

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF SOUTHERN INDIANA GAS)
AND ELECTRIC COMPANY d/b/a VECTREN ENERGY)
DELIVERY OF INDIANA, INC. ("VECTREN SOUTH"))
FOR (1) ISSUANCE OF A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY FOR THE)
CONSTRUCTION OF A COMBINED CYCLE GAS)
TURBINE GENERATION FACILITY ("CCGT"); (2))
APPROVAL OF ASSOCIATED RATEMAKING AND)
ACCOUNTING TREATMENT; (3) ISSUANCE OF A)
CERTIFICATE OF PUBLIC CONVENIENCE AND)
NECESSITY FOR COMPLIANCE PROJECTS TO MEET)
FEDERALLY MANDATED REQUIREMENTS ("CULLEY)
3 COMPLIANCE PROJECT"); (4) AUTHORITY TO)
TIMELY RECOVER 80% OF THE COSTS INCURRED)
DURING CONSTRUCTION AND OPERATION OF THE)
CULLEY 3 COMPLIANCE PROJECTS THROUGH)
VECTREN SOUTH'S ENVIRONMENTAL COST)
ADJUSTMENT MECHANISM; (5) AUTHORITY TO)
CREATE REGULATORY ASSETS TO RECORD (A) 20%)
OF THE REVENUE REQUIREMENT FOR COSTS,)
INCLUDING CAPITAL, OPERATING, MAINTENANCE,)
DEPRECIATION, TAX AND FINANCING COSTS ON)
THE CULLEY 3 COMPLIANCE PROJECT WITH)
CARRYING COSTS AND (B) POST-IN-SERVICE)
ALLOWANCE FOR FUNDS USED DURING)
CONSTRUCTION, BOTH DEBT AND EQUITY, AND)
DEFERRED DEPRECIATION ASSOCIATED WITH THE)
CCGT AND CULLEY 3 COMPLIANCE PROJECT UNTIL)
SUCH COSTS ARE REFLECTED IN RETAIL ELECTRIC)
RATES; (6) ONGOING REVIEW OF THE CCGT; (7))
AUTHORITY TO IMPLEMENT A PERIODIC RATE)
ADJUSTMENT MECHANISM FOR RECOVERY OF)
COSTS DEFERRED IN ACCORDANCE WITH THE)
ORDER IN CAUSE NO. 44446; AND (8) AUTHORITY TO)
ESTABLISH DEPRECIATION RATES FOR THE CCGT)
AND CULLEY 3 COMPLIANCE PROJECT ALL UNDER)
IND. CODE §§ 8-1-2-6.7, 8-1-2-23, 8-1-8.4-1 *ET SEQ*, 8-1-)
8.5-1 *ET SEQ*, AND 8-1-8.8 -1 *ET SEQ*.)

CAUSE NO. 45052


INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

REDACTED TESTIMONY OF

LAUREN M. AGUILAR – PUBLIC'S EXHIBIT NO. 1

AUGUST 10, 2018

Respectfully submitted,



Lorraine Hitz-Bradley
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TESTIMONY OF OUCC WITNESS LAUREN M. AGUILAR
CAUSE NO. 45052
SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
D/B/A VECTREN ENERGY DELIVERY OF INDIANA, INC.

I. INTRODUCTION

1 **Q: Please state your name, business address, and employment capacity.**

2 A: My name is Lauren M. Aguilar, and my business address is 115 W. Washington
3 St., Suite 1500 South, Indianapolis, IN, 46204. I am employed as a Utility Analyst
4 in the Electric Division for the Indiana Office of Utility Consumer Counselor
5 (“OUCC”). A summary of my qualifications can be found in Appendix A.

6 **Q: Have you testified before the Indiana Utility Regulatory Commission**
7 **(“Commission”)?**

8 A: Yes. I have testified in Cause Nos. 42170 ECR 30, 44340 FMCA-9, 44963, 44978,
9 44981, 44998, and 45010. My work at the OUCC has generally focused on matters
10 involving compliance with state and federal environmental regulations.

11 **Q: What have you done to evaluate Southern Indiana Gas and Electric Company**
12 **(“SIGECO”) d/b/a Vectren Energy Delivery of Indiana Inc.’s (“Vectren”)**
13 **request in this Cause?**

14 A: I reviewed the applicable statutory and regulatory requirements, generated
15 discovery, reviewed Vectren’s responses and attended an on-site visit of the Brown
16 and Culley Vectren facilities. I met with Vectren witnesses and other technical staff
17 to further investigate and evaluate Vectren’s request. I looked at Vectren’s statutory
18 obligations, including environmental compliance obligations, related to its request
19 in this case for an issuance of a certificate of public convenience and necessity
20 (“CPCN”) to construct a combined cycle gas turbine (“CCGT”), and for issuance
21 of a CPCN for four (4) environmental compliance projects to comply with federally

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1 mandated requirements (collectively referred to as the “Culley 3 Compliance
2 Project”). In addition, I reviewed portions of Vectren’s 2016 Integrated Resource
3 Plan (“IRP”) and its subsequent update.

4 **Q: What is the purpose of your testimony in this proceeding?**

5 A: I present the OUCC’s recommendation that Vectren’s requests for CPCNs under
6 Ind. Code chs. 8-1-8.5 *et seq.* for the CCGT and 8-1-8.4 *et seq.* for Culley 3
7 Compliance Project should be denied. I also provide an environmental compliance
8 analysis of Vectren’s request for a CPCN to construct a CCGT and its request for a
9 CPCN for Culley 3 Compliance Project. Further, I present the OUCC’s position
10 that Vectren’s request for Environmental Compliance Project costs, consistent with
11 the Commission’s order in Cause No. 44446, should be allowed to be tracked in a
12 new rate recovery mechanism identified as the Environmental Cost Adjustment
13 (“ECA”).

14 Specifically, I recommend the Commission deny Vectren’s request for a
15 CPCN to construct a CCGT and find Vectren’s request does not comply with I.C.
16 ch. 8-1-8.5 *et seq.* I also recommend the Commission deny Vectren a CPCN in
17 accordance with I.C. ch. 8-1-8.4 *et seq.* and therefore deny cost recovery for the
18 Culley 3 Compliance Project in this Cause as a federally mandated project. Finally,
19 I recommend the Commission approve Vectren’s requested new ECA rate recovery
20 mechanism to recover costs authorized in Cause No. 44446.

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1 **Q: Please briefly introduce the other OUCC witnesses in this Cause.**

2 A: There are four (4) additional OUCC witnesses in this Cause:

3 (1) Peter M. Boerger, Ph.D. provides an economic analysis of Vectren's request for
4 a CPCN for a CCGT.

5 (2) Anthony A. Alvarez provides an engineering analysis of Vectren's request for
6 a CPCN for its proposed CCGT.

7 (3) Wes R. Blakley addresses Vectren's request to recover 80% of the federally
8 mandated Environmental Compliance Project costs through a new rate recovery
9 mechanism, the ECA. Mr. Blakley also reviews and comments on Vectren's
10 request for accounting and ratemaking treatment pertaining to its CCGT
11 project.

12 (4) Barbara A. Smith explains the OUCC's concerns regarding the Commission's
13 Draft Statewide analysis and how those concerns relate to this Cause.

14 **Q: Please describe your attachments.**

15 A: I sponsor the following attachments:

16 • Attachment LMA – 1 - discovery requests and responses.

17 • Attachment LMA – 2 - Vectren's Brown Generation Station Title V Air permit
18 No. 129-38980-00010.

19 • Attachment LMA – 3 - Vectren's Brown Generation Station National Pollutant
20 Discharge Elimination System ("NPDES") Permit No. IN0052191.

21 • Attachment LMA – 4 - Indiana Air Emissions Nonattainment Map by County.

22 • Attachment LMA - 5 – Vectren's Culley Generation Station Title V Air permit
23 No. 173-38797-00001.

24 • Attachment LMA – 6 - Culley Generation Station NPDES Permit No.
25 IN0002259.

26 • Attachment LMA-7 (CONFIDENTIAL) - Vectren's Agreement for Unit Four
27 at Alcoa Generating Corporation's Warrick Power Plant and confidential
28 response to OUCC DR 15.3.

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II. VECTREN'S REQUEST

1 **Q: Please summarize Vectren's CPCN request to construct a CCGT generation**
2 **facility.**

3 A: Vectren requests approval to construct an approximate 850 MW CCGT on available
4 property at its Brown Generating station. The proposed CCGT would replace the
5 capacity of Culley Unit 2, Brown Units 1 and 2, some small natural gas units, and
6 the portion of Warrick Unit 4 owned by Vectren, which have a combined total
7 output of 865 MWs.¹ Vectren plans to retire these units upon completion of the
8 CCGT. Vectren uses its IRP and IRP update process as support for its request.

9 **Q: What are Vectren's stated reasons for its proposal?**

10 A: Vectren cites challenges faced by coal-fired generation, including pressing
11 environmental compliance difficulties. Vectren has chosen to build a CCGT and
12 close existing coal-fired generation based on perceived economic advantages.
13 Vectren witness Wayne D. Games' testimony states: "[t]hese results are consistent
14 with Vectren's observations that the low cost of natural gas and the greater
15 efficiency of a CCGT render construction of a new CCGT more advantageous from
16 a purely economic perspective over a twenty year planning horizon."²

III. STATUTES GOVERNING ANALYSIS

17 **Q: What statutes do you address in your testimony?**

18 A: I address the following applicable statutes and then apply them to Vectren's
19 request:

- 20 • I.C. § 8-1-2-0.5.
21 • I.C. § 8-1-8.5-4(1).

¹ Direct Testimony of Wayne D. Games, p. 13, line 10 – p. 14, line 10.

² Games, p. 9, lines 18-21.

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- 1 • I.C. § 8-1-8.5-4(2).
- 2 • I.C. § 8-1-8.5-3(a).
- 3 • I.C. § 8-1-8.5-3(b).
- 4 • I.C. § 8-1-8.5-3(c).
- 5 • I.C. § 8-1-8.5-5(b)(1).
- 6 • I.C. § 8-1-8.5-5(b)(2)(A).
- 7 • I.C. § 8-1-8.5-5(b)(2)(B).
- 8 • I.C. § 8-1-8.5-5(b)(3).
- 9 • I.C. § 8-1-8.5-5(b)(4).
- 10 • I.C. § 8-1-8.5-5(e).
- 11

IV. STATUTORY DISCUSSION AND ANALYSIS

12 **Q: What statutory sections does the OUCC's analysis show were not supported**
13 **by Vectren's evidence?**

14 **A:** The OUCC's analysis concludes Vectren has not complied with the following:

- 15 (1) I.C. § 8-1-8.5-5(b)(1): providing the Commission with enough evidence to
16 make a findings as to the best estimate of construction, purchase, or lease costs;
- 17 (2) I.C. § 8-1-8.5-5(b)(3): providing evidence that the public convenience and
18 necessity require or will require the construction, purchase, or lease of the
19 facility; and
- 20 (3) I.C. § 8-1-8.5-5(e)(1)(A): showing that the estimated costs of the proposed
21 facility are, to the extent commercially practicable, the result of competitively
22 bid engineering, procurement, or construction contracts, as applicable.

23 As directed by the Indiana General Assembly, other statutes bear on the
24 Commission's required analysis of a utility request. I.C. § 8-1-2-0.5 states the
25 declarations of the Indiana General Assembly:

26 The general assembly declares that it is the continuing policy of the
27 state, in cooperation with local governments and other concerned
28 public and private organizations, to use all practicable means and
29 measures, including financial and technical assistance, in a manner
30 calculated to create and maintain conditions under which utilities
31 plan for and invest in infrastructure necessary for operation and
32 maintenance while protecting the affordability of utility services for
33 present and future generations of Indiana citizens.

34 **Q: How is I.C. § 8-1-2-0.5 relevant to this proceeding?**

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1 A: This section, entitled “State policy to promote utility investment in infrastructure
2 while protecting affordability of utility service,” was added to the utility
3 governance statute in 2016. This shows the Indiana General Assembly’s focus on
4 the need for affordability when Indiana utilities plan for electric generation. This
5 is directly relevant to the question of whether Vectren’s choice of an 850 MW
6 CCGT is the best and most economical choice for electric generation.

7 **Q: What evidence addresses these issues?**

8 A: Vectren has provided a general estimate of approximately \$781 million to build the
9 proposed CCGT. However, as discussed by Dr. Boerger, Vectren’s evidence does
10 not properly present the financial impacts of the CCGT or several of the viable
11 alternatives to the facility. Further, Mr. Alvarez identifies that Vectren has not
12 chosen a contractor or prepared bids to establish more than a best-guess estimate.

13 **Q: How does this bear on the Commission’s review of Vectren’s requested**
14 **CPCN?**

15 A: The Commission cannot adequately address the legislature’s clearly stated
16 concerns about “protecting the affordability of utility services for present and future
17 generations of Indiana citizens” if Vectren has not provided sufficient evidence and
18 sufficiently developed analyses of the costs of its proposed projects, nor is it able
19 to compare that incomplete estimate to the cost of alternative choices.

20 **Q: What do you recommend regarding the applicability of I.C. § 8-1-2-0.5 to this**
21 **proceeding?**

22 A: I recommend the Commission include in its considerations the Indiana General
23 Assembly’s recent emphasis on affordability when considering utility generation
24 plans. It is the Commission’s obligation to consider the impact of captive

1 consumers who will be subjected to a large increase in rates if the proposed plant
2 is approved. See also, Testimony of Dr. Boerger for further economic discussions.

3 **a. I.C. § 8-1-8.5-4(1) requires the Commission to review a utility's arrangements**
4 **with other electric providers for exchange, pooling, joint ownership or**
5 **purchase of power.**

6 **Q: Did Vectren provide information regarding arrangements with other electric**
7 **providers for exchange, pooling, joint ownership or purchase of power?**

8 A: Vectren issued a Request for Proposal ("RFP") to solicit offerings to meet the 850
9 MW Vectren identified as its needed capacity, and received responses. See,
10 Testimony of Vectren witness Matthew Lind. Vectren's testimony stated it
11 explored a partnership with a CCGT unit,³ and RFP responses included purchased
12 power offers.

13 **Q: Did Vectren enter into any agreements for the exchange, pooling, joint**
14 **ownership or purchase of power?**

15 A: No. Vectren's RFP analysis did not accept the RFP offerings for potential co-
16 ownership or purchased power, picking its self-build option as preferential. As
17 discussed in OUCC witness Dr. Boerger's testimony, Vectren's modeling choices
18 disadvantaged options other than the self-build option.

19 **Q: Are there economic advantages to Vectren in choosing the self-build option?**

20 A: Yes. The economic advantage of the self-build option is Vectren will be able to
21 earn a return on and return of its investment for the lifetime of the plant.

³ See, Testimony of Vectren witness Carl L. Chapman, p. 11.

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1 **Q: What do you recommend regarding the Commission's determination on**
2 **Vectren's compliance with I.C. § 8-1-8.5-4(1)?**

3 A: I recommend the Commission review the propriety of Vectren's choice to self-build
4 a CCGT rather than entering into agreements with other electric generators.

5 **b. I.C. § 8-1-8.5-4(2) states a utility must also investigate other methods for**
6 **providing reliable, efficient, and economical electric service, including the**
7 **refurbishment of existing facilities, conservation, load management,**
8 **cogeneration and renewable energy sources.**

9 **Q: Did Vectren consider renewable resources to meet its resource needs?**

10 A: Partially. Vectren stated it has a pending proceeding seeking CPCN approval for a
11 50 MW solar farm (Cause No. 45086).

12 **Q: Did Vectren analyze conservation, load management, and cogeneration as**
13 **options?**

14 A: Vectren mentioned demand side management ("DSM") as part of its analysis, but
15 cogeneration was not part of its modeling.

16 **Q: Did Vectren fully analyze options to extend or refurbish the useful life of its**
17 **existing facilities?**

18 A: No. As explained by Dr. Boerger and Mr. Alvarez, there are flaws in Vectren's
19 analysis of extending the useful life of its existing facilities. The OUCC identified
20 the following alternatives Vectren failed to fully analyze:

21 (1) Retain coal at Vectren's existing plants and invest in refurbishments;

22 (2) Retain the agreement with Alcoa for Warrick 4;

23 (3) Refuel the Brown unit(s) with gas;

24 (4) A blended option, such as refueling one or more Brown units to gas and
25 building a smaller CCGT;

26 (5) Enter into a Purchase Power Agreement ("PPA") with one of the bidders
27 who responded to Vectren's RFP; and

28 (6) Retain its Broadway Avenue Unit 2.

1 The OUCC investigated the viability of these alternatives and concluded they were
2 unfairly screened out during the IRP process. Dr. Boerger and Mr. Alvarez discuss
3 these alternatives from their respective economic and engineering perspectives.

4 **Q: What is the OUCC's conclusion regarding Vectren's compliance with I.C. § 8-
5 1-8.5-4(2)?**

6 A: Based on the analysis of OUCC witnesses Boerger and Alvarez, Vectren made
7 choices in its modeling unreasonably sidelining potentially more economic
8 refurbishment options than the requested \$781 million CCGT.

9 **c. I.C. § 8-1-8.5-3. The Statewide Energy Analysis and IRP process.**

10 **Q: What does I.C. § 8-1-8.5-3 address?**

11 A: I.C. § 8-1-8.5-3 addresses the Commission's "Analysis of needs; plans; hearing;
12 [and] report" in the context of the specific findings the Commission must make in
13 granting a CPCN. The sections set forth below address the Commission's
14 obligations in development of the analysis and IRPs.⁴

15 (a) The commission *shall develop, publicize, and keep current* an analysis of
16 the long-range needs for expansion of facilities for the generation of electricity.

17 (b) This analysis *must include* an estimate of:

18 (1) the probable future growth of the use of electricity;

19 (2) the probable needed generating reserves;

20 (3) in the judgment of the commission, the optimal extent, size, mix, and
21 general location of generating plants;

22 (4) in the judgment of the commission, the optimal arrangements for
23 statewide or regional pooling of power and arrangements with other utilities

⁴ The balance of the statute addresses the entities the Commission may consult with in making its analysis, the requirement that there be a hearing, and the submission of the analysis to the governor.

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1 and energy suppliers to achieve maximum efficiencies for the benefit of the
2 people of Indiana; and

3 (5) the comparative costs of meeting future growth by other means of
4 providing reliable, efficient, and economic electric service, including
5 purchase of power, joint ownership of facilities, *refurbishment of existing*
6 *facilities*, conservation (including energy efficiency), load management,
7 distributed generation, and cogeneration.

8 (c) The commission shall consider the analysis in acting upon any petition by
9 any utility for construction...

10 (e) In addition to such reports as public utilities may be required by statute or
11 rule of the commission to file with the commission, a utility:

12 (1) may submit to the commission a current or updated integrated resource
13 plan as part of a utility specific proposal as to the future needs for electricity
14 to serve the people of the state or the area served by the utility; and

15 (2) shall submit to the commission an integrated resource plan that assesses
16 a variety of demand side management and supply side resources to meet
17 future customer electricity service needs in a cost effective and reliable
18 manner.

19 The commission shall adopt rules under IC 4-22-2 concerning the
20 submission of an integrated resource plan under subdivision (2)....

21 Emphasis added.

22 **Q: Does the Draft Analysis address any issues specific to this case?**

23 A: Partially. The Draft Analysis includes the conclusions from the IRPs filed by the
24 Indiana Investor-Owned Utilities ("IOU"), including Vectren, without any apparent
25 independent analysis. The Commission used the Indiana IOUs' IRP conclusions
26 and other sources to reach its Draft Analysis conclusion about Indiana's future
27 generation needs.⁵ This pending cause is mentioned in the Draft Analysis.⁶

⁵ The Draft Analysis added together the IRP conclusions of the IOUs' estimate of generation needs to reach its conclusion that 3600 MW of generation is needed for future Indiana capacity. Draft Analysis, p. 1.

⁶ Draft Analysis, p. 27.

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1 **Q: How do the Draft Analysis conclusions impact your analysis?**

2 A: The Draft Analysis appears to accept Vectren's IRP decision about building the
3 800-900 MW CCGT. Because this is the exact question at issue in this case, the
4 OUCC is concerned the Commission has already effectively decided this case
5 through its Draft Analysis: See testimony of OUCC Witness Smith for more detail.
6 Vectren cites its 2016 IRP and subsequent update as the basis for seeking a CPCN
7 for a CCGT and the Culley 3 Compliance Project, stating "[c]onsistent with its 2016
8 IRP results and updated IRP modeling completed in 2017, Vectren South proposes
9 to retire a portion of its current coal fired generation fleet and diversify the
10 generation portfolio by adding a highly efficient base load natural gas CCGT that
11 will provide highly reliable, lower cost generation for years to come."⁷

12 **Q: Does the OUCC agree with the results reached in Vectren's IRP?**

13 A: No. While Vectren cites economic reasons for pursuing a CCGT as selected in its
14 IRP,⁸ as discussed by Dr. Boerger and Mr. Alvarez, Vectren's analysis of other
15 viable options is flawed. The IRP screened out, without further study, viable
16 refurbishment options. Dr. Boerger discusses the problems with Vectren's
17 economic modeling. Mr. Alvarez discusses the problems with Vectren's
18 engineering decisions. I discuss the environmental compliance portions of the
19 options OUCC witnesses identified later in my testimony.

⁷ Games, p. 11, lines 4-7.

⁸ Retherford, p. 26, lines 8-10 and the Direct Testimony of Wayne D. Games, p. 20, lines 20-22.

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1 **Q: Doesn't the IRP process allow for stakeholder input, and isn't one of the**
2 **stakeholders involved in the IRP process the OUCC?**

3 A: Yes, however the IRP is not a contested case where evidence is subject to discovery,
4 cross-examination and the submission of verified testimony. Utilities are not
5 obligated to address issues raised by the stakeholders in the IRP process. Further,
6 stakeholders oftentimes do not know the actual model inputs.

7 **Q: Do other parts of the statute address the Commission's analysis of a CPCN**
8 **request as it relates to the statewide analysis?**

9 A: Yes. Under I.C. § 8-1-8.5-5(b)(2)(B), before granting a CPCN the Commission
10 must also determine whether:

11 the construction, purchase, or lease is consistent with a utility
12 specific proposal submitted under section 3(e)(1)[IRP] of this
13 chapter and approved under subsection (d).⁹ However, if the
14 commission has developed, in whole or in part, an analysis for the
15 expansion of electric generating capacity and the applicant has filed
16 and the commission has approved under subsection (d) a utility
17 specific proposal submitted under section 3(e)(1) of this chapter, the
18 commission shall make a finding under this clause that the
19 construction, purchase, or lease is consistent with the commission's
20 analysis, to the extent developed, and that the construction,
21 purchase, or lease is consistent with the applicant's plan under
22 section 3(e)(1) of this chapter, to the extent the plan was approved
23 by the commission.

24 **Q: Is Vectren's proposal "consistent" with its IRP?**

25 A: Yes. Vectren's 2016 IRP concluded its future generation needs should be met by
26 building an 800-900 MW CCGT.

⁹ "The commission shall consider and approve, in whole or in part, or disapprove a utility specific proposal or an amendment thereto jointly with an application for a certificate under this chapter. However, such an approval or disapproval shall be solely for the purpose of acting upon the pending certificate for the construction, purchase, or lease of a facility for the generation of electricity." I.C. § 8-1-8.5-5(d). The term "utility specific proposal" is not defined in the statute.

1 **Q: Can the Commission decide Vectren is entitled to build an 800-900 MW CCGT**
2 **through the IRP process?**

3 A: No. The statute requires the Commission consider its statewide analysis, and then
4 *if* the Commission has approved the utility's specific proposal, *then* the
5 Commission can find the proposal is "consistent with the applicant's [IRP]...to the
6 extent the plan was approved by the commission." While this language is somewhat
7 circular, it requires both Commission review of its statewide analysis *and* a utility's
8 proposal before granting a CPCN. Therefore, Vectren cannot rely on its 2016 IRP
9 conclusions alone to support its request, as the IRP conclusion is but one part of the
10 Commission's analysis; the IRP must also be viewed in light of the statewide
11 analysis. Therefore, to be in compliance with the statutes, the Commission should
12 wait until it has completed the statewide energy analysis, and allow the parties to
13 examine and comment on it in the individual CPCN cases.

14 d. I.C. § 8-1-8.5-5(b)(1). The Commission must make a finding as to the best
15 estimate of construction, purchase, or lease costs based on the evidence of record.

16 I.C. § 8-1-8.5-5(e). This subsection applies if an applicant proposes to construct
17 a facility with a generating capacity of more than eighty (80) megawatts. Before
18 granting a certificate to the applicant, the commission:

19 (1) *must, in addition to the findings required in [8-1-8.5-5(b)], find that:*

20 (A) *the estimated costs of the proposed facility are, to the extent*
21 *commercially practicable, the result of competitively bid*
22 *engineering, procurement, or construction contracts, as*
23 *applicable; and*

24 (B) *if the applicant is an electricity supplier (as defined in IC 8-1-*
25 *37-6), the applicant allowed or will allow third parties to submit*
26 *firm and binding bids for the construction of the proposed facility*
27 *on behalf of the applicant that met or meet all of the technical,*
28 *commercial, and other specifications required by the applicant for*

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1 *the proposed facility so as to enable ownership of the proposed*
2 *facility to vest with the applicant not later than the date on which*
3 *the proposed facility becomes commercially available.*

4 **Q: Please summarize Vectren's cost estimate for the proposed CCGT.**

5 A: Vectren estimates the cost of the proposed CCGT to be approximately \$781
6 million.¹⁰ As further explained by Mr. Alvarez, the OUCC takes issues with
7 Vectren's estimate. Additionally, Vectren has not yet secured a manufacturer,
8 chosen an exact type of CCGT, or issued any type of bids for the project. Mr.
9 Games stated "[a]ssuming the Commission grants a certificate for the CCGT,
10 Vectren South will commence procurement by seeking to leverage competition
11 among three manufacturers to get the best price. This process will seek the best bids
12 for an 'F' class CCGT turbine and associated equipment."¹¹

13 **Q: Is the cost estimate for Vectren's proposed CCGT a result of competitively bid**
14 **engineering, procurement, or construction contracts?**

15 A: No. As further explained by Mr. Alvarez, this is not the result of competitively bid
16 engineering, procurement, or construction contracts.

17 **Q: Does the OUCC have any other issues with Vectren's CCGT costs estimates?**

18 A: Yes. As further explained by Dr. Boerger, Vectren understated capital costs for the
19 CCGT in its modeling and thus unfairly disadvantaged other resource options.

20 *e. I.C. § 8-1-8.5-5(b)(3) requires a Commission finding that the public*
21 *convenience and necessity require or will require the construction, purchase,*
22 *or lease of the facility.*

23 **Q: Has Vectren met its burden of proof showing the proposed CCGT meets public**
24 **convenience and necessity of I.C. § 8-1-8.5-5(b)(3)?**

¹⁰ Games, p. 15 line 8.

¹¹ Games, p. 16, lines 1-4.

1 A: No. I.C. § 8-1-8.5-5(b)(3) requires the Commission make a finding the public
2 convenience and necessity requires or will require the construction, purchase, or
3 lease of the facility. Through its analysis, the OUCC has concluded Vectren did
4 not present evidence showing the proposed CCGT meets public convenience and
5 necessity.

6 **Q: Please summarize the OUCC's issues.**

7 A: Vectren has not established a need for the energy, capacity and system reliability
8 support and thus the need for the CCGT project. Nor has Vectren demonstrated
9 that the CCGT is a prudent, reliable and cost effective means of meeting its retail
10 customers' future needs. The CCGT will not further diversify or increase the
11 reliability of Vectren's resource mix, as Vectren will be left with one (1) gas plant
12 and one (1) coal plant after retiring over 65% of its generating fleet. This ties into
13 the Commission's analysis under I.C. § 8-1-8.5-5(e)(2), which requires
14 consideration of reliability and whether the applicant solicited "competitive bids to
15 obtain purchased power capacity and energy from alternative suppliers."

16 **Q: How is reliability an issue with regard to Vectren's proposed CCGT?**

17 A: Reliance on one large plant with a single fuel increases the risk to Vectren's energy
18 production because of potential fuel supply interruptions and increased costs. As
19 explained by Mr. Alvarez, Vectren's proposal includes the construction of a lateral
20 pipeline for gas supply. If the pipeline experiences a supply interruption, Vectren
21 may not have enough fuel to produce the amount of energy it says it needs. In
22 addition, while gas prices are currently low, increased gas costs in the future could
23 negatively impact Vectren's customers.

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1 **Q: Is the OUCC opposed to the construction of a gas plant?**

2 A: No. In fact, both Dr. Boerger and Mr. Alvarez discuss the option of potentially
3 refueling one or both of the A.B. Brown units with natural gas. The OUCC is
4 recommending denial of Vectren's requested CPCN to construct a CCGT in this
5 case based on its analysis and conclusion that Vectren's request does not comply
6 with statutory requirements and lacks supporting evidence.

7 **Q: What are your overall recommendations with regard to Vectren's statutory**
8 **compliance with the CPCN statute?**

9 A: The CPCN statute requires the Commission to review specific information and
10 consider an applicant's compliance with all of the requirements. Through the
11 OUCC's analysis, it has determined Vectren has not complied with multiple
12 portions of the statute, resulting in the OUCC's recommendation the Commission
13 deny Vectren's request for a CPCN to construct a CCGT.

V. ENVIRONMENTAL COMPLIANCE

14 **Q: The OUCC has recommended the Commission deny the proposed CCGT.**
15 **What environmental issues are you addressing?**

16 A: Should the Commission choose to grant Vectren's request despite the OUCC's
17 recommendation to the contrary, I am presenting my analysis of the environmental
18 consequences of such an approval and Vectren's resulting environmental
19 obligations. I will also address my analysis of Vectren's proposals regarding Culley
20 and ancillary environmental issues.

21 *a. Environmental Issues if Vectren Builds a CCGT.*

22 **Q: Does the OUCC agree with the environmental compliance evaluation Vectren**
23 **performed for its proposed CCGT project?**

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1 A: Yes. Construction of new air pollution sources is governed under the Indiana
2 Department of Environmental Management's ("IDEM") program rules at 326 Ind.
3 Admin. Code 2, as delegated to IDEM by the United States Environmental
4 Protection Agency ("U.S. EPA"). These rules require a permit prior to construction;
5 the permits are further refined dependent on (1) whether the source is a classified
6 as "major" or "minor"; (2) whether or not the source is designed to be a prevention
7 of significant deterioration ("PSD") defined by 40 CFR 52.21; and (3) whether or
8 not the source will be located in a county designated as "attainment" or
9 "nonattainment." The U.S. EPA classifies areas that measure air quality above a
10 National Ambient Air Quality Standard ("NAAQS") as nonattainment; areas at or
11 below NAAQS are classified as in attainment.¹² A nonattainment area is subject to
12 more rigorous requirements under the federal Clean Air Act ("CAA"). A
13 nonattainment area's classification will not change until it meets a specific set of
14 criteria and is redesignated by U.S. EPA.

15 The PSD program requires preconstruction review of major new sources of
16 air pollution emissions, and for major modifications of existing sources located in
17 attainment areas where air quality meets health-based standards. PSD ensures there
18 is no backsliding of air quality through modifications of an existing source, such as
19 by changing fuel. To evaluate emissions, 'netting' is performed. The project's net
20 emission is calculated based on the past emissions and expected future emissions,

¹² As required by the Clean Air Act, NAAQS, 40 CFR part 50, are set by U.S. EPA for six (6) "criteria" pollutants in order to protect human health and the environment. The six pollutants are carbon monoxide ("CO"), lead ("Pb"), ozone ("O₃"), particulate matter ("PM"), nitrogen dioxide ("NO₂"), and sulfur dioxide ("SO₂"). <https://www.epa.gov/criteria-air-pollutants/naqs-table>.

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1 and netting must not result in an emission increase; otherwise, PSD is triggered and
2 Best Available Control Technology (“BACT”) analysis must be performed. The
3 proposed CCGT would be a major source subject to the PSD requirements, since it
4 will be built on the same site as the currently permitted SIGECO A.B. Brown
5 Generating Station (“Brown”) with Permit No. 129-00010. Brown is located in
6 Mount Vernon, Indiana in Posey County, and is classified as in attainment.¹³

7 **Q: Will Vectren be required to complete a BACT application?**

8 A: Yes, as defined in 326 I.A.C. 1(f). BACT forms are required to be completed by
9 an applicant if the proposed new construction is subject to the PSD Requirements
10 Control technology review at 326 I.A.C. 2-2-3.

11 **Q: Why will Vectren need a BACT application if it is building a CCGT?**

12 A: Natural gas combustion is not emission free. “The primary pollutants from gas
13 turbine engines are Nitrogen Oxides (“NO_x”) carbon monoxide (“CO”), and to a
14 lesser extent, volatile organic compounds (“VOC”).”¹⁴ Through the IDEM permit
15 process, Vectren will address all regulated emissions from the proposed plant. As
16 proposed by Vectren, all applicable environmental rules governing water
17 discharges can be addressed under Vectren’s current NPDES permit for Brown.
18 The current permit, identified as NPDES Permit No. IN0052191, will expire on
19 March 31, 2022.¹⁵

¹³ Attachment LMA – 4.

¹⁴ <https://www3.epa.gov/ttnchie1/ap42/ch03/final/c03s01.pdf>

¹⁵ Attachment LMA-3, page 1 of permit.

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1 **Q: Did Vectren's case include evidence of a revised storm water control plan to**
2 **ensure compliance with environmental requirements at 327 I.A.C. 15-5?**

3 A: No. The OUCC issued discovery regarding Vectren's land disturbance activities
4 with the planned construction of the CCGT.¹⁶ Since Vectren's land disturbance
5 will be one acre or more, Vectren will be subject to the requirements of 327 I.A.C.
6 15-5.¹⁷ Vectren must thus revise its storm water control plan and this plan must be
7 approved by IDEM.

8 **Q: Does the OUCC agree with Vectren's evaluation of future environmental**
9 **compliance for Effluent Limit Guidelines ("ELG") and Coal Combustion**
10 **Residuals ("CCR") at Brown if the plant continued to burn coal?**

11 A: Yes. To continue burning coal at Brown, Vectren would need to comply with the
12 requirements of both the ELG and CCR. ELG and CCR compliance obligations
13 are discussed by witness Retherford at p. 11, lines 11 – 24 and p. 12 lines 1-18; p.
14 20, lines 3-16 address CCR requirements.

15 **Q: Vectren claims increasing difficulty with air emissions limits for Sulfur**
16 **Dioxide ("SO₂") compliance using the dual alkali flue-gas desulfurization**
17 **("FGD") at Brown. Please explain.**

18 A: Vectren witness Mr. Games explains the difficulties experienced with the dual
19 alkali FGD at Brown, including (1) the high operation and maintenance costs, (2)
20 the scrubber's corrosive environment, which damages equipment and (3) the
21 production of unusable filter cake waste, which must be disposed in a permitted
22 landfill.¹⁸ The current permitted cell of the landfill is approaching capacity,

¹⁶ Attachment LMA – 1 OUCC DR 15.2.

¹⁷ Attachment LMA – 1 OUCC DR 15.2.

¹⁸ Games, p. 21, lines 23-25 and p. 22, lines 1-12.

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1 estimated to be 2020; extending the landfill would result in additional costs to
2 Vectren's rate payers.¹⁹

3 **Q: Please describe how environmental compliance with SO₂ air emissions are**
4 **met.**

5 A: SO₂ air emission are typically met through the use of an FGD. FGD technology
6 falls into three (3) major categories: (1) Wet FGD (such as Limestone Forced
7 Oxidation or Limestone Inhibited Oxidation), (2) Dry FGD (such as Lime Spray
8 Drying or Duct Sorbent Injection), and (3) Regenerable FGD (Wet FGD paired
9 with Dry FGD).²⁰

10 **Q: Did Vectren fully evaluate all environmental compliance options for SO₂?**

11 A: No. Vectren evaluated only the Wet Limestone Forced FGD replacement at an
12 estimated cost of \$350 million.²¹ Vectren failed to evaluate any other SO₂ removal
13 technologies.²²

14 **Q: Please describe the potential costs of alternative FGD technologies.**

15 A: I reviewed data from the U.S. Energy Information Administration for SO₂ control
16 systems. I narrowed the results by sulfur content at 3.5% and SO₂ removal rates of
17 at least 90%. The following costs for construction are included in Table 1.

¹⁹ Games, p. 22, lines 11-12.

²⁰ See "Controlling SO₂ Emissions: a Review of Technologies, U.S. EPA, November 200, EPA/600/R-00/093, Chapter 2.

<https://nepis.epa.gov/Exe/ZyNET.exe/P1007IQM.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000024%5CP1007IQM.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL#>

²¹ Direct Testimony of Wayne Games, Attachment WDG-1.

²² Attachment LMA – 1, OUCC DR 9.1 and ICC DRs 2.6, 2.7, and 2.25.

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Table 1.²³

<u>Unit</u>	<u>Nameplate Capacity</u>	<u>SO₂ Control</u>	<u>Cost</u>
Indian River Generating Station Unit 4	450 MW	Circulating Dry Scrubber	\$120.120 M
Cooper Generating Station Unit 2	230 MW	Circulating Dry Scrubber	\$205 M
H.L. Spurlock Generating Station Unit 2	592 MW	Spray Dry Scrubber	\$96 M
Michigan City Unit 12	469 MW	Circulating Dry Scrubber	\$255 M

2 Replacing the FGD with another technology would save Vectren ratepayers the cost
3 of extending the landfill beyond the current cell's 2020 timeframe. Unlike the dual
4 alkali scrubber currently installed on the Brown plant, the byproduct produced from
5 other scrubbing technology has beneficial reuse.²⁴

6 **Q: Vectren cites difficulty with loading its fly ash onto the barges at Brown as one**
7 **reason to retire the plant. What is the significance of that?**

8 A: Vectren sells the Brown Plant fly ash, and cites occasional difficulty loading fly ash
9 on barges if the Ohio River floods.²⁵ This difficulty is one of the reasons Vectren
10 plans to retire Brown in favor of a CCGT. However, Vectren indicates there is a
11 large demand to purchase its coal ash byproducts and it could continue to sell the
12 fly ash in the event it continues burning coal.²⁶ With continued burning of coal at

²³ <https://www.eia.gov/electricity/data/eia860/>

²⁴ Coal Combustion Residual Beneficial Use Evaluation: Fly Ash Concrete and FGD Gypsum Wallboard, United States Environmental Protection Agency Office of Solid Waste and Emergency Response Office of Resource Conservation and Recovery, February 2014, p. 3.

https://www.epa.gov/sites/production/files/2014-12/documents/ccr_bu_eval.pdf

²⁵ Attachment LMA – 1, OUCC DR 1.2.

²⁶ Attachment LMA - 1, OUCC DR 11.2.

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1 Brown, Vectren may have to investigate the cost to temporarily store fly ash for
2 occasions when barges cannot be loaded.

3 **Q: If Vectren continues to run Culley Unit 2, could it retain environmental**
4 **compliance benefits?**

5 A: Yes. Culley Unit 2 shares certain pollution control equipment with Culley Unit 3,
6 as described in its Title V Air permit, which states: "Unit 2 shares the FGD system,
7 which controls SO₂ emissions, and exhaust stack with Unit 3. Unit 2 has
8 continuous emissions monitoring systems for NO_x, Sulfur SO₂, Particulate Matter
9 ("PM"), and Mercury ("Hg"), which it shares with Unit 3."²⁷ The FGD system
10 discharges wastewater permitted under Vectren's NPDES Permit No.
11 IN0002259.²⁸ For environmental compliance purposes, Culley Unit 2 could
12 continue to run and utilize the benefits of sharing environmental compliance
13 equipment with Unit 3.

14 ***b. Environmental Issues with Regard to Warrick.***

15 **Q: Please summarize Vectren's position for exiting the agreement for Warrick**
16 **Unit 4.**

17 A: Mr. Games claims:

18 The future of the unit is tied to the industrial site. Alcoa could decide
19 to close the smelter unit in the future if price volatility in the alumina
20 market impairs the facility's profitability, jeopardizing the future of
21 Warrick Unit 4. Therefore, it is difficult to justify investment in the
22 unit or to depend upon it in the long run.²⁹

²⁷ Attachment LMA – 4, SIGECO - F.B. Culley Generating Station SPM No.: 173-38797-00001, Section A.2(a), p. 7 of 91.

²⁸ Attachment LMA-5 Culley Generation Station NPDES Permit No. IN0002259.

²⁹ Games, p. 23, line 25 and p. 24, lines 1-3.

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1 **Q: Does the OUCC agree with Vectren's assessment of the risks associated with**
2 **continuing the Warrick Agreement?**

3 **A: No. The OUCC does not agree with Vectren's presentation of the agreement after**
4 **review of its terms. Specifically,** [REDACTED]

[REDACTED]

[REDACTED]

13 **Emphasis added.**
14 **In Vectren's response to discovery regarding the Warrick Agreement, it stated it**
15 **"has made the decision to exit the Warrick Unit 4 Agreement as the unit will require**
16 **investment in environmental equipment to operate beyond 2023[.]"**³¹

17 **Q: Could Warrick Unit 4 continue operating with environmental compliance**
18 **investments?**

19 **A: Yes. Vectren could continue to run Warrick and invest in further equipment for**
20 **environmental compliance as it has in prior Cause Nos. 41864 and 42861. Warrick**
21 **units would need pollution control investments for CCR and ELG by 2023. While**
22 **Vectren did not investigate compliance costs for Warrick Unit 4, Vectren cites**
23 **environmental compliance costs as a reason to exit the agreement with Alcoa.**³²

³⁰ Attachment LMA-7 [REDACTED]

³¹ Attachment LMA -1, OUCC DR. 14.5.

³² Attachment LMA – 1 OUCC DR 6.1.

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1 Warrick Unit 4 is equipped with currently useful pollution control equipment.³³
2 Vectren also sells the fly ash from Warrick Unit 4 to the same buyer as Brown, and
3 the fly ash is shipped to the Brown site for loading onto barges.³⁴ Vectren has not
4 indicated any issues with continuing this practice.

c. Environmental Issues Regarding Refueling the Brown Units with Gas.

5 **Q: Please discuss refueling Brown.**

6 **A:** If Vectren considered refueling one or both of the Brown Units with gas, it would
7 be required to modify its Title V air permit under 326 I.A.C. 2. Vectren's refueling
8 analysis indicates CO would be a limiting factor in the amount of hours the units
9 could run before triggering PSD and BACT obligations.³⁵ CO is produced when
10 burning fossil fuels inefficiently. Fossil fuels contain carbon ("C") and hydrogen
11 ("H"). During complete combustion, carbon and hydrogen combine with oxygen
12 ("O₂") to produce carbon dioxide ("CO₂") and water ("H₂O"). During incomplete
13 combustion part of the carbon is not completely oxidized, producing soot or carbon
14 monoxide ("CO"). Incomplete combustion uses fuel inefficiently and the carbon
15 monoxide produced is a health hazard. When CO triggers PSD and therefore
16 BACT, IDEM typically limits the amount of time a unit can run in order to meet
17 CO limits, citing in permits "[g]ood combustion practices shall be applied to
18 minimize CO emissions."³⁶ However, as more thoroughly discussed in Mr.
19 Alvarez's testimony, ██████████

³³ Retherford, p. 5, lines 3-10.

³⁴ Retherford, p. 6, lines 16-18.

³⁵ CONFIDENTIAL Attachment AAA – 4.

³⁶ Attachment LMA -2 Section D.4.3 CO PSD BACT [326 IAC 2-2-3], p. 49 of 100.

1 [REDACTED] and therefore PSD and BACT would not
2 be applicable.

d. Environmental Issues with a Blended Option and Purchased Power Agreement.

3 **Q: Please discuss blended options and PPAs.**

4 A: If Vectren were to take a blended option, such as refueling one Brown unit to gas
5 or retaining coal and a smaller new CCGT, all of the environmental considerations
6 discussed above would need to be addressed - just on a smaller scale. If Vectren
7 were to enter into a PPA with one of the RFP bidders, Vectren could structure the
8 agreement as to not be subject to any environmental compliance obligations.

9 **Q: The OUCC concludes that the analysis Vectren supplied is flawed and needs
10 to be redone. Are there timing issues with Vectren's environmental permits?**

11 A: No. Vectren has enough information to apply for a CCGT permit now, and IDEM
12 Title V air permitting does not require the issuance of a CPCN before application.
13 Vectren would have to maintain contact with IDEM to avoid revocation of the air
14 permit due to inactivity or abandonment. Most other environmental compliance
15 deadlines associated with CCR and ELG compliance are either mid 2020's or 2023.

16 **Q: What does the OUCC recommend be provided should the Commission
17 approve a CPCN for Vectren's proposed CCGT?**

18 A: The OUCC recommends Vectren provide for the CCGT the IDEM approved air
19 permit, storm water plan and the modified NPDES permit as a late filed exhibit in
20 this Cause.

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1 **e. Environmental Issues with Vectren's Request for a CPCN for Culley**
2 **Environmental Compliance Project Costs.**

3 **Q: Please summarize Vectren's request for a CPCN to meet federally mandated**
4 **requirements for the Culley 3 Compliance Project.**

5 A: Per the testimonies of Vectren witnesses Games and Retherford, Vectren requests
6 a CPCN and authority to track capital, depreciation, and O&M costs associated with
7 the Culley 3 Compliance Project, which Vectren states are federally mandated
8 under the ELG and CCR rules. These costs include the following:

9 (1) Costs related to closing the inactive Culley West pond and constructing
10 a new process and storm water pond at the same site are estimated by
11 Vectren to be \$19,969,000.³⁷

12 (2) ██████████ of the total \$19,969,000 referenced in (1) is to construct a
13 new process storm water pond.³⁸

14 (3) A proposed spray dry evaporator cost is estimated at \$36,460,124.³⁹

15 (4) A proposed ash transport in the form of a submerged chain conveyor
16 cost is estimated at \$10,951,600.⁴⁰

17 **Q: What are the statutory requirements an energy utility must meet in a CPCN**
18 **and cost recovery case to comply with federally mandated requirements?**

19 A: In order to receive a CPCN and have Commission approval to recover associated
20 costs, Vectren must satisfy the statutory requirements of I.C. §§ 8-1-8.4-5, 8-1-8.4-
21 6, and 8-1-8.4-7. I.C. § 8-1-8.4-5 defines a federally mandated requirement as a
22 requirement the Commission determines is imposed on an energy utility by the
23 federal government in connection with any of the following:

24 (1) The federal Clean Air Act, 42 U.S.C. 7401 *et seq.*

³⁷ Retherford, p. 9, line 14.

³⁸ CONFIDENTIAL Attachment LMA – 7, OUCC DR 15.3.

³⁹ Direct Testimony of Diane Fischer, p. 17 line 5.

⁴⁰ Fischer, p. 27, line 4.

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- 1 (2) The federal Water Pollution Control Act, 33 U.S.C. 1251 *et seq.*
2 (3) The federal Resource Conservation and Recovery Act, 42 U.S.C. 6901
3 *et seq.*
4 (4) The federal Toxic Substances Control Act, 15 U.S.C. 2601 *et seq.* [...]

5 I.C. §§ 8-1-8.4-6 and 8-1-8.4-7 further require an energy utility to obtain a
6 CPCN, which may be issued only if the Commission: (1) finds public convenience
7 and necessity will be served by the proposed compliance project; (2) approves the
8 costs associated with the proposed compliance project; and (3) makes a finding on
9 each of the factors in I.C. § 8-1-8.4-6(b). Under I.C. § 8-1-8.4-6(b), the factors to
10 be considered in determining whether to grant Petitioners a CPCN include the
11 following:

- 12 (1) A description of the federally mandated requirements the utility seeks to
13 comply with through the proposed compliance project;
14 (2) A description of the projected federally mandated costs associated with the
15 proposed compliance project;
16 (3) A description of how the proposed compliance project allows the utility to
17 comply with the federally mandated requirements described above;
18 (4) Alternative plans that demonstrate the proposed compliance project is
19 reasonable and necessary;
20 (5) Information as to whether the proposed compliance project will extend the
21 useful life of an existing energy utility facility and, if so, the value of that
22 extension; and
23 (6) Any other factors the Commission considers relevant.

24 **Q: Does Vectren's request for closing costs for the inactive Culley West pond**
25 **comply with all requirements of CPCN statutes?**

26 **A:** No. Vectren has not established the closure of the West Pond is necessary to
27 comply with a federally mandated requirement. Based on Vectren's evidence, its

1 main motivation for seeking closure costs for the Culley West pond is to reuse the
2 already inactive pond for space to construct a new pond for compliance with ELG:

3 Vectren needs to close the Culley West Ash pond and reuse the
4 space to construct facilities necessary to comply with the ELG rule.
5 Consequently, the Culley West pond posted a Notice of Intent to
6 initiate closure on December 17, 2015.⁴¹

7 Vectren has failed to establish a clear connection between the need to reuse space
8 and the federal mandate allowing recovery of the costs. Further, the closure of the
9 West pond began when Vectren stopped sending ash “prior to October 2015,”⁴²
10 which was prior to the effective date of the CCR rules Vectren states as compelling
11 the pond’s closure.

12 **Q: When did the CCR rules go into effect?**

13 A: On October 19, 2015, 40 CFR 257, Subpart D, CCR Rule, became effective.

14 **Q: Is Vectren already collecting pond closure costs?**

15 A: Yes. There has always been a need to dispose of coal combustion byproducts
16 produced when using coal to generate electricity. Vectren has been collecting
17 depreciation and asset retirement costs in base rates, which includes the closure of
18 ash ponds. The CCR rules may have accelerated Vectren’s closure activities, since
19 the CCR rules dictate how a pond must be closed, but this is, at best, an incremental
20 cost to what is already collected in base rates. Vectren has presented no evidence
21 as to incremental costs. Three (3) other Indiana utilities are not tracking pond
22 closure costs as Federally-Mandated CCR Projects. *See, Duke Energy Indiana, Inc.,*

⁴¹ Retherford, p. 18, lines 19-20.

⁴² Retherford, p. 18, lines 8-9.

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1 Cause No. 44765; Indianapolis Power and Light, Cause No. 44794; and Northern
2 Indiana Public Service Company, Cause No. 44872.

3 Further, the Commission, the OUCC, and other interested intervenors
4 should be given the opportunity to examine the complete costs of closure, including
5 recognizing the costs already being recovered or accounted for through rates. If
6 necessary, Vectren could update its depreciation study or asset retirement
7 obligations to accommodate the additional costs the change in law may have
8 created, to be considered in its next rate case.

9 **Q: Does Vectren's request for the costs related to construction of a new process**
10 **and storm water pond at the same site as the closed Culley West Pond comply**
11 **with the compliance statutes cited above for federally mandated**
12 **requirements?**

13 A: No. One of the factors the Commission must examine in granting a CPCN under
14 Section 6(b) of the Federally-Mandated Requirements Statute are "[a]lternative
15 plans that demonstrate the proposed compliance project is reasonable and
16 necessary." Vectren has limited its request for CCR pond cost recovery to only the
17 inactive Culley West Pond, and claims limited space at the Culley site as the
18 reasoning for choosing the West Pond as a suitable location for the planned new
19 construction. Because Vectren has only provided one of its ponds for consideration,
20 review by the Commission and other interested parties for possible alternative plans
21 for closure and construction are extremely limited. Vectren has provided little

1 documentation, reports, analysis or any other alternatives considered other than the
2 Culley West pond location.⁴³

3 **Q: Does Vectren's request for costs related to a spray dry evaporator and drag**
4 **chain conveyor comply with the CPCN statutes for federally mandated**
5 **requirements?**

6 A: Yes. In order to grant recovery of a federally mandated cost, the Commission must
7 determine the cost is imposed by the federal government in connection with, among
8 other things, the federal Water Pollution Control Act, 33 U.S.C. 1251 *et seq.*
9 Through U.S. EPA action, IDEM is the State of Indiana agency with the authority
10 to issue permits and enforce the federal Water Pollution Control Act's authorized
11 rules and regulations. *See*, 33 U.S.C. 1251 *et seq.* An issued permit is an important
12 component in the evaluation of whether or not a cost is imposed upon the utility for
13 federal environmental compliance. Per Vectren's NPDES permit for Culley,
14 Permit No. IN0002259, Vectren must install pollution control equipment to comply
15 with limits placed on pollutants in bottom ash transport water and FGD wastewater:

16 Beginning December 31, 2020, there shall be no discharge of
17 pollutants in bottom ash transport water from Unit 3. [...] No later
18 than February 1, 2021, discharge of FGD waste water shall meet the
19 limits in Table 1 as noted above. [...] If the permittee decides to
20 close Unit 3 or proceed with the zero liquid discharge option for
21 FGD wastewater, the permittee may request a permit modification
22 to revise the compliance date for the FGD wastewater to no later
23 than December 31, 2023.⁴⁴

24 These steps must be taken in order to continue operating Culley 3. Vectren has
25 chosen to continue operating Culley 3. To decide how to comply with the NPDES

⁴³ Attachment LMA – 1 OUCC DR 1.3.

⁴⁴ Attachment LMA - 6, p. 3, p. 10, and p. 40 of permit.

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1 permit requirement, Vectren engaged Black & Veatch Corporation for an analysis.
2 Vectren witness Fischer testifies to these options. In both instances, three (3)
3 options were evaluated. When choosing the final alternative for FGD Water ELG
4 compliance, Vectren stated it chose the option that balanced the capital investment
5 and annual O&M while satisfying environmental compliance obligations. This
6 resulted in a spray dry evaporator and drag chain conveyor being the proposed
7 projects for FGD and bottom ash compliance.

8 **Q: Please explain why the costs related to the spray dry evaporator and drag**
9 **chain conveyor should be denied, given the OUCC's position on Vectren's**
10 **requested CCGT project.**

11 A: While in a vacuum the spray dry evaporator and drag chain conveyor projects are
12 reasonable, it is the OUCC's position that Vectren did not consider all possible
13 alternatives or properly model its generation fleet. The spray dry evaporator and
14 drag chain are only reasonable if Culley 3 is to remain open past 2023. If a new
15 strategy is put forth by Vectren, the Commission, the OUCC and any intervenors
16 should be given the opportunity to reevaluate the reasonableness of these projects
17 in the context of Vectren's entire plan for its generation fleet.

18 **Q: If the Commission grants Vectren's request for costs related to spray dry**
19 **evaporator and drag chain conveyor, what does the OUCC recommend**
20 **Vectren file?**

21 A: Culley's NPDES permit states a permit modification is necessary to extend the
22 compliance date for FGD wastewater. "If the permittee decides to close Unit 3 or
23 proceed with the zero liquid discharge option for FGD wastewater, the permittee
24 may request a permit modification to revise the compliance date for the FGD

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1 wastewater to no later than December 31, 2023.”⁴⁵ Vectren acknowledges the need
2 for a permit modification, stating “the Company *can seek a modification* to defer
3 the requirement to meet the FGD wastewater discharge limits until December 31,
4 2023.”⁴⁶ Emphasis added. Since the selection of the spray dry evaporator functions
5 as a zero liquid discharge, it will likely result in the modification of Culley’s
6 NPDES permit. Therefore, when Vectren exercises the option to modify its permit,
7 the OUCC recommends permit approval be provided as a late filed exhibit in this
8 Cause or included with a future ECA filing (if approved).

**f. Environmental Issues Regarding Compliance Projects Approved in Cause
No. 44446.**

9 **Q: Does the OUCC agree Vectren may establish a new rate recovery mechanism
10 called the Environmental Cost Adjustment (“ECA”) to track costs incurred to
11 meet MATS and NSR requirements consistent with the Commission order in
12 Cause No. 44446?**

13 **A:** Yes. The Commission order in Cause No. 44446 states Vectren may recover costs
14 for the following environmental compliance projects:

15 (1) An organo-sulfide injection system at Brown units 1 and 2 to address
16 mercury (“Hg”).

17 (2) A soda ash injection system for sulfur trioxide (“SO₃”) mitigation at Brown
18 units 1 and 2.

19 (3) A hydrogen bromide injection system on Brown unit 2.

20 (4) An organo-sulfide injection system to inject at Culley units 2 and 3.

21 (5) A hydrated lime injection system for SO₃ mitigation at Culley unit 3.

⁴⁵ Attachment LMA - 6, p. 40, Part 1 G 5.

⁴⁶ Retherford, p. 11, lines 1-2.

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1 (6) Vectren's portion of the costs for Alcoa to install an organo-sulfide system
2 at Warrick unit 4 ("Warrick Project").

3 (7) Two (2) chemical precipitation wastewater treatment systems for National
4 Pollution Discharge Elimination System ("NPDES") Hg limits at Brown.

5 (8) A treatment system for ash pond discharge water to a membrane lined
6 settling pond at Brown.

7 (9) A chemical precipitation treatment system to process scrubber waste water
8 and discharge to an on-site pond at Culley.⁴⁷

9 The OUCC does not take issue with Vectren's request to establish a tracker
10 mechanism for recovery of federally mandated environmental compliance costs, so
11 long as they are consistent with the projects approved in Commission's order Cause
12 No. 44446.

VI. CONCLUSION AND RECOMMENDATIONS

13 **Q: Please summarize the OUCC's conclusion in this cause.**

14 A: As supported by OUCC witnesses Boerger, Alvarez and me, Vectren did not
15 provide adequate economic, engineering, or environmental compliance evidence to
16 support its request for a CPCN under I.C. ch. 8-1-8.5 *et seq.* for a CCGT.
17 Specifically, Vectren:

18 (1) Failed to provide evidence of other methods for providing electric service,
19 such as refurbishment of existing facilities, was considered;

20 (2) Failed to provide sufficient information to the Commission to form a best
21 estimate of costs, nor was the estimate of costs procured through
22 competitively bid engineering, procurement, or construction contracts;

23 (3) Failed to show the public convenience and necessity require or will require
24 the construction, purchase, or lease of the facility;

⁴⁷ IURC Order Cause 44446, pp. 3-4 and pp. 15-16.

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1 (4) Failed to establish two (2) of the four (4) Culley 3 projects meet the
2 requirements of I.C. ch. 8-1-8.4 *et seq.* for a CPCN and therefore should not
3 be granted authority to track the costs as federally mandated;

4 a. Failed to show how the west pond closure meets the definition of a
5 federally mandated project; and

6 b. Failed to provide evidence of considered alternatives for the new
7 process and storm water pond.

8 Consistent with the OUCC's recommendation on the CPCN for the CCGT, because
9 the spray dry evaporator and drag chain conveyor are contingent upon Culley 3
10 remaining open past 2023, these projects should also be denied. Since
11 environmental compliance projects were already approved in Cause No. 44446, the
12 OUCC does not oppose Vectren tracking costs consistent with the Commission
13 order in that Cause through an ECA mechanism.

14 **Q: Based on your review and analysis, what does the OUCC recommend in this**
15 **proceeding?**

16 **A:** The OUCC recommends the Commission:

17 (1) Deny the CPCN for the proposed CCGT.

18 (2) If the Commission approves the CPCN for the CCGT, require Vectren to
19 provide the IDEM approved air permit, storm water plan and the modified
20 NPDES permit as a late filed exhibit in this Cause.

21 (3) Deny costs for the Culley West pond closure.

22 (4) Deny costs for new process water and storm water pond construction.

23 (5) Deny costs for the Culley spray dry evaporator and the Culley drag chain
24 conveyor, since a thorough analysis of Vectren's generating fleet might

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1 garner different results as to keeping Culley 3 open past 2023. If Culley
2 does not remain past 2023, these upgrades are not needed.

3 (6) If the Commission approves the costs for the spray dry evaporator, then
4 Vectren should be required to submit the IDEM approved modification of
5 Culley's NPDES permit.

6 (7) Allow recovery of the Environmental Compliance Projects through the
7 ECA as approved by the Commission in Cause No. 44446.

8 **Q: Does this conclude your testimony?**

9 A. Yes.

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APPENDIX A

1 **Q: Summarize your professional background and experience.**

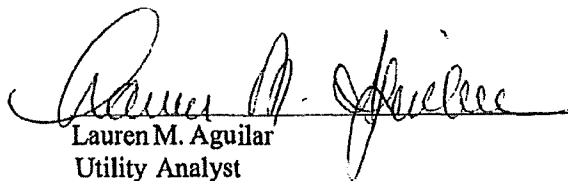
2 A: I graduated from Michigan State University in 2008 with a Bachelor of Science
3 degree in Environmental Science and Management. I graduated from Florida State
4 University College of Law in May 2011 with a Juris Doctorate and Environmental
5 Law certificate. I spent over two years while in law school as a certified legal
6 intern, providing pro bono legal services to poverty level residents of Tallahassee,
7 FL. I worked in the legal department of Depuy Synthes, a Johnson & Johnson
8 Company, where I assisted with patent filings and nondisclosure agreements.
9 Starting in 2013, I worked for the Indiana Department of Environmental
10 Management as a rule writer, in which I worked extensively with the public at large,
11 special interests groups, and affected regulated entities to understand the
12 rulemaking process and to respond to their comments on ongoing environmental
13 rules. I joined the OUCC in July of 2017.

14 **Q: Describe some of your duties at the OUCC.**

15 A: I review and analyze utilities' requests and file recommendations on behalf of
16 consumers in utility proceedings. As applicable, my duties may also include
17 analyzing state and federal regulations, evaluating rate design and tariffs,
18 examining books and records, inspecting facilities, and preparing various studies.
19 The majority of my expertise is in environmental science, environmental state and
20 federal regulation, and state agency administration.

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.



Lauren M. Aguilar
Utility Analyst
Indiana Office of Utility Consumer Counselor

8-10-18

Date

CERTIFICATE OF SERVICE

This is to certify that a copy of the *OUCC REDACTED TESTIMONY OF LAUREN M. AGUILAR* has been served upon the following parties of record in the captioned proceeding by electronic service on August 10, 2018.

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