

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 400)
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)
THE CT PROJECT; (4) APPROVAL OF THE BEST)
ESTIMATE OF COSTS OF CONSTRUCTION ASSOCIATED)
WITH THE CT PROJECT; (5) AUTHORITY TO)
IMPLEMENT A GENERATION COST TRACKER)
MECHANISM ("GCT MECHANISM"); (6) APPROVAL OF)
CHANGES TO NIPSCO'S ELECTRIC SERVICE TARIFF)
RELATING TO THE PROPOSED GCT MECHANISM; (7))
APPROVAL OF SPECIFIC RATEMAKING AND)
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.)**

CAUSE NO. 45947

**INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
PUBLIC’S EXHIBIT NO. 2
REDACTED TESTIMONY OF
OUCC WITNESS JOHN W. HANKS**

April 16, 2024

Respectfully submitted,



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TESTIMONY OF OUCC WITNESS JOHN W. HANKS
CAUSE NO. 45947
NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC

I. INTRODUCTION

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

2 A: My name is John W. Hanks, and my business address is 115 W. Washington St.,
3 Suite 1500 South, Indianapolis, Indiana 46204.

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

5 A: I am employed as a Utility Analyst in the Indiana Office of Utility Consumer
6 Counselor's ("OUCC") Electric Division. A summary of my educational
7 background and experience is included in Appendix A attached to my testimony.

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

9 A: I recommend the Commission deny Northern Indiana Public Service Company
10 LLC's ("NIPSCO," "Petitioner," or "Company") proposal as filed in this cause. I
11 describe the process NIPSCO used to self-select a preferred configuration for its
12 proposed 400 MW natural gas turbine ("CT Project"), including unnecessarily
13 expensive aeroderivative turbines. I describe how the Engineering, Procurement,
14 and Construction ("EPC") Request for Proposals ("RFP") prevented bidders from
15 proposing a less expensive, all industrial frame configuration. I explain how
16 NIPSCO's incorporation of the 2022 RFPs within the updated 2023 Portfolio

1 Modeling overstates the cost of a generic gas peaking resource. This deemphasizes
2 the unreasonable extra costs of aeroderivative units.

3 I also compare the CT Project costs against industry averages and against the costs
4 estimated for Southern Indiana Gas and Electric Co. d/b/a CenterPoint Energy's
5 ("CenterPoint") peaker plant project recently approved by the Indiana Utility
6 Regulatory Commission ("Commission") in Cause No. 45564. I show that
7 NIPSCO's CT Project estimate is more expensive than CenterPoint's gas peaking
8 project due, in part, to the inclusion of aeroderivative units in the preferred
9 configuration. Aeroderivative unit construction costs are significantly more
10 expensive on a \$/kW basis relative to an all-industrial frame configuration.
11 NIPSCO has not established that the benefits of aeroderivative units are worth the
12 higher cost relative to industrial frame units.

13 I also point out that NIPSCO has not actually committed to installing aeroderivative
14 units in its current proposal,¹ even though NIPSCO required bidders to include
15 them when responding to the EPC RFP,² and is requesting cost recovery based on
16 the use of aeroderivative units. Requiring the use of aeroderivative units within the
17 EPC RFP prevented respondents from proposing a more economical, all-industrial
18 frame configuration. I also explain why NIPSCO's estimated indirect costs in its

¹ Petitioner's Exhibit No. 5, Direct Testimony of Greg Baacke, p. 3, lines 14-17.

² Attachment JWH-1, NIPSCO's 2022 Request for Proposals, p. 12.

1 self-build proposal are overstated by [REDACTED] and why NIPSCO's estimated
2 escalation is overstated by \$27,344,000.

3 **Q: Please describe the review and analysis you conducted to prepare your**
4 **testimony.**

5 A: I reviewed the Petition and Petitioner's testimony, including the best estimate to
6 construct the CT Project. I met several times with OUCC staff to discuss the CT
7 Project. I composed data requests ("DR") and reviewed the responses, while
8 reviewing responses to other parties' DRs. I reviewed the final order in Cause No.
9 45564, CenterPoint's gas peaking facility construction case. I reviewed parts of the
10 Energy Information Administration's ("EIA") *Annual Energy Outlook 2023* related
11 to costs for constructing new generation. I reviewed documents associated with
12 NIPSCO's 2022 All-Source and Schahfer Development RFPs. I also reviewed
13 portions of NIPSCO's most recent 2021 Integrated Resource Plan ("IRP") related
14 to the preferred portfolio analysis, short-term action plan, and capital cost
15 assumptions.

16 **Q: To the extent you do not address specific topics, issues, or items in your**
17 **testimony, should it be construed to mean you agree with NIPSCO's proposal?**

18 A: No. The exclusion from my testimony of any topics, issues, or items NIPSCO
19 proposes does not indicate my approval of those topics, issues, or items. Rather, the
20 scope of my testimony is limited to the specific items addressed herein.

II. COMPARISON OF CT PROJECT COSTS TO OTHER SIMPLE CYCLE PLANTS

21 **Q: Describe Petitioner's proposed CT Project configuration.**

22 A: NIPSCO proposes to self-build a 400 MW natural gas combustion turbine peaker
23 plant at the site of its existing Schahfer Generation Station. The peaker plant

1 configuration has not been finalized; however, NIPSCO witness Gregory Baacke
2 states “The CT Project is expected to consist of one larger industrial frame unit with
3 three smaller aeroderivative or similarly sized industrial frame units.”³ Due to the
4 cost differences between industrial frame and aeroderivative units, which are
5 discussed below, it is significant that NIPSCO has not finalized the configuration
6 for the CT Project but is still seeking cost recovery for the industrial frame and
7 aeroderivative configuration. The CT Project would be the first large gas-fired
8 generation project that NIPSCO would self-build.⁴ OUCC witness Roopali Sanka
9 discusses the CT Project’s configuration in her direct testimony. The risks
10 associated with NIPSCO’s project management are discussed in more detail in
11 OUCC witness Gregory L. Krieger’s direct testimony.

12 **Q: Please describe NIPSCO’s proposed best estimate of the total cost of**
13 **construction for the CT Project.**

14 A: Inclusive of indirect costs and allowance for funds used during construction
15 (“AFUDC”), Petitioner states the best estimate of the CT Project’s construction cost
16 at the time of this filing is \$643,391,339.⁵ NIPSCO states the current best estimate
17 is an International AACE (“AACE”) Class 3 estimate with an accuracy range of -
18 20%/+30%.⁶ The engineering study NIPSCO witness Steven Warren sponsors is a
19 Class 3 cost estimate to self-build a simple cycle facility,⁷ and NIPSCO used an
20 earlier version of the study to select the preferred configuration and to establish the

³ Baacke Direct, p. 4, lines 10-11.

⁴ Baacke Direct, p. 14, lines 11-16.

⁵ Baacke Direct, p. 18, lines 1-2.

⁶ Baacke Direct, p. 18, lines 13-15.

⁷ Petitioner’s Exhibit No. 4, Direct Testimony of Steven Warren, p. 12, lines 6-11.

1 criteria for the Schahfer Development RFP (also described within NIPSCO's direct
2 testimony as the EPC RFP).⁸

3 **Q: What are the cost differences between industrial frame and aeroderivative**
4 **units?**

5 A: As part of the Annual Energy Outlook 2023, the EIA published cost and
6 performance characteristics for constructing generation. For combustion turbines,
7 costs are estimated separately for aeroderivative and industrial frame units
8 according to base overnight costs. Base overnight costs are estimates of all the costs
9 to construct a generation facility at a particular point in time, divided by the
10 maximum generating output of the facility. In 2022, the base overnight cost
11 (including project contingency and owner's costs) for industrial frame units was
12 estimated to be \$867/kW, while aeroderivative units were estimated to cost
13 \$1,428/kW.⁹ Relative to industrial frame units, aeroderivative units were, on
14 average, approximately 65% more expensive to build.

III. CENTERPOINT PEAKER PROJECT COST

15 **Q: How does NIPSCO's CT proposal compare to other gas peaker plants the**
16 **Commission has approved?**

17 A: On June 28, 2022, the Commission issued a final order granting CenterPoint a
18 Certificate of Public Convenience and Necessity ("CPCN") for two new industrial
19 frame natural gas turbines providing 460 MW of combined capacity.¹⁰ CenterPoint
20 estimated the construction cost to be \$702/kW.¹¹ In comparison, NIPSCO describes

⁸ Baacke Direct, p. 6, lines 5-13.

⁹ Attachment JWH-2, U.S. Energy Information Administration, Cost and Performance Characteristics of New Generating Technologies, *Annual Energy Outlook 2023*.

¹⁰ See Cause No. 45564, Final Order, (June 28, 2022).

¹¹ Cause No. 45564, Final Order, p. 14.

1 the direct cost of the CT Project, with 400 MW of capacity and one industrial frame
2 unit and three aeroderivative units, as costing \$1,400/kW, almost double
3 CenterPoint's capital cost estimate.¹² However, NIPSCO's \$1,400/kW price
4 understates all the costs included within NIPSCO's best estimate – a cost that will
5 ultimately be borne by ratepayers. This figure only includes what NIPSCO
6 describes as direct project costs and AFUDC of \$560,053,449.¹³ It does not include
7 \$83.638 million in indirect costs.¹⁴ Thus, using the total CT Project cost of more
8 than \$643 million,¹⁵ the overnight capital cost would be \$1,609/kW.¹⁶ This is
9 \$209/kW more than Petitioner's witness Patrick N. Augustine's \$1,400/kW
10 number. Construction costs of \$1,609/kW are also \$742/kW (85.6%) more
11 expensive than the EIA's average \$/kW cost for industrial frame units.

12 **Q: Does NIPSCO quantify how the benefits of aeroderivative units justify their**
13 **high construction costs relative to industrial frame units?**

14 A: No. NIPSCO's testimony does not include a benefit-cost test quantifying ratepayer
15 benefits to justify the 65.0%-85.6% additional construction costs. Mr. Baacke
16 compares the general characteristics of the two kinds of turbine technology. "Larger
17 industrial frame units typically have a lower capital cost per kilowatt to install,
18 require fewer machines, and generally have longer intervals between maintenance
19 when compared to aeroderivative turbines."¹⁷ In comparison, Mr. Baacke states,
20 "[a]eroderivative turbines are typically more efficient, start faster and more

¹² Petitioner's Exhibit No. 7, Direct Testimony of Patrick Augustine, p. 39, lines 18-19.

¹³ Augustine Direct, p. 39, lines 18-19.

¹⁴ Baacke Direct, Attachment 5-A.

¹⁵ Baacke Direct, p. 18, line 2.

¹⁶ \$643,691,449 / 400,000 kW = \$1609.228/kW.

¹⁷ Baacke Direct, p. 5, lines 2-5.

1 frequently, and fluctuate power generation faster to meet demand when compared
2 to larger industrial frame turbines."¹⁸ As Ms. Sanka discusses, Sargent & Lundy's
3 ("S&L") Engineering Report compares technical characteristics of various
4 configurations, but still does not quantify or justify the value of aeroderivative units
5 to ratepayers. Instead, NIPSCO self-selected its preferred configuration to include
6 aeroderivative units. Then, NIPSCO required EPC RFP bidders to include
7 aeroderivative units; however, the Company has not finalized whether the CT
8 Project will include aeroderivative units.¹⁹ It is unreasonable to require NIPSCO
9 ratepayers to pay for aeroderivative units based on a broad generalization without
10 demonstrating the quantifiable benefits.

IV. NIPSCO'S DETERMINATION OF THE PREFERRED CONFIGURATION AND THE EPC RFP

11 **Q: How did NIPSCO select its preferred configuration?**

12 A: In its engineering report, S&L evaluated three plant configurations NIPSCO
13 specified.²⁰ These configurations included 1) two large industrial frame units, 2)
14 six small aeroderivative units, and 3) a combination of one large industrial frame
15 and three smaller aeroderivative units.²¹ To select one of the three configurations
16 for the EPC RFP, S&L and NIPSCO prepared a decision matrix with multiple
17 categories.²² NIPSCO made the final determination of the preferred
18 configuration.²³ To determine a final score for each configuration, NIPSCO

¹⁸ Baacke Direct, p. 5, lines 7-10.

¹⁹ Attachment JWH-1, NIPSCO's 2022 Request for Proposals, p. 12.

²⁰ Warren Direct, p. 11, lines 7-16.

²¹ Warren Direct, p. 11, lines 8-10.

²² Baacke Direct, p. 6, lines 6-13.

²³ Warren Direct, p. 12, lines 5-10.

1 assigned a certain weight to each category. Some of these choices for the weighting
2 of categories favor the aeroderivative configuration. [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]. Importantly, NIPSCO's preferential weighting established a bias
7 that played a role in determining the preferred configuration. This configuration
8 was then used by NIPSCO to require EPC RFP bids to include the more expensive
9 aeroderivative technology.²⁵ In response to a DR from the NIPSCO Industrial
10 Group asking why the final configuration NIPSCO would self-build could either
11 include smaller aeroderivative or industrial frame units, the Company stated
12 "NIPSCO anticipated one or more of the OEMs [Original Equipment
13 Manufacturers] from the turbine equipment RFP may propose to utilize smaller
14 industrial frame units instead of aeroderivative units."²⁶ Presumably, EPC bidders
15 might have also proposed to utilize these less expensive units. While NIPSCO has
16 not committed to its preferred configuration, the Company's RFP process
17 guaranteed it would not have a comparable, lower cost all-industrial frame bid. This
18 exclusion denies ratepayers the benefits of a less expensive, potentially by as much
19 as 85.6% less, configuration to provide the same capacity.

²⁴ Warren Direct, Confidential Attachment 4-A, Appendix 19.

²⁵ Attachment JWH-1, NIPSCO 2022 Request for Proposals, p. 12; Baacke Direct, p. 11, lines 1-3.

²⁶ Attachment JWH-3, NIPSCO's Confidential Response to Industrial Group DR 3-4b.

1 **Q: Does NIPSCO argue aeroderivative units are necessary in its preferred**
2 **configuration?**

3 A: No. Rather, the configuration for the CT Project was selected based on the
4 engineering study S&L performed. Only the general characteristics of
5 aeroderivative and industrial frame units are described in NIPSCO's direct
6 testimony.²⁷ Furthermore, as described above, NIPSCO has not finalized the CT
7 Project's configuration. Mr. Warren even notes: "Smaller industrial frame
8 machines are available and could be used in place of the smaller aeroderivative
9 machines."²⁸ Mr. Baacke also states NIPSCO could proceed with three smaller
10 industrial frame units in place of the aeroderivatives.²⁹ This implies that the need
11 for a gas peaking resource like the CT Project would be sufficiently satisfied by an
12 all industrial frame unit configuration, despite whatever nominal and more
13 expensive advantages aeroderivative units may have. Yet, the EPC RFP specified
14 bids must contain a combination of industrial frame units and aeroderivative units,
15 which seems to contradict the idea that Petitioner is open to an all-industrial frame
16 unit configuration.

V. NIPSCO'S DIRECT AND INDIRECT COSTS

17 **Q: Does the OUCC have concerns with NIPSCO's best estimate?**

18 A: Yes. NIPSCO's best estimate, as provided by Mr. Baacke, contains both direct costs
19 and indirect costs, which are calculated as 15% of NIPSCO's direct costs.³⁰

20 NIPSCO's direct costs include all the costs that are described by S&L as direct *and*

²⁷ See Warren Direct, Q/A 11, p. 8 line 4 to p. 11, line 5; and Baacke Direct, Q/A 7, p. 4, line 9 to p. 5, line 15.

²⁸ Warren Direct, p. 11, lines 10-12.

²⁹ Baacke Direct, p. 4, lines 10-11.

³⁰ Baacke Direct, Attachment 5-A. \$83,638,000 (indirect cost) is 15% of \$557,585,000 (direct cost).

1 indirect, as well as NIPSCO's own internally generated estimates for owner's costs,
2 escalation, and contingency.

3 It is unclear what costs are included within NIPSCO's \$83.6M "indirect" costs, and
4 NIPSCO does not define "indirect" costs within its testimony. Mr. Krieger
5 recommends excluding all of NIPSCO's estimated indirect costs based on this lack
6 of support. However, another problem is that NIPSCO's best estimate potentially
7 double-counts indirect costs. S&L's best estimate includes both [REDACTED] of
8 direct and [REDACTED] of indirect costs, as explained below.³¹ NIPSCO's direct cost
9 estimate includes S&L's best estimate (for both direct and indirect costs) plus
10 NIPSCO's contingency, escalation, and owner's costs. NIPSCO then multiplies its
11 direct costs, which already includes S&L's [REDACTED] indirect costs, by 15% to
12 produce NIPSCO's indirect costs. NIPSCO does not explain why it potentially
13 double counts S&L's indirect costs, unnecessarily inflating NIPSCO's indirect
14 costs by [REDACTED]³²

15 **Q: What indirect costs were included within S&L's cost estimate?**

16 A: The AACE Class 3 cost estimate S&L prepared includes [REDACTED]
17 [REDACTED]
18 [REDACTED] NIPSCO's best estimate, sponsored by Mr. Baacke,
19 includes both amounts as NIPSCO direct costs [REDACTED]
20 [REDACTED]

³¹ Warren Direct, Confidential Attachment 4-A, pp. 1-4 and 1-5.

³² Hanks WP-1.

³³ Warren Direct, Confidential Attachment 4-A, section 1-5.

³⁴ Baacke Direct, Confidential Attachment 5-B, row 15, column H.

³⁵ Baacke Direct, Confidential Attachment 5-B, row 16, column H.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]

5 This reduces transparency and makes it more difficult to map these amounts from
6 S&L to NIPSCO such as whether the NIPSCO indirect cost categories are meant to
7 reflect the same indirect costs S&L put forth. So, NIPSCO's best estimate includes
8 unspecified indirect costs calculated on top of the indirect costs already included
9 by S&L to construct the facility. The value of the indirect costs on top of the
10 estimated indirect costs already included by S&L are approximately [REDACTED], which
11 should be excluded from the best estimate if the Commission approves the CT
12 Project.³⁸

13 **Q: Did NIPSCO justify the value used for indirect costs within the best estimate?**

14 **A:** No. According to Mr. Baacke, "NIPSCO used information from prior projects and
15 its expertise to develop the cost items not included in the S&L estimate."³⁹ The
16 OUCC asked but NIPSCO did not explain how indirect costs were calculated;
17 however, it did refer to "historical data from NIPSCO's previous experience."⁴⁰

18 [REDACTED]
19 [REDACTED]

³⁶ Baacke Direct, Confidential Attachment 5-B, rows 24, 33, 42, column H; Warren Direct, Confidential Attachment 4-A, section 1-5 for [REDACTED].

³⁷ Baacke Direct, Confidential Attachment 5-B, rows 25, 34, 43, column H.

³⁸ Hanks WP-1.

³⁹ Baacke Direct, p. 18, lines 9-10.

⁴⁰ Attachment JWH-3, NIPSCO's Confidential Response to OUCC DR 8-1c; Attachment JWH-4, NIPSCO's Response to OUCC DR 8-1, Confidential Attachment A.

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]

5 [REDACTED] Besides citing past experience, which does not
6 include self-constructing generation like the CT Project, NIPSCO does not explain
7 why it was necessary for it to calculate indirect costs in addition to those S&L
8 already estimated. If the Commission approves the CT Project, NIPSCO's indirect
9 costs on items S&L estimated to be indirect costs should be excluded, which will
10 save ratepayers approximately [REDACTED].

VI. NIPSCO'S ESCALATION

11 **Q: Does the OUCG have concerns with NIPSCO's escalation estimate?**
12 A: Yes. NIPSCO's best estimate includes 5% escalation, amounting to \$66,208,000.⁴¹
13 NIPSCO's current Transmission, Distribution and Storage System Improvement
14 Charge ("TDSIC") plan, which also includes multi-year project cost estimates, uses
15 a 3% escalation factor.⁴²
16 **Q: Did NIPSCO justify the value used for escalation costs within the best**
17 **estimate?**
18 A: No. In response to OUCG DR 8-1b, NIPSCO stated it used "3% or 4% escalation
19 while estimating similar projects" and had "witnessed higher escalation rates in the
20 recent past for engineered equipment and materials" when determining the 5% used

⁴¹ Baacke Direct, Attachment 5-A.

⁴² Cause No. 45557, Direct Testimony of Charles A. Vamos, p. 52, footnote 17.

1 for the current project.⁴³ NIPSCO did not elaborate on what “similar projects” it
2 refers to in the DR response. No specific projects are identified in the response, and
3 NIPSCO did not provide detail explaining whether these projects for which it had
4 estimated escalation were for self-managed, generation construction comparable to
5 the CT Project. NIPSCO’s response does not explain where or under what
6 circumstances Petitioner “witnessed higher escalation rates.” If the Commission
7 approves the CT Project, the OUCR recommends using the same 3% escalation
8 factor for the proposed CT Project that the Commission approved in the Company’s
9 TDSIC Plan in Cause No. 45557. This would save ratepayers approximately \$27M
10 based on NIPSCO’s current best estimate.⁴⁴

VII. 2023 PORTFOLIO ANALYSIS

11 **Q: Has NIPSCO performed an additional analysis after the submission of the**
12 **2021 IRP that modifies the IRP’s short-term action plan?**

13 A: Yes. NIPSCO’s short-term action plan called for up to 300 MW of new gas peaking
14 and energy storage resources between 135-370 MW.⁴⁵ In this case, NIPSCO offers
15 a new short-term action plan based on an updated 2023 Portfolio Analysis that,
16 among other items, calls for between 400 and 442 MW of nameplate thermal
17 peaking capacity additions and between 125 and 150 MW of new storage
18 capacity.⁴⁶ The 2023 Portfolio Analysis incorporated new resource costs in
19 response to RFPs NIPSCO issued in 2022.⁴⁷ Mr. Augustine states “CRA worked

⁴³ Attachment JWH-3, NIPSCO Confidential Response to OUCR DR 8-1b.

⁴⁴ Hanks WP-1.

⁴⁵ Augustine Direct, Attachment 7-A, p. 15.

⁴⁶ Augustine Direct, p. 36, lines 10-12.

⁴⁷ Augustine Direct, p. 29, lines 1-4.

1 with NIPSCO to conduct multiple RFPs during 2022 to identify the costs and
2 availability of resource options to fulfill the 2021 IRP's short-term action plan and
3 to respond to changing market conditions, including an RFP for a gas-fired
4 generation resource.”⁴⁸

5 **Q: Does the OUCC have concerns with the incorporation of the RFP bids into the**
6 **2023 Portfolio Analysis?**

7 A: Yes. NIPSCO's incorporation of RFP bids into the 2023 Portfolio analysis
8 artificially inflates the cost of a generic gas peaking resource. This process makes
9 NIPSCO's estimate for the CT project appear more reasonable than it actually is.

10 In 2022, NIPSCO issued two RFPs: the All-Source RFP, which targeted
11 300 – 600+ MWs of capacity resources and the Schahfer Development RFP (“EPC
12 RFP” in Petitioner's direct testimony) to construct a 370-450 MW resource that
13 would utilize the Midcontinent Independent System Operator generator
14 replacement interconnection process.⁴⁹ According to Mr. Augustine, the thermal
15 peaker resource in the 2023 Portfolio Analysis had an assumed all-in direct capital
16 cost of \$1,440/kW.⁵⁰ The 2023 Portfolio Analysis updates the preferred portfolio
17 model using recent technology cost information from the 2022 RFPs.⁵¹ However,
18 the EPC RFP was for a particular project with technical specifications that
19 specifically solicited the more expensive aeroderivative units while other new
20 resources that will be selected by preferred portfolio modeling will not have the
21 restrictions associated with using this expensive aeroderivative technology.

⁴⁸ Augustine Direct, p. 26, lines 14-16 and p. 27 lines 1-2.

⁴⁹ Attachment JWH-1 and *see* <https://www.nipsco-rfp.com/>.

⁵⁰ Augustine Direct, p. 39, lines 11-15.

⁵¹ Augustine Direct, p. 27, lines 13-17.

1 NIPSCO first introduced RFPs into the IRP process in 2018 and it explained the
2 RFP's role by stating:

3 New to NIPSCO's IRP, we issued a formal Request for Proposals
4 (RFP) solicitation to uncover the breadth of actionable projects that
5 were available to NIPSCO within the marketplace across all
6 technology types. The RFP also served to collapse uncertainty about
7 the costs of various technologies, particularly renewables.⁵²

8 The average resource cost incorporated into the 2023 Portfolio Analysis should
9 reflect general resource options regardless of technology or configuration, like
10 those solicited in the 2022 All-Source RFP. In a stakeholder meeting held on
11 October 19, 2022, NIPSCO and Charles River Associates ("CRA") provided an
12 overview of the results from the 2022 RFPs. Based on the All-Source RFP, thermal
13 resources were estimated to cost approximately \$763/kW.⁵³ By combining the
14 results of an all-source RFP and a technology and configuration restricted RFP,
15 NIPSCO overestimated the cost of a generic gas peaking resource at \$1,440/kW (as
16 used in the 2023 Portfolio Analysis).⁵⁴ The effect of this higher estimate makes the
17 CT Project seem more attractive in comparison. The 2022 all-source RFP cost for
18 thermal resources is much closer to the industry averages EIA provided and that are
19 described above, as well as the estimated cost of CenterPoint's proposal to construct
20 its CT facility. In comparison, NIPSCO's proposed project, including both
21 aeroderivative and industrial frame units, actually costs \$1609/kW or 85.6% more
22 than the industry average for mere industrial frame CTs.

⁵² NIPSCO 2018 IRP, p. 2, found at: <https://www.nipsco.com/docs/librariesprovider11/rates-and-tariffs/irp/2018-nipsco-irp.pdf>; and *see* NIPSCO affirming the use of RFPs in the 2021 IRP at Augustine Direct, Attachment 7-A, p. 85.

⁵³ Attachment JWH-5, NIPSCO Stakeholder Meeting, slide 15.

⁵⁴ Augustine Direct, p. 39, lines 11-15.

VIII. CONCLUSIONS AND RECOMMENDATIONS

1 **Q: Please summarize your conclusions and recommendations to the Commission**
2 **in this Cause.**

3 A: Based on the concerns raised above and in the testimony of the other OUCC
4 witnesses, I recommend the Commission deny the Company's proposal, as filed, to
5 construct the CT Project. NIPSCO self-selected the more expensive units for its
6 preferred configuration, and then used that preference to require RFP respondents
7 to use the more expensive aeroderivative units within their bids. After proceeding
8 with the decision to self-build the facility after rejecting EPC bids due to cost,
9 NIPSCO still has not committed to or justified the use of these units within the CT
10 Project. However, NIPSCO seeks approval for the CT Project using this more
11 expensive technology. For these reasons, I recommend denying the CT Project.
12 However, should the Commission approve the project in part, or in some modified
13 form, I recommend the Commission:

- 14 1) Deny the use of the aeroderivative units.
- 15 2) Disallow approximately [REDACTED] in indirect costs.
- 16 3) Reduce the rate of escalation applied to the CT Project to 3%, as is used in
17 NIPSCO's TDSIC plan. This would reduce NIPSCO's best estimate, as filed,
18 by approximately \$18M.

19 **Q: Do you have any other concerns?**

20 A: Yes. NIPSCO's incorporation of misaligned results of an all-source RFP - together
21 with an RFP that solicited bids for a particular technology configuration - inflates
22 the cost of the thermal peaking resource incorporated into the 2023 Portfolio

1 Analysis. This has the potential to distort the results of the resource selection

2 process used within the IRP.

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

4 **A: Yes.**

APPENDIX A
QUALIFICATIONS OF JOHN W. HANKS

1 **Q: Please describe your background and experience.**

2 A: I graduated from Indiana University-Purdue University Indianapolis with a
3 Bachelor of Arts in Quantitative Economics, with minors in math and philosophy.
4 I began my career with the OUCC in 2022 as a Utility Analyst II, focusing on
5 economics and finance in the Electric Division. In the summer of 2022, I attended
6 the Institute of Public Utilities' Annual Program on Regulatory Fundamentals. In
7 fall of 2022, I participated in the Indiana Energy Conference organized by Indiana
8 Industrial Energy Consumers. In March of 2023, I completed a 12-week course
9 with Scott Hempling on Regulating Utility Performance.

10 **Q: Have you previously filed testimony in other Commission proceedings?**

11 A: Yes.



Northern Indiana Public Service Company LLC

2022 REQUEST FOR PROPOSALS

for

Power Supply Generation Facilities and/or Power Purchase Agreements

Issued:

August 12, 2022

Proposals Due:

September 16, 2022 (All Source RFP) 5:00 p.m. CPT

September 30, 2022 (Schahfer Development RFP) 5:00 p.m. CPT

Web Address: **www.NIPSCO-RFP.com**

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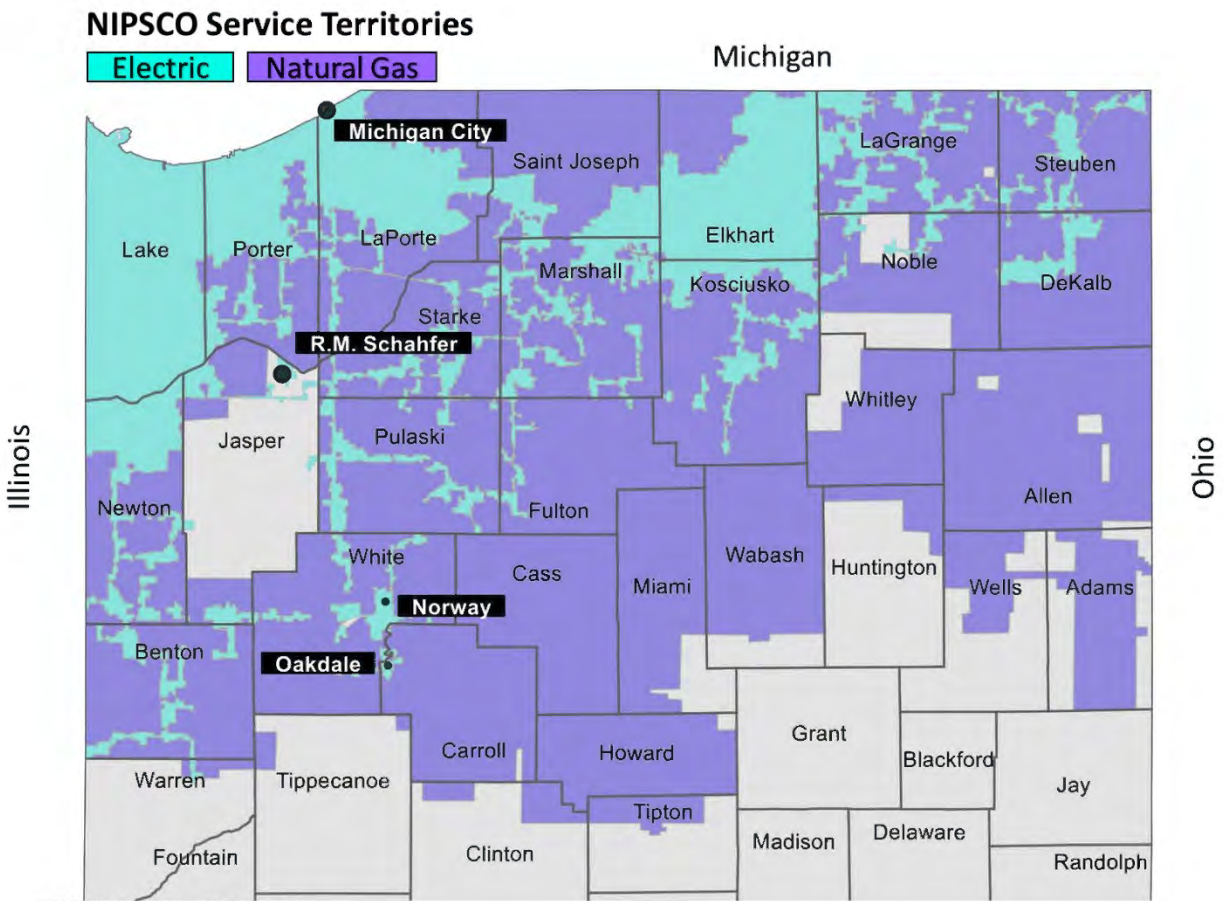
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1 Overview of NIPSCO’s 2022 Requests for Proposals

1.1 Introduction

Northern Indiana Public Service Company LLC (“NIPSCO”) does business in the State of Indiana as a regulated public utility and generates, transmits and distributes electricity for sale in Indiana and the broader Midcontinent Independent System Operator, Inc. (“MISO”) regional electricity market. NIPSCO, headquartered in Merrillville, IN, is one of the six energy distribution companies of NiSource Inc. (NYSE: NI). NIPSCO currently serves approximately 483,000 electric customers across the northern third of Indiana. NIPSCO’s electric portfolio consists of approximately 2,900 megawatts (“MW”) of generation capacity and over 12,800 miles of transmission and distribution lines in Indiana. NIPSCO owns a mix of generating resources consisting of coal-fired, natural gas-fired, and hydroelectric plants. For more information, refer to NIPSCO’s website at www.nipSCO.com.



1.2 Purpose

NIPSCO is committed to meeting the energy needs of its customers today and in the future. NIPSCO has released an Integrated Resource Plan to the Indiana Utility Regulatory Commission (“IURC”), that identifies the preferred resource options for meeting future customer needs. The IRP is available at <https://www.nipSCO.com/our-company/about-us/regulatory-information/irp>

In association with the IRP process, NIPSCO concluded that it is in the best interest of its customers to:

1. Seek to acquire, construct or contract for additional capacity that qualifies as a MISO internal resource (i.e. not pseudo-tied into MISO) with physical deliverability utilizing Network Resource Integration Service (“NRIS”) to MISO Local Resource Zone 6. NIPSCO may consider other MISO Local Resource Zones such as Zone 4; however, Zone 6 is preferred.
2. Identify a partner to develop a dispatchable, black start resource at the site of the Schahfer station in support or reliability needs.

As a result, NIPSCO is soliciting proposals for supply side resources through a pair of Request for Proposals (“RFP”) processes that will be administered in 2022. The purpose of the RFPs is to identify the most viable resources available to NIPSCO in the marketplace to meet the needs of its customers consistent with the identified resource requirements.

In 2018, 2019 and 2021, NIPSCO executed a series of “all-sources” RFP and identified several projects currently in development targeted at meeting a portion of the Company’s identified resource requirements. In 2022, NIPSCO will issue two (2) separate RFPs: an all-sources RFP and an RFP to identify a partner to develop a dispatchable, black start resource at the Schahfer site.

Through the RFPs, NIPSCO intends to identify additional projects required to meet its resource requirements, and NIPSCO anticipates executing definitive agreements with one or more counterparties upon the conclusion of each of the 2022 RFPs.

Respondents are encouraged to offer one or more projects into the RFPs. NIPSCO is willing to consider entering into a single definitive agreement with a counterparty for multiple projects in order to minimize the transaction costs for customers.

Through the concurrent RFPs issued in 2022, NIPSCO seeks to satisfy its capacity and reliability needs from multiple resources, including dispatchable and semi-

dispatchable generation, renewables, stand-alone and paired storage, and contractual arrangements.

Respondents are asked to submit binding proposals in these RFPs that have terms valid through December 31, 2022 so that NIPSCO can complete commercial discussions with selected Respondents by this date.

To manage its capacity needs and ensure an adequate level of reliable generation supply for its customers, NIPSCO intends to issue both RFP during Q3, 2022:

1. **All-Source RFP:** will be an all-source RFP issued for LRZ6 resources. The RFP will target 300 – 600+ MW of capacity resources.
2. **Schahfer Development RFP:** will be issued to identify an EPC/development partner to construct a dispatchable, black start capable resources at the Schahfer site. The 370-450 MW (UCAP) resource would utilize the MISO generator replacement interconnection process. Consistent with the MISO generator replacement protocols, NIPSCO must own the replacement resource. As such, development projects must be for NIPSCO ownership. Projects must also conform with NIPSCO's technical specifications.

1.3 All-Source RFP

Through the All-Source RFP, NIPSCO intends to:

1. Identify and acquire existing or planned dispatchable, semi-dispatchable or intermittent generation facilities that, at a minimum, meet established industry-wide reliability and performance standards.

The requirements for bids submitted as potential asset acquisitions are described further in Section 4. As part of the asset acquisition category of transactions, NIPSCO will consider:¹

- a. Direct sale of an existing facility to the utility.
- b. Build transfer arrangements for facilities under development.

¹ For acquisitions structured as tax-equity arrangements, NIPSCO may negotiate a "Back-Stop" offtake agreement (PPA) that would be used in the event the tax-equity structure is disallowed by any regulatory body or if a tax-equity partner cannot be identified under economic terms and conditions.

- c. Equity stake for a portion of a facility including a minority ownership interest.
 - d. Proposals that make use of NIPSCO's opportunities to utilize the MISO Generator Interconnection Replacement at the site of planned retirements at Michigan City.
2. Identify and acquire power purchase contract options for capacity and/or energy described further in Section 5. As part of the power purchase category of transactions, NIPSCO will consider:
- a. Unit contingent PPA arrangements at the bus-bar or Indiana Hub.
 - b. Tolling arrangements (capacity payment in return for full control of the asset + fuel + O&M)
 - c. Shaped products consistent or any other daily or 8,760 shaped offering. Shaped product offerings should include at a minimum both capacity and energy.
 - d. "Block" products. Block products should include at a minimum both capacity and energy, but can be structured as on-peak, all hours or as a custom structure.
 - e. Option contracts with a specified strike price.

In all cases, treatment of energy, capacity, RECs and other physical attributes should be clearly delineated in the proposal. For all contractual and ownership structures, bidders should specify the "guarantees" associated with their proposal. For example, mechanical availability, anticipated production under given conditions and other similar considerations.

As part of the All-Source RFP, NIPSCO would be interested in and encourages Proposals and options that make use of the Company's MISO interconnection rights at Schahfer and Michigan City. As units at those sites retire, there may be opportunities to use MISO's generator replacement process to take advantage of NIPSCO interconnection rights.

Throughout this document, the products listed and described above are referred to collectively as the "Capacity Assets." Proposals may be for any of the Capacity Assets.

1.4 Schahfer Development RFP

Through the Schahfer Development RFP, NIPSCO intends to identify a developer / EPC Contractor capable of designing and developing a thermal, black start capable facility at the site of the Schahfer coal generation facility. The development of the thermal

resource must be consistent with the technical specifications for the facility post to the RFP Information Website. The thermal facility at the R.M. Schahfer generating station site would make use of MISO’s generator interconnection replacement process. As part of that process, the facility is required to be owned by NIPSCO at or prior to the facility’s commercial operation date. PPA arrangements cannot be accepted for facilities located at the Schahfer due to MISO restrictions.

As part of this RFP, NIPSCO is soliciting bids from developers capable of working with NIPSCO to develop a thermal facility at the Schahfer site.

1.5 RFP Process and Timeline

NIPSCO has retained Charles River Associates (“CRA”) to manage the RFP processes for the purpose of creating the two RFPs and soliciting responses. CRA will also serve as the independent third party to evaluate all bids on behalf of NIPSCO. CRA will administer these processes through its dedicated RFP website www.NIPSCO-RFP.com. Responses to these RFPs should be sent to the RFP Manager via email to NIPSCO-RFPManager@crai.com (the “RFP Email Address”).

Interested parties are invited to submit a written, binding proposal (“Proposal”) in accordance with the RFP requirements. Entities that submit a Proposal are referred to as Respondents (“Respondents”).

The milestone dates for the two RFPs will be posted to the RFP website and are included below:

- Issue RFP August 12, 2022
- Bidder Information Session August 17, 2022
- Pre-Qualification Deadline August 24, 2022
- Notification of Pre-qualification August 29, 2022
- All Source RFP Proposals Due September 16, 2022
- Schahfer Development RFP Proposals Due September 30, 2022

1.6 Information Provided to Potential Respondents

This RFP document and all of its Appendices and forms are available on the RFP website (www.NIPSCO-RFP.com). Interested parties are expected to be able to download information related to each RFP with its required format and complete the forms in Microsoft Word, Excel, and/or PDF format. Respondents should submit properly completed forms by the specified deadline to the RFP Email Address (NIPSCO-RFPManager@crai.com). CRA will accept only Proposals that are complete.

Proposals that are nonconforming, incomplete, or that are mailed or hand delivered may be deemed ineligible and may not be considered for further evaluation.

By submitting a Proposal in response to these RFPs, the Respondent certifies that it has not divulged, discussed, or compared any commercial terms of its Proposal with any other party (including any other Respondent and/or prospective Respondent), and has not colluded whatsoever with any other party.

1.7 Information on the RFP Website

The information on the RFP website (www.NIPSCO-RFP.com) contains the following:

- This RFP document and associated Appendices
- Frequently asked questions and answers about these RFPs
- Updates on these RFP processes and other relevant information
- Information related to NIPSCO policies on diversity spending
- Other information about NIPSCO, CRA and the RFP process.

Information related to site access for bidders proposing projects at the Schahfer or Michigan City sites can be made available to bidders upon request.

1.8 Questions

All questions regarding the content of these RFPs should be submitted in writing to the RFP Email Address (NIPSCO-RFPManager@crai.com) or via the RFP website (www.NIPSCO-RFP.com). Respondents' questions and CRA's answers will be posted on the RFP website on a periodic basis. Other than questions and answers submitted through the RFP Email Address and posted on the RFP website, no other explanations or interpretations will be given. Written questions will be accepted by CRA until seven (7) business days before the date on which Proposals are due. Please note that such questions will not be treated as confidential. Questions and answers that are posted on the RFP website will be scrubbed of information identifying the party that originally asked the question.

In the event that a given Respondent has a question or seeks clarification or explanation of any data or information provided in these RFPs, such Respondent is responsible for obtaining the desired information by submitting a written question to CRA through the RFP Email Address by no later than seven (7) business days before the date on which Proposals are due.

Any and all communications regarding these RFPs should be submitted through the RFP Email Address. All relevant communications will be posted on the RFP website to

ensure equal access to information among all potential Respondents. Under no circumstance should Respondents attempt to contact NIPSCO or CRA employees directly with any matters related to these RFPs.

Proposals containing material omissions will be considered non-responsive and may be deemed ineligible and may not be considered for further evaluation. However, while evaluating Proposals, CRA may require clarification or additional information about a given Proposal as part of its review. In such a case, CRA may request additional information about the Proposal from the Respondent. All requests will be made via email to the designated Respondent contact, and the Respondent will be required to respond to the request within five (5) business days of receipt of such request or CRA may disqualify Respondent's Proposal.

1.9 Schedule

The following general schedule items apply to these RFPs. NIPSCO and CRA reserve the right to extend or otherwise modify any portion of an RFP schedule at any time or terminate one or more RFP processes at their discretion at any time prior to contract execution.

- Central Prevailing Time ("CPT") means Central Standard Time or Central Daylight Time, whichever is in effect in Merrillville, Indiana on any date specified.
- All Proposals are due by 5:00 p.m. CPT on the Proposal Due Date. Proposals received after the specified date and time will be disqualified from further evaluation.
- NIPSCO expects to begin final due diligence and commercial negotiations with short-listed bidders in Q4 2022.
- Agreement(s) with selected Respondents may be subject to approval by regulatory bodies including, but not limited to, the IURC and the Federal Energy Regulatory Commission ("FERC"), and any agreement(s) would not go into effect until such time approval is received from the applicable commission/agency.

2 RFP General Requirements

2.1 All-Source RFP

NIPSCO will consider without prejudice, resources submitted under power purchase agreements ("PPA"), build transfer agreements ("BTA"), the sale of existing resources or other acquisition structures.

For generation facility Proposals offered for NIPSCO ownership, NIPSCO will only consider bids for facilities that have an estimated remaining useful life of 5 or more years. As part of the asset acquisition category of transactions, NIPSCO will consider:²

- a. Direct sale of an existing facility to the utility.
- b. Build transfer arrangements for facilities under development.
- c. Asset sale or BTA financed via tax-equity financing (renewables only).
- d. Equity stake for a portion of a facility including a minority ownership interest.

NIPSCO intends to contract with the optimal portfolio of assets meeting NIPSCO and customer needs based on the bids received through these solicitations. That optimal portfolio may be comprised of multiple assets submitted by multiple counterparties. As a result, bids supported by facilities offering fewer than the RFP's target will be accepted and evaluated for consideration. As noted in Section 1.2, above, in order to minimize the transaction costs and timeline related to final negotiation and regulatory approval, NIPSCO will consider packages of projects ("portfolios") that can be offered under a single definitive agreement.

CRA will accept Proposals for Capacity Assets located both inside and outside NIPSCO's service territory, but facilities must qualify as a MISO internal resource (i.e. not pseudo-tied into MISO) and qualified to receive Zonal Resource Credits in or delivered to MISO Local Resource Zone 6 consistent with MISO's Module E Planning Resource Auction or successor. Should the facility not be qualified in Zone 6, Respondents shall detail in their Proposals the means by which Zonal Resource Credits will be delivered / fulfilled in Zone 6. Non-conforming bids by Respondents not meeting the location requirements may be disqualified from consideration on that basis alone.

Acquisitions are expected to take place in 2024, 2025, and 2026 following necessary regulatory approvals, however, NIPSCO will also consider alternative timelines related to the acquisitions. NIPSCO has a preference for Proposals that provide 100% of the specified generation facility or facilities from which output will be delivered or operating control of the entire unit(s) regardless of ownership stake. NIPSCO also has a preference for resources that provide capacity earlier in the resource target window. Proposed generation facilities should have no major operational limitations that reduce the ability to run for extended periods.

² For acquisitions structured as tax-equity arrangements, NIPSCO may negotiate a "Back-Stop" offtake agreement (PPA) that would be used in the event the tax-equity structure is disallowed by any regulatory body or if a tax-equity partner cannot be identified under economic terms and conditions..

Proposals must meet the criteria listed in this section. CRA may reject, without further review, any Proposals that do not include the following information or meet the following criteria:

2.2 Schahfer Development RFP

Northern Indiana Public Service Company (NIPSCO/Owner) is issuing this specification for an engineering, procurement, and construction (EPC) scope of work for low cost reliable and efficient new generation on the property of the R. M. Schahfer (Schahfer) Generating Station in Wheatfield, IN. The technology of choice is combustion turbines in a simple cycle configuration. Reciprocating internal combustion engines (RICE) will also be evaluated. The Facility will feed power into the existing 345 kV substation located at Schahfer, with the terminal point being the Contractor's dead end structure adjacent to the generator step-up transformers (GSUs).

Contractor is to select a combination of industrial-frame and aeroderivative CTs (and optionally, RICE units) meeting the following constraints. The OEM is to be the same for both types of CTs. The values below are net output at ISO conditions with natural gas as the fuel.

- Total net output between 370 MW and 450 MW.
- Maximum machine size of 275 MW.
- At least one machine 150 MW or larger.
- 10-minute cold start capability for 150 MW or more.
- 50 MW/minute minimum ramp rate for at least 150 MW of the Facility's machines.
- At least one machine with a minimum emission compliant load (MECL) less than or equal to approximately 25 MW.
- Stack emission limits Base Scope (with SCR): 2.5 ppm NO_x and enough space for future CO catalyst to achieve 2.5 ppm CO.
- Stack emission limits Option Scope (without installed SCR): NO_x 25 ppm, CO 25 ppm.
- Remote start and operational capability.

2.3 Respondent Pre-Qualification

To be eligible to submit a Proposal in response to these RFPs, Respondents must be pre-qualified. To pre-qualify, a Respondent must submit the following items:

- a completed Notice of Intent (Appendix A);
- a completed RFP Confidentiality Agreement (Appendix B); and
- a completed Pre-Qualification Application (Appendix C), including credit worthiness information.

These items are to be submitted to the RFP Email Address (NIPSCO-RFPManager@crai.com) no later than the date and time specified pursuant to the RFPs' posted schedule. The schedule for these concurrent RFPs will be posted to the RFP website. Any updates or modifications to an RFP schedule will be posted to the RFP website and to the extent practical the RFP manager will notify interested parties of the update via email. A single pre-qualification can be used across the two (2) RFP events, however bidders must specify which event(s) they intend to bid.

CRA will notify Respondents by the close of the RFPs' pre-qualification period that they have successfully pre-qualified to submit a Proposal. Potential Respondents that have not submitted a Pre-Qualification application package by pre-qualification deadline may not have their Proposals considered.

2.4 Multiple Proposals

In the event that multiple Proposals are submitted by the same Respondent, the Respondent must indicate whether the Proposals are to be evaluated independently of one another or if Proposals are to be considered mutually exclusive and whether they can be packaged as a single transaction.

2.5 Confidentiality Agreement (Non-Disclosure)

There is an RFP Confidentiality Agreement (Appendix B) posted to the RFP website. Respondents shall submit a signed version to the RFP Email Address (NIPSCO-RFPManager@crai.com) (see Section 1.4) by pre-qualification deadline for the respective RFP. Respondents may download the form from the RFP website (www.NIPSCO-RFP.com).

2.6 Valid Proposal Duration

Due to the count and potential complexity of transactions anticipated under the All-Source and Schahfer Development RFPs respectively, the Respondent acknowledges and agrees that the terms of its Proposal shall remain irrevocable through December 2022.

In each RFP, NIPSCO will initiate negotiations with a short-list of Respondents whose Proposals rank highest in the evaluation process and whose proposed transactions,

NIPSCO believes in its sole discretion, offer customers value and have a reasonable likelihood of being executed and performed. NIPSCO may enter into definitive agreements for some or all projects selected for final negotiation. Selection for the final short-list and initiation of negotiations do not constitute a winning bid.

NIPSCO shall have no obligation to enter into a definitive agreement with any Respondent and, at its sole discretion, may terminate negotiations with any Respondent at any time without liability.

2.7 Acknowledgment of RFP Terms and Conditions

The submission of a Proposal shall constitute Respondent's acknowledgment and acceptance of all the terms, conditions and requirements of the RFPs.

3 RFP Response Summary Information

All Proposals must include a table of contents and provide concise and complete information on the topics described below, organized as follows:

3.1 Executive Summary

Proposals must include an executive summary of the Proposal's characteristics including any unique aspects and benefits.³ The executive summary should also cover the facility's demonstrated or expected reliability performance. The executive summary should also detail any material litigation that may be pending or unresolved related to the asset or respondent or other legal actions involving the Capacity Asset, its owners or supporting suppliers.

The executive summary should include the details of the Respondent's ability to support NiSource supplier diversity goals. While not considered a threshold requirement for participation in the RFPs, as an element of bid evaluation, bids will be scored based on the supplier diversity plan. Diverse supplier classifications include Minority Enterprise Business (MBE), Woman-Owned Business (WBE), Veteran-Owned Business (VBE), Disabled-Owned Business (DOBE), Lesbian, Gay, Bisexual, Transgender (LGBT), and Historically Underutilized Business Zone (HUBZone). NiSource is interested in understanding how bidders will support supplier diversity and are asked to provide their own pathway for more diverse spend on the projects they are bidding. These plans may include or exclude major equipment. Respondents may provide plans that allow for a lower share of diversity spending; the bid evaluation will allow for partial conformance with the target.

³ Examples include but are not limited to dual fuel or onsite fuel storage capability, installed black start functionality, energy storage capability, opportunity for additional capacity expansion and unique transmission service characteristics (low congestion impacts).

Additional details on the NiSource diversity spending policies and Diverse Supplier Classification Definitions are included on the RFP Website.

3.2 Respondent's Information

Proposals must be submitted in the legal name of the actual party or the ultimate "upstream" organizational entity that would be bound by any resulting definitive agreement with NIPSCO. Proposals must be authenticated by an officer or other employee who is authorized to bind Respondent to the definitive agreement based on the Proposals.

The first page of the Proposal shall list the Respondent and the Respondent's Contact Information (Name, Title, Phone, Email Address, and Mailing Address).

Proposals must include information on the Respondent's corporate structure (including identification of any parent companies); a copy of the Respondent's most recent quarterly report containing unaudited consolidated financial statements signed and verified by an authorized officer of Respondent attesting to its accuracy; and a copy of Respondent's most recent three (3) annual reports containing audited consolidated financial statements. If such financial data is not available, as much comparable information as possible must be provided.

3.3 Respondent's Experience

The Respondent must provide a description of prior experience and qualifications as it relates to the execution of the Proposal. This should incorporate a summary of the experience and qualifications of the key contributors, including the total number of employees and prior experience and qualifications of any key developers, engineering, procurement and construction contractors, fuel managers, or other key contributors relating to the generation facility.

4 All-Source RFP - Asset Sales or Build Transfer Proposals

This section describes NIPSCO's requirements for the content of any Proposal that is submitted in response to these RFPs as an offer to sell a generation facility to NIPSCO. As part of this RFP, CRA requests respondents complete Appendix I, the Excel-based Information Addendum form. The Appendix allows for standardized bid entry and includes information required to facilitate evaluation.

Proposals that do not include all of the required information may be deemed ineligible and may not be considered for further evaluation. If it appears that certain information has inadvertently been omitted from a Proposal, CRA may, but is not obligated, to contact the Respondent to obtain the missing information, per Section 1.5. If, during the RFP process, there is a material change to the generation facility or the circumstances of the Respondent that could affect the outcome of the RFP evaluation, the Respondent

is obligated to inform CRA accordingly. In addition, any winning Respondent must provide such additional information and data as may be requested by NIPSCO to support regulatory approvals of the generation facility purchase transaction.

NIPSCO will accept Proposals for new or planned generation facilities that will be complete and operational in advance of the expected acquisition date. A project will be defined as complete and commercially operable if, and only if, it includes all facilities necessary to generate and deliver energy into MISO to at least one single point of interconnection within MISO.

All Proposals to sell a generation facility to NIPSCO must utilize an existing, proven technology, with demonstrated reliable generation performance that is capable of sustained, predictable operation. Respondents shall describe the generation technology of the facility, including the make, model, and name of the supplier of all major equipment.

4.1 Generating Facility Capacity Characteristics

Respondents shall state the name of each generating facility associated with the Capacity Asset, the county where each generating facility is located, the owner of the facility, the type of electric transmission service including the specific point(s) of interconnection, and the commercial pricing node associated with the facility, if applicable. This information should accompany a map(s) of the asset's location, as well as maps of any planned infrastructure upgrades in support of the generation facility.⁴

NIPSCO has a particular interest in identifying resources that offer black start capabilities. Respondents should state whether a facility has black start capability. If a facility does not have black start capability installed but could be made black start capable, Proposals should indicate the estimated costs to construct and operate and include the estimated construction timeline.

4.2 Acquisition Date

Respondents shall assume that the acquisition of the generation facility would be closed and title transferred in 2024, 2025, or 2026 subject to regulatory approvals.

4.3 Capacity Availability and Deliverability

For Proposals to sell an *existing* generation facility to NIPSCO, the existing generating facility must be commercially operable, including all facilities necessary to deliver capacity (Zonal Resource Credits) to MISO Local Resource Zone 6. Respondents must identify the specific point(s) of interconnection including the type(s) of transmission service (e.g. 50 MW NRIS and 25 MW ERIS). Proposals for facilities without existing

⁴ The quality of interconnection will be considered as part of the evaluation of a facility or project.

firm deliverability to MISO Local Resource Zone 6 should include cost estimates and transmission studies associated with securing such deliverability.

The Proposal should also include nodal economic analyses (2025, 2030, and 2035) under base case (n-1) and outage scenarios (n-1-1) showing expected unit economic metrics (including congestion impacts on: capacity factor, produced energy, and generation revenue) and specify the point of injection into MISO.

NIPSCO reserves the right to reject any Proposal that does not include the full cost of any known or potential interconnection costs or network upgrades that may be required to provide firm deliverability to MISO Local Resource Zone 6 and/or that does not include interconnection, reliability, and/or economic analyses supporting interconnection and transmission requirements. Such materials should include a technical description and estimated costs of network upgrades from studies completed or underway.

4.4 Revenues and Operating Costs

For existing generation facilities, Respondents shall provide:

- A detailed breakout of the facility's actual annual revenues for each of the past five (5) years.
- The estimated annual output in MWh for each of the next five (5) years.
- A description of any major current and/or historical operational limitations, the root causes of the limitations (e.g. original equipment manufacturer ("OEM") design, material condition of the facility, environmental permits, etc.). To the extent that expected performance deviates from observed performance, the Respondent shall provide the basis for the assumption.
- The estimated annual operation and maintenance costs of the facility on a fixed (\$) and variable (\$/MWh) basis and the actual annual operation and maintenance costs of the facility for each of the past five (5) years in nominal dollars.
- A detailed breakout of the generation facility's estimated and actual annual fixed costs for the past five (5) years including:
 - a. labor,
 - b. benefits,
 - c. materials & supplies
 - d. all other fixed cost categories

- If fixed or variable costs for the generation facility are expected to change in the foreseeable future (e.g., following planned upgrades, etc.), the Respondent should provide both the new expected cost(s) and the year(s) in which the costs are expected to change. If operating cost changes are a result of capital investment in the facility, please describe the projects and the associated CAPEX.
- Respondents shall also describe any property, state, and local taxes and tax abatements associated with the generation facility and provide annual state and local taxes paid including property taxes.

For new or planned generation facilities, Respondents must provide reasonable expectations for all above categories on an annual basis including plant output, facility revenues and costs, estimated *market* revenues, fixed and variable operations costs, expected upgrades and service timing, and taxes.

4.5 Generation Facility Operating Data

For existing generation facilities, Respondents shall provide historical operating data consisting of:

- Commercial operation date of the facility
- Annual run-time hours (per unit, if applicable)
- Annual operating cycles per year (per unit, if applicable)
- Annual facility capacity and availability factors
- Equivalent forced outage rate demand (“EFORd”)⁵

⁵ The EFORd should correspond to the UCAP amounts awarded for the last five (5) Planning Years. Respondents shall provide a breakdown of EFORd by failure mode or North American Electric Reliability Corporation/Generating Availability Data System category. Respondents shall provide a description of the major contributors to the generation facility EFORd. If there are particular costs associated with maintaining the EFORd of a generation facility, those must be provided. Generating facilities considered a Dispatchable Intermittent Resource (“DIR”) in MISO shall provide historical curtailments over the most recent (5) years. New facilities shall put forth a best efforts forecast of curtailments by MISO.

Respondents shall provide details of facility maintenance history and any current generation facility equipment issues and concerns, including the potential drivers and recommended mitigation procedures for the issues and/or concerns. These may include, but are not limited to, any operation of the turbine, generator, or boiler outside recommended parameters established by OEM, compromised turbine or compressor blades, etc.

For **new or planned generation facilities**, Proposals should include the manufacturer or developer quoted expected performance, as well as historical performance of similar facilities in MISO.

4.6 Generation Facility Operating Plan

Proposals should include a summary of the operating plan for the generation facility. Such plan should include software management system(s) and personnel roles and responsibilities for operating, maintaining and servicing the facility, including any contractual arrangements currently in place. Respondent shall provide an overview of key scheduled outage and maintenance plans, as well as plans for procuring and maintaining key spare parts.

4.7 Local, State and Federal Environmental Compliance

Proposals are expected to provide information regarding current and planned measures taken to comply with local, state, and federal environmental regulations. Proposals shall provide information on expected upgrade costs, outages associated with upgrades, increased operations and maintenance costs, operational limitations, permit costs, and administrative costs associated with environmental regulations.

Respondents shall provide a summary of any environmental control equipment installed at the facility and the emission rates for NO_x, SO₂, CO₂, VOC, PM and CO in units of lbs/million British thermal units (“MMBtu”).

Note that the cost of compliance with any current or pending environmental laws or regulations shall be addressed in the Proposal.

4.8 Permits

The generation facility must have all relevant environmental and other permits necessary for operation and maintenance. Respondents shall provide a description of all permits currently in place for the operation and maintenance of the facility (e.g., Spill Prevention Containment and Control plans, Title IV and Title V permits of the Clean Air Act, Cap and Trade Permits, NPDES permits, Water Withdrawal, and Pollution Incident Prevention Plan, etc.). Respondents must also state whether there are any provisions that would prohibit the assignment of such permits and/or any consents required for the assignment of such permits.

Respondents shall describe any operating limitations imposed by permitting or environmental compliance that limit plant availability and a description of any identified environmental liabilities (e.g., potential site remediation requirements, etc.) for the facility.

NIPSCO holds a Certificate of Inclusion in the Candidate Conservation Agreement with Assurances (“CCAA”) for the Monarch Butterfly. If there is vegetation management work associated with the operations of the project, respondents are expected to provide a summary detailing how the proposed generation site will meet the requirements of the CCAA.

4.9 Capital Expenditures

Respondents shall provide historical and budgeted capital expenditures for the generation facility. Historical capital expenditures shall be provided for each of the past five (5) years in nominal dollars. Planned and budgeted capital expenditures shall be provided for each of next five (5) years in nominal dollars along with a description of the projects involved. Respondents also shall disclose any known capital expenditure needs outside of the five-year time horizon that are expected to exceed \$1 million.

4.10 Acquisition Price

Respondents shall submit an acquisition price consisting of a single fixed payment inclusive of all monetary consideration for the generation facility, working inventory, and, if applicable, ancillary facilities and contractual arrangements (e.g., fuel supply and transportation, maintenance, pollution control bonds, etc.). Respondents must submit their best and final price with their Proposal. Respondents must provide details regarding any liabilities that NIPSCO might assume as a buyer of a generation facility.

For new or planned generation facilities, the price offered in the Proposal shall include all costs associated with providing a completed generating asset whose full output will be accredited to the MISO Local Resource Zone 6. This includes, in particular, but without limitation, costs associated with transmission interconnection including GIA contingency fees, engineering studies, siting, permitting, acquisition, and construction.⁶

4.11 Other Contractual Commitments

Respondents shall provide a description, including detailed cost information, of any other contracts that are currently necessary for generation facility operations, including but not limited to long-term service agreements, state union labor contracts and/or technical support contracts, agreements related to capacity and/or energy sales from the facility, and any capacity offers submitted to any independent system operator/regional transmission organization related to the generation facility that, if

⁶ If, during the evaluation, CRA or NIPSCO determines that the Proposal will be unable to achieve firm delivery to MISO Local Resource Zone 6, the Proposal will be rejected.

accepted, would be binding on NIPSCO as a result of an acquisition. Respondents must also state whether there are any provisions that would prohibit the assignment and/or affect the performance obligations of either party under the respective contract, including transfer or cancellation fees.

4.12 Asset Performance

For all ownership structures, bidders should specify the “guarantees” associated with their Proposal, for example, mechanical availability, anticipated production under given conditions or equipment warranties, etc.

4.13 Asset Purchase or Build Transfer Agreement (“BTA”)

Key Commercial Terms for a BTA are included in the RFPs to provide an example of the type and nature of Agreement that NIPSCO would anticipate negotiating with a short-listed Respondent. The terms for an Agreement are included merely to provide guidance to a Respondent in the preparation of their response. These commercial terms shall not be binding on NIPSCO. The short-listed Respondent and NIPSCO will negotiate a mutually acceptable agreement to govern any commercial relationship established by the parties. Respondents should download the term sheet from the RFP website (www.NIPSCO-RFP.com). NIPSCO is willing to consider other alternative contractual arrangements.

Respondents submitting asset acquisition Proposal must submit a mark-up of the commercial term sheet provided in association with these RFPs.

4.14 Legal Proceedings, Liabilities & Risks or Material Contingencies

The Proposal shall include a summary of all material actions, suits, claims or proceedings (threatened or pending) against Respondent, its Guarantor (if applicable) or involving the generation facility or the site as of the Proposal due date, including existing liabilities whether or not publicly disclosed, including but not limited to those related to employment and labor laws, environmental laws, or contractual disputes for the development, construction, maintenance, or operation of the facility.

Proposals that have material contingencies, such as for financing, will not be considered.

4.15 Generation Facility Local Economic Impact

Proposals shall include a description of the expected use of any local fuels, labor, taxes, and other in-state resources for the development, construction, and operation of the generation facility. Proposals shall also describe and provide support for the expected economic benefits to the local community, region, and state of Indiana (if any), associated with the development, construction, and/or operation of the generation

facility. These descriptions will supplement data that is to be provided in the Information Form Addendum on the same topic, as described in Section 7.

4.16 Dispatch and Emissions Characteristics

Respondents shall provide the dispatch and emissions characteristics of the generation facility, including, but not limited to:

- minimum load level, ramp rates (up and down), number of gas turbines that can be started simultaneously (if applicable);
- heat rate curve for normal operations (e.g., the coefficients of a fifth-order equation), including the no load and full load heat rates;
- fuel consumption and heat rate during startup, including startup time and the total number of hours annually the facility can be assumed to be in startup mode;
- fuel consumption and heat rate when the facility is being shutdown, including how long shutdown takes and the total number of hours annually the facility can be assumed to be in shutdown mode;
- supplemental firing capability, black start capability, and any operating limitations caused by such factors of design;
- pounds/megawatt hour (“lbs/MWh”) emissions rates at relevant dispatch levels (startup, minimum, mid and full loading) and seasons (summer, winter, shoulder) for nitrogen oxides (“NOx”), sulfur dioxide (“SO₂”), carbon dioxide (CO₂), volatile organic compounds (“VOC”), particulate matter (“PM”) and carbon monoxide (“CO”); and
- any other operational limitations that reduce unit availability or reduce a unit’s ability to dispatch or regulate.

4.17 Items Specific to Standalone Storage

Bidders proposing a standalone storage solution or storage integrated with already committed NIPSCO renewable installation should include the following information in support of their bids:

- Economic life assumption
- MW and MWh parameters (storage capacity and duration)
- Anticipated UCAP for summer and winter MISO seasons
- Round-trip efficiency

- Charge and discharge limits
- Limits on the count of cycles per day or year
- Degradation assumptions if ongoing costs do not maintain performance

4.18 Items Specific to Emerging or Developmental Technologies

Representative technologies considered as potential emerging or development technologies may include but are not necessarily limited to the following:

- Coal-fired integrated gasification combined cycle (“IGCC”)
- Natural gas-fired resources with carbon capture and sequestration (“CCS”)
- Small modular nuclear
- Hydrogen enabled CC/CT
- Other emerging or developmental technologies

Bidders submitting information for emerging or developmental technologies are encouraged to provide detailed or representative assumptions for key cost and performance categories used for project evaluation. NIPSCO is requesting the following:

1. Representative capital cost (\$/kW) or PPA pricing
2. Economic life assumption
3. Ongoing capital and operating costs
4. Development and financing plan including assumptions about financing or funding support and any state or federal tax incentives for the technology
5. Development timelines and key development uncertainties
6. Proposed operating structure for the project
7. Key technology risk factors and mitigation plan
8. Bidder experience and experience of project development partners

4.19 Generation Facility Fuel Supply

Respondents submitting a bid supported by fossil facility shall provide a description, including detailed cost information, contract duration, and material contract terms (including whether fuel contracts are take or pay, minimum volume requirements, price reopeners, assignability or termination provisions) of all fuel purchase, storage, and transport agreements related to the generation facility Proposal. Cost of fuel commodities shall be provided separately from the cost of fuel transportation. Respondents also must list any provisions or other considerations that would prohibit or impair the assignment and/or affect the performance obligations of either party under the respective contract(s). Respondents shall describe fuel purchase and transport to the generation facility, as well as any existing or known potential operational restrictions or impediments on such fuel purchase and transportation. Respondents also are required to provide a description of the existing fuel supply (and storage) infrastructure serving the generation facility, including the infrastructure for the delivery of secondary fuel for dual-fuel resources. However, NIPSCO, through these RFPs, is exploring the potential purchase of generation facilities, and it is NIPSCO's sole discretion whether to assume any contract or contracts associated with the proposed generation facility related to fuel commodities and/or fuel transportation.

Proposals shall describe, to the extent possible, fuel sourcing strategy, including from where their fuel is sourced.

Proposals shall describe the generation facility's ability to access a reliable fuel supply that would support operation for any hour throughout the year, including the plant's on-site fuel storage and dual-fuel capabilities, if applicable. Proposals for gas generators shall indicate whether the facility is dual-fuel capable and Proposals should include an indication of the days of on-site fuel storage available. Gas generators without dual fuel capability shall provide information on the costs required to make the facility dual fuel capable to the extent that such cost estimates are available. Natural gas fired facilities shall have firm gas transportation contracts in place for the amount of gas capacity necessary to fulfill the amount of UCAP being bid; Proposals that do not include firm gas supply may be disqualified.

Bidders interested in providing a solution that involves the full or partial use of hydrogen as a fuel source should include a description specific to hydrogen fuel procurement. Specifically, NIPSCO requests information regarding the source of hydrogen and the overall fuel plan including the annual quantity of hydrogen fuel expected to be available

4.20 Water Supply

Respondents shall provide a detailed description of the water supply, including but not limited to, contract term, water usage, and cost of water for the generation facility. Respondents shall also provide the status of the facility's National Pollutant Discharge Elimination System ("NPDES") permits, including, but not limited to, permit conditions,

permit violations reported over the last five (5) years, the timing of next permit renewal, and any other known concerns.

If applicable, Respondents shall provide a summary of the facility’s water chemistry program, including key systems and suppliers, and its performance in the most recent year.

4.21 Additional Items Specific to Facilities in Development

All Proposals for new generation facilities must have a MISO generator interconnection queue position and a well-defined and credible development plan for Respondent to complete the development, construction, and commissioning of the facility on their proposed development timeline. Respondents submitting proposals for new or planned facilities should review the “Development Risk” evaluation metric and be sure to discuss key development milestones in their Proposal.

If available, Respondents shall submit:

1. A copy of an executed pro-forma MISO Service Agreement and Interconnection Construction Services Agreement,
2. A copy of a completed MISO Facilities Study,
3. A copy of a completed MISO System Impact Study,
4. Details of MISO’s estimated transmission upgrade costs including affected system costs including a provision for GIS contingency costs and
5. Nodal economic analyses (2025, 2030, and 2035) under base case (n-1) and outage scenarios (n-1-1) showing expected unit economic metrics (including congestion impacts on: capacity factor, produced energy, and generation revenue) for the project at the proposed delivery point(s).

Respondent shall also detail its MISO generator interconnection queue position, if any, and the types and amounts of transmission service requested (e.g. 50 MW of NRIS and/or 25 MW of ERIS). Respondents submitting Proposals for a new or planned generation facility should also submit a copy of a fully executed EPC contract if available.

Respondents should also provide the following:

- Roles and responsibilities of the companies involved in the design, development, procurement and construction of the facility. Information about key contributors shall extend to the status of contractual relationship with each key contributor; key contractual assurances, guarantees, warranties or commitments supporting

the Proposal, including an executed EPC contract, and any past experience of Respondent working with each key contributor.

- Description of status of major equipment procurement, as well as processes for engineering, procurement, and construction bids and awards. Respondents should outline any supply chain strategies employed to navigate the current market uncertainty both with respect to project costs and development timelines.
- Description of the facility site and Respondent's rights (i.e., whether owned, leased, under option) to such site. Please indicate whether additional land rights are necessary for the development, construction, and/or operation of the facility.
- Discussion of the development schedule and associated risks and risk mitigation plans for that schedule, including whether there are contract commitments from contractors supporting the proposed schedule. The Respondent should be prepared to document and commit to a proposed development schedule, which should include a commercial operations date.
- Discussion of the financing arrangements secured by the Respondent, including an overview of the sources of funds, and level of commitment from debt, equity, or other investors.
- Discussion of permitting, including a list of all required permits, permitting status of each, and key risks to securing necessary future permit approvals.
- Description of status in MISO queue process and presentation of documents described above.
- Financial information regarding guarantors and sources of equity funding along with either the Respondent's or guarantors' senior unsecured debt and/or corporate issuer ratings documentation from Moody's and Standard & Poor's showing the name of the rating agency, the type of rating, and the rating of the Respondent or guarantor.

NIPSCO will not assume any responsibility for the successful development, construction, and/or completion of a proposed facility. Accordingly, development schedule, budget, permits and approval risk will be the sole responsibility of the Respondent.

5 All-Source RFP - Power Purchase Agreement Proposals

This section applies to All-Source RFP bids supported by Power Purchase Agreements. NIPSCO will consider meeting some or all of its resource requirements through short, medium and/or long-term PPA. NIPSCO will only consider power purchase agreements

that have a term of five (5) years or greater. As part of the power purchase category of transactions, NIPSCO will consider:

1. Unit contingent PPA arrangements at the bus-bar or Indiana Hub.
2. Tolling arrangements (capacity payment in return for full control of the asset + Fuel + O&M)
3. Shaped products or any other daily or 8,760 shaped offering. Shaped product offerings should include at a minimum both capacity and energy.
4. "Block" products. Block products should include at a minimum both capacity and energy, but can be structured as on-peak, all hours or as a custom structure.
5. Option contracts with a specified strike price.

As part of this RFP, CRA requests respondents complete Appendix I, the Excel-based Information Addendum form. The Appendix allows for standardized bid entry and includes information required to facilitate evaluation.

5.1 Content Requirements for Power Purchase Agreement Proposals

Respondents submitting a Proposal in the form of a PPA must submit a mark-up of the Power Purchase Agreement Key Commercial Term Sheet provided in association with these RFPs.

5.2 Net Capability of Generating Facility

Respondents proposing a PPA shall state the nameplate capacity, net summer operating capacity, net winter operating capacity and the unforced capacity (UCAP) of the facility for the MISO Planning Years 2017, 2018, 2019, 2020, and 2021. Respondents shall provide the projected UCAP for the facility for the next three (3) years. In the event that the projected UCAP has sizable deviation from historical UCAP, Respondents shall provide a detailed explanation.

Respondents proposing facilities in development shall provide the anticipated UCAP for MISO Planning years beginning June 1, 2024 through May 31, 2030.

5.3 Generation Technology

Respondents shall describe the generation technology of the facility, including the make of the equipment, model and name of supplier.

5.4 Dispatch and Emissions Characteristics

Respondents shall state/describe the dispatch characteristics of the facility and specify any operating limitations caused by such factors as design, material condition of the facility, and various permit restrictions.

1. For fossil-based resources, Respondents shall provide information that includes but not limited to, minimum load level, ramp rates (up and down), number of turbines that can be started simultaneously (if applicable), fuel consumption during startup, capability decreases as a result of ambient temperature increases, supplemental firing capability. Respondents shall state/describe the emissions profile of the facility, including but not limited to, the lbs/MMBtu at various dispatch profiles as applicable (startup, minimum load, mid, and max output) by season (summer, winter) for applicable emissions: NO_x, SO₂, CO₂, VOC, PM and CO.
2. For fossil-based resources, Respondents shall include a detailed fuel supply plan that fully details how fuel is purchased and transported to the facility as well as any existing or known potential operational restrictions or impediments on such fuel supply. The Respondent is also required to provide a description, including detailed cost information, of all natural gas pipeline service agreements and natural gas supply purchase agreements providing service to the facilities. Respondents proposing a PPA shall be solely responsible for maintaining a reliable fuel supply that is delivered to the Respondent's proposed generating unit(s) to ensure reliable delivery of firm capacity and energy to NIPSCO throughout the Delivery Term.

5.5 Other Contractual Commitments

Respondents shall state whether there are other contractual commitments limiting or affecting the operation of the facility. Respondents shall state whether there are any other agreements in place for or claims on output from the facility. Such information should include any obligations that may restrict or compromise NIPSCO's ability to dispatch the facility.

5.6 Assets in Development

For PPA supported by proposed assets or assets that have not yet achieved their commercial operation date, Respondents must provide the same information requested in Section 4 for facilities to be developed.

5.7 Power Purchase Agreement

NIPSCO has included Key Commercial Terms for any proposed PPA as part of the RFPs to provide an example of the type and nature of Agreement that NIPSCO would anticipate negotiating during the definitive agreement phase of the process. These terms and conditions shall not be binding on NIPSCO. The short-listed Respondent and NIPSCO will negotiate a mutually acceptable agreement to govern any commercial relationship established by the parties. Respondents should download the Key Commercial Terms from the RFP website (www.NIPSCO-RFP.com). Respondents should propose changes to the Key Commercial Terms if necessary in redline form. NIPSCO is open to other alternative contractual arrangements.

5.8 Asset Performance

For all contractual structures, bidders should specify the “guarantees” associated with their Proposal. For example, mechanical availability, anticipated production under given conditions, etc.

Respondents shall clearly articulate expected performance metrics which may include performance guarantees and metrics, etc.

6 Proposal Evaluation and Contract Negotiations

6.1 Initial Proposal Review

After the Proposal due date, CRA will review all responses for completeness and compliance with the minimum Proposal eligibility requirements specified in Section 2 of this document, and the Pre-Qualification Application in Appendix C. CRA will not accept unsolicited updated information from Respondents during the relevant RFP evaluation period. As a result of this screening, CRA may, in its discretion, either eliminate Proposals from further consideration, or contact Respondents to clarify issues or request additional information. CRA will make such requests in writing via email (NIPSCO-RFPManager@crai.com) and Respondent will be required to respond to the request within five (5) business days of transmission of such request or CRA may deem the Respondent’s Proposal (see Section 1.5) ineligible and not in consideration for further evaluation.

6.2 Evaluation Criteria

CRA will review and evaluate Proposals to identify the set that meets the stated needs of NIPSCO and provides the best combination of value, risk, and reliability for NIPSCO and its customers. To accomplish this, CRA will assess each Proposal against a scoring system that includes cost and non-cost factors. These cost and non-cost factors were designed to be complementary to the portfolio evaluation criteria utilized in NIPSCO’s IRP. This approach allows a thorough and efficient review that appropriately weighs diverse factors and maximizes CRA’s ability to compare Proposals on a level, objective basis.

The scoring mechanisms for the All-Source RFP and the Schahfer Development RFP have been tailored to the needs of each RFP. Evaluation of assets in the All-Source and Schahfer Development RFPs will be conducted separately and independently of each other. The details of the evaluation processes and Proposal scoring are included in Appendix F.

6.3 All-Source RFP

Bids in the All-Source RFP will be evaluated based on a mix of economic and qualitative considerations. While the scoring process and scoring elements will be identical for all assets in the RFP regardless of the technology classification, assets will be evaluated and ranked within technology categories not across. Wind resources will be compared

to other wind resources. Solar will be compared with solar, etc. The elements of evaluation for the All-Source RFP will include:

1. **Levelized cost of energy / levelized cost of capacity** - For each qualified Proposal, CRA will calculate a levelized cost of energy (“LCOE”) or a levelized cost of capacity (“LCOC”) for each facility.⁷ The levelized cost for each qualified Proposal will be based on the data provided by the Respondent, information provided in response to a Respondent-specific CRA information request and standard market assumptions. Analysis rules and projections will be developed by CRA and will reflect assumptions about the future trajectory of operating costs and capital investments at generating units in the MISO region. The rules used to make such projections will be applied by CRA consistently across all Respondents, as will all elements of the LCOE analysis. Analysis rules are the proprietary property of CRA and NIPSCO and will not be made available to Respondents. The rules for performing the LCOE/LCOC analysis will be determined by CRA and NIPSCO in advance of the receipt and review of any Proposals. However, as part of the process of evaluating Proposals, cases may arise where, in order to adequately project asset costs or to facilitate a comparison between qualified Proposals, the rules related to the LCOE analysis may require review and/or adjustment. To the extent that any additions or adjustments are required, such additions or adjustments will be made solely by CRA. In such cases, any and all rules will be applied consistently across all Respondents.
2. **Capacity Asset Reliability and Deliverability** - Asset reliability will be scored based on the information provided in association with the (n-1) and (n-1-1) reliability criteria, black start capabilities, interconnection cost and timeline risk, facility age, fuel supply risk and demonstrated forced outage rate considerations.
3. **Development Risk** - The development risk category will be scored based on the development timeline and milestones achieved towards a facility’s in-service date and the developer county-level project experience and broader experience in the MISO region. Existing resources will receive full credit under this evaluation category. Plants that have not achieved commercial operation will be awarded points based on development progress and the demonstrated ability of the project developer to place assets into service in MISO.
4. **Proposal Specific Benefits and Risks** - Certain benefit and risk factors may be unique to a Capacity Asset or Proposal. Risks may be significant enough

⁷ Assets that are primarily capacity resources such as standalone storage or combustion turbines will be evaluated using a LCOC. Resources with higher levels of energy dispatch will be evaluated using an LCOE framework.

compromise the ability of the Proposal to meet NIPSCO's needs; benefits may offer unique flexibility to NIPSCO and its customers. To the extent possible, such Proposal-specific benefits and risks will be integrated within the economic evaluation of Proposals rather than through the Proposal-Specific Risk category.

6.4 Schahfer Development RFP

Bids in the Schahfer Development RFP will be evaluated based bid economics, the development plan and developer experience as well as conformance with NIPSCO's technical specifications and any bid specific considerations. Part or all of the bid evaluation in the Schahfer Development RFP will be conducted by NIPSCO's technical advisor, POWER Engineers.

1. **Levelized cost of energy** – Bids will be evaluated based on the LCOE associated with the proposed development. The LCOE itself will be based on the data provided by the Respondent and standardized market assumptions.
2. **Consistency with Technical Specifications**
 - Key Technical Requirements
 - Total Net Output
 - Machine Sizing
 - Fast Start Capabilities
 - Ramp Rate
 - Cycling Duty
 - Minimum Emission Compliant Load (MECL)
 - Stack Emissions
 - Remote Start and Operational Capabilities
 - Black Start Capabilities
 - Experience
 - Approach to Work
 - Engineering
 - Procurement
 - Construction
 - Startup, Commissioning, and Training
 - Schedule
 - Safety
 - Past Performance
 - Approach to Execution

3. **Proposal Specific Benefits and Risks** - Certain benefit and risk factors may be unique to a Capacity Asset or Proposal. Risks may be significant enough compromise the ability of the Proposal to meet NIPSCO's needs; benefits may offer unique flexibility to NIPSCO and its customers. To the extent possible, such Proposal-specific benefits and risks will be integrated within the economic evaluation of Proposals rather than through the Proposal-Specific Risk category.

6.5 Discussion of Proposals During Evaluation Period

As part of each RFP's evaluation process, CRA may require and gather additional information from one or more Respondents. Any such communications with a Respondent shall in no way be construed as commencing contract negotiations, or as negotiations to purchase a generation facility from such Respondent.

6.6 Proposal Selection

RFP bids will be rank ordered consistent with the evaluation criteria. NIPSCO may need to contract with multiple generating assets and the final selection of assets to advance for further due diligence may be based on integrated portfolio modeling. Modeling may result in changes to the . In order to secure the overall bundle of Proposals that best meets NIPSCO's capacity needs, there is no assurance that the individual, highest-scoring qualified Proposal(s) will be selected.

6.7 Contract Execution

NIPSCO does not, by these RFPs, obligate itself to purchase any generation facility, enter into a development agreement with any counterparty or to execute any agreement with any Respondent who submits an offer in these RFP. NIPSCO may, at its sole discretion, reject any or all Proposals to supply generation capacity, as such are described in these RFPs.

Selection of a winning Proposal shall not be construed as a commitment by NIPSCO to execute any agreement. During the period between CRA's recommendation(s) to NIPSCO and the date of execution of any agreement, NIPSCO will conduct additional due diligence on the Proposal which may include, but not be limited to, onsite visits, management interviews, legal and regulatory due diligence and detailed engineering assessments and facility level dispatch modeling.

6.8 Generation Proposal Evaluation Fee

Respondents may submit up to three (3) Proposals at no cost in response to each RFP. Respondents submitting more than three (3) responses will incur a Generation Proposal Evaluation Fee for each additional Proposal submitted. The non-refundable fee for evaluating each Proposal for a generation facility is \$5,000. Respondents must pay a separate fee for each additional Proposal submitted. This sum will serve to defray evaluation costs by CRA and limit extraneous proposals. Respondents can find instructions for paying fees for their Proposal(s) on the RFP website (www.NIPSCO-

RFP.com). CRA will have sole discretion to determine whether a submission is deemed a single or multiple Proposal. For the avoidance of doubt, Proposals that offer different structures (i.e. asset acquisition or purchase power agreement) but are identical in all other ways including in-service date, MW of capacity and configuration, will be considered only one Proposal.

7 Proposal Submission

For Proposals that are under 30 MB in size, please submit your Proposal to the RFP Manager via email at NIPSCO-RFPManager@crai.com. Please note that the RFP Manager will always confirm receipt. If you do not receive an email confirmation, please follow up with us as we likely did not receive your submission.

For Proposals that are over 30 MB in size, please contact us via email at NIPSCO-RFPManager@crai.com for instructions on how to submit your Proposal via CRA's secure WebTransfer platform.

7.1 Format and Documentation

The primary application, including responses to all of the content requirements, should be provided in Microsoft Word and Adobe Acrobat PDF file format.

An Information Form Addendum template is available on the RFP website in Microsoft Excel file format. This file allows for:

- standardized entry of economic, financial, and operating data necessary to perform the levelized cost of energy ("LCOE") analysis described in Section 6;
- standardized entry of Proposal characteristics related to local economic impact, as necessary to perform the economic impact assessment described in Section 4; and
- catalog of other files associated with the Proposal, including file names and descriptions. Such files include permits, applications, approvals, and contractual arrangements.

All data related to economic, financial, and operating characteristics of a generation facility should be provided on a unit basis rather than for the plant as a whole (if a plant is made up of multiple units). Other data may be provided on an aggregated plant basis.

Respondents will maintain the order and format of the worksheets to facilitate CRA's review of the Proposal. The Information Form Addendum should be submitted in the same Microsoft Excel file format as provided in the template form.

Financial statements, annual reports, and other large documents may be referenced via a website address. If possible, all such documents should be made available in Adobe Acrobat PDF file format.

7.2 Certification

Each Proposal should include the following statement, signed by an authorized representative of Respondent and notarized:

“I, _____ am an authorized representative of _____ (“Respondent”) and hereby certify and affirm that: (i) I am authorized to obligate the Respondent to the terms of its Proposal; (ii) the Respondent’s Proposal shall remain binding through December 2022 or, if the Proposal is selected, until the transaction receives all necessary regulatory approvals; (iii) the Respondent agrees to all of the terms, conditions and requirements of these RFPs; and (iv) neither Respondent nor any person or entity acting or purporting to act on its behalf or with Respondent has entered into any combination, conspiracy, agreement or other form of collusive arrangement with any person, corporation, partnership or other entity, which directly or indirectly has to any extent lessened competition between the Respondent and any other person or entity for these RFPs.”

8 Reservation of Rights

NIPSCO reserves the right, without qualification, to reject any or all Proposals and to waive any irregularity in submitted information. There is no assurance, express or implied, that any agreement will be executed pursuant to these RFPs. NIPSCO also reserves the right to solicit additional Proposals it deems necessary and the right to submit additional information requests to Respondents during the Proposal evaluation process.

These RFPs shall not, by themselves, give any right to any party for any claim against NIPSCO. Furthermore, by submitting a Proposal, the Respondent shall be deemed to have acknowledged that NIPSCO assumes no liability with respect to these RFPs or any matters related thereto. Respondent acknowledges and agrees that NIPSCO may terminate one or more of these RFPs at any time and for its convenience without liability to Respondents, its advisors, consultants and agents. By submission of a Proposal, the Respondent, for itself as well as for its successors and assignees (if any), agrees that, as between Respondent and NIPSCO, Respondent is to be solely responsible for all claims, demands, accounts, damages, costs, losses and expenses of whatsoever kind in law or equity, known or unknown, foreseen or unforeseeable, arising from or out of these RFPs or its Proposal.

NIPSCO reserves the right to modify one or more of these RFP for any reason and at any time. Such changes prior to bidding will be communicated to Respondents who submit a valid Intent to Bid Form.

9 Confidentiality of Information

All Proposals submitted in response to these RFPs become the responsibility of CRA and NIPSCO upon submittal. Respondents should clearly identify each page of information considered to be confidential or proprietary. Consistent with the RFP Confidentiality Agreement (Appendix B), CRA will take reasonable precautions and use reasonable efforts to maintain the confidentiality of all information so identified. NIPSCO reserves the right to release any Proposals, or portions thereof, to agents, attorneys or consultants for purposes of Proposal evaluation. Regardless of the confidentiality claimed, however, and regardless of the provisions of these RFPs, all such information may be subject to review by, and disclosable by NIPSCO, to the appropriate state authority, or any other governmental authority or judicial body with jurisdiction relating to these matters, and may also be subject to discovery by other parties subject to fully executed NDAs / confidentiality agreements. Further, NIPSCO may disclose certain aggregate information related to these RFPs as the needs of any public advisory or stakeholder processes dictate. Information disclosed may include but not be limited to the aggregate UCAP MW offered by technology, technology/resource types, average prices, and Proposal duration of all Proposals unless a given technology has less than 3 Respondents. NIPSCO may also disclose the names of Respondents participating in the RFPs.

10 Regulatory Approvals

Pursuant to the terms of the definitive agreement(s), the Respondent will agree to use its reasonable best efforts, including, if necessary, providing data and testimony, to obtain any and all State, Federal, or other regulatory approvals required for the consummation of the transaction.

Please note in particular that approval by the IURC, MISO and FERC may be required before the transaction can be consummated between the selected Respondent and NIPSCO. As part of the regulatory process, responses to these RFPs may be provided to parties who have executed an NDA / confidentiality agreement, specifically acknowledging that they are neither affiliated with any party responding to these RFPs or serving as a conduit for any party responding to these RFPs. The IRP Confidentiality Agreement (which is different than the RFP Confidentiality Agreement referenced in Section 2.3 and Appendix B) executed by IRP Stakeholders is available on the RFP website (www.NIPSCO-RFP.com).

11 Credit Qualification and Collateral

CRA will evaluate the credit quality and related collateral posting requirements for each Respondent submitting a Proposal(s) in accordance with a uniform and consistent application of NIPSCO risk management practices and standards, in two phases: (i) as

part of CRA’s evaluation of a Respondent’s pre-qualification application; and (ii) if a Respondent is selected, during the negotiation of the definitive agreement.

Credit worthiness requirements are as follows:

- Respondent counterparties that have a minimum investment grade credit rating shall be deemed to have met the credit worthiness standard and shall not be required to post Definitive Agreement Collateral (“DA Collateral”).
 - i) A minimum investment grade credit rating is defined as the most recently published unsecured senior long-term debt rating (or corporate issuer rating if unsecured long-term debt rating is not available) of **BBB-** or **Baa3** from Standard & Poor’s (S&P) or Moody’s Investor Service (Moody’s), respectively.
- If a Respondent counterparty is either not rated by the aforementioned public rating agencies or has ratings below investment grade as defined above, the creditworthiness standard may be met by issuing a corporate guaranty from an acceptable credit support provider that satisfies the above minimum investment grade standard.
 - i) NIPSCO’s acceptance of a corporate guaranty shall be subject to a satisfactory review of the credit support provider that is issuing the guaranty. In addition, the guaranty should be in a form acceptable to NIPSCO.

A Respondent shall have the corresponding obligation to post DA Collateral as determined in accordance with its Proposal if selected for the definitive agreement phase of these RFPs. DA Collateral must be posted at the execution of the definitive agreement and will be in force until the transfer of title to NIPSCO for generating asset Proposals or the initiation of the contract term for Power Purchase agreements.

In each case, the DA Collateral must be in the form of eligible collateral (“Eligible Collateral”), which for purposes of these RFPs shall be either: (a) a letter of credit; or (b) cash. CRA and NIPSCO reserve the right to require a Respondent to post DA Collateral in an amount that exceeds the amounts listed herein as conditions warrant.

11.1 Definitive Agreement Collateral and Operating Security Requirements

During the negotiation of the definitive agreement, CRA and NIPSCO will determine the required form of DA Collateral a Respondent must satisfy at the execution of the definitive agreement (development security or maintenance security). The DA Collateral to be posted will be dependent on the type of Capacity Asset reflected in the selected Respondent’s Proposal.

Capacity Asset

DA Collateral

Collateral Amount

New Generation Facility ⁸	Development Security	\$20.00/kW at execution of definitive agreement
New Generation Facility	Development Security	\$75.00/kW at regulatory approval
Existing Generation Facility	Maintenance Security	12-months expected total O&M expense

In addition, winning Respondents may be required to post operating collateral over the term of any PPA agreement consistent with the terms and conditions of final agreements as negotiated between NIPSCO and the supplier.

<u>Capacity Asset</u>	<u>Operating Collateral</u>	<u>Collateral Amount</u>
Power Purchase Agreement	Operating Security	lesser of \$200/kW or 12-months expected revenues

12 Miscellaneous

12.1 Non-Exclusive Nature of RFP

NIPSCO may procure more or less than the amount of capacity targeted by the 2021 IRP's preferred plan. In addition, NIPSCO may procure Capacity Assets in these RFPs from one or more Respondent(s). Respondents are advised that any definitive agreement executed by NIPSCO and any selected Respondent may not be an exclusive contract for the provision of Capacity Assets. In submitting a Proposal(s), Respondent will be deemed to have acknowledged that NIPSCO may contract with others for the same or similar deliverables or may otherwise obtain the same or similar deliverables by other means and on different terms.

12.2 Information Provided in RFP

The information provided in these RFPs, or on NIPSCO's RFP website (www.NIPSCO-RFP.com), has been prepared to assist Respondents in evaluating these RFPs. It does not purport to contain all the information that may be relevant to Respondent in satisfying its due diligence efforts. NIPSCO makes no representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in these RFP, and shall not be liable for any representation, expressed or implied, in these RFP or any omissions from these RFPs, or any information provided to a Respondent by any other source.

12.3 Proposal Costs

NIPSCO shall not reimburse Respondent and Respondent is responsible for any cost incurred in the preparation or submission of a Proposal(s), in negotiations for an

⁸ Existing generation facilities that are currently in commercial operation are not required to post Development Security. However, existing generation resources that are not currently in commercial operation and would require additional investments to bring back into commercial operation, such as mothballed generation facilities, are required to post development collateral, which shall be calculated using the collateral requirements for new generation facilities.

agreement, and/or any other activity contemplated by the Proposal(s) submitted in connection with these RFPs. The information provided in these RFPs, or on NIPSCO's RFP website, has been prepared to assist Respondents in evaluating these RFPs. It does not purport to contain all the information that may be relevant to Respondent in satisfying its due diligence efforts.

12.4 Indemnity

Supplementing Respondent's assumption of liability pursuant to these RFPs, Respondent shall indemnify, hold harmless and defend NIPSCO, and its officers, employees and agents, from any and all damages, liabilities, claims, expenses (including reasonable attorneys' fees), losses, judgments, proceedings or investigations incurred by, or asserted against, NIPSCO or its officers, employees or agents, arising from, or are related to, these RFPs, or the execution or performance of one or more definitive agreements.

12.5 Hold Harmless

Respondent shall hold NIPSCO harmless from all damages and costs, including, but not limited, to legal costs in connection with all claims, expenses, losses, proceedings or investigations that arise as a result of these RFPs or the award of a Proposal pursuant to the RFPs or the execution or performance of a definitive agreement.

12.6 Further Assurances

By submitting a Proposal, Respondent agrees, at its expense, to enter into additional agreements, and to provide additional information and documents, in either case as requested by CRA in order to facilitate: (a) the review of a Proposal; (b) the execution of one or more definitive agreements; or (c) the procurement of regulatory approvals required for the effectiveness of one or more definitive agreements.

12.7 Licenses and Permits

Respondent shall obtain, at its cost and expense, all licenses and permits that may be required by any governmental body or agency necessary to conduct Respondent's business or to perform hereunder. Respondent's subcontractors, employees, agents and representatives of each in performance hereunder shall comply with all applicable governmental laws, ordinances, rules, regulations, orders and all other governmental requirements.

Cost and Performance Characteristics of New Generating Technologies, *Annual Energy Outlook 2023*

These tables are also published in the Electricity Market Module chapter in our *Annual Energy Outlook 2023* (AEO2023) Assumptions document. Table 1 includes our estimates of development and installation costs for various generating technologies used in the electric power sector. Typical generating technologies for end-use applications, such as combined heat and power or roof-top solar photovoltaics (PV), are described elsewhere in the Assumptions document. The costs in Table 1, except as noted below, are the costs for a typical facility for each generating technology before adjusting for regional cost factors. Overnight costs exclude interest accrued during plant construction and development. Technologies with limited commercial experience might include a technological optimism factor to account for the tendency to underestimate the full engineering and development costs for new technologies during technology research and development.

All technologies demonstrate some degree of cost variability, based on project size, location, and access to key infrastructure (such as grid interconnections, fuel supply, and transportation). For wind and solar PV, in particular, the cost favorability of the lowest-cost regions compound the underlying variability in regional cost and create a significant difference between the unadjusted costs and the capacity-weighted average national costs, as observed from recent market experience. To reflect this difference, we report a weighted average cost for both wind and solar PV, based on the regional cost factors assumed for these technologies in AEO2023 and the actual regional distribution of the builds that occurred in 2021 (Table 1).

Table 2 shows a full listing of the overnight costs for each technology and [electricity region](#), if the resource or technology is available to be built in the given region. The regional costs reflect the impact of locality adjustments, including one to address ambient air conditions for technologies that include a combustion turbine and one to adjust for additional costs associated with accessing remote wind resources. Temperature, humidity, and air pressure can affect the available capacity of a combustion turbine, and our modeling addresses these possible effects through an additional cost multiplier by region. Unlike most other generation technologies where fuel can be transported to the plant, wind generators must be located in areas with the best wind resources. Sites that are located near existing transmission with access to a road network or are located on lower development-cost lands are generally built up first, after which additional costs may be incurred to access sites with less favorable characteristics. We represent this trend through a multiplier applied to the wind plant capital costs that increases as the best sites in a region are developed.

Table 1. Cost and performance characteristics of new central station electricity generating technologies

Technology	First available year ^a	Size (MW)	Lead time (years)	Base overnight cost ^b (2022\$/kW)	Technological optimism factor ^c	Total overnight cost ^{d,e} (2022\$/kW)	Variable O&M ^f (2022\$/MWh)	Fixed O&M (2022\$/kWyr)	Heat rate ^g (Btu/kWh)
Ultra-supercritical coal (USC)	2026	650	4	\$4,507	1.00	\$4,507	\$5.06	\$45.68	8,638
USC with 30% carbon capture and sequestration (CCS)	2026	650	4	\$5,577	1.01	\$5,633	\$7.97	\$61.11	9,751
USC with 90% CCS	2026	650	4	\$7,176	1.02	\$7,319	\$12.35	\$67.02	12,507
Combined-cycle—single-shaft	2025	418	3	\$1,330	1.00	\$1,330	\$2.87	\$15.87	6,431
Combined-cycle—multi-shaft	2025	1,083	3	\$1,176	1.00	\$1,176	\$2.10	\$13.73	6,370
Combined-cycle with 90% CCS	2025	377	3	\$3,019	1.04	\$3,140	\$6.57	\$31.06	7,124
Internal combustion engine	2024	21	2	\$2,240	1.00	\$2,240	\$6.40	\$39.57	8,295
Combustion turbine— aeroderivative ^h	2024	105	2	\$1,428	1.00	\$1,428	\$5.29	\$18.35	9,124
Combustion turbine—industrial frame	2024	237	2	\$867	1.00	\$867	\$5.06	\$7.88	9,905
Fuel cells	2025	10	3	\$6,771	1.08	\$7,291	\$0.66	\$34.65	6,469
Nuclear—light water reactor	2028	2,156	6	\$7,406	1.05	\$7,777	\$2.67	\$136.91	10,447
Nuclear—small modular reactor	2028	600	6	\$7,590	1.10	\$8,349	\$3.38	\$106.92	10,447
Distributed generation—base	2025	2	3	\$1,915	1.00	\$1,915	\$9.69	\$21.79	8,912
Distributed generation—peak	2024	1	2	\$2,300	1.00	\$2,300	\$9.69	\$21.79	9,894
Battery storage	2023	50	1	\$1,270	1.00	\$1,270	\$0.00	\$45.76	NA
Biomass	2026	50	4	\$4,996	1.00	\$4,998	\$5.44	\$141.50	13,500
Geothermal ^{i,j}	2026	50	4	\$3,403	1.00	\$3,403	\$1.31	\$153.98	8,881
Conventional hydropower ^l	2026	100	4	\$3,421	1.00	\$3,421	\$1.57	\$47.06	NA
Wind ^e	2025	200	3	\$2,098	1.00	\$2,098	\$0.00	\$29.64	NA
Wind offshore ^l	2026	400	4	\$5,338	1.25	\$6,672	\$0.00	\$123.81	NA
Solar thermal ⁱ	2025	115	3	\$8,732	1.00	\$8,732	\$0.00	\$96.10	NA
Solar photovoltaic (PV) with tracking ^{e, i, k}	2024	150	2	\$1,448	1.00	\$1,448	\$0.00	\$17.16	NA
Solar PV with storage ^{i, k}	2024	150	2	\$1,808	1.00	\$1,808	\$0.00	\$32.42	NA

Data source: Sargent & Lundy, Cost and Performance Estimates for New Utility-Scale Electric Power Generating Technologies, December 2019; Hydroelectric: Oak Ridge National Lab, An Assessment of Energy Potential at Non-Powered Dams in the United States, 2012, and Idaho National Engineering and Environmental Laboratory, Estimation of Economic Parameters of U.S. Hydropower Resources, 2003; Geothermal: National Renewable Energy Laboratory, Updated U.S. Geothermal Supply Curve, 2010.

Note: MW=megawatt, kW=kilowatt, MWh=megawatthour, kWyr=kilowattyear, kWh=kilowatthour; Btu=British thermal unit; O&M=operations and maintenance.

^a The first year that a new unit could become operational.

^b Base cost includes project contingency costs.

^c We apply the technological optimism factor to the first four units of a new, unproven design; it reflects the demonstrated tendency to underestimate actual costs for a first-of-a-kind unit.

^d Overnight capital cost includes contingency factors and excludes regional multipliers (except as noted for wind and solar PV) and learning effects.

Interest charges are also excluded. The capital costs represent current costs for plants that would come online in 2023.

^e Total overnight cost for wind and solar PV technologies in the table are the average input value across all 25 electricity market regions, as weighted by the respective capacity of that type installed during 2021 in each region to account for the substantial regional variation in wind and solar costs (Table 2). The input value used for onshore wind in AEO2023 was \$1,566 per kilowatt (kW), and for solar PV with tracking, it was \$1,443/kW, which represents the cost of building a plant excluding regional factors. Region-specific factors contributing to the substantial regional variation in cost include differences in typical project size across regions, accessibility of resources, and variation in labor and other construction costs throughout the country.

^f The nuclear average heat rate is the weighted average tested heat rate for nuclear units as reported on the Form EIA-860, *Annual Electric Generator Report*. No heat rate is reported for battery storage because it is not a primary conversion technology; conversion losses are accounted for when the electricity is first generated, and electricity-to-storage losses are accounted for through the additional demand for electricity required to meet load. For hydropower, wind, solar, and geothermal technologies, no heat rate is reported because the power is generated without fuel combustion, and no set British thermal unit conversion factors exist. The module calculates the [average heat rate for fossil-fuel generation](#) in each year to report primary energy consumption displaced for these resources.

^g Combustion turbine aeroderivative units can be built by the module before 2024, if necessary, to meet a region's reserve margin.

^h Capital costs are shown before investment tax credits are applied.

ⁱ Because geothermal and hydropower cost and performance characteristics are specific for each site, the table entries show the cost of the least expensive plant that could be built in the Northwest region for hydro and the Great Basin region for geothermal, where most of the proposed sites are located.

^j Costs and capacities are expressed in terms of net AC (alternating current) power available to the grid for the installed capacity.

Table 2. Total overnight capital costs of new electricity generating technologies by region

2022 dollars per kilowatt

Technology	1 TRE	2 FRCC	3 MISW	4 MISC	5 MISE	6 MISS	7 ISNE	8 NYCW	9 NYUP	10 PJME	11 PJMW	12 PJMC	13 PJMD
USC	\$4,188	\$4,311	\$4,711	\$4,835	\$4,892	\$4,334	\$5,222	NA	\$5,104	\$5,269	\$4,495	\$5,664	\$4,851
USC with 30% CCS	\$5,281	\$5,421	\$5,852	\$6,011	\$6,058	\$5,456	\$6,463	NA	\$6,334	\$6,504	\$5,632	\$6,914	\$6,055
USC with 90% CCS	\$6,907	\$7,083	\$7,558	\$7,812	\$7,820	\$7,152	\$8,281	NA	\$8,068	\$8,294	\$7,292	\$8,831	\$7,750
CC—single-shaft	\$1,200	\$1,225	\$1,366	\$1,379	\$1,414	\$1,236	\$1,594	\$2,116	\$1,599	\$1,597	\$1,324	\$1,600	\$1,524
CC—multi-shaft	\$1,045	\$1,072	\$1,215	\$1,236	\$1,268	\$1,084	\$1,393	\$1,909	\$1,370	\$1,401	\$1,147	\$1,469	\$1,295
CC with 90% CCS	\$2,945	\$2,972	\$3,175	\$3,182	\$3,231	\$2,999	\$3,334	\$3,776	\$3,258	\$3,307	\$3,041	\$3,447	\$3,168
ICE	\$2,106	\$2,152	\$2,300	\$2,391	\$2,365	\$2,182	\$2,451	\$3,073	\$2,359	\$2,452	\$2,197	\$2,673	\$2,282
CT— aeroderivative	\$1,263	\$1,289	\$1,494	\$1,498	\$1,543	\$1,316	\$1,607	\$2,057	\$1,551	\$1,598	\$1,370	\$1,755	\$1,454
CT—industrial frame	\$764	\$781	\$907	\$911	\$939	\$798	\$978	\$1,262	\$942	\$973	\$830	\$1,072	\$883
Fuel cells	\$6,996	\$7,105	\$7,430	\$7,750	\$7,603	\$7,224	\$7,887	\$9,285	\$7,567	\$7,819	\$7,204	\$8,337	\$7,425
Nuclear—light water reactor	\$7,341	\$7,499	\$7,917	\$8,637	\$8,330	\$7,744	\$8,809	NA	\$8,219	\$8,608	\$7,608	\$9,465	\$7,918
Nuclear—small modular reactor	\$7,779	\$7,962	\$8,674	\$9,044	\$9,041	\$8,061	\$9,338	NA	\$8,894	\$9,357	\$8,160	\$10,440	\$8,474
Distributed generation—base	\$1,729	\$1,764	\$1,967	\$1,986	\$2,036	\$1,779	\$2,296	\$3,047	\$2,302	\$2,300	\$1,907	\$2,304	\$2,195
Distributed generation—peak	\$2,034	\$2,076	\$2,405	\$2,412	\$2,485	\$2,119	\$2,587	\$3,312	\$2,497	\$2,573	\$2,206	\$2,827	\$2,341
Battery storage	\$1,270	\$1,273	\$1,255	\$1,316	\$1,273	\$1,300	\$1,309	\$1,304	\$1,275	\$1,278	\$1,267	\$1,283	\$1,278
Biomass	\$4,637	\$4,764	\$5,157	\$5,329	\$5,340	\$4,802	\$5,933	\$8,054	\$5,952	\$6,056	\$5,093	\$6,067	\$5,804
Geothermal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conventional hydropower	\$4,992	\$6,098	\$2,426	\$1,612	\$3,283	\$4,858	\$2,248	NA	\$4,599	\$4,777	\$4,164	NA	\$4,226
Wind	\$3,059	NA	\$1,723	\$1,566	\$1,875	\$1,566	\$2,075	NA	\$2,531	\$2,075	\$1,566	\$2,281	\$2,161
Wind offshore	\$6,517	\$7,819	\$7,714	NA	\$7,989	NA	\$7,783	\$6,714	\$8,139	\$7,461	\$6,100	\$8,834	\$6,950
Solar thermal	\$8,424	\$8,551	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Solar PV with tracking	\$1,422	\$1,395	\$1,443	\$1,497	\$1,480	\$1,407	\$1,494	\$1,758	\$1,480	\$1,524	\$1,440	\$1,571	\$1,436
Solar PV with storage	\$1,751	\$1,769	\$1,822	\$1,880	\$1,854	\$1,787	\$1,892	\$2,150	\$1,858	\$1,896	\$1,780	\$1,971	\$1,842

Technology	14 SRCA	15 SRSE	16 SRCE	17 SPPS	18 SPPC	19 SPPN	20 SRSG	21 CANO	22 CASO	23 NWPP	24 RMRG	25 BASN
USC	\$4,337	\$4,401	\$4,460	\$4,366	\$4,638	\$4,415	\$4,600	NA	NA	\$4,874	\$4,556	\$4,754
USC with 30% CCS	\$5,460	\$5,511	\$5,593	\$5,475	\$5,778	\$5,526	\$5,765	NA	NA	\$6,059	\$5,704	\$5,918
USC with 90% CCS	\$7,165	\$7,228	\$7,313	\$7,127	\$7,489	\$7,178	\$7,466	NA	NA	\$7,833	\$7,355	\$7,697
CC—single-shaft	\$1,220	\$1,235	\$1,273	\$1,234	\$1,309	\$1,222	\$1,201	\$1,759	\$1,719	\$1,399	\$1,132	\$1,224
CC—multi-shaft	\$1,071	\$1,085	\$1,124	\$1,083	\$1,163	\$1,074	\$1,034	\$1,547	\$1,504	\$1,213	\$974	\$1,092
CC with 90% CCS	\$2,962	\$2,977	\$3,044	\$2,966	\$3,065	\$2,921	\$2,702	\$3,389	\$3,351	\$3,126	\$2,541	\$2,854
ICE	\$2,194	\$2,200	\$2,238	\$2,178	\$2,295	\$2,200	\$2,221	\$2,661	\$2,613	\$2,367	\$2,192	\$2,347
CT— aeroderivative	\$1,309	\$1,320	\$1,370	\$1,318	\$1,411	\$1,327	\$1,198	\$1,687	\$1,645	\$1,480	\$1,159	\$1,322
CT— industrial frame	\$793	\$801	\$831	\$799	\$857	\$804	\$726	\$1,031	\$1,004	\$900	\$702	\$803
Fuel cells	\$7,277	\$7,271	\$7,371	\$7,144	\$7,443	\$7,209	\$7,309	\$8,375	\$8,278	\$7,655	\$7,169	\$7,636
Nuclear—light water reactor	\$7,843	\$7,782	\$8,035	\$7,530	\$7,962	\$7,527	\$7,808	NA	NA	\$8,451	\$7,563	\$8,460
Nuclear—small modular reactor	\$8,101	\$8,164	\$8,349	\$8,082	\$8,583	\$8,150	\$8,258	NA	NA	\$8,942	\$8,170	\$8,880
Distributed generation—base	\$1,757	\$1,778	\$1,833	\$1,777	\$1,886	\$1,760	\$1,729	\$2,533	\$2,475	\$2,014	\$1,630	\$1,763
Distributed generation—peak	\$2,107	\$2,126	\$2,206	\$2,123	\$2,273	\$2,137	\$1,929	\$2,716	\$2,649	\$2,383	\$1,867	\$2,128
Battery storage	\$1,311	\$1,293	\$1,309	\$1,264	\$1,272	\$1,257	\$1,286	\$1,323	\$1,325	\$1,300	\$1,259	\$1,310
Biomass	\$4,820	\$4,857	\$4,921	\$4,825	\$5,126	\$4,926	\$5,276	\$6,759	\$6,606	\$5,455	\$5,227	\$5,226
Geothermal	NA	NA	NA	NA	NA	NA	\$3,468	\$3,440	\$2,785	\$3,366	NA	\$3,403
Conventional hydropower	\$2,353	\$5,104	\$2,638	\$5,049	\$2,128	\$2,000	\$4,056	\$4,291	\$4,132	\$3,421	\$4,085	\$4,464
Wind	\$1,867	\$2,116	\$1,566	\$1,566	\$1,723	\$1,723	\$1,566	\$3,458	\$2,715	\$2,283	\$1,566	\$1,566
Wind offshore	\$6,005	NA	NA	NA	NA	NA	NA	\$10,064	\$10,558	\$7,550	NA	NA
Solar thermal	NA	NA	NA	\$8,509	\$8,838	\$8,422	\$8,826	\$10,397	\$10,266	\$9,394	\$8,481	\$9,413
Solar PV with tracking	\$1,465	\$1,392	\$1,438	\$1,394	\$1,449	\$1,404	\$1,418	\$1,579	\$1,570	\$1,453	\$1,435	\$1,448
Solar PV with storage	\$1,799	\$1,781	\$1,802	\$1,768	\$1,826	\$1,787	\$1,796	\$1,969	\$1,964	\$1,858	\$1,789	\$1,854

Data source: U.S. Energy Information Administration, Office of Electricity, Coal, Nuclear and Renewables Analysis

Notes: Costs include contingency factors, regional cost multipliers, and ambient condition multipliers. Interest charges are excluded. The costs are shown before investment tax credits are applied.

NA=not available; plant type cannot be built in the region because of a lack of resources, sites, or specific state legislation.

USC=ultra-supercritical, CCS=carbon capture and sequestration, ICE=internal combustion engine, CC=combined cycle, CT=combustion turbine, PV=photovoltaic.

[Electricity Market Module region map](#)

Cause No. 45947

**Northern Indiana Public Service Company LLC's
Objections and Responses to
NIPSCO Industrial Group's Second Set of Data Requests**

Industrials Request 3-004:

Please refer to the Direct Testimony of Greg Baacke, pages 4 and 5. Regarding the final configuration of the CT Project, please answer the following questions:

- a. Could the final configuration ultimately be a 1x2, with one large CT and two smaller CTs?
- b. Why could the smaller CTs be either industrial frame or aeroderivative units?
- c. Could the proposed configuration ultimately lend itself to be converted to a combined cycle gas turbine ("CCGT")?
- d. Does the potential of the selected CTs to burn hydrogen factor into the Company's consideration?

Objections:

NIPSCO objects to this Request on the grounds and to the extent that this Request seeks information that is confidential, proprietary, and/or trade secret.

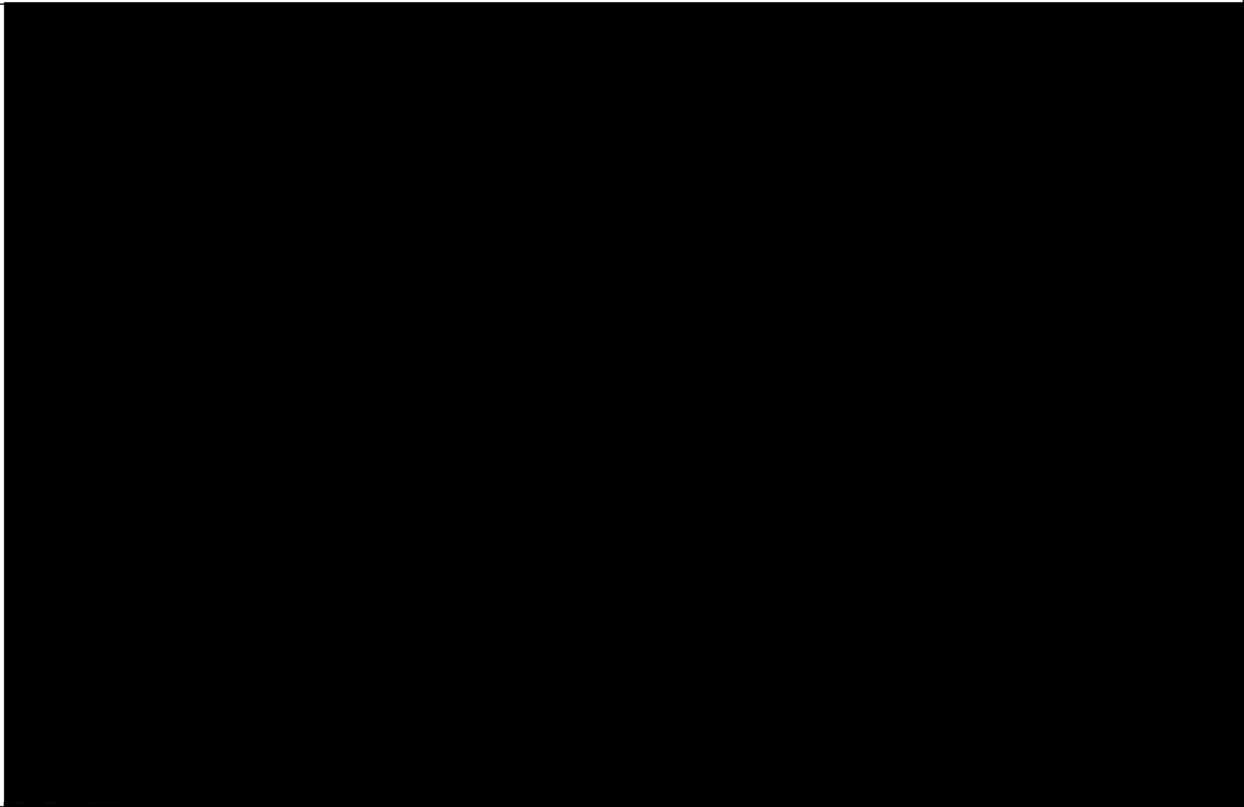
Response:

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

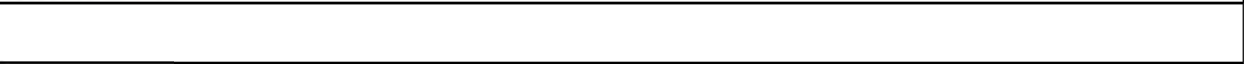
- a. Based on the bids submitted for the turbine equipment RFP, NIPSCO does not anticipate the final configuration will be one larger CT and two smaller CTs.
- b. NIPSCO anticipated one or more of the OEMs from the turbine equipment RFP may propose to utilize smaller industrial frame units instead of aeroderivative units. As shown in CAC Request 4-002 Confidential Attachment A, General Electric proposed one larger industrial frame unit with three aeroderivative units. Siemens proposed one larger industrial frame unit with three smaller industrial frame units.
- c. Yes, the proposed configuration could be converted to a combined cycle gas turbine facility.
- d. Yes, NIPSCO is reviewing each of the OEM's capabilities to burn hydrogen as NIPSCO evaluates the bids submitted for the turbine equipment RFP.

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Eighth Set of Data Requests
Confidential – denoted by [REDACTED] highlight

OUCC Request 8-001:



Objections:



Response:

- a. Please refer to OUCC Request 8-001 Confidential Attachment A for historical data from NIPSCO's previous experience with similar projects. NIPSCO utilized this previous experience while considering the higher percentage of material and equipment costs and overall size of the CT Project when compared to other projects to establish the 9% value for owner's cost.
- b. NIPSCO has utilized 3% or 4% escalation while estimating similar projects. However, NIPSCO has witnessed higher escalation rates in the recent past for engineered equipment and materials which contributed to NIPSCO determining to use 5% escalation for the CT Project.

Cause No. 45947

Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Eighth Set of Data Requests
Confidential – denoted by [REDACTED] highlight

- c. Please refer to OUCC Request 8-001 Confidential Attachment A for historical data from NIPSCO's previous experience.

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Eighth Set of Data Requests
Confidential – denoted by [REDACTED] highlight

OUCC Request 8-002:



Objections:

Response:

Please refer to NIPSCO's response to OUCC Request 8-001 explaining the 9% owner's cost included in Confidential Attachment 5-S-B. NIPSCO utilized the 9% owner's cost from the multi-prime contracting strategy and decreased it to 8% since the EPC contractor would be expected to cover certain activities under their contract that would otherwise be included as owner's cost under a multi-prime contracting strategy. For example, an EPC contract structure is anticipated to require less project support services from NIPSCO including project management, project engineering, project controls, procurement support, and material management.

“Excluded from public access per A.R. 9(G).”

**CONFIDENTIAL EXCEL SHEET
OUCC ATTACHMENT JWH-4
CAUSE NO. 45947**

Northern Indiana Public Service Company LLC

2022 Request for Proposals for Power Supply Generation Facilities and/or Purchase Power Agreements

Stakeholder Advisory Meeting
October 19, 2022

Charles River Associates



NIPSCO 2022 RFP

Participating Bidders



Process Overview

2022 All-Sources and Schahfer Development RFP



NIPSCO is currently executing two concurrent Requests for Proposal (“RFP”) for 2022:

1. All-Source RFP: All-Sources RFP for LRZ6 resources. The RFP is targeting 300 – 600+ MW of capacity resources.
2. Schahfer Development RFP: issued to identify an Engineering Procurement and Construction (“EPC”) development partner to construct a fully dispatchable and black start capable resource at the Schahfer site. The 370-450 MW (UCAP) resource will utilize the MISO generator replacement interconnection process.
 - Consistent with the MISO generator replacement protocols, NIPSCO must own the replacement resource. As such, development projects must be for NIPSCO ownership. All projects must also conform with NIPSCO’s technical specifications and requirements.

Key Process Dates:

1. Proposal Due Dates:
 - All-Sources RFP – Friday September 16, 2022
 - Schahfer Development RFP – Friday September 30, 2022
2. Bid Evaluation and Definitive Agreement Negotiation
 - Fourth Quarter 2022 and into 2023

All-Sources RFP Overview

NIPSCO Needs



In association with the Integrated Resource Plan (“IRP”) process, NIPSCO concluded that it is in the best interest of its customers to:

1. Seek to acquire, construct or contract for additional capacity that qualifies as a MISO internal resource (i.e. not pseudo-tied into MISO) with physical deliverability utilizing Network Resource Integration Service (“NRIS”) to MISO Local Resource Zone 6. NIPSCO may consider other MISO Local Resource Zones such as Zone 4; however, Zone 6 is preferred. Considered options include:
 - a. Direct sale of an existing facility to the utility or build transfer arrangements for facilities under development sale of an equity stake for a portion of a facility including a minority ownership interest.
 - b. Proposals that make use of NIPSCO’s opportunities to utilize the MISO Generator Interconnection Replacement at the site of planned retirements at Michigan City, Schahfer 17/18 (excluding amounts utilized by “Event 2 - Schahfer Development RFP”), and Schahfer 16A/16B.
 - c. Unit contingent PPA arrangements at the bus-bar or Indiana Hub, tolling arrangements (capacity payment in return for full control of the asset + fuel + O&M)
 - d. Shaped products, “Block” products or Option contracts with a specified strike price.

Schahfer Development RFP

Technology Constraints and Performance Requirements


















Contractor is to select a combination of industrial-frame and aeroderivative CTs (and optionally, RICE units) meeting the following constraints:

- Total net output between 370 MW and 450 MW.
- Maximum machine size of 275 MW.
- At least one machine 150 MW or larger.
- 10-minute cold start capability for 150 MW or more.
- 50 MW/minute minimum ramp rate for at least 150 MW of the Facility's machines.
- At least one machine with a minimum emission compliant load (MECL) less than or equal to approximately 25 MW.
- Stack emission limits Base Scope (with SCR): 2.5 ppm NO_x and enough space for future CO catalyst to achieve 2.5 ppm CO.
- Stack emission limits Option Scope (without installed SCR): NO_x 25 ppm, CO 25 ppm.
- Remote start and operational capability.

Bid Evaluation Criteria

2022 All-Sources and Schahfer Development RFP



 Levelized Cost	All Sources 	Schahfer 	<p>Levelized Cost of Energy or Capacity (LCOE) analysis will be conducted over a fixed planning horizon for all assets and bids submitted in both RFPs. The LCOE will reflect all expected costs related to the bid. The project level analysis will be based on data submitted with the bids, standard assumptions for key commodity considerations and may reflect adjustments for material uncertainties associated with a bid.</p>
 Reliability and Deliverability	All Sources 	Schahfer 	<p>The asset reliability and deliverability evaluation will include an assessment of transmission reliability, facility age and performance, and fuel risk and fuel security. Transmission reliability scoring will be based on transmission infrastructure and location. Facility performance will be based on the EFOR performance. Fuel reliability will consider fuel availability risk and price volatility.</p>
 Development Risk	All Sources 	Schahfer 	<p>The All-Sources RFP will include an evaluation category for development risk. The evaluation will consider progress on key development milestones as well as the development experience of the potential counterparty.</p>
 Conforms with Specifications	All Sources 	Schahfer 	<p>The Schahfer Development RFP will include an evaluation category that considers conformance with NIPSCO's preferred specification for the facility. NIPSCO has provided bidders details of the preferred specification and bidders were instructed to provide details of the design and capabilities of the Schahfer replacement resource</p>
 Asset Specific Benefits / Risks	All Sources 	Schahfer 	<p>Asset specific benefits and risks will consider individual, unique, project level risks associated with an individual project or counterparty. CRA will evaluate projects based on community benefits, certain social justice goals, minority and women owned business considerations, unique environmental considerations, specific regulatory risks or other considerations.</p>

NIPSCO 2022 RFP

Schahfer Development Bid Overview



- NIPSCO received 3 bids in response to the Schahfer Development RFP
- All bidders have well established track records and experience
- Bidders combined to offer NIPSCO over 1,200 MW in total of blackstart capable capacity

Preliminary

MW Capacity Range Across Bid

Low	High
390	450

Schahfer Development bids averaged approximately \$900/kW however individual project costs may not be directly comparable due to technical capabilities, spec conformance and the range of services included in the bid price

- Bids include a range of options on long term service agreements (LTSA)
- Some Schahfer development projects offered hydrogen capabilities up to a 30% hydrogen blend in some cases

NIPSCO 2022 RFP

Overview of All-Sources Proposals Received



- **2022 All-Sources RFP generated a tremendous amount of bidder interest**
- **22 Bidders submitted 54 individual projects for consideration**
- **Projects across 5 states or regions with ~8.77 GW (ICAP) represented**
 - Many of the proposals offer variations on pricing structure and term lengths
 - Several instances of renewables paired with storage
 - Majority of the projects are in various stages of development

Count of Projects by Technology and Deal Structure

Preliminary

Technology	Solar	Solar + Storage	Wind	Standalone Storage	Thermal/Other	Total
PPA	7	4	2	9	4	26
Asset Sale	2	2	-	-	2	6
Both	13	3	-	4	2	22
Total	22	9	2	13	8	54
Locations	IN, KY, IL	IN, KY, WI	IN	IN, KY	IL, IN, KY, MISO, PJM	

NIPSCO 2022 RFP

Overview of All-Sources Projects Received



Project Count by State and Technology

Preliminary

State	Solar	Solar + Storage	Wind	Standalone Storage	Thermal/Other	Total
Illinois	1	0	0	0	2	3
Indiana	18	7	2	12	5	44
Kentucky	3	1	0	1	0	5
Wisconsin	0	1	0	0	0	1
MISO / PJM	0	0	0	0	1	1
Total	22	9	2	13	8	54

NIPSCO 2022 RFP

Overview of All-Sources Projects Received



Project MW ICAP by State and Technology

Preliminary

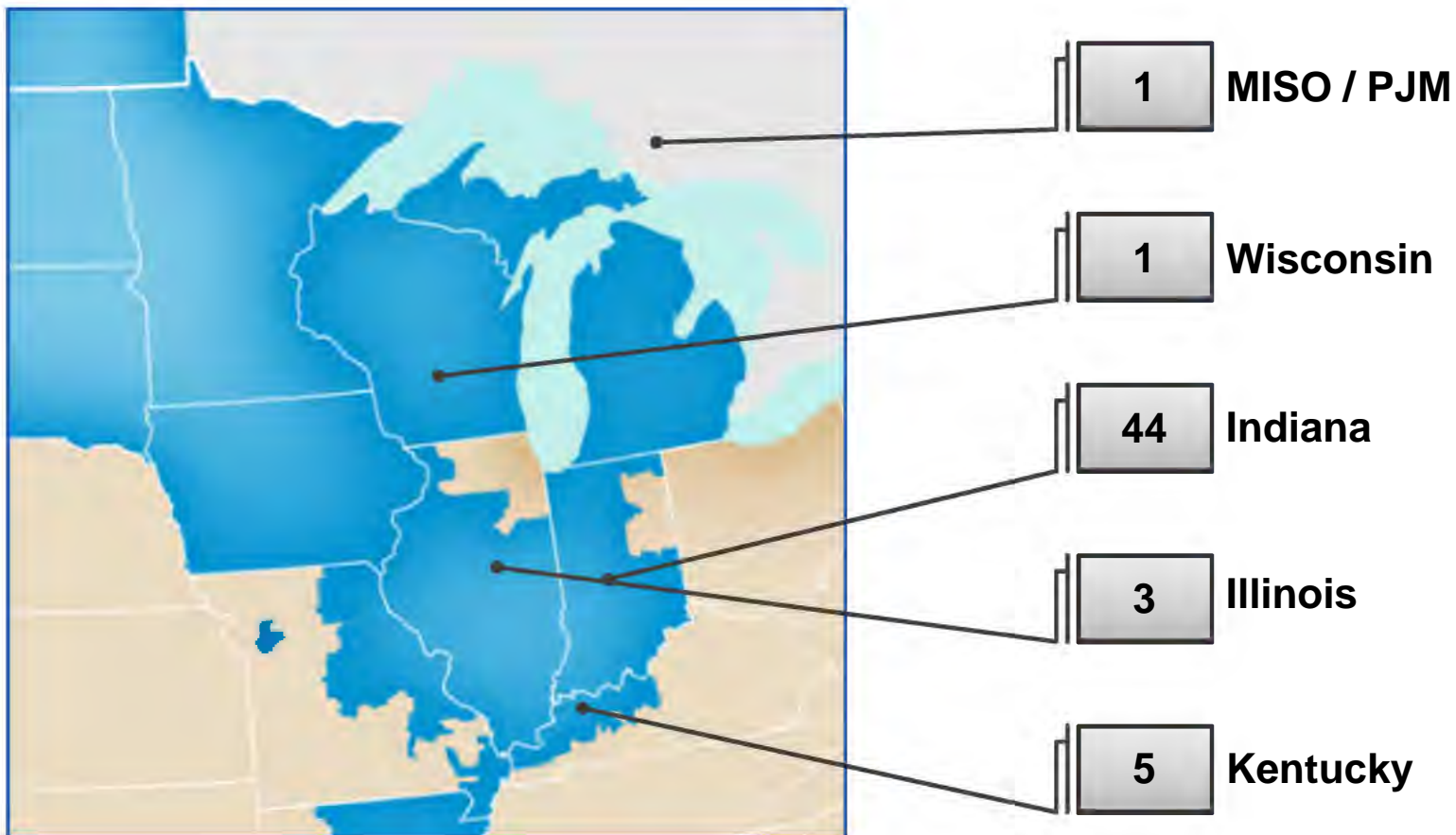
State	Solar	Solar + Storage	Wind	Standalone Storage	Thermal/Other	Total
Illinois	200	0	0	0	1,452	1,652
Indiana	2,215	1,050	401	2,009	424	6,100
Kentucky	550	100	0	200	0	850
Wisconsin	0	80	0	0	0	80
MISO / PJM	0	0	0	0	85	85
Total	2,965	1,230	401	2,209	1,961	8,767

NIPSCO 2022 RFP

Distribution of All-Sources Projects Received



Preliminary



Note: Blue area represents MISO territory

NIPSCO 2022 RFP

All-Sources PPA Overview



Proposal MW ICAP by PPA Term Length (PPA or Both) and Technology

Preliminary

Duration	Solar	Solar + Storage	Wind	Standalone Storage	Thermal/Other	Total
5 – 6 Years					1,452	1,452
12 Years		80				80
15 Years	1,380	280	403	1,608	288	3,959
20 Years	1,660	1,530	603	4,249	103	8,144
25 Years	785	400				1,185
30 Years	200	300			68	568
Total	4,024	2,590	1,005	5,857	1,911	15,388

Note – a single physical project can be offered over multiple contract term lengths

NIPSCO 2022 RFP

All-Sources Storage Overview



Preliminary

- NIPSCO received bids for storage both as standalone projects and integrated with solar facilities
- MW totals for “Solar + Storage” reflect the solar capacity only but the storage component adds value and functionality to the integrated facility
- Integrated options for solar exist in several locations within MISO but like standalone options are concentrated within the target LRZ6 region

Storage Project MW ICAP by Type	
Storage Integrated with Solar	1,230
Standalone Storage	2,209

Storage Project MW ICAP by State and Type

State	Storage Integrated with Solar	Standalone Storage
Illinois	0	0
Indiana	1,050	2,009
Kentucky	100	200
Wisconsin	80	0
MISO / PJM	0	0
Total	1,230	2,209

NIPSCO 2022 RFP

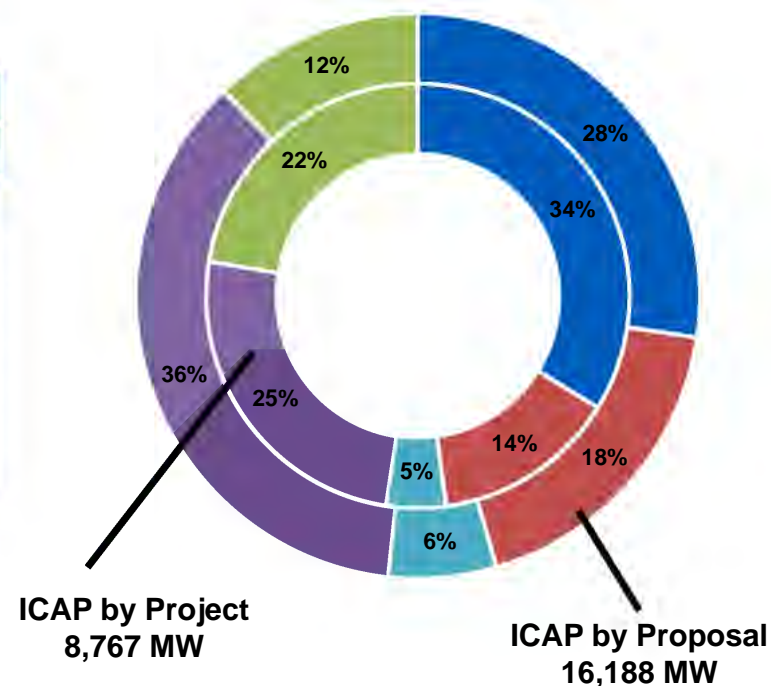
Allocation of All-Sources Proposals and Projects by Technology



Allocation by Technology (MW ICAP)

Preliminary

Technology	ICAP by Project		ICAP by Proposal	
	MW	%	MW	%
Solar	2,965	34%	4,424	28%
Solar + Storage	1,230	14%	2,940	18%
Storage	2,209	25%	5,857	36%
Thermal / Other	1,961	22%	1,961	12%
Wind	401	5%	1,005	6%
Total	8,767	100%	16,188	100%



NIPSCO 2022 RFP

Summary of All-Sources Pricing



Average Weighted Pricing by Technology & Deal Structure

Preliminary

Technology	Asset Sale		Power Purchase Agreement			Comments
	\$/kW	Count	PPA \$/MWh	\$/kW-Mo	Count	
Solar	\$2,129	15	\$60.84	N/A	20	PPA price reflects base price for projects with escalating schedules.
Solar + Storage	\$2,678	5	\$55.76	\$11.66	7	Typical PPA structure for integrated solar and storage includes both a fixed and variable component
Storage	\$2,249	3	N/A	\$13.14	12	
Thermal / Other	\$763	4	\$57.47	\$8.14	6	Prices reflect a range of pricing structures. Offers in some cases include additional pass through costs
Wind	N/A	N/A			2	PPA price redacted for confidentiality reasons

- Average bid prices shown for 'Asset Sale' represent capital costs and exclude on-going fuel, O&M and CapEx (where applicable)
- Figures shown are for representation and do not purport competition between technologies; Separate short-listed assets are created for each RFP event

NIPSCO 2022 RFP

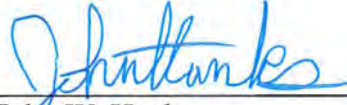
Next Steps in All-Sources RFP Evaluation Process



- **October / November 2022:** Bid Evaluation Period (tentative)
- **December 2022:** Definitive Agreements negotiated with All-Sources RFP winning bidders (tentative)
- **Bid evaluation considers both cost and non-cost factors**
 - Asset Cost - levelized cost for resources
 - Facility Reliability and Deliverability
 - Development Risk
 - Asset Specific Benefit and Risk Factors
 - Conformance with technical specifications
- **Representative cost and performance characteristics by technology have been developed based on RFP bids and have been provided to the IRP team for portfolio optimization modeling**
 - IRP to determine the preferred portfolio for bid selection and execution

AFFIRMATION

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



John W. Hanks
Utility Analyst II
Indiana Office of Utility Consumer Counsel
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. 2 Redacted Testimony of OUCC Witness John W. Hanks* has been served upon the following counsel of record in the captioned proceeding by electronic service on April 16, 2024.

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