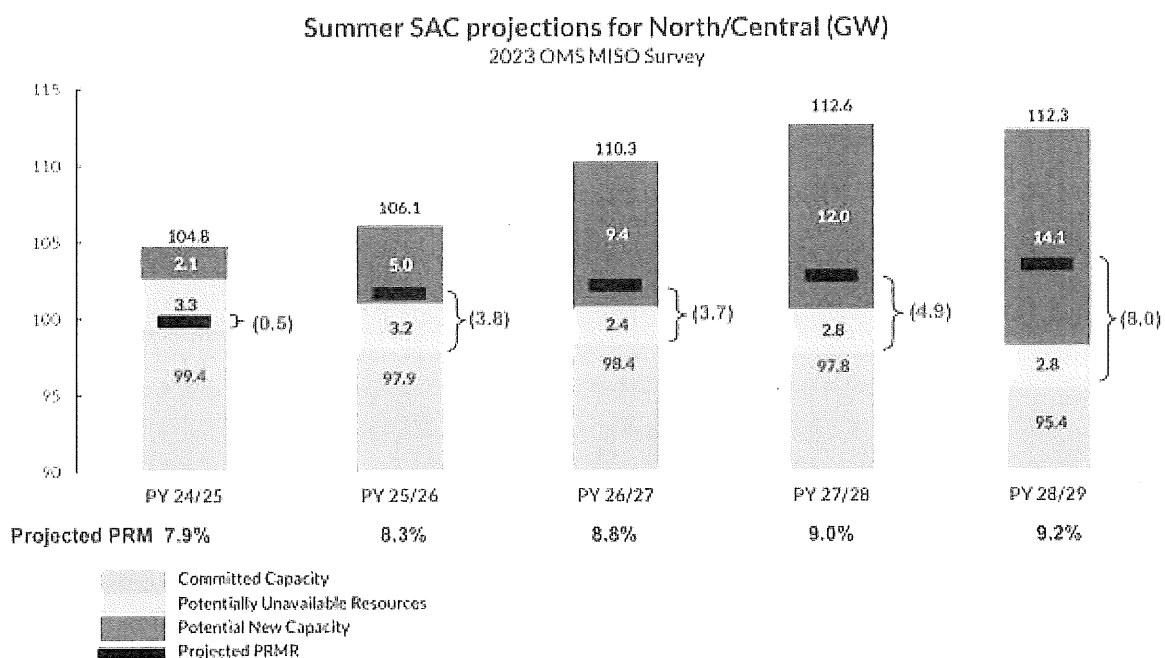
<sup>8</sup> See [https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20\(PRA\)%20Results628925.pdf](https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20(PRA)%20Results628925.pdf)

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**Q. Do the 2023 OMS-MISO survey results still indicate a capacity shortage in the North/Central region?**

**A.** Yes. As shown in Graph FSB-2 below, the recently published 2023 OMS-MISO Survey results continues to indicate a potential capacity deficit in the North/Central region in the upcoming planning year and increasing over the next 5 planning years.

**Graph FSB-2: 2023 OMS-MISO Survey Results – North/Central Region<sup>9</sup>**



**Q. In light of the risks posed by overreliance on the PRA, what are the benefits of purchasing capacity through a bilateral contract rather than through the PRA?**

**A.** Purchasing capacity through bilateral contracts hedges risk to our customers by ensuring enough resources are available to meet CEI South's projected load and PRMR. Bilateral capacity contracts also help the company avoid overexposure to unexpectedly high PRA prices as occurred during the 2022 PRA. In addition, as CEI

<sup>9</sup> See

<https://cdn.misoenergy.org/20230714%20OMS%20MISO%20Survey%20Results%20Presentation629607.pdf>

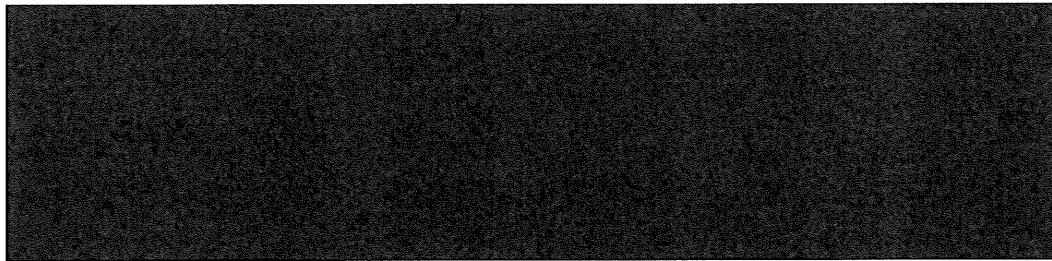
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South begins to close its coal-fired generation and exit the Warrick 4 JOA, the use of bilateral capacity contracts is necessary for CEI South to comply with Indiana House Enrolled Act 1007, which limits CEI South's market capacity purchases to 15% of its PRMR, until new renewable and natural-gas-fired generation comes online.

**Q. Did CEI South make any bilateral capacity purchases relating to Resource Adequacy Planning Year 2023-2024 (June 1, 2023, through May 31, 2024)?**

Yes. Anticipating the closure of the A.B. Brown unit 1 and 2 and exiting the Warrick 4 JOA by the end of 2023, CEI South purchased [REDACTED] of capacity for the 2023-2024 planning year for [REDACTED], or approximately [REDACTED] per MW-Day, as shown in Table FSB-1.

**Table FSB-1: Confidential Bilateral Contracts**

A large rectangular area of the document is completely redacted with a solid black box, obscuring the content of Table FSB-1.

**Q. How did the bilateral capacity purchases for Resource Adequacy Planning Year 2023-2024 benefit CEI South's customers?**

A. At the time CEI South acquired the bilateral capacity purchases, the MISO seasonal construct for the PRA was not in place, and CEI South had to address the upcoming loss of capacity from the closure/exit of its coal-fired generation units and to ensure compliance with Ind. Code § 8-1-8.5-13. Under MISO's prior resource adequacy construct, CEI South would have lost accreditation for A.B. Brown units 1 and 2 and Warrick 4 for the entire planning year. However, under MISO's seasonal construct, CEI South was able to capture the capacity from A.B. Brown units 1 and 2 and Warrick 4 for the summer and fall 2023 seasons. Because CEI South had already acquired the needed capacity based on MISO's annual capacity construct, it had excess capacity, which it was able to sell through the PRA. The revenues from the sales of excess

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1 capacity offset the costs of bilateral contracts. As shown in witness Perry's testimony,  
2 CEI South expects to receive \$1.15 million in revenues from the 2023 PRA.

3

4 **Q. Do you believe that the bilateral capacity purchases were prudent and**  
5 **necessary?**

6 A. Yes. Bilateral capacity purchases are a necessary tool as CEI South manages its  
7 generation transition plan. The use of bilateral capacity purchases allow CEI South to  
8 to meet the expectations of the Commission, the requirements of state law, and  
9 provide a financial hedge for our customers against potential high PRA prices, such  
10 as the CONE price in the 2022 PRA. Therefore, the use of bilateral capacity purchases  
11 is prudent and necessary.

12

13 **CONCLUSION**

14

15 **Q. Does this conclude your direct testimony?**

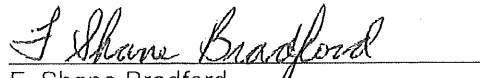
16 A. Yes, at the present time.

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VERIFICATION

I affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

SOUTHERN INDIANA GAS AND ELECTRIC  
COMPANY D/B/A CENTERPOINT ENERGY  
INDIANA SOUTH



F. Shane Bradford  
Vice President, Power Generation Operations

7-17-23  
Date