FILED April 16, 2015 INDIANA UTILITY REGULATORY COMMISSION

# STATE OF INDIANA

# INDIANA UTILITY REGULATORY COMMISSION

PETITION OF VERIFIED DUKE ENERGY ) INDIANA, INC. FOR APPROVAL (i) OF ) FOUR SOLAR PURCHASED POWER (4) ) AGREEMENT; (ii) TIMELY RECOVERY ) RETAIL OF THE JURISDICTIONAL ) PORTION OF PURCHASED POWER COSTS ) THROUGH RETAIL RATES PURSUANT ) TO INDIANA CODE 8-1-8.8; (iii) APPROVAL **CAUSE NO. 44578** ) ALTERNATIVE REGULATORY OF AN ) PLAN PURSUANT TO INDIANA CODE ) § 8-1-2.5-1 ET SEQ. FOR A MODIFICATION ) TO ITS GOGREEN STANDARD CONTRACT ) RIDER NO. 56; AND (iv) CONFIDENTIAL ) TREATMENT OF PRICING AND OTHER ) PROPRIETARY TERMS OF THE ) PURCHASED POWER AGREEMENTS )

# **INDUSTRIAL GROUP'S SUBMISSION OF DIRECT TESTIMONY**

The Duke Industrial Group, by counsel, hereby submits its Direct Testimony and Exhibit

of Nicholas Phillips, Jr.

Respectfully submitted,

LEWIS & KAPPES, P.C.

/s/ Jennifer W. Terry

Timothy L. Stewart, Atty No. 2189-49 Jennifer W. Terry, Atty No. 21145-53-A

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# **CERTIFICATE OF SERVICE**

The undersigned counsel hereby certifies that a copy of the foregoing document was served via electronic mail, hard copies available upon request, this 16<sup>th</sup> day of April, 2015, upon the following:

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# **STATE OF INDIANA**

# INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY INDIANA, INC. FOR (i) APPROVAL OF FOUR (4) SOLAR PURCHASED POWER AGREEMENTS; (ii) TIMELY RECOVERY OF THE RETAIL JURISDICTIONAL PORTION OF PURCHASED POWER COSTS THROUGH RETAIL RATES PURSUANT TO INDIANA CODE 8-1-8.8; (iii) APPROVAL OF AN ALTERNATIVE REGULATORY PLAN PURSUANT TO INDIANA CODE § 8-1-2.5-1 *ET SEQ.* FOR A MODIFICATION TO ITS *GOGREEN* STANDARD CONTRACT RIDER NO. 56; AND (iv) CONFIDENTIAL TREATMENT OF PRICING AND OTHER PROPRIETARY TERMS OF THE PURCHASED POWER AGREEMENTS

**CAUSE NO. 44578** 

Direct Testimony and Exhibit of

Nicholas Phillips, Jr.

On behalf of

**Duke Industrial Group** 

April 16, 2015



Project 10057

# STATE OF INDIANA

# INDIANA UTILITY REGULATORY COMMISSION

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# Direct Testimony of Nicholas Phillips, Jr.

# 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

- 2 A Nicholas Phillips, Jr. My business address is 16690 Swingley Ridge Road, Suite 140,
- 3 Chesterfield, MO 63017.

# 4 Q WHAT IS YOUR OCCUPATION?

5 A I am a consultant in the field of public utility regulation and a Managing Principal of 6 Brubaker & Associates, Inc., energy, economic and regulatory consultants. Our firm 7 and its predecessor firms have been in this field since 1937 and have participated in 8 more than 1,000 proceedings in forty states and in various provinces in Canada. We 9 have experience with more than 350 utilities including many electric utilities, gas 10 pipelines and local distribution companies ("LDCs"). I have testified in many electric and gas rate proceedings on virtually all aspects of ratemaking. More details are
 provided in Appendix A attached to this testimony.

## 3 Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

- A The Duke Industrial Group ("Industrial Group"). Industrial Group members purchase
  substantial quantities of electric energy from Duke Energy Indiana, Inc. ("Duke" or
  6 "Company").
- 7QHAVE YOU BEEN INVOLVED WITH PRIOR PROCEEDINGS BEFORE THE8INDIANA UTILITY REGULATORY COMMISSION ("IURC" OR "COMMISSION")?
- 9 A Yes. I have been involved in prior proceedings before this Commission and have
  10 presented testimony in many of those proceedings. I have either presented
  11 testimony or been involved in numerous Duke (formerly PSI) electric cases before
  12 this Commission over the last 30 years.

#### 13 Q WHAT IS THE SUBJECT MATTER OF YOUR DIRECT TESTIMONY?

A My testimony is directed toward the Duke's request for approval of four solar
Purchased Power Agreements ("PPA") and cost recovery of those agreements
through tracking mechanisms for a 20-year period.

#### 17 Q DOES THE FACT THAT YOU DID NOT ADDRESS EVERY ISSUE RAISED IN

# 18 DUKE'S TESTIMONY MEAN THAT YOU AGREE WITH DUKE'S TESTIMONY ON 19 THOSE ISSUES?

A No. It merely reflects that I did not choose to address all those issues. It should not
be read as an endorsement of, or agreement with, Duke's position on such issues.

#### BRUBAKER & ASSOCIATES, INC.

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1 Q HAVE YOU REVIEWED DUKE'S FILING IN THIS DOCKET?
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- 2 A Yes. Duke presents its proposal for approval and cost recovery of four solar
- 3 purchased power contracts.

# 4 Q DO YOU HAVE CONCERNS WITH DUKE'S REQUEST?

- 5 A Yes. My concerns are listed below:
- The driver for this proceeding appears to be Duke's obligation under a Settlement Agreement with certain parties for the Edwardsport Station Air Permit. Duke shareholders should be responsible for any obligations under the Settlement Agreement, not ratepayers. Duke should not be allowed to burden ratepayers with additional costs through a tracking mechanism because of its agreement.
- Duke has not demonstrated the need for additional capacity. To the contrary,
   Duke's 2014 Summer Reliability presentation shows Zonal Resource Credit
   ("ZRC") sales of 734 MW which is basically excess capacity.
- Duke's most recent Integrated Resource Plan ("IRP") completed in 2013, did not call for the addition of any solar capacity until 2018. Duke also noted that the cost of solar generation is declining. The solar projects are not reasonable or necessary at this time. Deferring solar purchases until Duke has a need for capacity and presents an economic analysis showing it is a least cost option is a preferred approach.
- 4. Duke Energy does not need additional experience with solar capacity. Duke
  Energy Carolinas has presented testimony in North Carolina with concerns about
  too much solar capacity on its electric system. Duke Energy Renewables is a
  subsidiary that has experience with 23 solar farms.
- 5. The abbreviated economic analysis Duke does present in this case is inconsistent with its IRP analysis. Duke's testimony claims that 20 MW of solar nameplate capacity translates into 14 MW (70%) of equivalent capacity. However, Duke's filed 2013 IRP indicates solar nameplate capacity is equivalent to 42% of capacity available to meet peak demand which results in equivalent capacity of 8.4 MW.
- 29
   6. Duke's ratepayers are currently subject to numerous trackers, charging additional costs to ratepayers through tracking mechanisms should not be allowed.
- Solar capacity costs should not be allowed in the fuel cost tracker. Solar capacity
   is not fuel, volatile or necessary to serve customers. The Duke FAC proceedings
   have involved excess coal inventory issues and additional solar capacity may
   complicate this issue.
- 8. If the Commission grants solar capacity cost recovery through a tracking
   mechanism, the cost should be allocated to classes on a demand factor.

However, there is an issue with the accuracy of Duke's demand factors because
 they were developed based on 2002 data which is no longer reflective of current
 usage characteristics of certain customer classes, such as the HLF class. Duke
 should be required to update its demand allocation factors.

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# 6 Q WHAT REASONS DID DUKE PROVIDE REGARDING THE DECISION TO

- 7 PURSUE SOLAR CAPACITY?
- 8 A Duke provides three basis reasons for its decision to secure solar capacity.
- 9 1) Expand and diversify its generation portfolio.
- 10 2) Gain experience with solar capacity.
- Comply with an Agreement between Duke Energy Indiana and Sierra Club, Valley
   Watch, Inc., and Citizens Action Coalition of Indiana, Inc. to resolve issues for the
   Edwardsport Station Air Permit Settlement.
- 14 It is my understanding that Duke could enter into the PPAs and achieve these
- 15 objectives without a tracker. It appears, therefore, that this case is driven by Duke's
- 16 desire for ratepayers to fully bear the costs of this project.

# 17 Q WOULD YOU ELABORATE FURTHER ABOUT A DUKE OBLIGATION WITH

# 18 **RESPECT TO AN AGREEMENT IN AN EDWARDSPORT CASE?**

- 19 A A Duke obligation to settle an Edwardsport matter should not result in additional costs
- 20 to ratepayers for the installation of capacity that is not required. A Duke settlement
- 21 obligation is not a ratepayer obligation or a Commission mandate. Duke should not
- be permitted to transfer its obligation to acquire some solar generation to ratepayers.

# 23 Q DID DUKE PROVIDE INFORMATION DEMONSTRATING THAT IT NEEDED

# 24 ADDITIONAL CAPACITY TO MEET RESERVE MARGIN REQUIREMENTS?

A No. Duke's last presentation regarding summer reliability indicated that it had more
 than adequate capacity to meet its capacity requirements, including reserve margin.

Exhibit NP-1 is from Duke's 2014 Summer Reliability presentation which shows Duke
is able to sell 734 MW of ZRCs to other utilities or MISO. Duke does not need
additional capacity if it is selling ZRCs. The 734 MW is basically excess capacity
above what is required for reserves.

# 5 Q PLEASE COMMENT ON DUKE'S NEED FOR EXPERIENCE WITH SOLAR 6 INSTALLATIONS.

7 A Duke Energy Indiana's sister company in North Carolina has indicated that it is
8 concerned with having too much solar capacity installed on its system. In addition,
9 Duke Energy Renewables has been involved with 23 large solar farm installations in
10 different areas of the United States. Duke Energy is the largest electric power
11 company in the United States and has experience with solar capacity.

# 12 Q DO YOU HAVE COMMENTS REGARDING DUKE'S TESTIMONY REGARDING 13 THE ECONOMIC ANALYSIS OF ITS SOLAR PPA CONTRACTS?

A For the analysis presented in this proceeding Duke's testimony indicates that 20 MW of nameplate solar capacity equates to 14 MW of equivalent capacity. However, Duke's IRP states that solar capacity is equivalent to 42% of capacity to meet peak demand, which translates to equivalent capacity of only 8.4 MW. Solar capacity to meet peak demand is not the same as solar nameplate capacity and an economic analysis on this basis of higher peak capacity would not be accurate. In that regard, Duke's IRP cautions:

21 "One must remember that busbar chart comparisons involving some
22 renewable resources, particularly wind and solar resources, can be
23 somewhat misleading because these resources do not contribute their

6 Q ARE THERE ANY OTHER REASONS WHY AVOIDING THE INCURRENCE OF

## 7 UNNECESSARY COSTS IS IMPORTANT?

- 8 A Duke's rates have risen significantly since its last rate case. In Duke's last base rate
- 9 case, the Company's witnesses testified that its average electric rates were
- 10 significantly below national rate averages and also below Indiana rate averages. As
- 11 shown in Table 1, Duke's rates have increased at a much higher percentage (almost
- 12 double) than the national average, and by much more than the average of the
- 13 percentage increase of investor owned utilities in Indiana.

#### TABLE 1

## Analysis of Change in PSI/Duke Rates Compared to National Average and Indiana Average

	Rate Cents per KWh		
	<u>2001</u> <sup>1</sup>	<u>2013</u> <sup>2</sup>	% Increase
PSI/Duke Overall Rate	4.78	9.03	88.9
National Average Rate	7.11	10.41	46.4
Indiana Investor Owned Average Rate	5.63	8.70	54.5
<sup>1</sup> Esamann Direct, page 32, Cause No. 4 <sup>2</sup> RRA Report July 7, 2014.	2359.		

#### 14

The change in Duke's industrial rates between 2001 and 2013 is even more

# 15

severe. Duke's industrial rates have increased from 3.53¢ per kWh to 7.29¢ per kWh,

<sup>&</sup>lt;sup>1</sup>For purposes of this IRP, wind resources are assumed to contribute 9% of installed capacity at the time of peak and solar resources are assumed to contribute 42% of installed capacity at the time of peak.

or in excess of 100%. According to Regulatory Research Associates, Inc. ("RRA"),
 Duke Industrial rates are now 0.46¢ above the national average industrial rate of
 6.83¢ per kWh.

# 4 Q PLEASE COMMENT ON DUKE'S REQUEST FOR COST RECOVERY OF THESE 5 20 YEAR SOLAR PURCHASED POWER CONTRACTS.

A These long-term contracts are not fuel and if it is determined the purchases are
needed and economic, the costs should be collected through base rates. These
long-term contracts are neither volatile or beyond the control of the utility. If the
Commission is compelled to authorize an incentive, it should be something other than
a tracking mechanism.

# 11 Q IS THERE ANOTHER PROBLEM WITH COLLECTING SOLAR CAPACITY COSTS

# 12 THROUGH THE FUEL RECOVERY TRACKING MECHANISM?

13 A Yes. In past FACs, Duke has had problems with excess coal inventory. Adding solar 14 purchases may, to some extent, decrease coal-fired generation, which would add 15 another element of complexity to the FACs regarding excess coal and distort 16 economic dispatch. This would result in higher cost to ratepayers.

# 17 Q DO YOU HAVE OTHER CONCERNS ABOUT COST ALLOCATION?

18 A Yes. Duke indicates that the solar projects provide capacity. Well established 19 cost-causation principles recognized by this Commission allocate capacity on 20 demand, not by sales volume. Duke's IRP states solar generation contributes more 21 at the time of the summer peak than wind generation. IRP p. 75. Furthermore, in Cause No. 44511, the Commission recently approved a demand allocation for I&M's
 solar pilot project.

3 Merely because Duke required through its RFP that the solar contracts 4 contain pricing on a \$ per MWh basis, does not mean it is appropriate to allocate the 5 costs to customers in that manner.

6 If the contracts are approved, the costs should be allocated to rate classes on 7 a demand basis. The problem is, however, that Duke's demand allocation factors are 8 based on a 2002 cost study filed by PSI. Those factors are not current and would 9 lead to unfairly discriminatory costs to the Rate HLF class which has decreased in 10 size. An analysis of Rate HLF sales levels compared to total Company retail sales is 11 shown on Table 2.

TABLE 2 Comparison of Change in <u>Sales Levels from Cause No. 42359 to 2013</u>				
	Rate HLF <u>Sales MWh</u>	Total Retail <u>Sales MWh</u>		
Cause No. 42359 2013 Change % Change	12,444,728 10,949,438 (1,495,290) (12.0%)	25,448,954 28,003,070 2,554,116 10.0%		
Source: Testimony, Cause No. 44526				

Overall Company sales have increased by approximately 10% while Rate HLF sales
 have decreased by 12%. Duke should be required to file and seek approval of
 updated demand allocation factors before recovering any costs for the solar projects.

1 **Q** 

# WHAT DO YOU RECOMMEND?

2 А As a prerequisite for cost recovery, the need for additional capacity must be 3 established. Without a need for capacity, these purchases are excess costs and not 4 reasonable or necessary. Duke Energy and its affiliates have experience with solar 5 purchases and solar installations and DEI can and should draw on the experience 6 with its sister companies to the extent required. Any economic analysis should be transparent and consistent with Duke's IRP. Long-term fixed contracts are not costs 7 8 appropriate for a tracking mechanism. They are known, fixed and appropriate for 9 consideration in a base rate case. If the Commission allows the purchase, and allows 10 tracker recovery, the costs are capacity related and most appropriately allocated to 11 classes on a demand allocator reflective of current customer usage characteristics. 12 Duke should be required to file and seek approval of updated demand allocation 13 factors.

#### 14 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

15 A Yes, it does.

# **Qualifications of Nicholas Phillips, Jr.**

## 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

- 2 A Nicholas Phillips, Jr. My business address is 16690 Swingley Ridge Road, Suite 140,
- 3 Chesterfield, MO 63017.

## 4 Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with
the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory
consultants.

# 8 Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL 9 EMPLOYMENT EXPERIENCE.

A I graduated from Lawrence Institute of Technology in 1968 with a Bachelor of Science
 Degree in Electrical Engineering. I received a Master's of Business Administration
 Degree from Wayne State University in 1972. Since that time I have taken many
 Masters and Ph.D. level courses in the field of Economics at Wayne State University
 and the University of Missouri.

15 I was employed by The Detroit Edison Company in June of 1968 in its 16 Professional Development Program. My initial assignments were in the engineering 17 and operations divisions where my responsibilities included the overhead and 18 underground design, construction, operation and specifications for transmission and 19 distribution equipment; budgeting and cost control for operations and capital 20 expenditures; equipment performance under field and laboratory conditions; and emergency service restoration. I also worked in various districts, planning system
 expansion and construction based on increased and changing loads.

3 Since 1973, I have been engaged in the preparation of studies involving 4 revenue requirements based on the cost to serve electric, steam, water and other 5 portions of utility operations.

6 Other responsibilities have included power plant studies; profitability of various 7 segments of utility operations; administration and recovery of fuel and purchased 8 power costs; sale of utility plant; rate investigations; depreciation accrual rates; 9 economic investigations; the determination of rate base, operating income, rate of 10 return; contract analysis; rate design and revenue requirements in general.

I have held various positions including Supervisor of Cost of Service,
 Supervisor of Economic studies and Depreciation, Assistant Director of Load
 Research, and was designated as Manager of various rate cases before the Michigan
 Public Service Commission and the Federal Energy Regulatory Commission. I was
 acting as Director of Revenue Requirements when I left Detroit Edison to accept a
 position at Drazen-Brubaker & Associates, Inc., in May of 1979.

The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and
has assumed the utility rate and economic consulting activities of Drazen Associates,
Inc., active since 1937. In April 1995, the firm of Brubaker & Associates, Inc. was
formed. It includes most of the former DBA principals and staff.

21 Our firm has prepared many studies involving original cost and annual 22 depreciation accrual rates relating to electric, steam, gas and water properties, as 23 well as cost of service studies in connection with rate cases and negotiation of 24 contracts for substantial quantities of gas and electricity for industrial use. In these 25 cases, it was necessary to analyze property records, depreciation accrual rates and

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reserves, rate base determinations, operating revenues, operating expenses, cost of
 capital and all other elements relating to cost of service.

In general, we are engaged in valuation and depreciation studies, rate work,
feasibility, economic and cost of service studies and the design of rates for utility
services. In addition to our main office in St. Louis, the firm also has branch offices in
Phoenix, Arizona and Corpus Christi, Texas.

# 7 Q WHAT ADDITIONAL EDUCATIONAL, PROFESSIONAL EXPERIENCE AND 8 AFFILIATIONS HAVE YOU HAD?

9 A I have completed various courses and attended many seminars concerned with rate
10 design, load research, capital recovery, depreciation, and financial evaluation. I have
11 served as an instructor of mathematics of finance at the Detroit College of Business
12 located in Dearborn, Michigan. I have also lectured on rate and revenue requirement
13 topics.

# 14 Q HAVE YOU PREVIOUSLY APPEARED BEFORE A REGULATORY COMMISSION?

15 А Yes. I have appeared before the New Jersey Board of Public Utilities, the Public 16 Service Commissions of Arkansas, Delaware, Illinois, Indiana, Iowa, Kansas, 17 Kentucky, Maryland, Michigan, Missouri, Montana, New Jersey, New York, North 18 Carolina, Ohio, Pennsylvania, South Carolina, South Dakota, Virginia, West Virginia, 19 and Wisconsin, the Lansing Board of Water and Light, the District of Columbia, and 20 the Council of the City of New Orleans in numerous proceedings concerning cost of 21 service, rate base, unit costs, pro forma operating income, appropriate class rates of 22 return, adjustments to the income statement, revenue requirements, rate design, 23 integrated resource planning, power plant operations, fuel cost recovery, regulatory

- 1 issues, rate-making issues, environmental compliance, avoided costs, cogeneration,
- 2 cost recovery, economic dispatch, rate of return, demand-side management,
- 3 regulatory accounting and various other items.

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# Preparation for Summer 2014: Supply / Demand Balance for Summer 2014



# STATE OF INDIANA

# INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY INDIANA, INC. FOR (i) APPROVAL OF FOUR (4) SOLAR PURCHASED POWER AGREEMENTS; (ii) TIMELY RECOVERY OF THE RETAIL JURISDICTIONAL PORTION OF PURCHASED POWER COSTS THROUGH RETAIL RATES PURSUANT TO INDIANA CODE 8-1-8.8; (iii) APPROVAL OF AN ALTERNATIVE REGULATORY PLAN PURSUANT TO INDIANA CODE § 8-1-2.5-1 *ET SEQ.* FOR A MODIFICATION TO ITS *GOGREEN* STANDARD CONTRACT RIDER NO. 56; AND (iv) CONFIDENTIAL TREATMENT OF PRICING AND OTHER PROPRIETARY TERMS OF THE PURCHASED POWER AGREEMENTS

**CAUSE NO. 44578** 

#### VERIFICATION

I, Nicholas Phillips, Jr., a Consultant and Managing Principal of Brubaker & Associates, Inc., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information and belief.

whole Aullyn Nicholas Phillips, Jr.

April 16, 2015