

SOUTHERN INDIANA GAS AND ELECTRIC COMP

D/B/A

VECTREN ENERGY DELIVERY OF INDIANA, INC.

CAUSE NO. 45052

VERIFIED DIRECT TESTIMONY

OF

JON K. LUTTRELL

SENIOR VICE PRESIDENT, UTILITY OPERATIONS AND

PRESIDENT OF VECTREN UTILITY HOLDINGS, INC.

SPONSORING PETITIONER'S EXHIBIT NO. 2

VERIFIED DIRECT TESTIMONY
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JON K. LUTTRELL
SENIOR VICE PRESIDENT, UTILITY OPERATIONS AND
PRESIDENT OF VECTREN UTILITY HOLDINGS, INC.

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

2 A. My name is Jon K. Luttrell. My address is One Vectren Square, Evansville, Indiana,
3 47708.

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

5 A. I am employed by Vectren Corporation ("Vectren") as its Senior Vice President, Utility
6 Operations and President of its subsidiary Vectren Utility Holdings, Inc. ("VUHI"). VUHI
7 is the immediate parent company of Southern Indiana Gas and Electric Company, Inc.
8 d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren South" or the "Company").

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

10 A. I have a Bachelor of Science Degree in Computer Engineering from Wright State
11 University and a Master of Science in Administration from Central Michigan University.

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

13 A. I have worked in the energy industry for over 30 years in various operations,
14 engineering, and staff positions. With Vectren, I have previously served as the Director
15 of Field Operations, Vice President of IT and Customer Service, and as Vice President
16 of Energy Delivery. Prior to joining Vectren, I worked for the Dayton Power and Light
17 Company.

18 **Q. What are your duties and responsibilities?**

1 A. I am currently responsible for Vectren's utility operations which include engineering, field
2 operations, and power generation.

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

5 A. Yes. I provided testimony describing Vectren South's tree-trimming practices in the
6 Commission's tree-trimming investigation in Cause No. 43663 and supported the
7 Company's proposed transmission, distribution and system improvement plan in Cause
8 No. 44910.

9 **Q. What is the purpose of your Direct Testimony in this proceeding?**

10 A. Based on the 2016 Integrated Resource Plan ("IRP"), the Company determined the need
11 to move forward with a process to diversify the generation fleet and replace aging coal
12 units. My testimony will describe the process Vectren South engaged in to select a
13 combined cycle gas turbine generation facility ("CCGT") to replace the retiring units and
14 provide baseload generation to serve our customers' needs. Essentially, throughout
15 2017, with the assistance of external experts, Vectren South has pursued three
16 alternative paths to determine the best option to reliably serve customers. One
17 alternative is based on a request for proposal ("RFP") the Company issued to solicit
18 competitive bids for either purchased power or ownership of all or a portion of a unit. I
19 will describe the process used to analyze the RFP offers. As a result of this process, we
20 were then able to compare the best competitive offer to several self-build alternatives at
21 Vectren South's existing A. B. Brown ("Brown") generation site, including a partnership
22 alternative. Based upon this economic and qualitative comparison, I will support the
23 decision to pursue building an approximately 850 megawatt ("MW") CCGT, at the
24 existing Brown site connected to Vectren South's 138kv transmission system in Posey
25 County, Indiana.

1 **Q. Will your testimony make reference to any exhibits submitted in this proceeding?**

2 A. Yes. Vectren South relied heavily on the expertise of Burns and McDonnell ("BMC") to
3 assess these generation alternatives. Two exhibits attached to the direct testimony of
4 Mr. Lind of BMC reflect the analysis BMC provided to Vectren South as a result of the
5 evaluation process that has been conducted. I have reviewed and understand the
6 exhibits which summarize the work performed jointly by BMC and Vectren South.

7 **A. Identification of This CCGT Project.**

8 **Q. Why has Vectren South dedicated over a year to evaluating a potential ownership
9 interest in a CCGT unit?**

10 A. The Company's 2016 IRP demonstrated that a new CCGT was the most economic and
11 reliable way to replace baseload coal units that would no longer be cost effective beyond
12 2023. The heat rate efficiency of CCGT units combined with low gas price forecasts
13 made these units the lowest cost resource in our modeling. The CCGT unit also has the
14 capability to provide reliable supply at times when intermittent renewable resources are
15 not available. Given the lead time required to construct such a unit, it was important to
16 reach a well-founded and timely decision regarding project selection that we could then
17 bring to the Commission for approval.

18 **Q. Why is this project important from a reliability and cost perspective?**

19 A. Vectren South is replacing over 70% of its baseload generation (consisting of four coal
20 units) with this CCGT. As a result, this resource will be crucial in terms of meeting
21 Midcontinent Independent System Operator ("MISO") capacity planning reserve
22 requirements and having economic generation to serve customer demand.

23 **Q. Please generally describe the three resource paths you referenced above.**

1 A. Working with our external advisors, the Company made the decision to evaluate
2 ownership of a CCGT (or the purchase of power generated from such a unit) based on
3 these three alternative paths: (1) third party generation projects that meet certain criteria
4 set forth in an RFP; (2) a jointly owned self-build CCGT unit with a partner located on
5 system at our Brown site; and (3) wholly owned self-build CCGT alternatives at our
6 existing Brown site. We have evaluated these options and compared the results of each
7 path in terms of both projected cost on a net present value ("NPV") basis, and on a
8 qualitative basis weighing key risk considerations in order to select the best option for
9 the entire twenty (20) year planning period.

10 **Q. Why did Vectren South issue an RFP to either own all or part of CCGT unit, or be**
11 **provided power from a unit owned by another party?**

12 A. Vectren South wanted to identify and compare viable market alternatives to its other
13 resource options. While a plant either owned and operated by a merchant developer, or
14 built and sold to Vectren South by a merchant developer, would likely be a riskier option
15 compared to self-build options under our control, to the extent it offered a significant cost
16 savings, Vectren South needed to consider such an option. A long-term power purchase
17 agreement ("PPA") would represent an even greater risk. Given our lack of expertise in
18 these matters, we used BMC to develop the RFP and to guide us in the evaluation of the
19 responsive bids.

20 To ensure competitive options offered an acceptable level of reliability, our RFP
21 specified that any qualifying resource must be located within MISO Zone 6, comprised of
22 Indiana and Northern Kentucky. This term satisfied MISO's requirement that a load
23 serving entity have a minimum amount of its capacity, currently 67%, located within its
24 zone. Apart from this formal requirement, it simply makes good sense that such a large
25 resource supporting service to our customers be either on-system or close to our system

1 to decrease risk of interruption and also to reduce risk of significant congestion cost to
2 move the plant output to our system. The RFP was limited to the type of generation
3 called for in our IRP modelling—a CCGT. For a complete overview of the qualitative
4 factors that were considered, see Petitioner's Exhibit No. 6, Attachment MEL- 1.

5 **Q. Did the Vectren South generation team benefit from the ability to review the**
6 **pricing and other terms submitted in response to the RFP?**

7 A. No. To ensure the process was fair, we separated our personnel such that any
8 employee privy to the RFP responses did not work on the self-build and partnership
9 teams. Ultimately, only legal counsel and I were able to review all these alternatives until
10 they were each finalized in terms of the units being built and the estimated cost thereof.

11 **B. Competitive Procurement.**

12 **Q. How was Vectren South's RFP distributed?**

13 A. Vectren South published the RFP in Megawatt Daily for 5 days, beginning on June 20,
14 2017. BMC also directly emailed the RFP to all developers it thought would be potential
15 bidders based on its broad experience. At the same time, in addition to publishing the
16 RFP in Megawatt Daily, Vectren South also issued a press release to announce the
17 RFP. BMC recommended this process based on its experience with such RFPs.

18 **Q. How did Vectren South determine the amount of capacity and energy requested in**
19 **the RFP?**

20 A. The RFP solicited a range of 600-800 MWs of capacity, giving respondents some
21 flexibility in terms of unit sizing and available capacity, all within a range responsive to
22 Vectren South's needs as determined by its IRP.

23 **Q. Did Vectren South receive responses to the RFP?**

1 A. Yes. Vectren South received six (6) responses, and qualifying proposals were received
2 from four (4) bidders. The bids included options for both long-term PPA and/or for the
3 bidders to build a CCGT and transfer ownership of a portion or the entire unit to Vectren
4 South upon completion.

5 **Q. Did the bidders have mature projects that had undergone at a minimum a detailed**
6 **study phase prior to Vectren South's RFP?**

7 A. Yes. As set forth in the bids, each developer had already selected its site, performed
8 some level of analysis, and worked on obtaining potential financing for its planned unit.

9 **Q. What process did Vectren South utilize to evaluate the bids?**

10 A. Vectren South worked with experts from BMC to evaluate the bids. BMC utilized a three
11 (3) step process, based on review of the RFP bids as well as follow up questions to the
12 bidders to obtain further information as well as clarification of the responses. Step one
13 consisted of a calculation of the levelized cost of energy ("LCOE") of each proposal.
14 Step two consisted of a qualitative review of each proposal to assess risks and other
15 factors that were pertinent to the quality and reliability of the proposals. Assessment of
16 the credit and financial strength of the bidders was a key component in this step. After
17 determining the LCOE of each proposal and consideration of important qualitative traits
18 associated with each proposal, BMC and Vectren South were able to narrow the
19 responses to the best bid. Step three focused on the merits of this bid, including an in-
20 depth assessment of transmission congestion. As part of this step, BMC and Vectren
21 South directly communicated with the bidder via telephone conferences on two
22 occasions.

23 **Q. Were any of the bids rejected from consideration for failure to comply with the**
24 **RFP?**

1 A. Yes. Two bids were non-responsive because they were not based on a specific project
2 to provide capacity and energy to the Company.

3 **Q. In general, what critical factors were identified, apart from cost, as part of the**
4 **qualitative evaluation of resources?**

5 A. As mentioned, because the unit will provide 70% of our baseload capacity and energy
6 for the long term, we focused on factors that presented risks compared to our own unit
7 ownership. Most important was credit worthiness. A PPA would mean reliance on a
8 third party to provide 70% of our demand for 20-30 years. Buying a share of a larger
9 unit would similarly require reliance on our ownership in a larger unit owned and
10 operated by a third party. Given merchant generation has a volatile history, BMC
11 assisted in the evaluation of the credit quality of each developer. In addition, an
12 emphasis was placed on unit location for two reasons: first, a preference existed for
13 Indiana based generation so jobs and tax revenues remained in the state, and second,
14 distance from our system was a key consideration given exposure to transmission
15 system congestion.

16 **Q. What steps did BMC/Vectren South take to further evaluate the best competitive**
17 **bid?**

18 A. In order to ensure an accurate understanding of the bid, we directly discussed
19 components of the bid with the developer. Transmission system analysis was a key part
20 of that discussion. BMC used a MISO model to estimate the potential cost over time of
21 delivering power from the proposed unit to Vectren South's system due to congestion.
22 Once all costs were estimated, BMC calculated a NPV estimate of the project.

1 **C. Use of the Results of Competitive Procurement**

2 **Q. Did BMC compare the economics of the selected bidder from the RFP to Vectren**
3 **South's other alternatives?**

4 A. Yes. From the start of the process, it was likely that on system generation at the Brown
5 site, located on our 138kv transmission line would provide a favorable option given the
6 new CCGT would replace the existing 490 MWs of coal generation at that site. The
7 location minimizes the need for MISO required system upgrades and eliminates the
8 need to move power on the grid from an off-system location. Reuse of the Brown site
9 also benefits the local economy by ensuring employment and tax base remain in Posey
10 County. However, other considerations such as access to a larger unit with a better heat
11 rate, could yield a better overall result. Thus, the selected bid project was compared to
12 self-build options at Brown. As shown on Petitioner's Exhibit No. 6, Attachment MEL- 1,
13 the outcome is very close on an NPV basis. However, the self-build option shields
14 Vectren South customers from transmission congestion and credit risk, places control of
15 the new generation build and subsequent operation in Vectren South's control, and limits
16 our exposure to merchant generation risks where the Company owns only a share of or
17 is dependent upon a PPA from a larger unit. Therefore, the self-build option is the better
18 option.

19 **Q. Given BMC calculated congestion costs and added that cost to determine the NPV**
20 **of the bid project, why was Vectren South still concerned about congestion risk?**

21 A. BMC performed an estimate of transmission congestion risk over time based on what is
22 known or anticipated today. While it is the best current estimate based on MISO
23 projected conditions, it is very difficult to account for future grid changes, and given the
24 long period at issue, the estimate does not eliminate the potential risk of additional cost

1 and reliability concerns of an off-system unit. Thus, given the NPV results are close;
2 avoiding exposure to this risk via a self-build on-system project makes sense.

3 **Q. How do the self-build projects compare to the partnership option you mentioned**
4 **as being part of the evaluation process?**

5 A. Early on in this process, Vectren South was fortunate to find a potential partner for a joint
6 project located on its system. The partner was willing to own a minority interest in a
7 CCGT operated by Vectren South that it would use as the basis for PPA type sales to
8 other entities. Vectren South would benefit from a jointly owned unit because we could
9 build a unit sized greater than our needs with a better heat rate. As we studied the
10 various options, the partnership appeared to be a viable alternative from both an NPV
11 standpoint as well as on a qualitative basis given the financial strength of our potential
12 partner. Further, this alternative allowed us to consider such an arrangement located on
13 our system.

14 **Q. Why is the partnership unit not represented in the final NPV analysis?**

15 A. After months of constructive discussion regarding joint ownership and operating terms,
16 in January our partner provided notice that an inability to negotiate firm sale contracts
17 with other parties for its share of the capacity and energy resulted in too much market
18 risk, and therefore the potential partnership had to be terminated. Given final terms had
19 not been agreed upon, we are not presenting a speculative NPV for the partnership
20 option.

21 **D. Conclusion**

22 **Q. Given this outcome, does Vectren South believe that the competitive procurement**
23 **evaluation provided value?**

1 A. Yes. The competitive procurement evaluation process provided Vectren South with
2 competitive options to be compared with its own self-build CCGT. This information
3 helped the Company be confident that Vectren South's proposed self-build CCGT is a
4 reasonable alternative from a cost and risk perspective. The RFP gave the market an
5 opportunity to provide competitive offers – this adds great validity to the overall selection
6 process and provides a lens through which the reasonableness of Vectren South's
7 project cost can be viewed.

8 **Q. Does this conclude your prepared direct testimony?**

9 A. Yes, at this time.

10

VERIFICATION

The undersigned, Jon K. Luttrell, affirms under the penalties of perjury that the answers in the foregoing Direct Testimony in Cause No. 45052 are true to the best of his knowledge, information and belief.


Jon K. Luttrell