

IURC
PETITIONER'S
EXHIBIT NO. 2
DATE 12-18-23 REPORTER JR

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**IURC CAUSE NO. 38707-FAC138
DIRECT TESTIMONY OF CHRISTOPHER J. RICCI
FILED OCTOBER 31, 2023**

FILED
October 31, 2023
INDIANA UTILITY
REGULATORY COMMISSION

**TESTIMONY OF CHRISTOPHER J. RICCI
LEAD PORTFOLIO MANAGEMENT MANAGER
DUKE ENERGY CAROLINAS LLC
ON BEHALF OF
DUKE ENERGY INDIANA, LLC
CAUSE NO. 38707-FAC138 BEFORE THE
INDIANA UTILITY REGULATORY COMMISSION**

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

2 A. My name is Christopher J. Ricci, and my business address is 525 South Tryon
3 Street, Charlotte, NC 28202.

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

5 A. I am employed as Lead Portfolio Management Manager for Duke Energy
6 Carolinas LLC ("Duke Energy"). In that capacity, I also provide services for
7 Duke Energy's other affiliate utility companies, including Duke Energy Indiana,
8 LLC ("Duke Energy Indiana").

9 **Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL**
10 **BACKGROUND.**

11 A. I began my career with Duke Energy's predecessor Cinergy Corp. in 2006 as a Sr.
12 Accounting Analyst. Since that time, I have held various analyst, and accounting
13 positions. I assumed my current position in August 2023. I earned a Bachelor of
14 Business Administration degree with a focus in Accounting from the University
15 of Cincinnati in 2002.

16 **Q. PLEASE DESCRIBE YOUR DUTIES AS LEAD PORTFOLIO**
17 **MANAGEMENT MANAGER.**

CHRISTOPHER J. RICCI

**OFFICIAL
EXHIBITS**

1 A. I am part of a multi-jurisdictional post-analysis team that includes Duke Energy
2 Indiana, as well as the Duke Energy Carolinas and Duke Energy Florida unit
3 commitment teams.

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

6 A. I will discuss the post analysis modeling used in this proceeding, including
7 changes in generation stacking logic ordered in Cause No. 45253. In addition, I
8 will discuss the impact of the change in stacking to an incremental production
9 cost basis, as required by the Commission's Order in Cause No. 45253. I will
10 also report Ancillary Services Market ("ASM") cost distribution amounts, as
11 provided in the Commission's Phase II Order in Cause No. 43426.

12 **Q. WHAT ARE THE RESPONSIBILITIES OF THE POST ANALYSIS**
13 **TEAM?**

14 A. The post analysis team is responsible for performing various after-the-fact
15 generation-related support activities, including analyses used in connection with
16 the Company's FAC filings. This team also assists in regulatory support,
17 accounting support, generating unit operations-related activities, and ad hoc data
18 gathering and analysis.

19 **Q. HOW DOES THE POST ANALYSIS TEAM PERFORM THESE**
20 **ANALYSES?**

21 A. The primary tool we use in the Midwest is a production costing model, Sumatra,
22 which is jointly supported by Power Costs, Inc., and Duke Energy information

1 technology resources. The model incorporates generator information such as heat
2 rates, emission rates, generating unit fuel costs, emissions allowance costs, and
3 variable operating and maintenance costs. This is the same data used in the
4 Energy Cost Manual, which is also the basis for the supply offers to the
5 Midcontinent Independent System Operator, Inc. ("MISO"), as described by Mr.
6 J. Bradley Daniel in his testimony. We also include as inputs to the model actual
7 hourly data, including native load demand, generating unit output (*i.e.*, megawatt-
8 hour generation) from MISO, and actual native load purchased power information
9 from the billing system.

10 Sumatra then "economically dispatches" or matches, on an hourly basis,
11 the demand (load) with available supply resources (*i.e.*, generation or purchases)
12 that are economically "stacked," *i.e.*, generally prioritized based on production
13 costs, lowest cost to highest cost. Consequently, the Sumatra model economically
14 allocates the production costs for serving native load.

15 **Q. DID THE COMMISSION'S ORDER IN THE COMPANY'S BASE RATE**
16 **CASE, CAUSE NO. 45253, REQUIRE ANY CHANGES TO THE**
17 **STACKING LOGIC BUILT INTO SUMATRA?**

18 **A.** Yes. There were three changes approved in the Order in Cause No. 45253: (1)
19 stacking should occur on only a real-time metered basis rather than both day-
20 ahead and real-time, (2) certain short-term wholesale trades should be classified
21 as non-native rather than native, and (3) stacking should be based on incremental
22 rather than average production cost.

1 Q. WHEN DID THESE CHANGES TO STACKING LOGIC BECOME
2 EFFECTIVE?

3 A. The changes to stacking logic became effective July 2020.

4 Q. PLEASE DESCRIBE THE STACKING PROCESS APPROVED IN CAUSE
5 45253.

6 A. We stack, on an hour-by-hour basis, the real-time metered (real-time meter = day
7 ahead award +/- real time true-up) energy market generation awards from MISO
8 against native load (a combination of real-time metered physical load and
9 financial schedules for native wholesale customers), providing Duke Energy
10 Indiana native customers first call on the lowest incremental cost generation in
11 both the day-ahead and real-time markets. The minimum load block of
12 generation is allocated to native load with above minimum load incremental
13 blocks of generation economically allocated to native and non-native loads. If
14 Duke Energy Indiana's native load is greater than the available real-time metered
15 generation then Duke Energy Indiana will purchase energy from MISO to make-
16 up the difference. If Duke Energy Indiana's native load is less than the available
17 real-time metered generation then excess generation is allocated to short-term
18 wholesale contracts. If Duke Energy Indiana's native load plus short-term
19 wholesale contracts is less than available real-time metered generation, then any
20 excess generation is allocated to traditional non-native sales. Duke Energy
21 Indiana native customers will only pay for fuel and/or MISO charges associated
22 with the units that are assigned to them.

1 **Q. ARE THERE OTHER ADJUSTMENTS TO THE STACKING AS A PART**
2 **OF THE POST-ANALYSIS PROCESS?**

3 A. Yes. Certain units on-line for testing and certain renewable purchase power
4 contracts are assigned to native load.

5 **Q. ARE THESE ANALYSES THE FINAL AFTER-THE-FACT ANALYSES**
6 **THAT YOU PERFORM ON THE OPERATING DATA?**

7 A. No, they are not. We perform these analyses using the best information that we
8 have available at the time, and we use the best information available for FAC
9 proceedings. However, we do not always have final data in time to incorporate it
10 into the information we provide for FAC proceedings. For example, our
11 transmission system is interconnected with 15 other systems, and MISO rarely, if
12 ever, has final tie out of energy flows across these interconnection points in time
13 for FAC proceedings. Once the work for a given month has been completed, we
14 perform additional after-the-fact analyses based on regularly scheduled MISO
15 settlement statement updates described below. Receipt of additional MISO
16 settlement statements may require adjustments to be incorporated in future FAC
17 proceedings.

18 **Q. PLEASE BRIEFLY EXPLAIN THE MISO SETTLEMENT PROCESS**
19 **AND ITS IMPACT ON FAC PROCEEDINGS?**

20 A. As explained in the testimony of Ms. Krista K. Markel, MISO issues settlement
21 statements a minimum of four times for each trading day, beginning with the
22 seven-day preliminary statement. This is followed by the MISO 14 Day

1 Statement (S14), the 55 Day Statement (S55), and the 105 Day Statement (S105).

2 MISO may also issue additional re-settlement statements. Essentially, the post
3 analysis team will review each of these statement milestones for each operating
4 day and will summarize incremental differences in each subsequent FAC filing in
5 which an impact occurs.

6 **Q. HAVE THERE BEEN ANY MATERIAL CHANGES, OTHER THAN THE**
7 **PREVIOUSLY DESCRIBED CHANGES MADE TO COMPLY WITH THE**
8 **COMMISSION'S ORDER IN CAUSE NO. 45253, TO THE COMPANY'S**
9 **POST-ANALYSIS ALLOCATION PROCESS IN ORDER TO**
10 **DETERMINE THE APPROPRIATE FUEL COSTS FOR SERVING**
11 **RETAIL CUSTOMERS?**

12 A. No.

13 **Q. ARE YOU FAMILIAR WITH THE COMMISSION'S PHASE II ORDER**
14 **IN CAUSE NO. 43426 REGARDING THE RECOVERY OF**
15 **JURISDICTIONAL CHARGES AND REVENUES ASSOCIATED WITH**
16 **THE MISO ANCILLARY SERVICES MARKET?**

17 A. Yes, I am.

18 **Q. ARE THERE ANY FAC REPORTING REQUIREMENTS AS A RESULT**
19 **OF THE PHASE II ASM ORDER?**

20 A. Yes. Although it is not a benchmark, the Order requires the Company to report in
21 each quarterly FAC proceeding the monthly average ASM Cost Distribution

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1 Amounts for Regulation, Spinning and Supplemental Reserves it has paid for each
2 of these products.

3 **Q. DO YOU HAVE ANY ASM COST DISTRIBUTION AMOUNTS TO**
4 **REPORT FOR THE PERIOD JUNE THROUGH AUGUST 2023?**

5 A. Yes. I have calculated the following monthly average ASM Cost Distribution
6 Amounts.

\$/MWh	Jun-23	Jul-23	Aug-23
Regulation Cost Dist.:	0.0438	0.0490	0.0463
Spinning Cost Dist.:	0.0306	0.0322	0.0266
Supplemental Cost Dist.:	0.0057	0.0069	0.0077
ShortTerm Reserve Cost Dist:	0.0358	0.0517	0.0684

7
8 **Q. IN THE SETTLEMENT AGREEMENT IN FAC 111S1, APPROVED ON**
9 **APRIL 11, 2018, DUKE ENERGY INDIANA AGREED TO CALCULATE**
10 **AN ESTIMATE OF THE IMPACT ON NATIVE LOAD FUEL COSTS**
11 **FOR FORCED OUTAGES LARGER THAN 100MW AND THAT LAST**
12 **MORE THAN SIXTY DAYS. DURING THIS FAC TIME PERIOD, DID**
13 **ANY OUTAGE MEET THIS THRESHOLD?**

14 A. No.

15 **Q. ARE THERE ANY ADJUSTMENTS TO FAC COSTS AND REVENUES**
16 **RELATED TO SHORT TERM BUNDLED NON-NATIVE SALES**
17 **(STBNNS) AGREEMENTS?**

18 A. Yes. Costs and revenues related to related to STBBNS agreements with KYMEA
19 and Hoosier Energy have been removed from the FAC.

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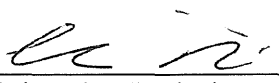
1 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

2 **A. Yes, it does.**

CHRISTOPHER J. RICCI

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: 
Christopher J. Ricci

Dated: October 31, 2023