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. 8-1-8.5 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

IURC
PUBLIC'S CX-1
EXHIBIT NO. 7-11-24
DATE REPORTER

CAUSE NO. 45947

OFFICIAL
EXHIBITS

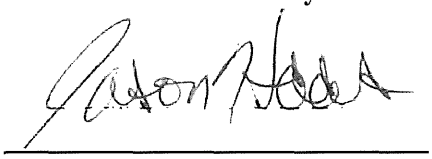
SUBMISSION OF DATA RESPONSES IN LIEU OF CROSS EXAMINATION

The Indiana Office of Utility Consumer Counselor ("OUCC"), by counsel, hereby submits certain responses to data requests, the admission of which has been stipulated to by Northern Indiana Public Service Company LLC, ("NIPSCO") the Petitioner in this Cause, in lieu of cross examination. Specifically, the stipulated data responses are: (1) NIPSCO's Response to OUCC DR 11-1, including Attachment A, (2) 11-3, (3) 12-3, including Confidential Attachment A, (4) 12-4,

including Confidential Attachment A, and (5) 13-1, including Confidential Attachments A and B. The confidential portions of the responses and attachments will be filed separately under seal with the Commission.

Respectfully submitted,

Indiana Office of Utility Consumer Counselor



T. Jason Haas
Deputy Consumer Counselor

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Eleventh Set of Data Requests
[Gray Highlight indicates Highly Confidential Information]

OUCC Request 11-001:

Please refer to the rebuttal testimony of Steven Warren, p. 20, lines 4-8 and p 20, line 16 to p. 21, line 7.

a. What are the specific performance specifications of the proposed CT Project that require the capabilities listed for aeroderivative turbines?
b. Does NIPSCO expect the capability of requiring full power within five minutes will be needed?
c. Does NIPSCO expect the facility will experience multiple starts and stops during its operational periods?
d. Does NIPSCO expect the facility will experience multiple stops and starts in a manner that would impact maintenance cycles for industrial frame turbines but not aeroderivative turbines?
e. In what way(s) is an aeroderivative turbine have "higher efficiency" compared to industrial frame gas turbines?
f. Does NIPSCO require remote operation capability of the proposed CT project?
g. Please provide any modeling or other data supporting the responses to the questions above, including all data sources and all mathematical or statistical analysis performed to derive model inputs or draw conclusions.

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.

NIPSCO further objects to subpart (c) of this Request on the separate and independent grounds and to the extent that this Request is vague and ambiguous as the term "operational periods" is undefined.

NIPSCO objects to the subpart (g) of this Request on the grounds and to the extent the Request is overly broad and unduly burdensome in that it seeks "all data sources and all mathematical or statistical analysis."

Response:

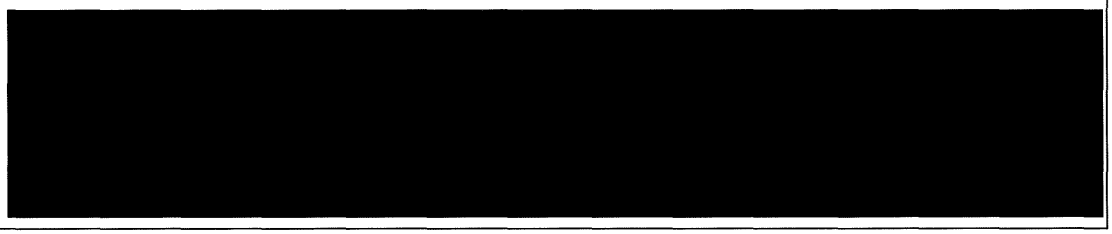
Subject to and without waiver of the foregoing general and specific objections, NIPSCO is providing the following response:

a. Performance specifications for the combustion turbine equipment for the CT Project were established by the Engineering Study (Confidential Attachment 4-A sponsored by NIPSCO Witness Warren) as well as the Flexible Resource Analysis (Confidential Attachment 7-D sponsored by NIPSCO Witness Augustine).

b. Yes. NIPSCO expects to utilize the capability to start quickly. The ability to start and dispatch resources quickly allows NIPSCO the flexibility to align with the quick fluctuations of electric generation coming from intermittent renewable resources. As stated in response to OUCC Request 8-014, Pages 9 and 10 of Confidential Attachment 7-D sponsored by NIPSCO Witness Augustine provide quantification of the potential 3-hour and 10-minute upward ramp requirements for NIPSCO's portfolio in the future. The CT Project will be part of NIPSCO's portfolio that provides ramping capabilities to meet the identified needs.

c. NIPSCO expects the combustion turbines to start and stop more frequently than its existing thermal resources, particularly in the summer and winter seasons. In addition, although NIPSCO's Flexible Resource Analysis was not a chronological dispatch analysis, Confidential Attachment 7-D sponsored by NIPSCO Witness Augustine summarizes how NIPSCO expects the magnitude of 3-hour and 10-minute ramp requirements to increase over time as a result of uncertainties in load and renewable output (see slides 59 and 62 in particular). Flexible units would be needed to start or ramp up to meet such requirements.

d. Yes. The operation and maintenance cycles for industrial frame machines are either based on number of starts or number of operating hours. Because aeroderivative machines are designed for start/stop cycles of operation, the maintenance cycles are typically determined on hours of operation only.



[redacted]

A unit operated in simple cycle service will generally experience more starts compared to extended hours of operation. A typical peaking facility might have between 100 to 300 starts per year with the hours of operation being less than 10% of the year (<1,000 hours). See OUCC Request 11-001 Attachment A for a summary of the annual projection of starts and hours run for the new gas peaker modeled in NIPSCO's 2023 portfolio analysis as one indicative data point. (Note that projected starts have previously been documented in Attachment B to NIPSCO's response to CAC Request 1-010 and projected hours run have previously been documented in Attachment B to NIPSCO's response to CAC Request 1-010 and in NIPSCO's response to CAC Request 1-019.)

Assuming 100 starts per year, an industrial frame unit would experience approximately 1,250 starts in approximately 12 years triggering Hot Gas Path Inspection maintenance. It would take 32 or more years for an industrial frame unit to reach the 32,000 hours triggering Hot Gas Path Inspection maintenance. With the same 100 annual starts assumption, an industrial frame unit would experience 2,500 starts within approximately 25 years, and it would take more than 64 years to reach 64,000 hours of operation for a Major Inspection maintenance overhaul.

Based on the expected hours of operation, the LM6000 aeroderivative machine will take approximately 25 years for a Hot Section Exchange and approximately 50 years for a Major Overhaul based on hours of operation only. Therefore, for a peaking simple cycle facility, the number of starts will drive the industrial frame maintenance cycles and will not impact the maintenance cycles for the aeroderivative machines.

e. Gas combustion turbine efficiency is measured as a ratio of the energy supplied to the unit in the form of fuel divided by the amount of actual work output. The term used for this value is heat rate. The lower the heat rate, the higher the efficiency of the simple cycle gas combustion turbine. The aeroderivative turbine has a lower heat rate than the industrial frame turbine. [redacted]

f. While not required, NIPSCO intends to design the CT Project for potential remote operation capabilities for one or more of its combustion turbines.

g. See objection. NIPSCO has either referenced or included supportive data and modeling in its responses to subparts a. through f. above.

Year	Start Ups	Hrs Run
2028	109	700
2029	154	872
2030	141	855
2031	134	848
2032	121	712
2033	118	690
2034	108	612
2035	94	589
2036	125	729
2037	121	660
2038	121	646
2039	127	679
2040	139	746
2041	139	734
2042	169	813

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Eleventh Set of Data Requests
[Gray Highlight indicates Highly Confidential Information]

OUCC Request 11-003:

Please refer to the rebuttal testimony of Patrick Augustine, p. 29, lines 2-12, the rebuttal testimony of Stephen Holcomb, p. 7, lines 3-7, and the rebuttal testimony of Alison Becker, p. 11, lines 13-18.

a. What are the "expected operational characteristics of NIPSCO's proposed units"?
b. Does NIPSCO consider the industrial frame not meeting the intermediate load emission standard as an "operational limitation" considering the [redacted] of the CT Project?
c. Does NIPSCO anticipate it will operate the CT Project with a capacity factor of between 20-40%? If so, please provide all supporting information, including an update on the projected or expected annual capacity factor for the CT Project.
d. Are there any technologies, such as intercooling technology, that would need to be added to the aeroderivative turbines' design to meet the CO_2 standards for intermediate load combustion turbines? If so, please list each technology, its respective cost, and indicate if NIPSCO has accounted for this technology in its cost estimate.

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. The "expected operational characteristics of NIPSCO's proposed units," as referenced in NIPSCO Witness Augustine's rebuttal testimony on p. 29 at lines 5-6, refer to the choice of natural gas as the fuel and the expected unit heat rates of the proposed CT Project documented by NIPSCO Witness Warren in Confidential Attachment 4-A to his direct testimony. The choice of natural gas allows any new unit to operate up to a 20% capacity factor, while the unit heat rate (a measure of the efficiency of converting fuel to electricity) will impact the unit emission rate and determine whether a given unit will be able to operate

within the 20-40% capacity factor band by achieving the 1,170 lb CO2/MWh target referenced by Witness Augustine on p. 29 at lines 5 and 9 in his rebuttal testimony.

b. As noted by NIPSCO Witness Becker in her rebuttal testimony on p. 11, lines 14-16, the expected emission rate of the industrial frame unit would result in an "operational limitation" on its capacity factor. While NIPSCO's analysis of capacity factor projections (as summarized in NIPSCO's response to sub-part (c) of this request) indicates that NIPSCO does not currently expect the CT Project to economically operate above a 20% capacity factor, if market conditions were to make higher operations economic, a limitation would exist on units unable to achieve the rule's emission rate standards.

c. NIPSCO's supplemental response to CAC Request 1-019 contains NIPSCO's most current available analysis regarding projected capacity factors and hours of operation, and no additional formal analysis has been performed to date. That said, higher capacity factors could be realized in the future that differ from the assumptions used in the 2023 portfolio analysis and should future circumstances present a need to run the units at higher capacity factors than currently projected, the finalization of EPA's greenhouse gas rule provides a flexibility for the aeroderivative units not enjoyed by the industrial frame units.

d. No. The aeroderivative gas turbines are being procured with available options to help meet the CO2 standards but those technologies are not required to meet CO2 standards. The gas turbines are being procured with inlet cooling and interstage cooling (i.e. SPRINT). Both of these options help improve the efficiency of the unit lowering the CO2. Additionally, the units are being procured with improved air filtration equipment (pulse air filtration), which also helps the units maintain higher operating efficiency through low air inlet pressure drop from the optional filtration equipment and removal of contaminants from the air stream that could impair the overall efficiency of the gas turbine lowering the CO2 values. In addition, NIPSCO is procuring an online/offline water wash system. Use of this system will help restore operating efficiency by periodically cleaning the turbine which will help reduce the CO2.

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Twelfth Set of Data Requests

OUCC Request 12-003:
Please identify with specificity every current NIPSCO generating unit used for peaking by providing the name, location, nameplate capacity, current start and ramp time, and current MISO seasonally accredited capacity. (Throughout this Data Request, "start time" shall mean the time elapsed from the dispatch request to connection and the provision of energy to distribution and/or transmission customers, and "ramp time" shall mean the time elapsed from connection and the provision of energy to distribution and/or transmission to obtain either requested or maximum capacity.)
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: NIPSCO's response to this request is shown in OUCC Request 12-003 Confidential Attachment A.

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Twelfth Set of Data Requests

OUCC Request 12-004:
For each NIPSCO peaking generation unit, please provide its dispatch frequency or number of total dispatch events by year for 2022 and for 2023, detailing it by dispatch for distribution needs and dispatch for MISO requests.
Objections:
NIPSCO objects to this Request on the grounds and to the extent that this Request is vague and ambiguous as the phrase "by dispatch for distribution needs" is undefined and is written in a way that is unclear as to what is being requested NIPSCO further objects to this Request on the separate and independent 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: Please see OUCC Request 12-004 Confidential Attachment A.

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Thirteenth Set of Data Requests
Gray Highlight Indicates Confidential Material

OUCC Request 13-001:

Regarding the rebuttal testimony of Greg Baacke, page 11. Fully explain the [redacted]"), including explaining its success, reliability, current operating condition, frequency of use, maintenance requirements, capacity, [redacted] completed, and availability, and provide the following related information:

a) the number of times the [redacted] has been [redacted] utilized [redacted]
b) whether the [redacted] is currently ready for deployment;
c) the percentage of availability the [redacted] experienced during the most recent planning year;
d) whether the [redacted] has experienced any operational failures and if so, please state when these occurred and the duration for each such failure; and
e) whether the [redacted] saved NIPSCO any cost as compared with previous traditional [redacted] support methods.

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.

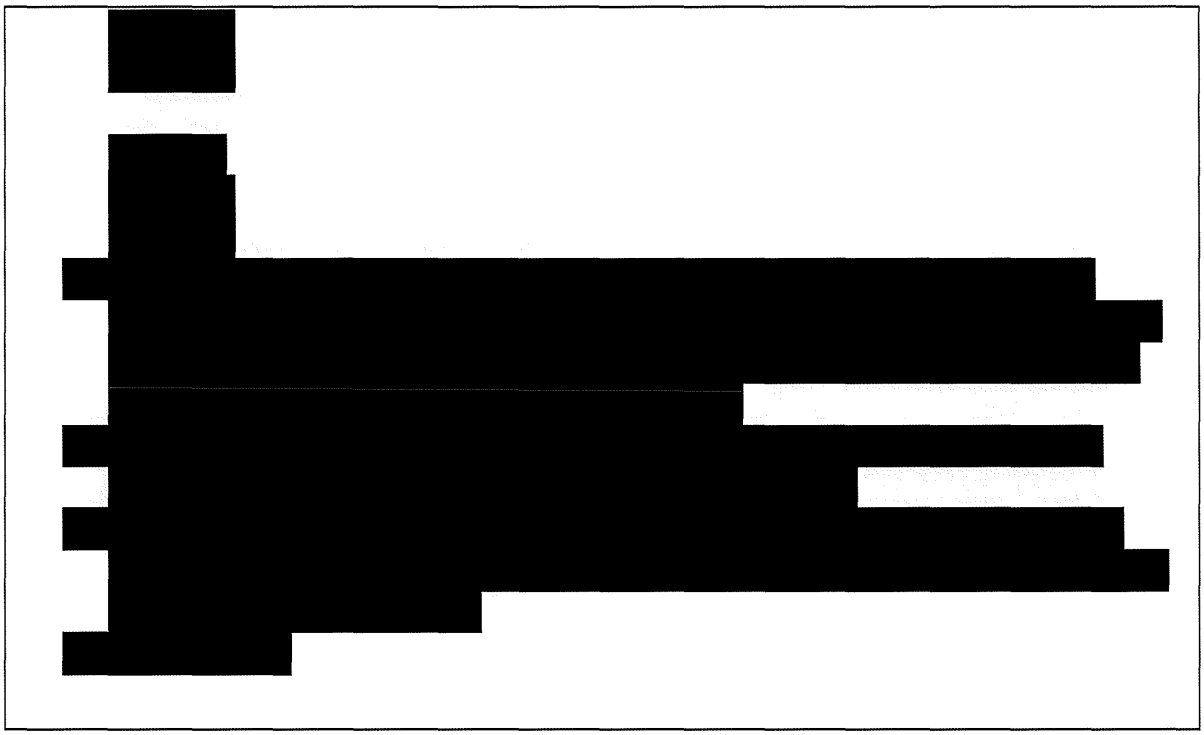
NIPSCO objects to subpart (e) of this Request on the grounds and to the extent it solicits an analysis, calculation or compilation which has not already been performed and which NIPSCO objects to performing.

Response:

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

[redacted]

Cause No. 45947
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Thirteenth Set of Data Requests
Gray Highlight Indicates Confidential Material



Certificate of Service

This is to certify that a copy of the foregoing ***Indiana Office of Utility Consumer Counselor's Submission of Data Response in Lieu of Cross Examination*** has been served upon the following counsel of Record in the captioned proceeding by electronic service on July 9, 2024.

Intervenor-Citizens Action Coalition
Jennifer A. Washburn
Citizens Action Coalition
jwashburn@citact.org

Copy to:
Reagan Kurt
rkurtz@citact.org

Petitioner
Bryan M. Likins
Tiffany Murray
Alison Becker
Debi McCall
NISOURCE CORPORATE SERVICES-LEGAL
blikins@nisource.com
tiffanymurray@nisource.com
abecker@nisource.com
demccall@nisource.com

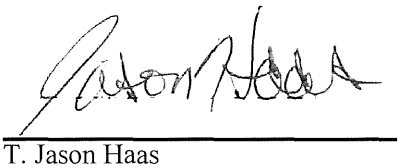
Intervenor-Primary Energy Recycling
Phillip Casey
Taylor Carpenter
CALFEE HALTER & GRISWOLD LLP
pcasey@calfee.com
tcarpenter@calfee.com

Intervenor-Industrial Group
Todd A. Richardson
Joseph P. Rompala
LEWIS & KAPPES, P.C.
trichardson@lewis-kappes.com
jrompala@lewis-kappes.com

Petitioner
Nicholas K. Kile
Lauren Aguilar
BARNES & THORNBURG LLP
nicholas.kile@btlaw.com
lauren.aguilar@btlaw.com

Intervenor-Union
Anthony Alfano
UNITED STEELWORKERS
aalfano@usw.org

Copy to:
Antonia Domingo
adomingo@usw.org



T. Jason Haas
Deputy Consumer Counselor

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
115 West Washington Street
Suite 1500 South
Indianapolis, IN 46204
infomgt@oucc.in.gov
thaas@oucc.in.gov
317/232-3315 – Jason's Direct Line
317/232-2494 – Phone
317/232-5923 – Facsimile