

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

**DIRECT TESTIMONY**  
**OF**  
**F. SHANE BRADFORD**  
**DIRECTOR OF POWER SUPPLY SERVICES**

**ON**

**BUILD TRANSFER AGREEMENT, SELECTION OF AND NEED FOR THE PROJECT,  
CAPACITY CHARACTERISTICS, AND MARKET PARTICIPATION**

**SPONSORING PETITIONER'S EXHIBIT NO. 2 (PUBLIC),  
ATTACHMENTS FSB-1 THROUGH FSB-4**

**DIRECT TESTIMONY OF F. SHANE BRADFORD**

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

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

5 **Q. BY WHOM ARE YOU EMPLOYED?**

6 A. I am employed by Southern Indiana Gas and Electric Company d/b/a CenterPoint  
7 Energy Indiana South (“Petitioner”, “CEI South”, or “Company”), which is an  
8 indirect subsidiary of CenterPoint Energy, Inc.

9 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS DIRECT TESTIMONY?**

10 A. I am submitting testimony on behalf of CEI South.

11 **Q. WHAT IS YOUR ROLE WITH RESPECT TO PETITIONER CEI SOUTH?**

12 A. I am Director of Power Supply Services.

13 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

14 A. I received a Bachelor of Science in Civil Engineering (1992) from the University  
15 of Dayton and a Master’s in Business Administration (2002) from Indiana State  
16 University.

17 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.**

18 A. I began my career in the utility industry at Dayton Power and Light Co. performing  
19 various maintenance and production roles within the electric generation division  
20 from 1992 to 1999. In 1999, I joined Cinergy’s electric generation division and  
21 carried out various maintenance and production responsibilities until 2003 when  
22 I became a plant manager for one of Cinergy’s subsidiaries – Trigen Cinergy  
23 Solutions LLC. In 2004, I took a position with CEI South as a Power Plant Director  
24 responsible for providing leadership and management focused on safe,  
25 environmentally responsible, reliable, and efficient electric generation. I was  
26 named to my current position in May 2021.

27 **Q. WHAT ARE YOUR PRESENT DUTIES AND RESPONSIBILITIES AS**  
28 **DIRECTOR OF POWER SUPPLY SERVICES?**

1 A. I have responsibility for the following functions: Wholesale Power Marketing,  
2 Market Settlements, and Market Development; and serve as the Commercial  
3 Lead for negotiations and dealings with generation resources. This aligns areas  
4 related to generation and wholesale market initiatives and our future generation  
5 plans.

6 **Q. HAVE YOU EVER TESTIFIED BEFORE THE INDIANA UTILITY REGULATORY**  
7 **COMMISSION (THE “COMMISSION”)?**

8 A. Yes. I have provided testimony before the Commission in Cause No. 45501 in  
9 support of Petitioner’s request for: (i) a Certificate of Public Convenience and  
10 Necessity (“CPCN”) to purchase and acquire, indirectly through a Build Transfer  
11 Agreement (“BTA”), a solar facility in Posey County, Indiana with an aggregate  
12 nameplate capacity of approximately 300 MWac (“Posey County Solar Project”);  
13 and (ii) authorization to enter into a 25-year Power Purchase Agreement (“PPA”)  
14 to purchase energy and capacity from a solar project being constructed in Warrick  
15 County with an aggregate nameplate capacity of 100 MWac (“Warrick County  
16 Solar Project”). I also provided testimony before the Commission in Cause No.  
17 45564 in support of CEI South’s request for a CPCN to construct two natural gas  
18 Combustion Turbines (“CTs”) providing approximately 460 MW of capacity. Lastly,  
19 I provided testimony before the Commission in Cause No. 45754 in support of  
20 Petitioner’s request for a CPCN to purchase and acquire, indirectly through a  
21 BTA, a solar facility in Pike County, Indiana with an aggregate nameplate capacity  
22 of approximately 130 MWac (“Pike County Solar Project”).

23 **II. PURPOSE AND SCOPE**

24 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

25 A. My testimony supports Petitioner’s request for an Order in this Cause issuing CEI  
26 South a CPCN to purchase and acquire, indirectly through a BTA, a wind facility  
27 in [REDACTED], that will have an aggregate nameplate capacity of  
28 approximately [REDACTED] MW (the “[REDACTED] Wind Project”, “Wind Project”, or  
29 “Project”) pursuant to Ind. Code ch. 8-1-8.5. I explain the benefits of integrating  
30 this project into CEI South’s Generation Transition Plan. I describe CEI South’s  
31 decision to pursue the Wind Project and describe the Company’s utilization of a  
32 competitive process to identify and select this viable renewable project as well as

1 discuss how the Wind Project compares to the results of the recent 2022 All-  
2 Source Request For Proposal (“RFP”). I explain why I believe the pricing for the  
3 Wind Project continues to be reasonable as well as why I believe it is necessary  
4 that CEI South pursue the Project at this time. To that end, I provide a high-level  
5 overview of the significant terms being negotiated in the Wind Project BTA in  
6 addition to outlining CEI South’s plan for construction oversight and for operation  
7 upon its completion. I share how the Wind Project impacts CEI South’s  
8 Midcontinent Independent System Operator (“MISO”) Planning Reserve Margin  
9 Requirements (“PRMR”). Finally, I support an attachment summarizing the  
10 evidence CEI South has provided to meet the requirements of GAO 2022-1.

11 **Q. ARE YOU SPONSORING ANY ATTACHMENTS IN THIS PROCEEDING?**

12 A. Yes. I am sponsoring the following attachments in this proceeding:

- 13 • Petitioner’s Exhibit No. 2, **Attachment FSB-1 (CONFIDENTIAL)**: Wind  
14 Competitive Pricing Spreadsheet;
- 15 • Petitioner’s Exhibit No. 2, **Attachment FSB-2 (CONFIDENTIAL)**: Wind  
16 Project Term Sheet;
- 17 • Petitioner’s Exhibit No. 2, **Attachment FSB-3 (CONFIDENTIAL)**: Wind  
18 Project Construction Schedule; and
- 19 • Petitioner’s Exhibit No. 2, **Attachment FSB-4 (CONFIDENTIAL)**: Summary  
20 of Evidence Provided in Accordance with GAO 2022-1

21 **Q. WERE THESE ATTACHMENTS PREPARED BY YOU OR UNDER YOUR**  
22 **SUPERVISION?**

23 A. **Attachment FSB-1 (CONFIDENTIAL)**, the Wind Competitive Pricing  
24 Spreadsheet, which summarizes the wind projects from the 2020 Renewable  
25 RFP, the 2021 Wind Bids, and the 2022 All-Source RFP was prepared under my  
26 supervision. **Attachment FSB-2 (CONFIDENTIAL)**, the Wind Project Term  
27 Sheet, was negotiated and prepared under my supervision. **Attachment FSB-3**  
28 **(CONFIDENTIAL)**, the Wind Project Construction Schedule was provided by the  
29 Developer and is subject to change based on discoveries during final design,  
30 permitting, and construction activities. I prepared or supervised the preparation  
31 of the Summary of Evidence Provided in Accordance with GAO 2022-1, which is  
32 included as **Attachment FSB-4 (CONFIDENTIAL)**.

1     **III.     GENERATION TRANSITION PLAN**

2     **Q.     PLEASE PROVIDE AN OVERVIEW OF CEI SOUTH’S GENERATION**  
3     **TRANSITION PLAN.**

4     A.     The Company’s 2019/2020 Integrated Resource Plan (“IRP”) identified a  
5     Preferred Portfolio, which calls for timely retirement of certain identified existing  
6     generation resources and replacement of the capacity derived from those units  
7     with new generation resources. Consistent with the findings of the 2019/2020 IRP,  
8     CEI South developed a Generation Transition Plan (the “Plan”) to effectuate the  
9     transition; the Plan required an initial step of identifying and selecting  
10    approximately 700–1,000 MWac of solar generation, 300 MW of wind generation,  
11    and approximately 460 MW of natural gas Combustion Turbine generation.

12    **Q.     PLEASE DESCRIBE CEI SOUTH’S PROGRESS IN EXECUTING ITS**  
13    **GENERATION TRANSITION PLAN.**

14    A.     Thus far, CEI South has received approval in the Commission’s October 27, 2021  
15    Order in Cause No. 45501 for two renewable projects – the Posey County Solar  
16    Project and Warrick County Solar Project (collectively the “45501 Solar Projects”).  
17    CEI South also received approval in the Commission’s May 4, 2022 Order in  
18    Cause No. 45600 (“the 45600 Order”) to enter into PPAs for energy, capacity, and  
19    RECs from a 185 MW solar project in Vermillion County, Indiana (the “Vermillion  
20    County Solar Project”), and from a 150 MW solar project in Knox County, Indiana  
21    (the “Knox County Solar Project”; or collectively the “45600 PPAs”). Additionally,  
22    CEI South received approval in the Commission’s June 28, 2022 Order in Cause  
23    No. 45564 to construct two CTs. More recently, on July 5, 2022, in Cause No.  
24    45754, CEI South filed a petition with the Commission seeking approval to  
25    purchase and acquire, indirectly through a BTA, a solar facility in Pike County,  
26    Indiana with an aggregate nameplate capacity of approximately 130 MWac (the  
27    “Pike County Solar Project”) pursuant to Ind. Code ch. 8-1-8.5.

28    **Q.     ARE ANY OF THE FOREGOING PROJECTS IN SERVICE?**

29    A.     While CEI South has made real progress getting projects approved, getting the  
30    projects in service and available to meet the Company’s capacity needs has been  
31    more challenging given the escalating commodity costs and supply chain  
32    challenges that have impacted pricing and schedules. As indicated by CEI South

1 Witness Richard C. Leger, the Posey County Solar Project approved in Cause  
2 No. 45501 is downsizing from 300 MWac to approximately 191 MWac and the  
3 target commercial operation date (“COD”) has been extended until the second  
4 half of 2024. [REDACTED]  
5 [REDACTED]. In addition, each developer for the PPA Projects approved in  
6 Cause Nos. 45501 and 45600 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED] Consequently, on October 19, 2022, CEI South sought  
11 approval in Cause No. 45786 in support of Petitioner’s request to amend the  
12 45600 Order to authorize CEI South to enter into an Amended PPA to purchase  
13 energy, capacity, and RECs from the Knox County Solar Project.

14 Given the aforementioned challenges, it is crucial that CEI South continue to work  
15 to bring these projects online and identify new projects to meet system needs. A  
16 generation transition period has proven to be a lengthy process, generally taking  
17 at least 3.5 or more years including project solicitation, evaluation and negotiation,  
18 the MISO Interconnection Queue process, development tasks such as obtaining  
19 site control and permitting, construction, and various other factors. It should be  
20 noted, MISO has seen an overwhelming amount of generation resources enter  
21 the last several MISO Interconnection Queues which has extensively lengthened  
22 each interconnection queue process. As such, there will be a period -- between  
23 when the Company’s coal generation units are retired, and the new generation  
24 comes online -- during which CEI South will need to rely on the capacity and  
25 wholesale energy market. To minimize this dependence period and cost to  
26 customers, CEI South has acted swiftly to identify projects that could come online  
27 in the near-term (2024-2025 timeline), which is critical since additional baseload  
28 units in the same MISO Local Resource Zone (Zone 6 - CEI South’s Local  
29 Resource Zone) are expected to be taken offline in relatively the same timeframe,  
30 thereby increasing the risk of reliance on the wholesale energy and capacity  
31 market.

1 Similar to several of the aforementioned projects, which are expected to come  
2 online in the 2024-2025 timeframe, the Wind Project is slated to come online on  
3 or before January 1, 2025.

4 **Q. HOW DOES THE WIND PROJECT ALIGN WITH THE GENERATION**  
5 **TRANSITION PLAN?**

6 A. The Wind Project is a viable, reliable, and carbon free energy resource that is an  
7 important component to fulfilling CEI South's Generation Transition Plan. Wind  
8 resources inherently complement solar resources – meaning the resources hit  
9 their peaks at different times of the day as well as different seasons of the year.  
10 The Wind Project not only diversifies CEI South's generation resource mix, but  
11 also provides the advantages of ownership and a life expectancy that can be  
12 combined with CEI South's current solar BTAs as well as its solar and wind PPAs  
13 to optimize off-ramp flexibility for our customers.

14 **IV. COMPETITIVE BID PROCESS**

15 **Q. PLEASE BRIEFLY DESCRIBE THE COMPANY'S RFP PROCESS TO DATE.**

16 A. To date, the Company has conducted three RFPs. First, on June 12, 2019, per  
17 Commission feedback in Cause No. 45052 and in connection with the preparation  
18 of its 2019/2020 IRP, CEI South conducted an All-Source RFP (the "2019 All-  
19 Source RFP") for 10 to 700 MW of capacity from all sources. Results of the 2019  
20 All-Source RFP were summarized into modeling inputs for the IRP for solar, solar  
21 + storage, standalone storage, and wind. The 2019 All-Source RFP was used to  
22 select the initial projects for CEI South's Generation Transition Plan, specifically,  
23 the Posey County and Warrick County Solar Projects which were the subject of  
24 Cause No. 45501 and approved by the Commission on October 27, 2021.

25 On August 12, 2020, CEI South issued a second RFP (the "2020 Renewable  
26 RFP") seeking a combination of wind, solar, and solar + storage resources to  
27 meet the need identified in the Plan. Like the 2019 All-Source RFP, the 2020  
28 Renewable RFP was used to help Petitioner identify replacement generation  
29 capacity beginning in 2023, specifically, the Vermillion County and Knox County  
30 Solar Projects – two solar PPAs, which were the subject of Cause No. 45600 and  
31 approved by the Commission on May 4, 2022.

1 On May 11, 2022, CEI South announced that it would be issuing a new all-source  
2 RFP (“2022 All-Source RFP”) to seek a combination of resources including  
3 renewables (wind, solar and battery storage), thermal and demand-side  
4 resources, and short-term capacity. The 2022 All-Source RFP will assist in  
5 identifying additional generation technologies that can provide fully accredited  
6 capacity no later than March 1, 2027. As Petitioner’s Witness Matthew A. Rice  
7 explains in more detail, CEI South has begun its 2022/2023 IRP to determine the  
8 best mix of generation and demand side resources to meet customers’ needs  
9 over the next twenty years. The 2022 All-Source RFP will be used to inform that  
10 process.

11 **Q. PLEASE DESCRIBE HOW CEI SOUTH HAS EVALUATED RFP PROPOSALS.**

12 A. In general, to evaluate RFPs, CEI South has engaged 1898 and Company, a  
13 Burns and McDonnell company (“1898 & Company”) to evaluate, score, and rank  
14 each complete proposal based on established quantitative and qualitative scoring  
15 criteria that assesses reliability, cost, and certainty. For renewable proposals,  
16 including wind projects, the assessment included: levelized cost of energy  
17 (“LCOE”), energy settlement location, interconnection and development status,  
18 and project risk factors like credit worthiness, development experience, project  
19 maturity, delivery date, project site control status, permits, and zoning. Please  
20 refer to the Wind Competitive Pricing Spreadsheet provided as Petitioner’s Exhibit  
21 No. 2, Attachment FSB-1 (CONFIDENTIAL), which summarizes the wind  
22 projects from the 2020 Renewable RFP, the 2021 Wind Bids (described below),  
23 and the 2022 All-Source RFP.

24 **Q. ATTACHMENT FSB-1 (CONFIDENTIAL) CONTAINS A COMPARISON OF**  
25 **PPA AND BTA PRICING. PLEASE EXPLAIN HOW CEI SOUTH DEVELOPED**  
26 **A COMMON METRIC TO COMPARE THE TWO.**

27 A. Due to varying term lengths in the PPA and BTA proposals, it is important to  
28 compare the projects on a common basis or over a standard (equivalent) period  
29 when considering total project costs and benefits; or total economic value. This is  
30 especially relevant when evaluating PPA and BTA proposals since most build  
31 transfer, or asset purchase, agreements assume an asset life of 30-35 years  
32 (depending on the resource type), while terms for PPA proposals are typically 30  
33 years or less. Accordingly, during the evaluation stage, CEI South used an LCOE



1 of 35-years to have a common reference from which a comparison could be made  
2 between PPAs of different term lengths and BTAs. This standard metric – the 35-  
3 year LCOE – was applied to each of the renewable proposals (e.g., wind, solar,  
4 etc.) in each of CEI South’s RFPs. Additionally, to normalize the LCOE over the  
5 35-year period, a market replacement methodology was adopted using the  
6 2019/2020 IRP forecasts for energy price (Locational Marginal Pricing or “LMP”)  
7 and capacity price in the MISO wholesale market. The forecasted pricing was  
8 applied to the balance of the 35-year term for each proposal’s expected  
9 generation output.

10 **Q. ASIDE FROM PRICING, PLEASE EXPLAIN OTHER FACTORS CONSIDERED.**

11 A. In developing its Generation Transition Plan, the Company selected a Preferred  
12 Portfolio that offers a balanced and prudently diverse mix of traditional and  
13 emerging generation resources (wind, solar, storage, energy efficiency, natural  
14 gas, coal) with flexibility to hedge against risk and opportunity to pivot and react  
15 to changing circumstances as opposed to placing too much emphasis on a few  
16 large resources.

17 Adding wind resources helps diversify CEI South’s resource mix with clean  
18 renewable energy, consistent with the Preferred Portfolio, while adding value  
19 through a balanced portfolio that reduces risk by having a proportional set of  
20 resources available to serve customer load (including wind, solar, energy  
21 efficiency, gas, and coal). In addition, selection of a wind asset purchase is  
22 consistent with CEI South’s Plan to diversify its generation mix, not only of  
23 resource type, but also investment type (ownership and PPAs) and duration,  
24 varying PPA terms providing additional options and/or off-ramps. The benefits of  
25 a balanced energy mix cannot be overstated. One of the simplest and best ways  
26 to plan in an uncertain environment is to provide a diverse portfolio, which  
27 provides a hedge against unforeseen changes in regulations, technologies, and  
28 market.

29 **Q. YOU HAVE EXPLAINED ATTACHMENT FSB-1 (CONFIDENTIAL)**  
30 **SUMMARIZES PROJECTS FROM THE 2020 RENEWABLE RFP, THE 2021**  
31 **WIND BIDS, AND THE 2022 ALL-SOURCE RFP. PLEASE IDENTIFY FROM**  
32 **WHICH RFP OR COMPETITIVE BID PROCESS CEI SOUTH IDENTIFIED THE**

1           **WIND PROJECT THAT IS THE SUBJECT OF THIS CAUSE AS A POTENTIAL**  
2           **PROJECT.**

3       A.     As will be explained in greater detail later in my testimony, the Wind Project was  
4           not submitted into one of CEI South's RFPs but rather was identified through  
5           collaboration with 1898 & Company, in May 2021, after one of the projects  
6           identified from the 2020 Renewable RFP and for which CEI South was negotiating  
7           was withdrawn from consideration leaving CEI South without a viable wind  
8           project.

9       **Q.     PLEASE SUMMARIZE THE RESULTS OF THE 2020 RENEWABLE RFP**  
10       **COMPARISON FOR WIND.**

11      A.     **Attachment FSB-1 (CONFIDENTIAL)** contains the scoring for the 2020  
12           Renewable RFP; and in particular compares the LCOE of all wind projects – BTA  
13           LCOE and the PPA LCOE with the market replacement adder. As shown on  
14           **Attachment FSB-1 (CONFIDENTIAL)**, the pricing for the BTA LCOE for each  
15           development (or project) is lower than the PPA LCOE.

16      **Q.     PLEASE SUMMARIZE THE WIND PROPOSALS SUBMITTED INTO THE 2020**  
17       **RENEWABLE RFP.**

18      A.     As illustrated on Petitioner's Exhibit No. 2, Attachment FSB-1 (CONFIDENTIAL),  
19           the 2020 Renewable RFP contained 5 unique wind projects (or developments).  
20           As is often the case with RFPs, developers submit multiple proposals based on a  
21           single project (or development); therefore, the 2020 Renewable RFP had 18 wind  
22           proposals, originating from those 5 unique wind projects.

23           In early March 2021 after scoring and evaluating the 2020 Renewable RFP wind  
24           proposals, CEI South selected and initiated contract negotiations with a developer  
25           from the 2020 Renewable RFP for a utility wind ownership project. By late April  
26           2021, however, the developer, who had submitted the proposal into the 2020  
27           Renewable RFP, had contracted the project with another counterparty.

28      **Q.     AFTER THE DEVELOPER WITHDREW FROM THE BTA NEGOTIATION,**  
29       **PLEASE EXPLAIN HOW CEI SOUTH THEN PROCEEDED TO IDENTIFY**  
30       **POTENTIAL WIND PROPOSALS.**

1 A. Following notice that the project was no longer available, CEI South reviewed the  
2 remaining 2020 Renewable RFP wind proposals and determined they were not  
3 viable mainly due to the developers' unwillingness to negotiate firm transactional  
4 terms given the projects being in early developmental stages. Therefore, as  
5 mentioned earlier, in May 2021, CEI South collaborated with 1898 & Company to  
6 identify other potentially viable wind projects that either had been submitted in  
7 other utility RFPs or had entered into the MISO Generator Interconnection Queue  
8 process (the "2021 Wind Bids"). As shown in Petitioner's Exhibit No. 2,  
9 **Attachment FSB-1 (CONFIDENTIAL)**, the 2021 Wind Bids contained 8 unique  
10 wind projects (or developments), yielding 10 wind proposals consisting of both  
11 BTAs and PPAs.

12 **Q. PLEASE EXPLAIN HOW CEI SOUTH SCORED AND EVALUATED THE 2021**  
13 **WIND BIDS.**

14 A. Similar to the scoring process used for the 2020 Renewable RFP, the 2021 Wind  
15 Bids were evaluated, scored, and ranked based on established quantitative and  
16 qualitative scoring criteria that assessed reliability, cost, and certainty. This  
17 assessment included the same factors as used in the 2020 Renewable RFP:  
18 LCOE, energy settlement location, interconnection and development status, and  
19 project risk factors like credit worthiness, development experience, project  
20 maturity, delivery date, project site control status, permits, and zoning.

21 CEI South had multiple discussions with developers to discuss their respective  
22 wind developments to clarify pricing, development status, permitting prospects,  
23 and various other aspects of project feasibility and maturity. Based on those  
24 discussions, CEI South narrowed the 8 unique wind projects to 5, resulting in 7  
25 proposals for consideration because 3 of the developers were unwilling to  
26 negotiate firm transactional terms given the projects being in early stages of  
27 development.

28 **Q. PLEASE EXPLAIN HOW CEI SOUTH FURTHER NARROWED ITS**  
29 **SELECTION TO THE WIND PROJECT WHICH IS THE SUBJECT OF THIS**  
30 **CAUSE.**

31 A. While evaluating and scoring the 5 unique wind projects, one developer withdrew  
32 from consideration, and another encountered permitting issues making its project

1 nonviable, leaving CEI South with 3 unique wind projects (or 5 proposals) for  
2 consideration. CEI South selected the Wind Project that is the subject of this  
3 Cause based on its scoring, in relation to the 4 other proposals, on cost,  
4 project/development certainty, location, and developer experience. In fact, the  
5 Wind Project's LCOE was the lowest of the remaining proposals.

6 **Q. PLEASE EXPLAIN HOW THE PRICE OF THE WIND PROJECT COMPARES**  
7 **TO THE PROPOSALS SUBMITTED IN RESPONSE TO THE 2022 ALL-**  
8 **SOURCE RFP.**

9 A. As illustrated in Petitioner's Exhibit No. 2, Attachment FSB-1 (CONFIDENTIAL),  
10 the 2022 All-Source RFP received 5 wind proposals based on 2 unique projects.  
11 The Wind Project<sup>1</sup> pricing is competitive with the 5 wind proposals submitted in  
12 the 2022 All-Source RFP.

13 **Q. PLEASE PROVIDE AN OVERVIEW OF THE WIND PROJECT.**

14 A. The Wind Project is a [REDACTED] MW wind project located in [REDACTED]  
15 [REDACTED]. The Wind Project is  
16 expected to be in-service on or before January 1, 2025.

17 **Q. PLEASE DISCUSS WHETHER CEI SOUTH RECEIVED, AS PART OF AN RFP**  
18 **OR BID PROCESS, OR CONSIDERED ANY WIND PROPOSALS IN INDIANA.**

19 A. The 2020 Renewable RFP contained one wind project in Indiana; however, as  
20 mentioned before, the project was nonviable. The 2021 Wind Bids had one  
21 Indiana project that was evaluated [REDACTED]  
22 [REDACTED]. The 2022 All-Source RFP had two projects located in  
23 Indiana, one of which was the same Indiana project that had been submitted in  
24 the 2021 Wind Bids. The second Indiana project submitted in the 2022 All-Source  
25 RFP is [REDACTED]  
26 [REDACTED]. Please refer to the Wind  
27 Competitive Pricing Spreadsheet (Petitioner's Exhibit No. 2, Attachment FSB-1  
28 **(CONFIDENTIAL)**) for additional details.

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<sup>1</sup> As mentioned earlier, the Wind Project that is the subject of this Cause was not submitted as part of one of CEI South's RFPs; CEI South and the Developer had already initiated negotiations for ownership of the Project before the 2022 All-Source RFP had been published.

1    **Q.     PLEASE EXPLAIN THE PRIMARY CONSIDERATIONS WHEN SELECTING A**  
2    **WIND PROJECT AND WHETHER OR HOW THE WIND PROJECT THAT IS**  
3    **THE SUBJECT OF THIS CAUSE MEETS ANY OF THE CRITERIA.**

4    A.    Primary considerations of choosing a wind system are (1) sufficiency of wind  
5    resource, (2) viable point of interconnection nearby to offtake the energy  
6    generated by the wind turbines, (3) sufficiency of land to site wind turbines, (4)  
7    community support for a wind project, (5) environmental considerations (e.g.,  
8    endangered species) that would cause negative impacts, (6) geotechnical  
9    conditions in the area conducive to supporting a large structure like a wind turbine,  
10   (7) local ordinances (e.g., height or noise restrictions) that may inhibit the use of  
11   utility scale wind turbines, and (8) turbine location potential hazard to air  
12   navigation.

13        The Developer for the Wind Project accounted for these considerations when  
14   determining to build at the proposed location. Specifically, the Project has several  
15   benefits including a good wind resource location; close proximity to a substation  
16   where there is available offtake capacity; abundant, geotechnically sound  
17   acreage to accommodate a wind project; a community supportive of wind  
18   development; favorable avian environmental study; Federal Aviation  
19   Administration (“FAA”) approval; and close proximity to a large interstate for  
20   simplified turbine transport, construction, and operation.

21   **Q.     WAS CEI SOUTH’S APPROACH IN EVALUATING THE 2021 WIND BIDS AND**  
22   **SELECTING THE WIND PROJECT REASONABLE?**

23   A.    Yes, CEI South used a similar process in evaluating and selecting projects from  
24   the 2019 All-Source RFP and the 2020 Renewable RFP; and the process used  
25   by CEI South is consistent with the process used by other utilities in evaluating  
26   and selecting power supply options. LCOE is a typical quantitative measure used  
27   to compare proposals. Qualitative criteria considered in this 2021 Wind Bids also  
28   were consistent with industry practices, such as the preference for projects  
29   showing greater maturity in the development cycle, project and energy settlement  
30   location, as well as relevant developer experience.



1           **WHAT EXPERIENCE DOES THE DEVELOPER HAVE IN THE RENEWABLE**  
2           **BUSINESS?**

3           A.     [REDACTED] the Developer – [REDACTED] – is an independent renewable  
4           energy company focused on the development of utility-scale wind, solar, and  
5           battery storage projects across the United States – with approximately [REDACTED] GWs  
6           of renewable projects either contracted or in development. Through extensive  
7           screening and site selection, collaborative engagement with landowners and  
8           communities, and disciplined execution through development, construction, and  
9           operations, the Developer’s team has collectively developed, financed,  
10          constructed, and operated thousands of megawatts of utility-scale renewable  
11          energy projects over their careers.

12          **Q.     PLEASE BRIEFLY DESCRIBE THE PROJECT COMPANY.**

13          A.     The Project Company – [REDACTED] – is a wholly-owned subsidiary of [REDACTED],  
14          which in turn is a wholly-owned subsidiary of [REDACTED] which specializes in the  
15          development of large-scale renewable and other clean energy generation  
16          worldwide and is the [REDACTED]  
17          [REDACTED].

18          **Q.     PLEASE DESCRIBE ANY ASSETS AND/OR RIGHTS PETITIONER WOULD**  
19          **ACQUIRE UNDER THE BTA.**

20          A.     The BTA transfers the Project and all of its related assets such as properties,  
21          rights and interests of every kind and nature which includes books and records,  
22          the project site, project contracts, land leases and real property agreements,  
23          project fixtures and equipment that include the wind turbines, project  
24          improvements, intellectual rights associated with the project, project permits, all  
25          interconnection rights and any warranties associated with the equipment and  
26          workmanship of the project.

27          **VI.     THE WIND PROJECT NEGOTIATIONS**

28          **Q.     PLEASE DESCRIBE THE STATUS OF THE BTA.**

29          A.     Upon selecting the Wind Project, the parties began negotiations in June of 2021  
30          on a comprehensive, non-binding term sheet that was executed in October 2022.  
31          The term sheet lays out the initial terms intended to insulate both parties from out-

1 of-market terms and establishes the foundation for the BTA. The parties have  
2 already begun BTA negotiations and anticipate having the BTA executed by  
3 March 31, 2023.

4 **Q. PLEASE DISCUSS HOW PRICING CAN CHANGE DURING NEGOTIATIONS.**

5 A. Generally, CEI South has [REDACTED] from the initial  
6 bid (in the RFP) to the final negotiated price. In fact, it is important to recognize  
7 that the proposals submitted in response to an RFP nearly always change during  
8 the negotiation process. So, while an RFP or competitive bidding process is  
9 valuable in identifying feasible projects and narrowing down the best projects, it  
10 is not the end of the process – there is much more involved in bringing a project  
11 online. As such, the prices submitted during the 2021 Wind Bid process can be  
12 viewed as a good starting point but are not necessarily indicative of the final  
13 conditions; and, as explained earlier, especially true in this environment, where  
14 the 2021 Wind Bids were submitted prior to the broad inflationary challenges that  
15 have hit not only the wind industry, but the entire nation.

16 **Q. YOU PREVIOUSLY TESTIFIED THE TERM SHEET CONTAINS PROVISIONS**  
17 **INTENDED TO INSULATE BOTH PARTIES FROM OUT-OF-MARKET TERMS.**  
18 **PLEASE ELABORATE.**

19 A. The BTA will have conditions set forth signifying completion of the Wind Project  
20 development and commencement of construction-related activities as well as  
21 customary conditions that must be met prior to closing on the Wind Project. In  
22 addition, the BTA will include representations, warranties, terminations, and post-  
23 Closing indemnification provisions.

24 **VII. COST ESTIMATE**

25 **Q. PLEASE DISCUSS THE COST ESTIMATE FOR THE WIND PROJECT.**

26 A. Table FSB-1, below, provides more detail, however, the estimated cost is  
27 approximately \$636 million. This estimate represents the best estimate of the  
28 costs to construct and purchase the Wind Project.



**Table FSB-1 Wind Project Estimate**

<b>Component</b>	<b>Estimate</b>	<b>Description</b>
Project Development	██████	Purchase Price (BTA pending negotiation)
Interconnection Costs	██████	Will be passed through and capped at ██████
Owner's Cost / Overheads	██████	Includes allowances for owner's project management team; owner's engineer; environmental and/or other permitting activities not included in Purchase Price; overheads such as internal labor and loadings to support construction from planning through construction; Administrative and General overheads ("A&G"); Allowance for Funds Used During Construction (AFUDC); expert consultant fees; and owner's contingency.  Notes: (1) 1% A&G applied to Project Development, Interconnection Costs, Spare Parts, Study/Prework and Owner's Costs. (2) Owner's contingency includes any ██████████, unforeseen cost during planning and construction addressed through change orders, ██████████ or any additional cost related to a ██████████
Spare Parts	██████	Purchase of critical and long lead time spare parts
Study/Pre-work	██████	Includes generation transition asset allocation for IRP work (2016-2019) and planning/ preparation work conducted from 2020 through yearend 2022.
<b>Total</b>	<b>\$636M</b>	

1 **Q. BEYOND PRICING, PLEASE PROVIDE AN OVERVIEW OF SIGNIFICANT**  
2 **TERMS FOR THE WIND PROJECT.**

3 **A.** The Wind Project substantive terms are confidential and some of the more  
4 significant of those terms are:

- 5 • BTA purchase price will be ██████████  
6 ██████████  
7 ██████.
- 8 • Developer to deliver ██████ MW Wind Project; however, Developer can  
9 ██████████.
- 10 • The Wind Project must meet certain conditions to begin the construction  
11 phase of the Project -- no later than July 8, 2023; and transaction closing  
12 must occur on or before January 1, 2025 ██████████  
13 ██████████

- 1 [REDACTED]  
2 [REDACTED]  
3 • Parties can terminate the BTA under certain conditions, namely if CEI  
4 South’s request for a CPCN in this Cause has been denied [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 • Credit support will be posted [REDACTED]  
10 [REDACTED].

11 **Q. IS CEI SOUTH REQUESTING ONGOING REVIEW OF THE WIND PROJECT**  
12 **PURSUANT TO IND. CODE §8-1-8.5-6?**

13 A. Yes. Following receipt of an Order approving the Company’s request for a CPCN,  
14 CEI South will provide periodic updates on the Wind Project until it goes into  
15 service, including progress reports and any revisions to the cost estimates. CEI  
16 South is requesting ratemaking treatment consistent with such review.

17 **Q. PLEASE DISCUSS THE IMPACTS OF THE INFLATION REDUCTION ACT**  
18 **(“IRA”) ON THE PROJECT.**

19 A. The negotiated price reflects an assumption that the Wind Project qualifies for  
20 100% PTC; however, the Term Sheet (Petitioner’s Exhibit No. 2, Attachment  
21 **FSB-2 (CONFIDENTIAL)**) states: “[REDACTED]  
22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED].”

25 **Q. PLEASE DISCUSS HOW THE COST COMPARES TO SIMILAR PROJECTS.**

26 A. As mentioned earlier, the Wind Project pricing is competitive with the wind  
27 proposals submitted in the 2022 All-Source RFP. The economic challenges are  
28 an industry wide issue, with every wind project facing the same challenges, not  
29 just this Wind Project. In other words, every project submitted in the 2021 Wind  
30 Bids would have faced similar pricing issues. Moreover, prices are not likely to  
31 decline near term. If anything, they will merely stabilize.

1 **VIII. REQUEST FOR RELIEF**

2 **Q. PLEASE DESCRIBE THE RELIEF BEING SOUGHT IN THIS CAUSE.**

3 A. CEI South is requesting an Order in this Cause issuing CEI South a CPCN to  
4 purchase and acquire, indirectly through a BTA, the [REDACTED] wind facility in  
5 [REDACTED], that will have an aggregate nameplate capacity of  
6 approximately [REDACTED] MW pursuant to Ind. Code ch. 8-1-8.5. CEI South further  
7 requests a finding, in the Order, that the Wind Project constitutes a “clean energy  
8 project” under Ind. Code ch. 8-1-8.8; a finding of the best estimate of costs for the  
9 Wind Project; and approval and authorization to timely recover costs incurred  
10 during the construction and operation of the Project in accordance with Ind. Code  
11 § 8-1-8.5. CEI South is requesting ongoing review of the Wind Project under Ind.  
12 Code § 8-1-8.5-6. CEI South also requests approval, to the extent necessary, of  
13 its proposed Alternative Regulatory Plan (“ARP”) to address the location of the  
14 Wind Project assets and the competitive procurement process requirements  
15 under Ind. Code § 8-1-8.5-5(e).

16 **Q. HAS CEI SOUTH PROVIDED THE BEST ESTIMATE FOR THE COSTS OF THE**  
17 **WIND PROJECT AS REQUIRED IN IND. CODE § 8-1-8.5-5(b)(1)?**

18 A. Yes. As mentioned earlier in my testimony and shown in Table FSB-1 above, the  
19 costs reflected in this proceeding represent “the best estimate of construction,  
20 purchase, or lease costs [for the Wind Project] based on the evidence of record.”

21 **Q. IS THE PURCHASE/ACQUISITION OF THE WIND PROJECT DESCRIBED**  
22 **EARLIER IN YOUR TESTIMONY CONSISTENT WITH THE 2019/2020**  
23 **IRP/PREFERRED PORTFOLIO?**

24 A. Yes, please refer to Witness Rice’s testimony for additional details.

25 **Q. IND. CODE § 8-1-8.5-5(b)(2) REQUIRES THAT THE PROPOSED**  
26 **CONSTRUCTION, PURCHASE, OR LEASE BE CONSISTENT WITH EITHER**  
27 **THE COMMISSION’S ANALYSIS FOR EXPANSION OF ELECTRIC**  
28 **GENERATING CAPACITY OR WITH A UTILITY SPECIFIC PROPOSAL. IS**  
29 **THE PURCHASE AND ACQUISITION OF THE WIND PROJECT IN THIS**  
30 **PROCEEDING CONSISTENT WITH IND. CODE § 8-1-8.5-5(b)(2)?**

1 A. Yes. In accordance with Ind. Code § 8-1-8.5-5(b)(2), the construction of the Wind  
2 Project is consistent with CEI South's 2019/2020 IRP. The Wind Project fills a  
3 portion of the capacity and energy needs identified in the 2019/2020 IRP. This  
4 Project covers ■■■ MW of the total 300 MW of the wind capacity identified as  
5 necessary in the IRP.

6 **Q. WHY ARE YOU FILING THIS CPCN WITHOUT AN EXECUTED BTA?**

7 A. As mentioned earlier in my testimony, the Wind Project is contingent upon  
8 Commission approval. Specifically, rights negotiated in the Term Sheet allow  
9 either party to terminate the agreement if all conditions to proceed to closing have  
10 not been met by July 8, 2023, and Commission approval through the issuance of  
11 a final Order is one of those conditions. As a practical matter, the Developer will  
12 likely minimize its time investment until Commission approval has been issued.  
13 Based on the time to negotiate the comprehensive term sheet and the target date  
14 for execution of a BTA (end of March 2023), filing the subject petition and case-  
15 in-chief along with a request for expedited relief will help ensure all conditions to  
16 closing are met in a timely manner to achieve the target COD by January 1, 2025.

17 **Q. GIVEN THE FOREGOING CONSTRAINTS, WHEN DOES PETITIONER NEED  
18 AN ORDER IN THIS PROCEEDING TO BE ISSUED?**

19 A. Petitioner developed the schedule set forth in the Verified Petition with a goal of  
20 obtaining a final Order before July 8, 2023. This schedule was designed to align  
21 with Ind. Code § 8-1-8.8-11(d), which provides for expedited approval of a clean  
22 energy project and provides: "The commission shall, after notice and hearing,  
23 issue a determination of a project's eligibility for the financial incentives described  
24 in subsection (a) not later than one hundred twenty (120) days after the date of  
25 the application, unless the commission finds that the applicant has not cooperated  
26 fully in the proceeding." Given the importance of this Project, CEI South intends  
27 to cooperate fully in the proceeding and work to get all stakeholders information  
28 they need to review the request as soon as possible.

29 **Q. WHY DID CEI SOUTH NOT NEGOTIATE FOR A LONGER COMMISSION  
30 REVIEW PERIOD?**

31 A. CEI South made efforts to do so, but unfortunately the quick review period is  
32 driven by the time it takes to negotiate terms to bring a new generation resource

1 on-line coupled with inflationary pressures and long lead times across the  
2 renewables industry. As previously mentioned, developers generally will  
3 minimize investment until Commission approval has been obtained; therefore, the  
4 schedule was developed based on when construction would need to begin (post-  
5 order) to achieve the target COD of on or before January 1, 2025.

6 **Q. HAS THE COMPANY DISCUSSED THE EXPEDITED RELIEF REQUEST WITH**  
7 **STAKEHOLDERS?**

8 A. Yes. Petitioner provided the schedule set forth in the Verified Petition to the  
9 Indiana Office of Utility Consumer Counselor (the “OUCC”). The OUCC has  
10 agreed to the schedule set forth in the petition.

11 **Q. PLEASE EXPLAIN WHY IT MAKES SENSE TO CONTINUE WITH THE WIND**  
12 **PROJECT.**

13 A. There are a couple of reasons. First, wind resources are scarce within Indiana  
14 including CEI’s South’s service territory. A demand-supply imbalance could  
15 emerge as other nearby utilities move toward implementing wind resources and  
16 as such, possibly intensifying the pricing for wind projects. Other Indiana utilities  
17 have indicated their desire to include wind resources in their near-term portfolios  
18 – AES Indiana’s recent IRP illustrated wind generation in the 2025 – 2027  
19 timeframe. If CEI South were to pass on the Wind Project, the Company could  
20 be exposed to higher pricing for wind projects due to a competitive market  
21 especially starting the 3.5+ year process all over again including the MISO  
22 Generator Interconnection Queue process that continues to be delayed.  
23 Secondly, as I mentioned above, wind resources complement solar resources,  
24 hitting their peaks at different times of the day as well as different seasons of the  
25 year. Generation resource diversification is key to assure CEI South reliably  
26 fulfills customer demand. In MISO’s November 30, 2022 Resource Adequacy  
27 Subcommittee presentation (at page 12), MISO illustrates as solar penetration  
28 increases, the solar capacity accreditation could drastically reduce to a very low  
29 percentage.<sup>2</sup> And if so, dependency on other resources, including wind, will be  
30 essential to maintain customer reliability.

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<sup>2</sup> See [https://cdn.misoenergy.org/20221130%20RASC%20Item%2007b%20Non-Thermal%20Accreditation%20Presentation%20\(RASC-2020-4%202019-2\)627100.pdf](https://cdn.misoenergy.org/20221130%20RASC%20Item%2007b%20Non-Thermal%20Accreditation%20Presentation%20(RASC-2020-4%202019-2)627100.pdf).

1 **Q. IN YOUR OPINION, WILL CEI SOUTH BE ABLE TO OBTAIN AN**  
2 **ARRANGEMENT THROUGH THE NEGOTIATION PROCESS THAT IS**  
3 **FAVORABLE TO CUSTOMERS?**

4 A. Yes. In my opinion, CEI South will be able to negotiate a reasonable, competitive  
5 arrangement.

6 **IX. THE WIND PROJECT OPERATION**

7 **Q. PLEASE DESCRIBE HOW CEI SOUTH WILL OPERATE THE WIND**  
8 **PROJECT, GIVEN ITS GEOGRAPHICAL LOCATION OUTSIDE CEI SOUTH’S**  
9 **SERVICE TERRITORY.**

10 A. CEI South is in the process of finalizing its operation plan for the Wind Project;  
11 therefore, below is reflective of the current plan, but subject to change. CEI South  
12 plans to enter into a service agreement with the turbine original equipment  
13 manufacturer (“OEM”) for the operation and maintenance (“O&M”) of the wind  
14 turbines. Further, CEI South plans to enter a separate balance of plant O&M  
15 contract for the maintenance of roads and vegetation management. CEI South  
16 plans to enter an additional contract for electrical system maintenance outside of  
17 the turbines, such as the AC collection system. CEI South plans to actively  
18 manage its contractors, spare parts, and the administrative components of the  
19 Project directly inhouse by assigning a project manager.

20 **Q. WHY IS USE OF O&M CONTRACTS A REASONABLE OPERATIONS**  
21 **APPROACH?**

22 A. The approach to use O&M contracts, yet directly manage the contractors through  
23 CEI South, is reasonable due to CEI South’s limited prior experience providing  
24 O&M for wind farms, and the Project’s location outside of CEI South’s service  
25 territory. Further, using an experienced contractor for the full-service agreement  
26 leads to efficiencies in O&M as the contractor may be better positioned to provide  
27 services due to distributed warehouses, existing spare part supply chains, and  
28 servicing equipment sharing between multiple wind farms.

29 **Q. WHAT O&M EXPENSES IS CEI SOUTH ANTICIPATING ONCE THE WIND**  
30 **PROJECT IS TRANSFERRED PURSUANT TO THE BTA?**

1 A. Operational costs include planned and unplanned maintenance of the wind  
2 turbines and electrical balance of plant – including labor, parts, materials, and  
3 consumables – as well as operating expenses, such as facility monitoring and  
4 management fees, utilities, land lease payments, professional service fees, taxes,  
5 and insurance. The Project’s Owner’s Engineer (“OE”) maintains a wind cost and  
6 performance dataset which includes cost data for over 100 projects with  
7 approximately 900 operating years and over 12,000 MW of installed capacity.  
8 From this database, the OE has provided an O&M projection for a typical wind  
9 project locationally more specific to the Midwest. The OE recommends the annual  
10 O&M projection will average \$ [REDACTED]/kW-year which does not include land lease  
11 costs. [REDACTED] CEI South is  
12 forecasting the land lease cost will average approximately \$ [REDACTED]/kW-year  
13 annually, bringing the total O&M annual average to \$ [REDACTED]/kW-year.

14 **Q. ARE THERE ANY OPERATIONAL CHALLENGES ASSOCIATED WITH THE**  
15 **LOCATION OF THE WIND PROJECT?**

16 A. No atypical operational challenges specific to the location of the Wind Project are  
17 foreseen. In addition, the Wind Project [REDACTED]  
18 [REDACTED] evidence of the viability of a wind project in the region.  
19 [REDACTED]  
20 [REDACTED]

21 **Q. WHAT IS THE EXPECTED LIFE OF THE WIND PROJECT?**

22 A. The Wind Project term sheet specifies that the project design life is expected to  
23 be no less than 30 years. As a result, it is expected that the wind turbine  
24 manufacturer for the Wind Project will do a mechanical loading analysis of key  
25 wind turbine components, in consideration of the expected loading caused by site  
26 conditions, to confirm the turbine components have a fatigue life of more than 30  
27 years. In addition, the foundation engineer of record will be required to provide a  
28 wind turbine foundation structural calculation demonstrating that the foundation  
29 design for the project can handle 30 or more years of cyclic loading.

30 **X. CONSTRUCTION OVERSIGHT OF THE WIND PROJECT**

31 **Q. WHAT IS THE STATUS OF CONSTRUCTION OF THE WIND PROJECT?**

1 A. The Wind Project is in the pre-construction phase. The Developer is currently  
2 seeking out necessary permits, completing micro-siting, and finalizing the  
3 interconnection path. **Attachment FSB-3 (CONFIDENTIAL)** provides the Wind  
4 Project Construction Schedule.

5 **Q. HOW WILL CEI SOUTH ENSURE THE DEVELOPER CONSTRUCTS THE**  
6 **WIND PROJECT IN ACCORDANCE WITH COMMONLY ACCEPTED**  
7 **NATIONAL STANDARDS?**

8 A. As a part of the BTA, the Developer is required to use prudent industry practices,  
9 meaning, any of the methods, techniques, standards and practices reasonably  
10 expected to be implemented by a prudent developer of wind generating facilities  
11 similar to the Wind Project in the United States and consistent with good business,  
12 reliability, and safety practices.

13 CEI South, with its OE, will have the opportunity to review and comment on the  
14 wind project design. As a part of the design review, the team will be reviewing all  
15 proposed codes and standards presented to be used in design and construction  
16 to ensure they are industry standard and in line with commonly accepted national  
17 standards, as required by the BTA. Further, construction oversight is planned  
18 during construction to ensure the Project is constructed in accordance with  
19 relevant standards and practices.

20 **Q. WHAT ARE THE DUTIES OF AN OE?**

21 A. The OE will provide services in multiple project phases as listed below:

- 22 • Phase 1: Contracting Phase Support – During this phase, the OE will  
23 provide technical advisory support to assist CEI South on important  
24 decisions and technical reviews. The OE will perform technical due  
25 diligence in several key areas including assessment of site suitability and  
26 proposed turbine technology, environmental and permitting process and  
27 schedule review, interconnection agreement status technical review, and  
28 energy generation review.
- 29 • Phase 2: Pre-Design Phase Support – Following the execution of the BTA,  
30 the OE will continue to take a proactive role to support technical buyer  
31 obligations as they relate to the BTA as well as provide technical advisory  
32 support to assist CEI South on important decisions and technical reviews.



- 1 Activities performed during this phase may include addressing any  
2 technical carryover items from the BTA agreement signing through  
3 resolution.
- 4 • Phase 3: Project Design and Engineering Reviews – During this Phase,  
5 the OE will perform design reviews of key engineering, procurement, and  
6 construction (“EPC”) submittals prior to the start of construction of the  
7 Project. The purpose of the design reviews is to ensure that the EPC  
8 contractor’s engineering documents are in accordance with the EPC  
9 contract, governing documents, compliance with applicable codes,  
10 regulations, and standards as well as in line with prudent industry  
11 practices, design adequacy, completeness, and constructability.
  - 12 • Phase 4: Construction and Commissioning Support – During this phase,  
13 the OE will provide construction monitoring services and site presence  
14 during construction, commissioning, and start up. This will include,  
15 attending on site meetings, verifying EPC contractor’s execution of work,  
16 observing execution of quality assurance and quality control activities,  
17 monitor execution of the works for compliance with project permits and  
18 environmental management plans, and reporting to the CEI South team.

19 **XI. PARTICIPATION IN THE MISO MARKET**

20 **Q. PLEASE DESCRIBE THE MISO ENERGY MARKET.**

21 A. In 2005, Indiana electric utilities, with encouragement from the Commission and  
22 the Federal Energy Regulatory Commission (“FERC”), transferred operation of  
23 their transmission facilities to a Regional Transmission Operator (“RTO”) – MISO  
24 for Petitioner. The purpose of MISO’s energy market is to dispatch the lowest  
25 cost generation within the MISO footprint required to maintain system reliability,  
26 giving MISO members the lowest reasonable cost energy available. As a member  
27 of MISO, Petitioner, like all MISO members, projects and submits its hourly energy  
28 needs and offers 100 percent of available generation for each hour of each day  
29 throughout the year into this market at the avoided costs. MISO collects all load  
30 projections and monetary energy offers and after ensuring grid reliability is  
31 maintained, dispatches the lowest cost generation facilities to meet the projected  
32 system needs for each hour of the day.

1 **Q. WHAT IS ELECTRIC TRANSMISSION CONGESTION?**

2 A. Electric transmission congestion refers to a limitation or constraint on the  
3 transmission system that prevents MISO from dispatching the most efficient  
4 generation. The economic impact is usually reflected by the Locational Marginal  
5 Pricing (“LMP”) separation between the generator and load nodes.

6 **Q. HOW HAVE CONGESTION RISKS OF THE WIND PROJECT BEEN  
7 ASSESSED?**

8 A. Minimal separation between the project interconnection and the load it serves is  
9 ideal to reduce the probability of congestion. Unfortunately, a wind project  
10 development has not materialized within CEI South’s service territory; however,  
11 the Wind Project [REDACTED] CEI  
12 South’s wind PPAs (Benton County and Fowler Ridge<sup>3</sup>). On a historical basis,  
13 since 2016, the day-ahead LMP difference between [REDACTED], geographically  
14 the closest pricing node to the Wind Project point of interconnection, and CEI  
15 South’s load node (SIGE.SIGW) is [REDACTED]/MWh, with most years having a  
16 favorable average difference. In comparison, the average LMP difference for  
17 Benton County over the same time period is -\$6.03/MWh, and for Fowler Ridge it  
18 is -\$3.26/MWh which is a good indication that the Wind Project may experience  
19 limited congestion relative to delivery to SIGE’s load. In addition, expansion of  
20 transmission facilities through the MISO Transmission Expansion Planning  
21 process should limit the congestion across MISO generally and potentially the  
22 deliverability costs for energy generated by the Wind Project.

23 **Q. PLEASE DESCRIBE THE PROJECT’S POSITION IN THE MISO QUEUE.**

24 A. The Developer has submitted the Wind Project into the 2020 MISO Generator  
25 Interconnection Queue process. MISO’s 2020 Generator Interconnection Queue  
26 was initiated in March 2021 and typically, the process is a year-long process;  
27 however, MISO has experienced delays with final results currently forecasted to  
28 be available in late-2023.

29 **Q. HAVE DELAYS ASSOCIATED WITH THE INTERCONNECTION PROCESS  
30 ADDED TO THE CHALLENGE TO BRING NEW PROJECTS ONLINE?**

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<sup>3</sup> Approved in Cause Nos. 43259 and 43635, respectively.

1 A. Yes. The time for a project to get through the interconnection process is  
2 increasing. In February 2021, as part of Cause No. 45501, Witness Joiner  
3 testified for Petitioner that new projects can take a minimum of 3.5 years to come  
4 online as part of generation transition efforts. At that time, the MISO schedule  
5 estimated that projects in the 2020 cycle would complete the DPP1 planning stage  
6 by August 2021. As of December 2022, the projected DPP1 completion date is  
7 February 2023, a total delay of 18 months, with further delays possible. The  
8 lengthening of interconnection timelines is made worse by the increasing number  
9 of projects in the queue, and correspondingly, the estimated time to completion  
10 for new projects that have not entered the queue, or have entered only recently,  
11 is also increasing substantially.

12 **Q. HOW WILL CEI SOUTH ACCOUNT FOR THE WIND ENERGY PROVIDED BY**  
13 **THE BTA?**

14 A. Energy output from the Wind Project will be offered into the MISO energy market  
15 daily per MISO tariff and Business Practice Manual (“BPM”) requirements. This  
16 involves offering the expected energy output on a day-ahead basis and settling  
17 the actual real-time output against day-ahead awarded volume and market  
18 clearing price versus day-ahead awarded price. Additionally, all accredited  
19 capacity will be used to satisfy MISO’s PRMR and Local Clearing Requirements  
20 (“LCR”) prescribed by the MISO tariff.

21 **XII. RESOURCE ADEQUACY REQUIREMENTS**

22 **Q. PLEASE DESCRIBE THE MISO ADEQUACY REQUIREMENTS.**

23 A. MISO’s resource adequacy requirements ensure that sufficient resources exist to  
24 meet anticipated customer usage during periods of peak demand. MISO’s  
25 resource adequacy requirements include the PRMR and LCR. The PRMR is the  
26 amount of capacity each load serving entity (“LSE”) must have to meet expected  
27 peak customer demand for the planning year as well as a “buffer” to account for  
28 higher than anticipated customer demand or unplanned electric generator  
29 outages. The LCR is the percentage of capacity that must be physically located  
30 within a MISO Local Resource Zone to ensure local reliability. Not being able to  
31 meet the PRMR or LCR means there would be a higher probability of outages  
32 due to an insufficient supply of capacity.

1 **Q. WHAT HAPPENS IF CEI SOUTH DOES NOT HAVE ENOUGH CAPACITY TO**  
2 **MEET THEIR PRMR?**

3 A. If CEI South would not have enough owned capacity or bilateral to meet their  
4 PRMR, then CEI South would have to participate in the MISO Planning Resource  
5 Auction (“PRA”) which is an annual capacity auction where CEI South and other  
6 utilities can procure capacity to meet MISO’s resource adequacy requirements.

7 **Q. HOW DOES THE PRA WORK?**

8 A. MISO will clear resources from within each Local Resource Zone based upon  
9 economic merit, until the zone’s LCR has been reached. After the zone’s LCR has  
10 been reached, MISO will continue to clear resources from both within and outside  
11 of the local zone based upon economic merit, until the zone’s PRMR is reached.  
12 The auction clearing price is the price of the most expensive capacity resource  
13 that cleared in the auction. In the event that there are insufficient resources to  
14 meet the zone’s LCR or the zone’s PRMR, the auction clearing price will be the  
15 Cost of New Entry (“CONE”), which is the cost of a new natural-gas fired  
16 combustion turbine facility in the zone.

17 **Q. PLEASE DESCRIBE WHETHER IT IS POSSIBLE TO OVER RELY ON THE**  
18 **PRA FOR CAPACITY.**

19 A. The Indiana House Bill 1520 (“HB 1520”), which has been codified as Ind. Code  
20 § 8-1-8.5-13, requires each public utility can reasonably acquire not more than  
21 30% of its PRMR from the PRA. Exceeding the 30% threshold triggers an  
22 investigation.

23 **Q. WHAT WERE THE RESULTS OF THE MOST RECENT MISO PRA?**

24 A. The April MISO 2022/2023 PRA Results revealed a capacity shortfall for the MISO  
25 North and Central Regions, thus exposing utilities with net short positions to the  
26 PRA auction clearing price of CONE for the planning year – \$236.66/MW-Day.  
27 MISO commented in the 2022 PRA results “The 2020-21 OMS-MISO survey  
28 projected a small surplus for planning year 2022-23, which was eroded by an  
29 increased load forecast, less capacity entering the auction as result of  
30 retirements, and the decreased accredited capacity of new resources.”<sup>4</sup>

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

1 **Q. WHAT DOES THE PRA CLEARING PRICE OF CONE REALLY MEAN?**

2 A. It essentially means those utilities needing to purchase capacity in the 2022 PRA  
3 paid the CONE price of \$236.66/MW-day. For example, 100 MW capacity  
4 purchased in the 2022 PRA equates to approximately \$8.6 Million – this is  
5 substantial to customers and illustrates reliance on others to meet CEI South’s  
6 PRMR should not be a long-term strategy. These costs may be even higher in the  
7 future; for example, MISO requested the 2023 PRA CONE be set at \$270/MW-  
8 day.<sup>5</sup>

9 **Q. DOES A CAPACITY SHORTFALL PRESENT RISKS TO CUSTOMERS?**

10 A. Yes, as MISO pointed out in their 2022 PRA results: “The auction results indicate  
11 that MISO North/Central Regions have a slightly increased risk of needing to  
12 implement temporary controlled load sheds.”<sup>6</sup> The potential load shed impact to  
13 customers illustrates how imperative it is for each MISO zone, and each utility to  
14 meet its own PRMR.

15 **Q. IS THERE A RISK OF CAPACITY SHORTFALLS IN FUTURE YEARS?**

16 A. Yes. MISO released the 2022 OMS-MISO Survey Results on June 10, 2022.  
17 MISO pointed out in the survey that the MISO footprint is “projected to have a  
18 capacity deficit of 2.6 GW below the 2023 PRMR”.<sup>7</sup> Similar to the 2022 PRA  
19 results, these deficits are restricted to the North/Central Regions. Capacity deficits  
20 are projected to widen in subsequent years primarily driven by demand growth  
21 and the continued retirements of coal fired resources.

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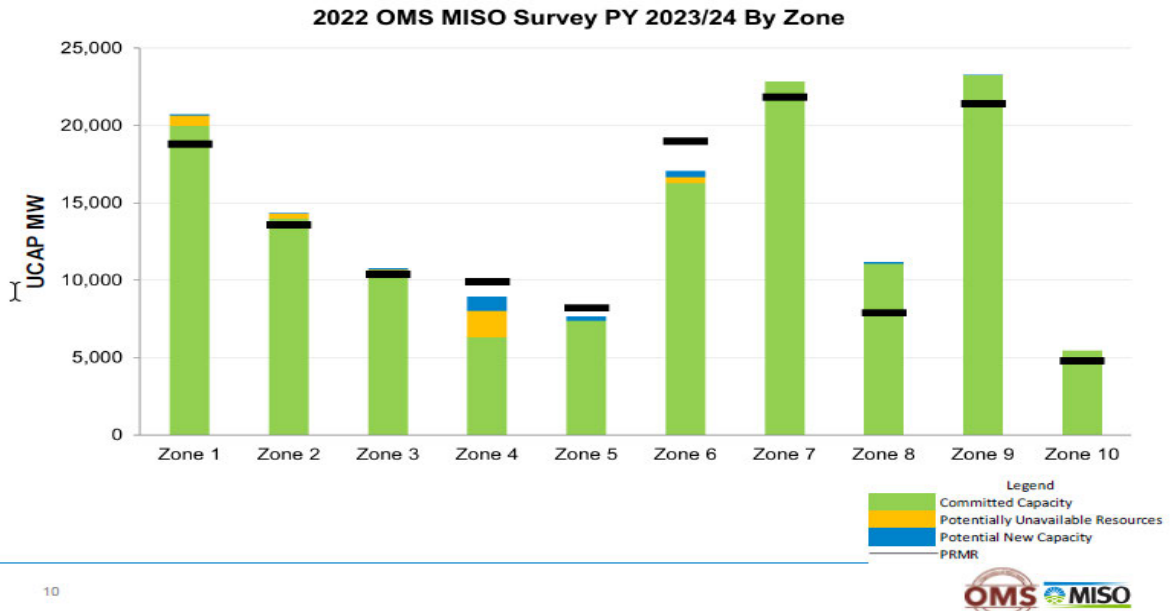
<sup>5</sup> <https://cdn.misoenergy.org/MISO%202022%20Annual%20CONE%20filing626484.pdf>.

<sup>6</sup> See <https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf>.

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

Graph FSB-1: 2022 OMS Survey Planning Year 2023/24 By Zone

Capacity shortages shown in 2022 PRA are reflected in the 2023 survey zonal outlook



10



- 1 **Q. HOW DOES THE WIND PROJECT SUSTAIN CEI SOUTH’S PRMR POSITION?**  
 2 **A.** Table FSB-2 below shows CEI South’s forecasted capacity position for 5 years  
 3 starting with the Wind Project’s first year of commercial operation – the 2024/2025  
 4 MISO capacity planning year. As you can see, the Wind Project is needed to  
 5 support CEI South’s PRMR position and ensure the required capacity in each  
 6 season is met, especially in the near term (2024/2025) and in 2028 and beyond.

Table FSB-2: PRMR Position (MW)

	Projected 2024/2025	Projected 2025/2026	Projected 2026/2027	Projected 2027/2028	Projected 2028/2029
Summer	■	■	■	■	■
Fall	■	■	■	■	■
Winter	■	■	■	■	■
Spring	■	■	■	■	■

1   **XIII.   MISCELLANEOUS**

2   **Q.       PLEASE DESCRIBE PETITIONER'S EXHIBIT NO. 2, ATTACHMENT FSB-4**  
3   **(CONFIDENTIAL).**

4   A.   Petitioner's Exhibit No. 2, **Attachment FSB-4 (CONFIDENTIAL)** is a chart setting  
5   forth additional details regarding the Wind Project interconnection to the MISO  
6   system and impact on CEI South's PRMR which the Commission indicated should  
7   be provided in CPCN cases pursuant to GAO 2022-1.

8   **XIV.   CONCLUSION**

9   **Q.       IN YOUR OPINION, DOES PUBLIC CONVENIENCE AND NECESSITY**  
10   **REQUIRE THE PROJECT?**

11   A.   Yes. Commission approval of the Project and associated relief sought herein is  
12   in the public interest, will enhance or maintain the reliability and efficiency of  
13   service provided by Petitioner, and is otherwise consistent with Ind. Code § 8-1-  
14   8.8-11. Investment in wind energy resources is reasonable and appropriate; and  
15   will benefit CEI South's customers. The Project reduces risk by adding diversity  
16   to the Company's generation portfolio, not only in relation to resource mix and life  
17   expectancy of the asset, but in relation to investment type. The Project also is  
18   consistent with the Preferred Portfolio in Petitioner's 2019/2020 IRP; and fills a  
19   portion of the capacity and energy need identified in the 2019/2020 IRP. Further,  
20   its size offers value in economy of scale and performance certainty, given it is  
21   [REDACTED]. Accordingly, Petitioner  
22   respectfully requests that the Commission grant CEI South's request for a CPCN  
23   for the proposed Wind Project and requested ratemaking and accounting and  
24   other relief.

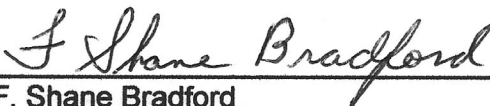
25   **Q.       DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

26   A.   Yes, it does.

**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  
Director of Power Supply Services

1-10-23  
\_\_\_\_\_  
Date



Attachment FSB-1 (CONFIDENTIAL) Provided Separately

Attachment FSB-2 (CONFIDENTIAL) Provided Separately

Attachment FSB-3 (CONFIDENTIAL) Provided Separately

GAO 2022-1 Requirement	Response
<p>The name of the RTO to which the new generation will be connected and information regarding the RTO’s planning reserve margin, peaks, capacity auctions, possible ancillary services the new generation may provide, and other markets in which the new generation may participate. A qualitative assessment by the RTO regarding the new generation shall be requested and the RTO’s response (including, as applicable, the RTO’s affidavit or testimony) shall be part of the utility’s case in chief.</p>	<p>The Project will be connected to [REDACTED] transmission system located within MISO’s footprint, please see Petitioner’s Exhibit 2 direct testimony of F. Shane Bradford on page 11, lines 14-15. MISO’s planning reserve margin for 2023/2024 is [REDACTED]% (Summer), [REDACTED]% (Fall), [REDACTED]% (Winter), and [REDACTED]% (Spring).</p> <p>Due to the intermittent nature of the Wind Project, the resource is not eligible to provide operating reserves or ancillary services.</p> <p>The Wind Project is in the 2020 MISO Queue and as such, has not published their qualitative assessment due to delays in the process.</p>
<p>A description of the new generation’s anticipated impact on the submitting utility’s resource adequacy and reliability.</p>	<p>The Wind Project is expected to contribute in meeting resource adequacy requirements and contribute to the overall reliability of CEI South’s system. Please see Petitioner’s Exhibit 3, direct testimony of Matthew A. Rice on pages 24-25 for a description of how the project will satisfy the Final Report issued by the 21<sup>st</sup> Century Energy Policy Development Task Force, which identified five pillars, which include reliability, resilience, stability, affordability, and environmental sustainability. For a description of how the Pike County BTA will help fulfill the capacity need identified in CEI South’s 2019/2020 IRP, please see Petitioner’s Exhibit 3 on page 17, lines 22-32 and page 18, lines 1-2.</p>
<p>An explanation regarding whether the new generation is required to be in the RTO’s interconnection queue and, if so, its status in the queue.</p>	<p>As shown in Petitioner’s Exhibit 2, direct testimony of F. Shane Bradford page 13, lines 2-4, “the Wind Project is located in MISO [REDACTED] and is in the 2020 MISO Interconnection Queue Cycle with an expected Generator Interconnection Agreement (“GIA”) in late-2023.”</p>

<p>A description of the new generation’s expected capacity factors, dispatchability, and accreditation characteristics.</p>	<p>The Wind Project net capacity factor is assumed to be 40.58%. Based on a projected Effective Load Carrying Capability (ELCC) curve for solar, the Wind Project accredited capacity is estimated to be approximately █ MW (Summer) and approximately █ MW (Winter) in its first year of service and will assist in meeting Petitioner’s PRMR and LCR in the MISO PRA, which is discussed in detail in Petitioner’s Exhibit 2, direct testimony of F. Shane Bradford starting on pages 26 through 29.</p> <p>The project will be an intermittent generating resource, although it may be curtailed as needed to comply with MISO requirements.</p>
<p>A description of how the new generation is expected to perform at the relevant RTO’s peak pursuant to its capacity construct (for example, summer and/or winter and/or other, as may be applicable).</p>	<p>For a description of how the Wind Project will help fulfill the capacity need identified in CEI South’s 2019/2020 IRP, please see Petitioner’s Exhibit 3 direct testimony of Matthew A. Rice on page 17, lines 22-32 and page 18, lines 1-2.</p>