FILED
April 16, 2024
INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF NORTHERN INDIANA PUBLIC) SERVICE COMPANY LLC FOR (1) ISSUANCE OF A) CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY ("CPCN") PURSUANT TO IND. CODE CH. 81-8.5 TO CONSTRUCT AN APPROXIMATELY MEGAWATT NATURAL GAS COMBUSTION TURBINE ("CT") PEAKING PLANT ("CT PROJECT"); (2) APPROVAL OF THE CT PROJECT AS A CLEAN ENERGY PROJECT AND AUTHORIZATION FOR FINANCIAL INCENTIVES INCLUDING TIMELY COST RECOVERY THROUGH CONSTRUCTION WORK IN PROGRESS RATEMAKING UNDER IND. CODE CH. 8-1-8.8; (3) AUTHORITY TO RECOVER COSTS INCURRED IN CONNECTION WITH **CAUSE NO. 45947** THE CT PROJECT; (4) APPROVAL OF THE BEST ESTIMATE OF COSTS OF CONSTRUCTION ASSOCIATED WITH THE CT PROJECT; (5) AUTHORITY **IMPLEMENT** GENERATION COST **TRACKER** Α MECHANISM ("GCT MECHANISM"); (6) APPROVAL OF CHANGES TO NIPSCO'S ELECTRIC SERVICE TARIFF RELATING TO THE PROPOSED GCT MECHANISM; (7) APPROVAL OF **SPECIFIC** RATEMAKING ACCOUNTING TREATMENT FOR THE CT PROJECT; AND (8) ONGOING REVIEW OF THE CT PROJECT, ALL PURSUANT TO IND. CODE CH. 8-1-8.5 AND 8-1-8.8, AND) IND. CODE §§ 8-1-2-0.6 AND 8-1-2-23.

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
PUBLIC'S EXHIBIT NO. 1
REDACTED TESTIMONY OF
OUCC WITNESS CYNTHIA M. ARMSTRONG

April 16, 2024

Respectfully submitted,

T. Jason Haas

Deputy Consumer Counselor Attorney No. 34983-29

DIRECT TESTIMONY OF CYNTHIA M. ARMSTRONG CAUSE NO. 45947 NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC

1	Q:	Please state your name and business address.
2	A:	My name is Cynthia M. Armstrong, and my business address is 115 W. Washington
3		St., Suite 1500 South, Indianapolis, IN, 46204.
4	Q:	By whom are you employed and in what capacity?
5	A:	I am employed as an Assistant Director in the Electric Division for the Indiana
6		Office of Utility Consumer Counselor ("OUCC"). A summary of my qualifications
7		can be found in Appendix A.
8 9	Q:	Have you previously provided testimony to the Indiana Utility Regulatory Commission ("Commission")?
10	A:	Yes.
		I. <u>INTRODUCTION</u>
11	Q:	What is the purpose of your testimony in this proceeding?
12	A:	The purpose of my testimony is to present an overview of the OUCC's position
13		regarding Northern Indiana Public Service Company LLC's ("NIPSCO" or
14		"Petitioner") request to construct approximately 400 MW of natural gas generation
15		at the existing R.M. Schahfer Generating Station site ("CT Project"). Specifically,
16		I explain that NIPSCO's request should be denied because NIPSCO has failed to
17		meet statutory requirements. Specifically, NIPSCO failed to present a reasonable
18		best estimate for the CT Project, which is a vital component to grant a Certificate
19		of Public Convenience and Necessity ("CPCN") under Ind. Code § 8-1-8.5-5. I
20		introduce other OUCC witnesses, who also explain that NIPSCO's best estimate is

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overstated, and describe their additional concerns with NIPSCO's proposal. I explain how the OUCC's recommendations address the five attributes of electric utility service ("Five Pillars") as set forth and described in Indiana Code §8-1-2-0.6, which includes affordability. Finally, I provide my analysis of current and future environmental regulations that may impact the construction and operation of the new gas generating units. As part of this discussion, should the Commission approve the petition, I recommend costs associated with pollution control equipment not necessary for compliance be removed from NIPSCO's cost estimate. What did you do to prepare for your testimony? I reviewed the Verified Petition, Direct Testimony, Exhibits, Data Responses and Confidential Documents NIPSCO submitted in this Cause. I also participated in discussions between the OUCC and NIPSCO's technical staff, occurring on October 4, 2023, October 16, 2023, October 18, 2023, and October 30, 2023. Finally, I reviewed relevant federal and state environmental regulations, including the U.S. Environmental Protection Agency's ("EPA") Good Neighbor Rule and proposed Greenhouse Gas New Source Performance Standards ("NSPS") for fossil-fuel fired electric generating units. To the extent you do not address specific topics, issues, or items in your testimony, should it be construed to mean you agree with NIPSCO's proposal? No. The exclusion from my testimony of any topics, issues, or items NIPSCO proposes does not indicate my approval of those topics, issues, or items. Rather, the

II. NIPSCO'S REQUEST AND THE OUCC'S POSITION

scope of my testimony is limited to the specific items addressed herein.

1 Q: Please summarize NIPSCO's request in this Cause. 2 A: NIPSCO requests a CPCN under Ind. Code ch. 8-1-8.5 to construct the CT Project, 3 a natural gas combustion turbine ("CT") peaking plant approximately 400 MW in 4 size. The proposed CT Project consists of one industrial frame ("IF") turbine and 5 three aeroderivative turbines. NIPSCO's best estimate of the CT Project is \$641.2 6 million, excluding allowance for funds used during construction ("AFUDC"). 7 NIPSCO also requests ongoing review of the CT Project pursuant to Ind. Code § 8-1-8.5-6, which includes review of progress reports and revisions to the best 8 9 estimate. 10 NIPSCO further requests the CT Project be approved as a clean energy project 11 and authorized for financial incentives under Ind. Code ch. 8-1-8.8, including 12 timely cost recovery through construction work in progress ("CWIP"). As part of 13 the request for timely cost recovery of CT Project costs, NIPSCO requests authority 14 to implement a Generation Cost Tracker ("GCT") mechanism. 15 Q: Please provide an overview of the OUCC's position regarding NIPSCO's 16 request for the CPCN. 17 A: While the OUCC agrees that load-following replacement generation capacity is 18 necessary to reliably serve NIPSCO's customers, the proposal as filed should be 19 denied because it does not meet the statutory requirements under Ind. Code ch. 8-20 1-8.5. The OUCC has several reasons for this recommendation. First, NIPSCO's 21 choice in the CT Project's configuration results in a higher construction cost 22 estimate that is not justified by the benefits, as OUCC witness John Hanks 23 discusses. Second, NIPSCO's insistence on the CT Project's configuration

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constrained the bids received and selected through NIPSCO's Request for Proposal
("RFP") process for an Engineering, Procurement, and Construction ("EPC")
contract, as both Mr. Hanks and OUCC witness Roopali Sanka discuss. Third,
NIPSCO's decision to reject the EPC RFP bids and to self-build the CT Project
unreasonably exposes customers to the risk of project cost overruns, as OUCC
witness Mr. Gregory Krieger discusses. Finally, the CT Project estimate contains
unnecessary equipment costs, including
, and unreasonably high escalation, contingency, owner's costs, and indirect
costs, as discussed in my testimony and the testimony of the additional OUCC
witnesses. Because of these concerns, the CT Project's best estimate, and its
resulting impact on the affordability of NIPSCO's rates, is unreasonable. The
OUCC recommends denying NIPSCO's proposal as filed. However, in the event
the Commission accepts a portion or some modified form of NIPSCO's proposal,
the OUCC's specific recommendations amount to an approximate \$130 million
cost reduction to NIPSCO's proposed best estimate.
Please introduce other OUCC witnesses testifying in this Cause.
Other OUCC witnesses testifying in this Cause and their respective areas of review
are:

• <u>John Hanks:</u> Mr. Hanks critiques NIPSCO's restrictive EPC RFP requirements and describes the resulting exclusion of bidders who might have proposed a configuration for the CT Project using only less costly industrial frame units. He demonstrates NIPSCO failed to show how the benefits of

average short-term borrowing rate, as opposed to its weighted average cost of

capital. Finally, Ms. Baker's testimony addresses whether NIPSCO's requested

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1 rate recovery is consistent with Ind. Code §§ 8-1-8.8-11 and -12. (Public's

Exhibit No. 5)

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III. THE FIVE PILLARS OF ELECTRIC UTILITY SERVICE

4 Q: Please explain the OUCC's concerns regarding how the CT Project impacts affordability.

NIPSCO's rapid transition from traditional coal generation to renewable and loweremitting resources has already resulted in significantly increased rates. For example, NIPSCO recently added approximately \$826 million of renewable generating projects to rate base in Cause No. 45772, its most recent general rate case.¹ Table 1 below shows other approved renewable projects not yet reflected in rates. These investments have, and will continue to have, a substantial impact on rates once the projects are in service and are added to rate base.

1	Cable 1: Rate Impact of	NIPSCO's	Recent Generation Re	equests
			Estimated Monthly R	Residential Rate
Cause	Description of Project	Date	Increase	
No.		approved	Average NIPSCO	1,000/kWh ³
			Usage ²	1,000/ K VV II
	Gibson Solar			
46032	Generation	Pending	\$2.46 ⁴	\$3.68
	(200 MW)			
46028	Fairbanks Solar			
40028	Generation (250	Pending	\$2.76 ⁵	\$4.13
	MW)			

¹ OUCC Attachment CMA-1, NIPSCO's Response to OUCC Data Response 8-17.

² Average residential monthly usage presented as 700 kWh for Cause Nos. 45887 and 45908 and 668/kWh for Cause Nos. 46032, 46028, 45936.

 $^{^3}$ See OUCC Workpaper CMA-WP-TABLE 1. Calculated by dividing the rate increase for an average NIPSCO residential customer by the estimated average NIPSCO residential monthly usage and multiplying by 1,000 kWh. (i.e. (\$2.46/668 kWh) x 1,000 kWh = \$3.68).

⁴ Cause No. 46032, Petition, p. 11, March 22, 2024.

⁵ Cause No. 46028, Petition, p. 14, March 18, 2024.

45936	Dunn's Bridge II Solar and Storage Generation (435 MW Solar, 75 MW Energy Storage); Cavalry Energy Center (200 MW Solar, 60 MW	Jan. 17, 2024	\$6.98 ⁶	\$10.44
45908	Energy Storage) Carpenter Wind Purchased Power Agreement ("PPA")	Oct. 18, 2023	\$2.11 ⁷	\$3.01
45887	(200 MW Wind) Appleseed Solar PPA (200 MW Solar); Templeton Wind Energy Center PPA (200 MW Wind)	Sept. 13, 2023	\$3.51 ⁸	\$5.01
	Total		\$17.82	\$26.27

Table 2 below shows the monthly residential bill impact for a customer using 1,000 kWh per month based on NIPSCO's most recent rates and charges:

Table 2: NIPSCO's Cur	rent Rates and Charges ⁹
Description of Charge	Monthly Bill Impact of Average
	Residential Customer Using 1,000
	kWh/Mo.
Customer Charge	\$14.00
Energy Charge	\$166.24
Regional Transmission Operator	\$4.20
(RTO) Charge	
Resource Adequacy (RA) Charge	\$(0.52)
Demand Side Management Charge	\$3.74
Federally Mandated Cost Adjustment	\$0.00
(FMCA) Charge	
Transmission, Distribution, and	\$1.23
Storage System Improvement Charge	
(TDSIC)	

⁶ Cause No. 45936, Petition, p. 15, August 24, 2023.

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⁷ Cause No. 45908, Petition, p. 8, June 16, 2023. ⁸ Cause No. 45887, Petition, p. 8, May 16, 2023.

⁹ Based on information presented in OUCC Attachment CMA-2.

**Materi	al Hig	ghlig	hted in

Environmental Cost Tracker (ECT)	\$0.00
Charge	
Fuel Adjustment Clause Charge	\$(7.12)
Total	\$181.77

As Ms. Baker explains, NIPSCO's proposal to recover the CT Project's costs through the GCT would result in an \$8.94/month¹⁰ increase for a residential customer using 1,000 kWh per month, at its peak recovery point. While NIPSCO's customers would not experience this increase until the CT Project is rolled into rate base at the end of 2027, it would be approximately 5.0% of Petitioner's current base and energy charges. 11

When this is considered alongside NIPSCO's recent base rate increase and the rate impact of renewable generation sources not yet reflected in rates, NIPSCO's rates are negatively impacting residential affordability. These rate increases are occurring simultaneously with significant increases for food, housing, and other necessities. Unaffordable utility rates can force customers to choose which necessities they pay for. Further, high rates can affect the competitiveness of commercial and industrial customers, as rate increases will have an impact on their operational costs. As a consequence, they may be unable to maintain or expand employment levels and invest in their communities. While it is important to set rates at a level necessary for NIPSCO to provide safe, reliable service, it is equally

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¹⁰ Baker Direct, p. 7, Table 2.

¹¹ OUCC Attachment CMA-2, NIPSCO's current rates and charges. The 5.0% increase could change if NIPSCO files another base rate case between now and when the CT Project would go into service. However, I am providing this comparison to current base and energy charges to provide a reasonable measure of the CT Project's incremental increase to monthly residential customer bills.

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important to ensure rates are affordable for NIPSCO's ratepayers. This case provides the Commission an opportunity to balance the pillars by modifying NIPSCO's request as recommended by OUCC witnesses if the Commission approves Petitioner's proposal to build the CTs. O: Does the OUCC consider NIPSCO's request for the CT Project, as currently proposed, to be affordable? A: No. As explained by other OUCC witnesses, NIPSCO's cost estimate is overstated and unreasonably shifts increased project cost risks to ratepayers. NIPSCO's plan to self-build the CT Project and not employ an EPC contractor increases ratepayers' exposure to project cost overruns. This decision was mainly driven by two factors. First, NIPSCO's selected configuration for the CT Project not only costs more than another option, but also may have limited the submission of RFP bids for an EPC contractor. Second, NIPSCO evaluated the EPC RFP bids in a manner that favored the self-build option. Mr. Hanks discusses both of these topics in greater detail. As Mr. Krieger discusses in his direct testimony, entering an EPC contract can mitigate cost risk, as the EPC contractor commits to delivering the project at a set price. Most risks of cost overruns will fall on the EPC contractor based on agreed upon project scope. Since NIPSCO will essentially be taking on the role of an EPC contractor, it is assuming these risks. Risks, both known and unknown, may translate into additional ratepayer costs. NIPSCO's ratepayers should be protected from unnecessary costs and project mismanagement just as much as NIPSCO's

shareholders would want to be protected if they were paying for the CT Project.

Within the past 20 years, stakeholders and the Commission have dealt with several utility projects that greatly exceeded their original estimates. During this time, it has been common for a utility to present a project cost estimate in a new CPCN case where the final project cost balloons to 50% or more over the original cost estimate during project construction. 12 Utilities have been able to shift the risk of these cost overruns to customers, as they were recovered on an expedited basis through trackers. Costs associated with the CT Project must be managed appropriately to ensure affordable rates. What recommendations would reduce the CT Project's impact on rate Q: affordability? If the Commission approves a portion of, or a modified form of the CPCN, the A: recommendations of all OUCC witnesses should be adopted. This would result in a reduction of approximately \$130 million. In making its recommendations, did the OUCC consider the reliability, Q: resiliency, and stability attributes of electric utility service as set forth and described in Indiana Code §8-1-2-0.6? A: Yes. The OUCC recognizes NIPSCO's Integrated Resource Plan ("IRP") and updated analysis shows additional replacement capacity for retiring generation is needed to preserve reliability, resiliency, and stability. However, as Ms. Sanka discusses in her direct testimony, NIPSCO has not quantified the benefits nor performed a cost-benefit analysis for the differences in starting time/ramp rate

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¹² See: Duke Energy Indiana (DEI) examples of cost overruns: Cause Nos. 43114, Cause No. 43114 IGCC-4S1 (Phase 1) (Duke Energy Indiana). Indianapolis Power and Light (IPL) examples of cost overruns: Cause Nos. 42700, 43403, 42170 ECRs 5, 7, 8, 16S1, and 19. NIPSCO examples of cost overruns: Cause Nos. 43913, 44012 Phase 1.

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between the IF and the aeroderivatives. Further, as Mr. Hanks discusses, NIPSCO has not committed to installing aeroderivatives. In the absence of a firm set of specifications and only generalizations as to how the project satisfies the Five Pillars, it is impossible for the Commission to make an informed decision balancing all five of the mandatory pillars.

Due to the numerous issues with the CT Project's estimate as explained in OUCC testimony, NIPSCO's Case-in-Chief has not met the statutory burden necessary to issue a CPCN under Ind. Code § 8-1-8.5-5. Reliability, resiliency, and stability should not be used as an excuse to present an overstated cost estimate with unnecessary technology, and doing so undermines the equally important pillar of affordability. The Commission should not grant a blank check to NIPSCO simply because Petitioner precluded the consideration of other options.

Did the OUCC also consider environmental sustainability in its review?

Yes. The determination of whether natural gas generation is environmentally sustainable is subjective. From one perspective, building peaking natural gas generating capacity can support a utility's addition of, and reliance on, renewable resources, as natural gas generation can be dispatched for a limited time when renewable resources are not producing enough energy to meet demand. From another perspective, building and operating new gas generation continues the reliance on fossil-fuels and still emits carbon dioxide and other greenhouse gases. The OUCC makes no judgment on the environmental sustainability of natural gas

1 generation, but it does consider the impact of environmental regulations when 2 evaluating the CT Project's best estimate and future operations, if approved. 3 III. **ENVIRONMENTAL ANALYSIS** 4 Has NIPSCO considered environmental regulations impacting its CT Q: 5 **Project's construction?** 6 Yes. As part of the Sargent and Lundy ("S&L") engineering study, it A: 7 8 9 10 Specifically, NIPSCO must obtain a pre-construction permit 11 prior to beginning any significant construction activity for the project. NIPSCO 12 witness Greg Baacke notes one of the benefits of constructing the CT Project at the 13 Schahfer site is it will allow for emissions netting due to retiring an existing coal plant with higher emissions than the CT Project. 15 14 15 Q: What is emissions netting? 16 A: At its most basic level, emissions netting is a process that allows a utility to credit 17 emission reductions from retired generating units at the same site in its preconstruction air permit when building a new generating unit or plant. 16 18 19 Q: What is the benefit of emissions netting?

¹³ Petitioner's Exhibit No. 4, Direct Testimony of Steven Warren, Confidential Attachment 4-A, p. 7-1 and Appendix 13.

¹⁴ *Id.*, p. 7-2 and Appendix 12.

¹⁵ Petitioner's Exhibit No. 5, Direct Testimony of Greg Baacke, p. 7, 1l. 7-9.

¹⁶ While I frame my explanation in the context of a utility building new generation, emissions netting applies to any source applying for a new pre-construction air permit and also considers emission increases at the site.

Emissions netting enables NIPSCO to avoid triggering Prevention of Significant Deterioration ("PSD") permit applicability as part of the New Source Review ("NSR") pre-construction permitting process. A source triggers PSD if the project or modification results in a significant net emissions increase for a regulated NSR pollutant. As part of determining if a source results in a significant net emissions increase, the permit applicant may include any contemporaneous emissions decreases from shutting down other sources at the project site or increases from other projects. In NIPSCO's case, it will have retired all four coal-fired generating units at the Schahfer Generating Station within this contemporaneous period. The CT Project will emit significantly lower emissions than coal units, particularly if NIPSCO limits the number of hours the units operate annually.

The permitting process for a Major PSD permit is more involved and longer to complete than if the source qualifies for a Significant Source Modification Minor PSD permit. If PSD is triggered, the source must install or employ Best Available Control Technology ("BACT"). ¹⁹ BACT is an emissions limitation which is based on the maximum degree of control that can be achieved ²⁰ and is a case-by-case decision by the permitting agency (e.g. the Indiana Department of Environmental Management ("IDEM")) that considers energy, environmental, and economic

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¹⁷ 40 C.F.R. §51.166(a)(7)(iv)(a) and 326 I.A.C. §2-2-2(d).

¹⁸ 40 C.F.R. §51.166(b)(3) and 326 I.A.C. §2-2-1(ii).

¹⁹ 40 C.F.R. §51.166(j) and 326 I.A.C. §2-2-3.

²⁰ BACT can be add-on control equipment or modification of the production processes or methods. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible.

impact.²¹ Therefore, avoiding the need for a Major PSD Permit saves both time and the potential costs of installing additional pollution controls.

Q: Has NIPSCO performed an emissions netting analysis?

Yes. NIPSCO provided both a preliminary and updated emissions netting analysis from its consultant for Schahfer Units 14 and 15. According to this analysis, the CT Project will emit less particulate matter ("PM"), PM₁₀ (PM smaller than 10 microns), PM_{2.5} (PM smaller than 2.5 microns), nitrogen oxides ("NOx"), Volatile Organic Compounds, and Carbon Monoxide than Schahfer Units 14 and 15.²²

NIPSCO indicated it will be able to claim reductions for Unit 14 until July 2025 and for Unit 15 until September 2026, as long as it commences construction on the CT Project.²³ To "commence" construction, NIPSCO must obtain the necessary air permit for the CT Project and either: 1) begin a continuous program of actual construction of the CT Project to be completed within a reasonable time; or 2) enter into a binding contract which cannot be cancelled or modified without substantial penalties.²⁴ NIPSCO intends to obtain its air permits and begin construction on the CT Project prior to July 2025.²⁵ Additionally, although NIPSCO does not plan to claim reductions from retiring Schahfer Units 17 and 18, it could claim these reductions if necessary.²⁶

Q: What air permits must NIPSCO obtain for the CT Project?

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²¹ 40 C.F.R. §51.166(b)12 and 326 I.A.C. §2-2-1(i).

²² OUCC Attachment CMA-3, NIPSCO's Responses to OUCC Data Requests 3-1 and 6-1.

²³ *Id*.

²⁴ *Id*.

²⁵ *Id*.

²⁶ *Id*.

1	A:	As I discussed earlier, NIPSCO will need to obtain a significant source modification
2		approval, ²⁷ which IDEM classifies as a Significant Source Modification Minor PSD
3		or Emission Offset Permit. ²⁸ NIPSCO must also obtain a significant permit
4		modification approval for its operating permit. ²⁹ Both permits will be submitted
5		simultaneously and have the same review periods. 30 NIPSCO anticipates the permit
6		approval process will take approximately six months. ³¹
7	Q:	Will the permits limit the CT Project's operations?
8	A:	Yes. As far as permitting limits are concerned, the CT Project will be required to
Ü		Test the me permitting minute we constitute, the of traject will be required to
9		meet NSPS for stationary combustion turbines. Based on the current NSPS for
10		stationary combustion turbines, the IF unit's NOx emissions limit will be 15 parts
11		per million ("ppm"), and the aeroderivative units' NOx emissions limit will be 25
12		ppm. ³² NIPSCO indicates the turbine manufacturer's emission specifications will
13		be commensurate with these limits. ³³
14		Due to the current Greenhouse Gas ("GHG") NSPS for Electric Generating
15		Units ("EGUs"), NIPSCO also expects the annual capacity factors for the CT
16		Project's units will be limited, based on their design efficiencies. ³⁴ NIPSCO expects
17		the IF unit's operation will be limited at approximately 3,574 hours annually, and

²⁷ OUCC Attachment CMA-4, NIPSCO's Responses to OUCC Data Request 3-2.

²⁸ IDEM. Air Permitting: Resources and Fees. https://www.in.gov/idem/airpermit/resources/timeframes-and-fees.

²⁹ OUCC Attachment CMA-4.

³⁰ OUCC Attachment CMA-4 and IDEM Air Permit Resources and Fees.

³¹ OUCC Attachment CMA-4.

 $^{^{\}rm 32}$ OUCC Attachment CMA-5, NIPSCO's Responses to OUCC Data Requests 3-3 and 3-4.

See also, 40 C.F.R. §60.4320 and Table 1 to Subpart KKKK.

³³ OUCC Attachment CMA-5.

³⁴ *Id*.

1		the aeroderivative units' operation will be limited to approximately 3,372 hours
2		annually.35 However, these limits may change based on the turbine equipment
3		identified in RFP results. ³⁶
4	Q:	What pollution controls does NIPSCO expect to install for the CT Project?
5	A:	NIPSCO states it expects to utilize low emission combustor technology for
6		pollution controls. ³⁷ However, the S&L engineering study NIPSCO bases its cost
7		estimates on includes
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10		. ³⁹ If the CT Project does not need to meet
11		its permitted emission limits, this would be an excessive cost included in NIPSCO's
12		overall estimate.
13	Q:	Are you recommending these costs be removed from the best estimate?
14	A:	Yes. If NIPSCO does not intend to install or use for current compliance
15		requirements, this equipment should be removed from the cost estimate for the CT
16		Project. NIPSCO indicates the design of the CT Project's turbines will meet NSPS
17		requirements with low emission combustion technology. ⁴⁰ could be selected
18		as BACT if the CT Project results in a net emissions increase. However, the netting
19		analysis NIPSCO provided indicates it will not need to apply for a Major PSD

³⁵ *Id*.

³⁶ *Id*.

³⁷ OUCC Attachment CMA-6, NIPSCO's Response to OUCC Data Request 3-6.

³⁸ Warren Direct, Attachment 4-A, Appendix 20 (Class 3 Capital Cost Estimates), Executive Summary, p. 4 and Cost Estimate Details, pp. 20-21.

³⁹ OUCC Attachment CMA-7-C.

⁴⁰ OUCC Attachments CMA-5 and CMA-6.

	Permit, therefore, it will not be required to conduct a BACT analysis of instan
	BACT. As a result, including these costs is not justified for currently expected
	environmental compliance requirements. Messrs. Hanks and Krieger reflect this
	removal of from their recommended cost estimate, which also
	reflects their recommended adjustments for contingency, owner's costs, and
	indirect costs.
Q:	Are there any environmental rules that could result in the CT Project's units needing to install ?
A:	Yes. The EPA finalized the Good Neighbor Plan in March 2023. The Good
	Neighbor Plan represents the EPA's incorporation of the 2015 revision to National
	Ambient Air Quality Standards ("NAAQS") for ozone into the Cross State Air
	Pollution Rule ("CSAPR") NOx emission limits. ⁴¹ The Good Neighbor Plan
	significantly reduces state emission allowance budgets for CSAPR Group 3 Ozone-
	Season NOx Allowance Trading Program, which includes Indiana. ⁴² States will
	allocate emission allowances to operating EGUs according to their annual emission
	budgets, which can be traded with other EGUs in Group 3 states. Affected EGUs
	must hold and retire an allowance for each ton of NOx they emit during the May to
	September Ozone Season. ⁴³ Unlike previous CSAPR and other allowance trading
	rules, the Good Neighbor Rule does not allow owners of retired coal units to
	continue receiving allowances two years after these units cease operation. ⁴⁴

^{41 88 &}lt;u>Federal Register</u> 36658. 42 88 F.R. 36656-658, 906-907. 43 88 F.R. 36905-36906.

⁴⁴ 88 F.R. 36805.

1 Therefore, the CT Project will need to receive allowances from the new-unit set 2 aside allowance bank, and NIPSCO will not receive allowances associated with the 3 retired Schahfer coal units to cover emissions from the CT Project's units. 4 Does the Good Neighbor Plan justify including the costs of Q: for 5 the CT Project's Units? 6 No, not at this time. The cost to for the CT Project's units A: 7 must be balanced against the costs to purchase allowances. These factors will be 8 dependent on the CT Project's demand for Seasonal NOx allowances and Seasonal 9 NOx allowance market prices. 10 Natural gas generation emits less NOx than coal generation, so NIPSCO 11 may not need to purchase as many additional allowances beyond its zero-cost 12 allowance allocations for the CT Project units. The CTs' need for Seasonal NOx 13 allowances will also be dependent on their seasonal operations. If the CT units are 14 dispatched more frequently during the summer, they will use more Seasonal NOx 15 allowances for compliance. However, if the CT units operate more during the 16 winter, outside of the May through September Ozone Season, NIPSCO may not 17 need to purchase as many Seasonal NOx allowances to cover the units' emissions. 18 As for the Seasonal NOx allowance market, Group 3 Seasonal NOx

have since declined significantly. By the beginning of the 2023 Ozone Season in

allowance prices drastically increased after the EPA proposed the Good Neighbor

Plan in 2022, peaking at around \$48,000/ton in August 2022. 45 However, prices

Evolution Markets. (September 7, 2023) *Market Update*. https://www.evomarkets.com/content/news/reports 43 report file.pdf.

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1		May 2023, prices dropped below \$10,000/ton and, by September 2023, they
2		continued to decline below \$3,500/ton. ⁴⁶ By November 2023, Group 3 Seasonal
3		NOx allowance prices fell below \$1,500/ton, likely in response to legal challenges
4		resulting in judicial stays of the Good Neighbor Plan's application to several
5		states. 47 If Seasonal NOx allowance prices remained at 2022 levels over a sustained
6		period, it may be economic for the CT Project generating units to install
7		. Depending on each estimated cost of removal per ton of NOx, they
8		may also be economic if prices were reasonably expected to remain above
9		\$10,000/ton. However, Seasonal NOx prices have not been sustained at these levels
10		and are unlikely to return to these prices soon, especially if litigation results in
11		remand of the Good Neighbor Plan.
12	0.	Does NIPSCO have options to seek recovery of
13 14	Q:	Project if it determines these costs are a more economic option for environmental compliance in the future?
	Q: A:	Project if it determines these costs are a more economic option for
14		Project if it determines these costs are a more economic option for environmental compliance in the future?
14 15		Project if it determines these costs are a more economic option for environmental compliance in the future? Yes. If are economically efficient or otherwise justified for environmental
141516		Project if it determines these costs are a more economic option for environmental compliance in the future? Yes. If are economically efficient or otherwise justified for environmental compliance in the future, NIPSCO can seek approval of these costs as federally
1415161718	A:	Project if it determines these costs are a more economic option for environmental compliance in the future? Yes. If are economically efficient or otherwise justified for environmental compliance in the future, NIPSCO can seek approval of these costs as federally mandated costs under the Federal Mandate Statute at Ind. Code ch. 8-1-8.4. Could any other environmental regulations impact the CT Project's

⁴⁶ *Id*.

⁴⁷ Martin, C. (December 29, 2023). <u>Argus Media.</u> *Viewpoint: Legal woes to weigh on NOx allowances.* https://www.argusmedia.com/en/news-and-insights/latest-market-news/2523471-viewpoint-legal-woes-to-weigh-on-nox-allowances.

proposal, if the CT Project were to operate at an annual capacity factor greater or equal to 20%, it would be subject to more stringent efficiency design requirements and must either co-fire low-emitting hydrogen or install carbon capture and sequestration ("CCS") by specific dates. NIPSCO could avoid the hydrogen co-firing or CCS requirements by operating the CT units at a capacity factor less than 20%. The EPA Administrator recently announced the EPA was delaying the issuance of the GHG NSPS, but intended to issue stronger regulations that included more pollutants. The issuance of the final rule will likely not be until after the November 2024 election, and any final rule is expected to be challenged by states and industry groups.

While it is unclear as to what changes the EPA may make in issuing a final rule, NIPSCO intends to operate the CT Project as a peaking unit. The CT Project's units would qualify for the low load subcategory of the proposed GHG NSPS by operating at annual capacity factor less than 20%.

V. CONCLUSION

- 15 Q: Please summarize your conclusions.
- 16 A: I recommend the Commission reject NIPSCO's CT Project's best estimate and
 17 deny the CPCN as requested in this cause;

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⁴⁸ 88 FR 33244-245.

⁴⁹ Daly, M. (February 29, 2024) <u>Associated Press</u>. *EPA delays rules for existing natural gas power plants until after the November election*. https://apnews.com/article/epa-power-plants-climate-change-natural-gas-coal-1499236035aa7c34dbec36a7144df25e.

1 However, if the Commission chooses to approve a CPCN in this cause, the 2 OUCC alternatively recommends the approved best estimate be reduced by 3 \$130 million as reflected in the testimonies of Mr. Hanks, Ms. Sanka, and corresponding adjustments to owner's costs, contingency, escalation, and 4 5 indirects as reflected in the testimony of Mr. Krieger; 6 a. Reduce the best estimate to remove in costs associated 7 in the "inside the fence" estimated costs. with 8 b. Reduce escalation by an additional \$27,344,000 to reflect an escalation 9 rate of 3% instead of 5%, as described in the testimony of Mr. Hanks; 10 c. Reduce indirects by an additional to reflect double-counting 11 of indirect costs, also as described in the testimony of Mr. Hanks; 12 d. Require Petitioner to submit quarterly, auditable progress reports 13 providing construction status, and accounting updates including project 14 to date spending and remaining balances of contingency, escalation, 15 owner's costs and indirects. 16 e. Accept Ms. Baker's recommended changes to project recovery and 17 calculating the GCT rate; and Does this conclude your testimony? 18 Q: 19 A: Yes.

APPENDIX A

1 Q: Summarize your professional background and experience.

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A: I graduated from the University of Evansville in 2004 with a Bachelor of Science degree in Environmental Administration. I graduated from Indiana University, Bloomington in May 2007 with a Master of Public Affairs degree and a Master of Science degree in Environmental Science. I have also completed internships with the Environmental Affairs Department at Vectren in the spring of 2004, with the U.S. Environmental Protection Agency in the summer of 2005, and with the U.S. Department of the Interior in the summer of 2006. During my final year at Indiana University, I served as a research and teaching assistant for a Capstone course offered at the School of Public and Environmental Affairs. I also have obtained my OSHA Hazardous Operations and Emergency Response ("HAZWOPER") Certification. I have been employed by the OUCC since May 2007. During my time at the OUCC, I was promoted to a Senior Utility Analyst in 2012, to a Chief Technical Advisor in June 2022, and to an Assistant Director in August 2023. As part of my continuing education at the OUCC, I have attended both weeks of the National Association of Regulatory Utility Commissioners' ("NARUC") seminar in East Lansing, Michigan, the Indiana Chamber of Commerce's ("Indiana COC's") Environmental Permitting Conference, and the Indiana COC's annual Environmental Conferences since 2014.

Q: Describe some of your duties at the OUCC.

Public's Exhibit No. 1 Cause No. 45947 Page 23 of 23 is CONFIDENTIAL

**Material Highlighted in

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

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OUCC Request 8-017:

Please provide the approved project cost estimate, approved customer rate impact, and final total project cost for the following:

- a. Rosewater Project, approved on August 7, 2019, in Cause No. 45194;
- b. Jordan Creek, approved on June 5, 2019, in Cause No. 45195;
- c. Dunns Bridge I, approved on May 5, 2021, in Cause No. 45462;
- d. Dunns Bridge II and Cavalry Solar, approved on May 5, 2021, in Cause No. 45462, and modified on January 17, 2024, in Cause No. 45936;
- e. Indiana Crossroads Solar Generation, approved on July 28, 2021, in Cause No. 45524
- f. Fairbanks Solar, approved on June 29, 2021, in Cause No. 45511.

Objections:

NIPSCO objects to the Request on the grounds and to the extent it is vague and ambiguous. There is no "approved" customer rate impact for any projects. NIPSCO further objects on the grounds and to the extent it seeks information that is publicly available. NIPSCO further objects on the separate and independent grounds that it seeks information that is irrelevant, outside the scope of the proceedings, and not reasonably calculated to lead to the discovery of admissible evidence.

Response:

Subject to and without waiver of the foregoing objections, NIPSCO states:

The following projects are already in service and are included in net original cost rate base for purposes of base rates that were approved in Cause No. 45772:

- Rosewater Wind (Cause No. 45194): Approved project cost estimate and final total project cost of \$170,100,000
- Dunns Bridge I Solar (Cause No. 45462): Approved project cost estimate and final total project cost of \$359,605,000
- Indiana Crossroads Solar Generation (Cause No. 45524): Approved project cost estimate and final total project cost of \$296,500,000

The following projects have not been included in rate base for in a general rate case:

- Dunns Bridge II and Cavalry Solar, approved on May 5, 2021, in Cause No. 45462, and modified on January 17, 2024, in Cause No. 45936;
- Fairbanks Solar, approved on June 29, 2021, in Cause No. 45511.

For each of these projects, please see the order in the referenced causes for the best estimate of costs.

Jordan Creek is a PPA; therefore, no such "approved project cost estimate, approved customer rate impact, and final total project cost" exists.

OUCC ATTACHMENT CMA-2 IS FILED AS AN EXCEL DOCUMENT

FILE NAME: "45947 OUCC Attachment CMA-2.xlsx"

Cause No. 45947

Northern Indiana Public Service Company LLC's Objections and Responses to

Indiana Office of Utility Consumer Counselor's Third Set of Data Requests

OUCC Request 3-001:

Has NIPSCO performed or hired a consultant to perform an emissions netting analysis to determine if the Schahfer CT Project will result in a net increase or net decrease of pollutants? If so, please provide a copy of this analysis.

Objections:

Response:

NIPSCO hired a consultant to perform an emissions netting analysis, which, while not yet final, preliminarily shows a net decrease of emissions of key pollutants such as NOx, particulate matter, VOC, and CO. A summary of the initial results is provided below. Note: all values are in tons.

	CT Project			Net emissions
Pollutant	Total	Unit 14 BAE	Unit 15 BAE	increases
PM	64.8	-54.0	-48.3	-37.5
PM10	64.9	-141.3	-259.6	-336.0
PM2.5	64.9	-115.9	-246.0	-297.0
NOx	534.1	-718.3	-1,448.1	-1,632.4
voc	80.5	-46.1	-36.2	-1.8
co	683.6	-212.6	-4,622.3	-4,151.4

Cause No. 45947 OUCC Attachment CMA-3 Page 2 of 4

Cause No. 45947

Northern Indiana Public Service Company LLC's Objections and Responses to

Indiana Office of Utility Consumer Counselor's Sixth Set of Data Requests

OUCC Request 6-001:

In NIPSCO's response to OUCC DR 3-1, NIPSCO provided a preliminary netting calculation for the Schahfer facility.

- a. Will the delay in the in-service date for the CT Project prevent NIPSCO from netting emissions decreases resulting from Schahfer Units 14's and 15's retirement? Please explain why or why not.
- b. Has NIPSCO or its consultant updated its preliminary netting analysis since providing its response to OUCC DR 3-1? If so, please provide the updated calculations.
- c. Does NIPSCO expect it will be able to apply emissions decreases from the retirement of Schahfer Units 17 and 18 in its netting calculations for the CT Project's air permit application? Please explain why or why not.
- d. If NIPSCO expects that it will be able to apply emissions decreases from retiring Schahfer Units 17 and 18 in netting calculations for the CT Project, please provide the estimated emissions decreases for Schahfer Units 17 and 18.
- e. Other than the NIPSCO CT Project, are there any other significant emissions increases that have occurred or are anticipated to occur at the Schahfer site in the five years preceding the anticipated in-service date for the CT Project? If so, please provide all projects leading to emissions increases at the site and the associated increase for each pollutant.
- f. Are there any Consent Decrees, Agreed Orders, Settlement Agreements, or any other legally-enforceable agreements NIPSCO has entered with a governmental entity or third party that would prevent NIPSCO from using emissions decreases from the retirement of Schahfer Units 17 and 18 in its netting calculation for the CT Project's air permit application? If so, please provide a copy of each agreement and indicate which clauses restricts NIPSCO's ability to net emissions from Schahfer Units 17 and 18.

Objections:		
Response:		

Cause No. 45947

Northern Indiana Public Service Company LLC's Objections and Responses to

Indiana Office of Utility Consumer Counselor's Sixth Set of Data Requests

- (a) No, the delay in the in-service date for the CT Project will not prevent NIPSCO from including emissions decreases resulting from the retirement of Schahfer Units 14 and 15 in the netting analysis for the CT Project. By way of background, contemporaneous emissions reductions through netting are available for the five-year period or 1,825 days from the date of last operation of the unit. Unit 14 last operated on July 16, 2020, and Unit 15 last operated on September 28, 2021. Therefore, Unit 14 reductions will be available until July 2025 and Unit 15 reductions will be available until September 2026. For the CT Project to use Unit 14 and 15 reductions in a netting analysis, NIPSCO must "commence" construction on the project prior to the end of July 2025. To "commence" construction, NIPSCO must obtain the necessary air permit for the project and implement one of the following:
 - (1) Begin a continuous program of actual construction on the project to be completed within a reasonable time, i.e. start actual physical construction work on the site. Or,
 - (2) Enter into binding contract which cannot be cancelled or modified without substantial penalties.

In summary, NIPSCO plans to obtain the necessary air permit for the CT Project and implement (2) above, prior to July 2025, to use Schahfer Unit 14 and 15's emissions reductions in the netting analysis.

(b) Yes. Updated net emissions increase calculations for the CT Project are provided below (all values in tons):

	CT Project			Net emissions
Pollutant	Total	Unit 14 BAE	Unit 15 BAE	increases
PM	61.1	-54.0	-48.3	-41.2
PM10	61.1	-141.3	-259.6	-339.8
PM2.5	61.1	-115.9	-246.0	-300.8
NOx	535.4	-718.3	-1,448.1	-1,631.0
VOC	80.5	-46.1	-36.2	-1,8
CO	684.3	-212.6	-4,622.3	-4,150.7

(c) If necessary, NIPSCO would be able to apply emissions reductions from the retirement of Schahfer Units 17 and 18 in its netting calculations. However, NIPSCO does not anticipate needing to apply these reductions for the CT

Cause No. 45947 OUCC Attachment CMA-3

Page 4 of 4

Cause No. 45947

Northern Indiana Public Service Company LLC's Objections and Responses to

Indiana Office of Utility Consumer Counselor's Sixth Set of Data Requests

Project because the reductions from the retirement of Schahfer Units 14 and 15 are sufficient to avoid major New Source Review (NSR) for all regulated NSR pollutants.

- (d) NIPSCO does not expect that it will need to apply emissions decreases from the retirement of Schahfer Units 17 and 18 in the netting calculations.
- (e) No
- (f) No

OUCC Request 3-002:

What specific air permit modifications does NIPSCO anticipate it will seek prior to constructing and operating the CT Project, and what is the anticipated time frame for securing each permit?

Objections:

Response:

A significant source modification approval from the Indiana Department of Environmental Management ("IDEM") will be required for the CT Project to start construction. A 120-day timeline is applicable per statute, with 45 days added if a public hearing is scheduled. Overall, NIPSCO anticipates an approximate 6-month period from the date of submission of the air permit application to issuance of the approval for construction.

To operate the CTs, a significant permit modification approval will be required. IDEM processes this permit modification in parallel with the source modification. Under the Part 70 Operating Permit program implemented by IDEM, a permit modification under 326 IAC 2-7-12 is also required to undergo a review period by U.S. EPA.

OUCC Request 3-003:

Are there any differences in anticipated air permitting limits and requirements between the industrial frame CT and the aeroderivative turbines (i.e., allowed emission rates, number of start-ups/shutdowns, operating hours, etc.)? Please list and describe these expected differences and indicate if each difference advantages one type of technology over the other.

Objections:

Response:

As currently required by U.S. Environmental Protection Agency ("EPA") New Source Performance Standard ("NSPS") Subpart KKKK, the larger industrial frame unit (> 850 MMBtu/hr) will be subject to a NOx limit of 15 ppm, and the aeroderivative units, or similarly sized units between 50 and 850 MMBtu/hr, will be subject to a NOx limit of 25 ppm. While the NOx emission rate of an aeroderivative unit is greater than that of a larger industrial frame unit, mass-based emissions (i.e., lb/hr) from the larger industrial frame unit are greater due to its larger heat input. These differences are not expected to provide a meaningful advantage to either type of unit.

Also, as currently required by EPA NSPS Subpart TTTT, the industrial frame and aeroderivative units are expected to be limited in their annual capacity factors based on their design efficiencies. The industrial frame and aeroderivative units are expected to be limited to approximately 3,574 hours per year and 3,372 hours per year of operation, respectively. This difference is not expected to provide a meaningful advantage to either type of unit. These values are subject to change based on the results of the request for proposals.

Generally, NIPSCO expects to receive air permit limits from the Indiana Department of Environmental Management that are commensurate with the manufacturer's emissions specifications.

OUCC Request 3-004:

How many hours does NIPSCO project the industrial frame CT and each aeroderivative CT will be permitted to operate annually without exceeding emissions set forth under its Title V air permit?

Objections:

Response:

As currently required by U.S. Environmental Protection Agency's ("EPA") New Source Performance Standard ("NSPS") Subpart TTTT, the industrial frame and aeroderivative units are expected to be limited in their annual capacity factors based on their design efficiencies. The industrial frame and aeroderivative units are expected to be limited to approximately 3,574 hours per year and 3,372 hours per year of operation, respectively. These values are subject to change based on the results of the turbine equipment request for proposals. Annual permitted operating hours may be further limited based on the finalization of EPA's proposed greenhouse gas rules and actual turbine emissions.

OUCC Request 3-006:

What pollution controls does NIPSCO expect to install for the industrial frame and aeroderivative CTs, and what is the associated cost for each control?

Objections:

NIPSCO objects to this Request on the grounds and to the extent that this Request solicits an analysis, calculation, or compilation which has not already been performed and which NIPSCO objects to performing.

Response:

Subject to and without waiver of the foregoing general and specific objections, NIPSCO is providing the following response:

NIPSCO expects to utilize low emission combustor technology for pollution controls. Separate costs have not been estimated for this technology.

OUCC ATTACHMENT CMA-7-C IS CONFIDENTIAL AND FILED AS AN EXCEL DOCUMENT

FILE NAME: "45947 CONFIDENTIAL_Attachment CMA-7-C.xlsx"

AFFIRMATION

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

Cynthia M. Armstrong

Senior Utility Analyst

Indiana Office of Utility Consumer Counselor

Cause No. 45947 NIPSCO, LLC

Date: April 16, 2024

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing Indiana Office of Utility Consumer Counselor Public's

Exhibit No. 1 Redacted Testimony of OUCC Witness Cynthia M. Armstrong has been served upon the

following counsel of record in the captioned proceeding by electronic service on April 16, 2024.

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