

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

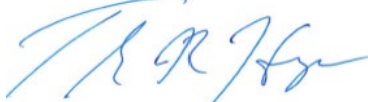
PETITION OF DUKE ENERGY INDIANA, LLC PURSUANT)
TO IND. CODE §§ 8-1-2-42.7 AND 8-1-2-61, FOR (1))
AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR)
ELECTRIC UTILITY SERVICE THROUGH A MULTI-STEP)
RATE IMPLEMENTATION OF NEW RATES AND CHARGES)
USING A FORECASTED TEST PERIOD; (2) APPROVAL OF)
NEW SCHEDULES OF RATES AND CHARGES, GENERAL)
RULES AND REGULATIONS, AND RIDERS; (3) APPROVAL)
OF REVISED ELECTRIC DEPRECIATION RATES)
APPLICABLE TO ITS ELECTRIC PLANT IN SERVICE, AND)
APPROVAL OF REGULATORY ASSET TREATMENT UPON)
RETIREMENT OF THE COMPANY'S LAST COAL-FIRED)
STEAM GENERATION PLANT; (4) APPROVAL OF AN)
ADJUSTMENT TO THE COMPANY'S FAC RIDER TO TRACK)
COAL INVENTORY BALANCES; AND (5) APPROVAL OF)
NECESSARY AND APPROPRIATE ACCOUNTING RELIEF,)
INCLUDING AUTHORITY TO: (A) DEFER TO A)
REGULATORY ASSET EXPENSES ASSOCIATED WITH THE)
EDWARDSPORT CARBON CAPTURE AND)
SEQUESTRATION STUDY, (B) DEFER TO A REGULATORY)
ASSET COSTS INCURRED TO ACHIEVE ORGANIZATIONAL)
SAVINGS, AND (C) DEFER TO A REGULATORY ASSET OR)
LIABILITY, AS APPLICABLE, ALL CALCULATED INCOME)
TAX DIFFERENCES RESULTING FROM FUTURE CHANGES)
IN INCOME TAX RATES.)

CAUSE NO. 46038

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
REDACTED PUBLIC'S EXHIBIT NO. 6
TESTIMONY OF OUCC WITNESS
BRIAN A. WRIGHT

July 11, 2024

Respectfully submitted,



Thomas R. Harper
Atty. No. 16735-53
Deputy Consumer Counselor

Confidential Information indicated by [REDACTED]

**DUKE ENERGY INDIANA, LLC
CAUSE NO. 46038
TESTIMONY OF OUCC WITNESS BRIAN WRIGHT**

I. INTRODUCTION

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

2 A: My name is Brian A. Wright, and my business address is 115 W. Washington St.,
3 Suite 1500 South, Indianapolis, IN, 46204.

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

5 A: I am employed as a Utility Analyst II in the Electric Division for the Indiana
6 Office of Utility Consumer Counselor (“OUCC”). A summary of my
7 qualifications can be found in Appendix A.

8 **Q: What is the purpose of your testimony?**

9 A: I discuss Duke Energy Indiana, LLC’s (“Duke” or “Petitioner”) proposed front
10 end engineering design (“FEED”) study on the feasibility of carbon capture and
11 sequestration (“CCS”) at the Edwardsport Generating Station (“Edwardsport”)
12 and associated request for cost recovery. I discuss whether a CCS system is
13 necessary under the Environmental Protection Agency’s (“EPA”) new greenhouse
14 gas guidelines for fossil fuel-fired power plants. I recommend the Commission
15 reject Duke’s request to defer its share of the costs for the FEED study due to the
16 speculative nature of the feasibility and affordability of a CCS system.

17 **Q: What did you do to prepare for your testimony?**

18 A: I reviewed the Verified Petition, as well as pertinent Direct Testimony and
19 Exhibits Duke submitted in this Cause. I participated in internal discussions on
20 important issues in the rate case. I issued data requests (“DR”) to Duke and

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1 reviewed Duke's responses to OUCC DRs. In addition, I reviewed Duke's grant
2 application to the US Department of Energy ("DOE"), Duke's previous FEED
3 study on CCS at its Edwardsport facility, and the recent EPA rule on carbon
4 dioxide ("CO₂") emissions from power plants.

5 **Q: If you do not address a specific topic, issue, or item in your testimony, should**
6 **it be construed to mean you agree with Duke's proposal?**

7 A: No. My silence on any issue should not be construed as an endorsement. Also, my
8 silence in response to any actions or adjustments stated or implied by Petitioner
9 should not be construed as an endorsement.

II. PROPOSED CCS FEED STUDY

A. Edwardsport CCS FEED Study

10 **Q: Please describe the proposed CCS FEED study and DOE grant.**

11 A: The DOE awarded Duke a grant to conduct a FEED study on the feasibility of
12 building and operating a CCS project at the Edwardsport Generating Station. A
13 FEED study is conducted after an initial feasibility study to determine technical
14 specifications, cost estimates, and equipment procurement needed for the project.
15 The total estimated cost of the project is \$17,163,453, with an estimated offset of
16 \$8,192,430 in federal funding.¹ This is the second study Duke will conduct on the
17 feasibility of CCS at the Edwardsport site; the first study concluded that CCS was
18 not feasible at Edwardsport due to the lack of geological formations onsite that
19 could act as a good carbon storage medium.² More recent studies have shown that

¹ Petitioner's Exhibit No. 18, Direct Testimony of Peter Hoeflich, p. 5, lines 2-4.

² Hoeflich Direct, p. 5, lines 7-10.

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1 dolomite formations located at Edwardsport might provide carbon storage
2 capacity.³

3 **Q: Did Duke utilize information from the previous FEED study to support**
4 **current study?**

5 A: Yes. Duke used test well data and the geological analysis from the previous study
6 when putting together the application to the DOE for the current study.⁴

7 **Q: Could other Duke Energy Corporation subsidiaries outside the state benefit**
8 **from the study?**

9 A: Yes. However, Duke states that applicability to other sites cannot be predicted at
10 this time and the geological knowledge may only apply to other Indiana sites.⁵
11 Therefore, at the very least, this study should increase Duke's and Duke Energy
12 Corporation's ("DEC") knowledge and experience in evaluating the technological
13 and geological feasibility of CCS at other DEC sites, both in and out of the state.
14 The study should also act as a model for developing studies at other DEC sites.
15 Thus, the benefits of this study to Duke should extend beyond Indiana and a
16 portion of the costs should be allocated to other Duke jurisdictions.

17 **Q: What is the estimated cost for a full CCS system at the Edwardsport facility?**

18 A: Total capital costs of a CCS system at Edwardsport are estimated at
19 <CONFIDENTIAL> [REDACTED] <CONFIDENTIAL>,⁶ with an estimated total
20 annual operating cost of <CONFIDENTIAL> [REDACTED]

³ Hoeflich Direct, p. 6, ll. 10-11.

⁴ Attachment BAW-1, Duke Response to OUCC DR 8.13.

⁵ Attachment BAW-2, Duke Response to OUCC DR 8.12.

⁶ Confidential Attachment BAW-3, Duke Response to CAC DR 2, Attachment CAC 2.52-B2, p. 12, Table 10.

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1 <CONFIDENTIAL>.⁷ The installation of a CCS system would substantially
2 increase the costs of operating Edwardsport.

3 **Q: What relief is Duke seeking for the study?**

4 A: Duke is requesting that its portion of the FEED study costs, an estimated
5 \$8,971,023, be deferred until its next base rate case. Duke states it may seek
6 additional approval for cost recovery depending on the results of the FEED
7 study.⁸

8 **Q: What was the outcome of Duke's previous request to defer the costs of its**
9 **prior Edwardsport FEED study?**

10 A: The Commission rejected Duke's request in Cause No. 43653 to defer costs on a
11 CCS FEED study, finding that Duke's requested cost recovery for the study was
12 not in the public interest. The Commission's decision was made, in part, due to
13 the uncertainty regarding the technological feasibility of CCS at the Edwardsport
14 plant and lack of any legislation from Congress regulating CO₂. The Commission
15 concluded that "the evidence does not sufficiently support a finding that the
16 measurable benefits of the carbon sequestration study merit the material cost to
17 ratepayers at this time."⁹

18 **Q: Should the Commission's concerns over the study proposed under Cause No.**
19 **43653 also apply to the latest study proposed under this filing?**

20 A: Yes. The technological feasibility of CCS at Edwardsport will not be determined
21 until the completion of the FEED study. While the EPA has completed a carbon

⁷ Confidential Attachment BAW-3, Duke Response to CAC DR 2, Attachment CAC 2.52-B2, pp. 13-14, Table 12.

⁸ Hoeflich Direct, p. 11, lines 4-7.

⁹ *Verified Petition of Duke Energy Indiana, Inc.*, Cause No. 43653, Final Order at 19-20 (Ind. Util. Reg. Comm'n Jan. 23, 2013).

Confidential Information indicated by [REDACTED]

1 emission rule for power plants, Congress still has not passed legislation
2 specifically addressing CO₂ emissions. Thus, the new carbon emissions rule is
3 still vulnerable to the type of legal challenge that has overturned previous EPA
4 rules on carbon emissions. If the rule were to survive legal challenge, Duke may
5 have alternative means of compliance as discussed below. Given the high cost of
6 installing and operating a CCS system and the availability of reasonable
7 alternatives, the potential benefit of such a system, even if technologically
8 feasible, may not outweigh the costs to ratepayers. Whether a CCS system would
9 be used and useful, therefore, remains speculative in nature even if
10 technologically feasible.

11 **Q: What are your recommendations in regard to the CCS FEED study?**

12 A: The OUCC recommends the Commission deny Duke's request to defer and
13 recover costs of the CCS study due to the speculative nature of the feasibility and
14 affordability of CCS at the Edwardsport site. If the Commission does approve
15 Duke's request to record the study costs as a regulatory asset, the Commission
16 should not approve recovery of the costs in a future rate case unless the FEED
17 study addresses the concerns mentioned above.

B. US EPA Greenhouse Gas Guidelines for Fossil Fuel-Fired Power Plants

18 **Q: Please describe the EPA's rule on CO₂ emissions from fossil fuel-fired power**
19 **plants.**

20 A: On April 25, 2024, the EPA released its final rule on carbon pollution standards
21 for fossil fuel-fired power plants. The rule requires a 90% reduction in carbon
22 emissions from existing coal-fired power plants, which would include plants such

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1 as Edwardsport that burn coal syngas, and new gas-fired power plants.¹⁰ If Duke
2 plans to continue operating Edwardsport as a coal-fired unit after 2039 it would
3 have to meet this requirement through the installation of some form of carbon
4 capture and storage.

5 **Q: Is a CCS system the only method of compliance for the Edwardsport plant**
6 **under the rule?**

7 A: No. Existing natural gas-fired power plants are currently exempt from the 90%
8 reduction requirement under the rule.¹¹ If Duke were to switch Edwardsport to
9 only combusting natural gas, it would be considered an existing modified unit for
10 purposes of rule applicability under air pollution regulations¹² and thus would be
11 exempt from the CO₂ rule, currently. This exemption may end in the future with
12 EPA currently holding formal discussions in a non-regulatory docket on how
13 carbon emissions from existing natural gas-fired power plants could be regulated
14 but has no planned rulemaking on these plants at this time.¹³

15 **Q: Did Duke consider CCS as a compliance strategy in its preliminary modeling**
16 **for the 2024 IRP?**

17 A: No. At its third public meeting on the 2024 IRP, Duke presented several different
18 preliminary generation portfolios for complying with the carbon emissions rule.
19 These portfolios considered the strategies of early retirement of coal units,

¹⁰ US EPA Fact Sheet, Carbon Pollution Standards for Fossil Fuel-Fired Power Plants Final Rule; <https://www.epa.gov/system/files/documents/2024-04/cps-111-fact-sheet-overview.pdf>.

¹¹ US EPA Fact Sheet, Carbon Pollution Standards for Fossil Fuel-Fired Power Plants Final Rule; <https://www.epa.gov/system/files/documents/2024-04/cps-111-fact-sheet-overview.pdf>.

¹² 40 C.F.R. Part 60, Subpart UUUUa §§60.5700a-60.5805a (<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-60/subpart-UUUUa>).

¹³ <https://www.epa.gov/stationary-sources-air-pollution/nonregulatory-public-docket-reducing-greenhouse-gas-emissions>.

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1 burning a mix of natural gas and coal, and conversion to natural gas. None of the
2 scenarios considered CCS as a compliance strategy.¹⁴ Duke's 2021 IRP reflects
3 Edwardsport burning coal only until 2035.¹⁵

4 **Q: Does the OUCC recommend a method for compliance with the EPA rule?**

5 A: No, the OUCC does not have a recommendation at this time. While switching
6 fuels to only natural gas could be more affordable, continuing to burn syngas
7 would allow Duke to maintain a more diverse generation supply and thus protect
8 system resilience. The decision on how to comply with the rule will need to
9 balance these two considerations as well as a multitude of others. In addition,
10 given the speculative nature regarding what requirements may apply on and after
11 2039, making any such recommendation would be both speculative and
12 premature.


III. RECOMMENDATIONS

13 **Q: Please summarize your recommendations to the Commission in this Cause.**

14 A: The OUCC recommends the Commission reject Duke's proposal to defer the CCS
15 FEED study costs. The technological feasibility of such a system still has not been
16 determined, the final system would be very costly, and Duke has more affordable
17 alternatives to comply with the recent EPA rule on carbon emissions. Duke can
18 resubmit its request for approval of cost recovery on its portion of the FEED study

¹⁴ 2024 Duke Energy Indiana Integrated Resource Plan Stakeholder Meeting 3, pp. 28-32, <https://www.duke-energy.com/-/media/pdfs/for-your-home/dei-irp/20240620-dei-irp-public-meeting-3-slides.pdf?rev=db0579e5c10c4d0a9ceaff3403854251>

¹⁵ Duke Energy Indiana 2021 IRP, p. 7, <https://www.duke-energy.com/-/media/pdfs/for-your-home/dei-irp-2021/public-duke-energy-indiana-2021-irp-volume-i.pdf?rev=2f3e42143e3e4875a8f7d38bebb9da51>

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1 costs if the study finds that a CCS system at Edwardsport is technologically
2 feasible, Duke proves the cost effectiveness, and Duke includes the likelihood and
3 time horizon for implementation.

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

5 A: Yes.

APPENDIX TO TESTIMONY OF OUCC
WITNESS BRIAN A. WRIGHT

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

2 A: I graduated from Beloit College in 1997 with a Bachelor of Arts degree in
3 Biology. I worked for nine years as a policy director with the Hoosier
4 Environmental Council. I actively worked on state and federal rulemakings
5 regarding coal combustion residuals (“CCR”) and mercury emissions from power
6 plants. I graduated from Indiana University, Bloomington in May 2010 with a
7 Master of Public Affairs degree, and a Master of Science degree in Environmental
8 Science. During graduate school, I was a consultant for EarthJustice and Citizens
9 Coal Council and worked to identify ground and surface water contamination at
10 CCR disposal sites. I worked for nine years as an environmental manager in the
11 Indiana Department of Environmental Management’s Office of Air Quality. I
12 have been employed by the OUCC since January 2022.

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

14 A: I review and analyze utilities’ requests and file recommendations on behalf of
15 consumers in utility proceedings. Depending on the case at hand, my duties may
16 also include analyzing state and federal regulations, evaluating rate design and
17 tariffs, examining books and records, inspecting facilities, and preparing various
18 studies. Since my expertise lies in environmental science and policy, I assist in
19 many cases where environmental compliance is an issue.

20 **Q: Have you previously provided testimony to the Commission?**

21 A: Yes.

Office of Utility Consumer Counselor
IURC Cause No. 46038
Data Request Set No. 8
Received: April 24, 2024

OUCC 8.13

Request:

Has DEI incorporated any elements of the previous CCS study performed for Edwardsport during regulatory approval of the plant?

Response:

Duke Energy Indiana utilized the test well data and geological analysis from the previous carbon storage study for Edwardsport for the DOE / OCED pre-application work. Please see Confidential Attachment CAC 2.51-A.

Witness: Peter C. Hoeflich

Office of Utility Consumer Counselor
IURC Cause No. 46038
Data Request Set No. 8
Received: April 24, 2024

OUCC 8.12

Request:

If the project is successful, would the results be used to help develop carbon capture sequestration projects at generating stations operated by other Duke subsidiaries? If so, why are the other subsidiaries not providing a share of the project costs?

Objection:

Duke Energy Indiana objects to this data request on the basis that it is vague, ambiguous, and not reasonably calculated to lead to the discovery of admissible evidence. The terms “successful” and “Duke subsidiaries” are not defined with multiple possible interpretations. Duke Energy Indiana further objects to this request to the extent it calls for speculation regarding events that may or may not occur.

Response:

Subject to and without waiving or limiting its objections, Duke Energy Indiana responds as follows:

As typically required by DOE funded studies, a portion of the FEED study results will be made public by the DOE / OCED for review by any interested party. However, with the thrust of the FEED study being Edwardsport-specific, the general applicability of the results outside of Edwardsport cannot be predicted or known. As stated in Mr. Hoeflich’s testimony, the FEED study results can be utilized to evaluate potential CCS projects at other *Indiana* generation sites, the underlying main assumption being a similar geology.

Witness: Peter C. Hoeflich

"EXCLUDED FROM PUBLIC ACCESS PER ACCESS TO COURT RECORDS RULE 5."

CONFIDENTIAL
OUCC ATTACHMENT BAW-3
CAUSE NO. 46038

AFFIRMATION

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



Brian A. Wright
Utility Analyst II
Indiana Office of Utility Consumer Counselor

Cause No. 46038
DEI, LLC

Date: July 11, 2024

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing *Indiana Office of Utility Consumer Counselor Public's Exhibit No. 6 Redacted Testimony of OUCC Witness Brian A. Wright* has been served upon the following counsel of record in the captioned proceeding by electronic service on July 11, 2024.

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