

**DIRECT TESTIMONY OF PHILLIP BRANDON LANE
GENERAL MANAGER, DISTRIBUTED ENERGY PROJECTS
ON BEHALF OF DUKE ENERGY INDIANA, LLC
CAUSE NO. _____ BEFORE THE
INDIANA UTILITY REGULATORY COMMISSION**

I. INTRODUCTION

1

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Phillip Brandon Lane and my business address is 400 South Tryon Street,
4 Charlotte, NC 28202.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by Duke Energy Business Services as the General Manager of Distributed
7 Energy Projects.

8 **Q. WHAT ARE YOUR DUTIES AND RESPONSIBILITIES AS GENERAL
9 MANAGER OF DISTRIBUTED ENERGY PROJECTS?**

10 A. I am responsible for the efficient and effective execution of new distributed energy
11 projects in Duke Energy's regulated service territories, leading a team of project
12 managers/directors. These projects include combined heat and power ("CHP") projects
13 as well as solar projects such as the NSA Crane Solar Facility ("Crane Solar Facility" or
14 "Crane Solar Project") in southern Indiana.

15 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
16 BACKGROUND.**

17 A. I hold a Bachelor of Science in Civil Engineering as well as a Master of Business
18 Administration, both from North Carolina State University. I spent approximately 10
19 years with Progress Energy at the Harris Nuclear Plant in roles of progressive

1 responsibility in Engineering and Major Projects organizations. Shortly following the
2 merger with Duke Energy, I moved into a role in our Enterprise Project Management
3 Center of Excellence, which I ultimately led; in this role, I was responsible for
4 governance, oversight and support of projects across Duke Energy. I assumed my current
5 role, which was a newly created position within our Project Management and
6 Construction Department, in August of 2016.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

8 A. My testimony will provide an overview of the Commission's Order in Cause No 44734
9 approving the Settlement Agreement between Duke Energy Indiana and the Indiana
10 Office of Utility Consumer Counselor regarding the Crane Solar Facility. I will also
11 provide a progress report for the Crane Solar Facility. Finally, I will also give an update
12 on the costs incurred as of December 31, 2016 that I have provided to Ms. Suzanne E.
13 Sieferman for inclusion in rates.

14 **Q. PLEASE PROVIDE AN OVERVIEW OF THE COMPANY'S OTHER**
15 **WITNESSES IN THIS PROCEEDING.**

16 A. In addition to my testimony providing an update on the Crane Solar Facility, the
17 Company is also presenting the testimony of Mr. Mark D. Sager and Ms. Sieferman. Mr.
18 Sager's testimony will provide the Commission and interested parties an update on the
19 status of the Markland Hydro Uprate Project, which was approved by the Commission in
20 Cause No. 44767 on December 14, 2016. Ms. Sieferman will discuss the ratemaking
21 treatment requested by the Company in this proceeding.

1 **II. OVERVIEW OF COMMISSION CRANE SOLAR FACILITY ORDER**

2 **Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE CRANE SOLAR**
3 **PROJECT.**

4 A. The Crane Solar Project is a 17.25MW AC solar generation plant located at the NSA
5 Crane base near Bloomington, Indiana. This facility interconnects to Duke Energy
6 Indiana's 69 kV transmission line and is bid into the Midcontinent Independent System
7 Operator ("MISO") in the same way as other Duke Energy Indiana-owned generation.

8 **Q. PLEASE SUMMARIZE THE ORDER IN CAUSE NO. 44734 APPROVING THE**
9 **CRANE SOLAR FACILITY.**

10 A. The Commission approved the Crane Solar Facility as a clean energy project and granted
11 the Company a Certificate of Public Convenience and Necessity ("CPCN") for its
12 construction. The Commission also approved Duke Energy Indiana's installation of a
13 remote operable switch on the 69 kV line that serves NSA Crane, which will allow the
14 Crane Solar Facility to be isolated from Duke Energy's transmission network under
15 certain limited circumstances, and also for Duke Energy Indiana to study the feasibility of
16 incorporating future grid tied energy storage technologies to maintain electric services for
17 critical loads during a significant regional outage event.

18 The Commission also approved the creation of a new annual rider for utility-
19 owned renewable generation projects as well as recovery via the rider of the Company's
20 cost estimate of \$41.3 million for the Crane Solar Project including a contingency of
21 approximately four percent of the total project cost, exclusive of AFUDC and post-in-
22 service carrying costs. The Commission approved a limitation on recovery to the

1 approved estimate of \$41.3 million plus actual accrued AFUDC and post-in-service
2 carrying costs; however, to the extent MISO requires additional, unexpected transmission
3 upgrades as part of the interconnection for the Crane Solar Facility, the Company may
4 seek to recover those expenses in a subsequent renewable rider filing. The Commission
5 approved a limitation on recovery of \$400,000 for the remote operable switch and the
6 feasibility schedule. Additionally, the Commission approved other ratemaking terms that
7 will be discussed in detail in Ms. Sieferman's testimony.

8 **Q. DID THE COMMISSION APPROVE ANY REPORTING REQUIREMENTS**
9 **REGARDING THE CRANE SOLAR FACILITY?**

10 A. Yes. The Settlement Agreement required the Company to file a written status report by
11 December 30, 2016. This report was filed on December 22, 2016 and is attached to my
12 testimony as Petitioner's Exhibit 1-A. The Settlement Agreement also required that the
13 Company file a notification within 60 days of the Crane Solar Facility's in-service date.
14 This was filed on February 24, 2017 and is attached as Petitioner's Exhibit 1-B. For
15 subsequent annual rider filings, in accordance with the approved Settlement Agreement,
16 Duke Energy Indiana will provide the following information:

- 17
- 18 • Generation output of the solar generation system (with monthly detail);
 - 19 • The actual revenue requirement during the twelve (12) months covered by the report
20 ("reporting period");
 - 21 • The cost per kWh of electricity generated by the Crane Solar Facility during the
reporting period;

- 1 • The total REC proceeds (in U.S. dollars) associated with Petitioner's solar generation
2 at NSA Crane;
- 3 • The average annual billing impact on all customer classes; and
- 4 • Whether NSA Crane has purchased energy directly from the Crane Solar Facility at
5 any time during the reporting period and, if so, the amount of generation (in kWh)
6 NSA Crane purchased from Petitioner's Crane Solar Facility during each isolation
7 event, along with the starting date and time and the ending date and time of each such
8 event.

9 **Q. WILL DUKE ENERGY INDIANA BE PROVIDING AN UPDATE ON THE**
10 **REPORTING REQUIREMENTS IN THIS FILING?**

11 A. No. The Crane Solar Facility has been in-service less than three months as of this filing
12 and this filing covers the reporting period through the end of December 2016, prior to
13 declaration of in-service. The Company will provide all of the required information in
14 the Company's next filing in this proceeding.

15 **III. PROGRESS REPORT FOR CRANE SOLAR PROJECT**

16 **Q. WHAT IS THE CURRENT STATUS OF THE CRANE SOLAR PROJECT?**

17 A. The Crane Solar Project was placed in-service in late January 2017 and is performing as
18 anticipated with regards to capacity, providing clean energy to the Company's customers.

19 **Q. IS THE CRANE SOLAR FACILITY GENERATING POWER TO THE GRID?**

20 A. Yes. On days when there is sunshine, the Crane Solar Facility is generating power to
21 MISO.

1 **Q. HAS THE COMPANY INSTALLED A REMOTE OPERABLE SWITCH AT**
2 **CRANE AND BEGUN WORK ON ITS FEASIBILITY STUDY TO DETERMINE**
3 **THE FEASIBILITY OF INCORPORATING FUTURE GRID-TIED ENERGY**
4 **STORAGE TECHNOLOGIES TO MAINTAIN ELECTRIC SERVICES FOR**
5 **CRITICAL LOADS DURING A SIGNIFICANT REGIONAL OUTAGE EVENT?**

6 A. As of the time of this filing, work has not yet begun on the remote operable switch, nor
7 has the Company begun the feasibility study. The Company will provide an update in the
8 next filing.

9 **IV. PROJECT COST UPDATE**

10 **Q. WHAT WAS PETITIONER'S ESTIMATE OF THE COST OF THE CRANE**
11 **SOLAR PROJECT IN CAUSE NO. 44734?**

12 A. The total estimated cost for the Crane Solar Project was \$41.3 million, exclusive of
13 AFUDC and post-in-service carrying costs. The Commission found this cost estimate to
14 be reasonable and that it is the best estimate of construction costs based on the evidence
15 of record.

16 **Q. WHAT WERE THE ACTUAL COSTS FOR THE CRANE SOLAR PROJECT AS**
17 **OF THE CUT-OFF DATE OF THIS REPORTING PERIOD?**

18 A. Actual costs as of December 31, 2016 were \$36.2 million, exclusive of AFUDC.

19 **Q. DO YOU ANTICIPATE ANY FURTHER COSTS?**

20 A. Yes. As the project was not in-service on December 31, 2016 and it typically takes some
21 time to receive all invoices even after in-service, there will be additional costs incurred in

1 2017. We currently project a total project cost, exclusive of AFUDC and post-in-service
2 carrying costs, of approximately \$41.0 million.

3 **Q. PLEASE EXPLAIN WHAT TYPES OF O&M COSTS THE COMPANY**
4 **ANTICIPATES FOR THE CRANE SOLAR FACILITY.**

5 A. Maintenance activities required for the Crane Solar Facility include remote performance
6 monitoring; resolving any outage or system performance concerns; replacement of panels
7 as needed due to breakage or performance loss; routine maintenance of the inverters and
8 power transformers; repair of electrical connections, and routine vegetative management,
9 including mowing and vegetation control.

10 **Q. IS THE COMPANY SEEKING RECOVERY OF O&M COSTS FOR THE**
11 **CRANE SOLAR FACILITY?**

12 A. Yes. As stated in the approved settlement agreement, Duke Energy Indiana is seeking
13 recovery of O&M costs through this rider. O&M activities will be managed out of the
14 Company's Wheatland Generating Station and a technician will service the facility
15 according to an established maintenance plan, as needed. Estimated O&M was provided
16 to Ms. Sieferman for use in her rate calculations.

17 **V. CONCLUSION**

18 **Q. HAVE YOU REVIEWED THE INCURRED COSTS FOR THE CRANE SOLAR**
19 **PROJECT USED BY MS. SIEFERMAN FOR THIS PROCEEDING?**

20 A. Yes, I did and I concur with the costs she has used.

21 **Q. WERE EXHIBITS 1-A AND 1-B PREPARED BY YOU OR AT YOUR**
22 **DIRECTION?**

1 A. Yes.

2 **Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?**

3 A. Yes.

FILED
DECEMBER 22, 2016
INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY INDIANA,)
LLC FOR ISSUANCE OF A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY UNDER INDIANA)
CODE 8-1-8.5 FOR THE CONSTRUCTION OF A)
SOLAR-POWERED GENERATING FACILITY TO BE)
LOCATED AT NSA CRANE (“CRANE SOLAR)
FACILITY”); APPROVAL OF THE CRANE SOLAR)
FACILITY AS A CLEAN ENERGY PROJECT UNDER)
INDIANA CODE 8-1-8.8; AUTHORIZATION FOR) CAUSE NO. 44734
TIMELY RECOVERY OF THE ASSOCIATED)
CONSTRUCTION AND OPERATING EXPENSES)
THROUGH THE COMPANY’S EXISTING STANDARD)
CONTRACT RIDER NOS. 62 AND 71; APPROVAL TO)
DEFER COSTS ASSOCIATED WITH THE CRANE)
SOLAR FACILITY UNTIL SUCH COSTS ARE)
REFLECTED IN DUKE ENERGY INDIANA, LLC’S)
RATES AND CHARGES; AND APPROVAL OF A NEW)
DEPRECIATION RATE SPECIFIC TO THE PROPOSED)
CRANE SOLAR FACILITY)

UPDATE ON CRANE SOLAR FACILITY CONSTRUCTION

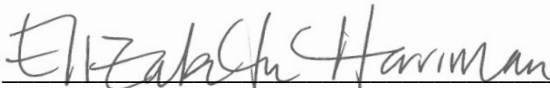
Pursuant to the Commission’s Final Order approving the Settlement Agreement filed by Duke Energy Indiana, LLC (“Duke Energy Indiana” or the “Company”) and the Indiana Office of Utility Consumer Counselor (“OUCC”), Duke Energy Indiana hereby submits this report on the status of construction and construction costs incurred during the previous twelve (12) months.

While the construction of the Crane Solar Facility experienced some delay earlier in the year due to heavy rains, it has proceeded smoothly. As of the date of this report, the racking, panels, inverters and transformers have all been set on their foundations and the installation of the cable is ongoing. Final wiring for the inverters is expected to be completed by the third week of December 2016. The project is currently expected to be completed and backfeeding from the

substation to the grid by approximately January 3, 2017, with in-service to follow shortly thereafter. Please see the attached recent aerial photograph of the site's construction activities.

Regarding the Company's cost estimate in this proceeding, we did experience an increase in our expected transmission interconnection cost, but were able to cover that increased expense with the contingency. The Crane Solar Facility remains on budget and is not expected to exceed the cost estimate approved in this proceeding. However, in light of the minor delays in construction, the project expects some expenses to be shifted into 2017 from 2016. As of the end of November 2016, Duke Energy Indiana has spent approximately \$30.9 million of the \$41.3 million estimate approved by the Commission.

DUKE ENERGY INDIANA, LLC

By: 
Counsel for Duke Energy Indiana, LLC

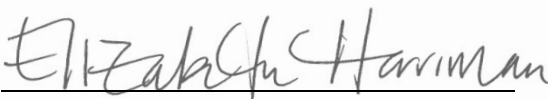
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CERTIFICATE OF SERVICE

The undersigned hereby certifies that copies of the foregoing *Update on Crane Solar Facility Construction* were delivered electronically this 22nd day of December, 2016, to the following:

Karol Krohn
Indiana Office Utility Consumer Counselor
115 West Washington Street
Suite 1500 South
Indianapolis, IN 46204
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By: 
Counsel for Duke Energy Indiana, LLC

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FILED
FEBRUARY 24, 2017
INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**VERIFIED PETITION OF DUKE ENERGY INDIANA,)
LLC FOR ISSUANCE OF A CERTIFICATE OF PUBLIC)
CONVENIENCE AND NECESSITY UNDER INDIANA)
CODE 8-1-8.5 FOR THE CONSTRUCTION OF A)
SOLAR-POWERED GENERATING FACILITY TO BE)
LOCATED AT NSA CRANE (“CRANE SOLAR)
FACILITY”); APPROVAL OF THE CRANE SOLAR)
FACILITY AS A CLEAN ENERGY PROJECT UNDER)
INDIANA CODE 8-1-8.8; AUTHORIZATION FOR)
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RATES AND CHARGES; AND APPROVAL OF A NEW)
DEPRECIATION RATE SPECIFIC TO THE PROPOSED)
CRANE SOLAR FACILITY)**

CAUSE NO. 44734

NOTICE OF PROJECT COMPLETION
ON THE CRANE SOLAR FACILITY

Pursuant to the Commission’s Final Order, dated July 6, 2016, approving the Settlement Agreement filed by Duke Energy Indiana, LLC (“Duke Energy Indiana”) and the Indiana Office of Utility Consumer Counselor (“OUCC”), Duke Energy Indiana hereby submits this notice of the project completion on the Crane Solar Facility.

On December 22, 2016, Duke Energy Indiana filed its Update on Crane Solar Facility Construction reporting that the project was expected to be completed and backfeeding from the substation to the grid in January, 2017, with in-service to follow shortly thereafter.

On January 31, 2017, the Crane Solar Facility went in service and the unit is producing power to the grid. Please see the attached aerial photograph of the completed and in service Crane Solar Facility.

Pursuant to the Settlement Agreement approved in this cause, Duke Energy Indiana will provide an update on the project as part of its renewable energy generation project rider proceeding, to be filed in March, 2017.

DUKE ENERGY INDIANA, LLC

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that copies of the foregoing *Notice of Project Completion on the Crane Solar Facility* were delivered electronically this 24th day of February, 2017, to the following:

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VERIFICATION

I hereby verify under the penalties of perjury that the foregoing representations are true to the best of my knowledge, information and belief.

Signed:  _____
Brandon Lane

Dated: 4/20/2017