

**TESTIMONY OF JAMES (BRAD) DANIEL
DIRECTOR, GENERATION DISPATCH AND OPERATIONS
DUKE ENERGY CAROLINAS, LLC
ON BEHALF OF DUKE ENERGY INDIANA, LLC
CAUSE NO. 42736 RTO-56
BEFORE THE INDIANA UTILITY REGULATORY COMMISSION**

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James (Brad) Daniel and my business address is 526 South Church Street, Charlotte, NC 28202.

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

A. I am employed by Duke Energy Carolinas, LLC as Director, Generation Dispatch and Operations in the Trading and Dispatch Department.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I received a Bachelor of Arts degree from the University of Oklahoma in 2000. I received a Master's in Business Administration from Wake Forest University in 2009. I joined the Cinergy Corporation as an hourly power scheduler in 2001 and have held various positions with the Company, now Duke Energy, or its affiliates in the Power Trading and Fuels and Systems Optimization departments. From January 2011 to July 2012, my title was Physical Power Trading Manager for the Duke Energy Indiana and Duke Energy Kentucky Short-Term energy portfolio. From July 2012 to December 2017, my title was Manager of Southeast Power

JAMES (BRAD) DANIEL

1 Trading. From December 2017 to December 2019, my title was Manager of
2 Fuels and Fleet Analytics. I assumed my current role as Director of Generation
3 Dispatch and Operations in December 2019.

4 **Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS DIRECTOR,**
5 **GENERATION DISPATCH AND OPERATIONS, AS THEY RELATE TO**
6 **DUKE ENERGY INDIANA, LLC (“DUKE ENERGY INDIANA” OR**
7 **“COMPANY”).**

8 A. I am responsible for the Company's: (i) generating dispatch; (ii) unit
9 commitment; (iii) 24-hour real-time operations; and (iv) short-term generating
10 maintenance. I am also responsible for the submission of the Company's supply
11 offers to the Midcontinent Independent System Operator, Inc. (“MISO”) for
12 MISO's day-ahead and real-time Electric Energy Markets (“Energy Markets”) and
13 MISO's day-ahead and real-time Ancillary Services Markets (“ASM”) in the
14 MISO region¹ (the Energy Markets and ASM collectively referred to as the
15 “MISO Markets”), as well as managing the Company's short term supply position
16 to ensure that the Company has adequate resources committed to serve its retail
17 customers' electricity needs.

18 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 A. I will provide an overview of the MISO Markets. This is followed by a brief
20 review of the types of MISO Markets costs billed by MISO to the Company

¹ These markets are often referred to as the “Energy and Operating Reserve Markets.”

1 pursuant to MISO's Open Access Transmission, Energy Markets Tariff on file
2 with the Federal Energy Regulatory Commission ("FERC") (now known as the
3 Open Access Transmission, Energy and Operating Reserve Markets Tariff or
4 hereinafter "MISO Tariff").

5 **II. OVERVIEW OF MISO'S ENERGY MARKETS**

6 **Q. MR. DANIEL, ARE YOU FAMILIAR WITH MISO'S ENERGY AND**
7 **OPERATING RESERVE MARKETS?**

8 A. Yes. I manage the team that is responsible for participating in these markets on
9 behalf of the Company.

10 **Q. PLEASE GENERALLY DESCRIBE MISO'S MARKETS.**

11 A. The principal document governing the operation of the Energy Markets, which
12 started on April 1, 2005, is the MISO Tariff. Among other matters, the Company
13 is required to arrange for and purchase transmission service on behalf of its retail
14 customers pursuant to the MISO Tariff.

15 Under the MISO Tariff, MISO administers both day-ahead and real-time
16 markets for electric energy utilizing Locational Marginal Pricing ("LMP") and
17 Financial Transmission Rights ("FTRs"). Both markets are based on supply
18 offers and demand bids submitted to MISO by market participants, including both
19 generator owners (as sellers) and load serving entities (as buyers). Thus, the
20 Company functions as both a seller and a buyer in the Energy Markets to serve its
21 retail electric customers in Indiana.

1 The real-time energy market functions as a real-time balancing market.

2 The day-ahead market provides a means for market participants to mitigate their
3 exposure to price risk in the real-time market. The day-ahead market also
4 provides meaningful information to MISO regarding expected real-time operating
5 conditions for the next day, which enhances MISO's ability to ensure reliable
6 operation of the Bulk Electric System ("BES"). Additionally, LMP provides a
7 market-based solution to manage transmission congestion in the MISO region.

8 **Q. IS THE COMPANY REQUIRED TO PARTICIPATE IN MISO'S ENERGY**
9 **AND OPERATING RESERVE MARKETS?**

10 A. Yes. The Company is required, by various Orders of the FERC, to participate in
11 MISO. Additionally, the Company's participation in MISO, the MISO Markets,
12 and ASM has been approved by the Indiana Utility Regulatory Commission
13 ("Commission").

14 **III. MISO ENERGY MARKETS COSTS AND CREDITS**

15 **Q. HAS THE IMPLEMENTATION OF MISO'S ENERGY MARKETS**
16 **RESULTED IN NEW CHARGES (I.E., CHARGES THAT THE**
17 **COMPANY WAS NOT REQUIRED TO PAY PRIOR TO APRIL 1, 2005)**
18 **THAT THE COMPANY IS NOW REQUIRED TO PAY ON BEHALF OF**
19 **ITS RETAIL CUSTOMERS?**

20 A. Yes. MISO is a not-for-profit entity. Consequently, the MISO Tariff contains
21 schedules, charges and credits designed to ensure that MISO remains revenue
22 neutral. In its June 1, 2005 Order in Cause No. 42685 ("June 1, 2005 Order"), the

1 Commission concluded that the new costs billed to the Company under the MISO
2 Tariff could be grouped into two categories: (1) “fuel costs” to be recovered
3 under the Company’s Fuel Cost Adjustment Rider (“Rider No. 60” or “FAC”
4 proceedings); and (2) “non-fuel costs” to be recovered under the Company’s
5 Standard Contract Rider No. 68 (“Rider No. 68” or “RTO” proceedings). The
6 MISO Tariff charges and credits that the Company seeks to recover under Rider
7 No. 68 essentially fall into one of the following categories: (1) charges imposed
8 under Schedules 16 and 17 of the MISO Tariff that facilitate MISO’s recovery of
9 administrative costs it incurs to administer FTRs and the Energy and Operating
10 Reserve Markets, respectively; and (2) other charges, costs and credits billed to
11 the Company under the MISO Tariff, including charges and credits imposed to
12 ensure the revenue neutrality of MISO.

13 **Q. PLEASE DESCRIBE THE ADMINISTRATIVE CHARGE IMPOSED**
14 **UNDER SCHEDULE 16 OF THE MISO TARIFF.**

15 A. Under Schedule 16, MISO recovers from market participants, including the
16 Company, all the costs it incurs related to operating the FTR Markets. Such costs
17 include, but are not limited to, costs associated with: (1) coordination of FTR
18 bilateral trading; (2) administration of FTRs through allocation, assignment,
19 auction or any other process accepted by the FERC; (3) support of MISO’s on-
20 line internet-based FTR tool; (4) “simultaneous feasibility” analyses to determine
21 the total combination of FTRs that can be outstanding and accommodated by the
22 transmission system under the functional control of MISO at a given point in

1 time; and (5) the administration of FTRs and revenue distribution.

2 **Q. PLEASE DESCRIBE THE ADMINISTRATIVE CHARGE IMPOSED**
3 **UNDER SCHEDULE 17 OF THE MISO TARIFF.**

4 A. Schedule 17 provides for the recovery of all costs incurred by MISO to operate
5 the Energy Markets (except costs recovered under Schedule 16). Such costs
6 include, but are not limited to, costs associated with: (1) market modeling and
7 scheduling functions; (2) market bidding support; (3) LMP/Market Clearing Price
8 (“MCP”) support; (4) market settlements and billing; (5) market monitoring
9 functions; and (6) enabling the co-optimized least-cost, security-constrained
10 commitment and dispatch of generating resources to serve load and Operating
11 Reserve requirements, in the MISO Balancing Authority, while also establishing a
12 spot energy and operating reserve market.

13 **Q. WHAT OTHER CHARGES AND CREDITS IMPOSED UNDER THE**
14 **MISO TARIFF HAS THE COMPANY INCLUDED IN THIS FILING?**

15 A. In this filing, the Company has included four (4) MISO Tariff charges and credits
16 that are listed separately on the MISO settlement statement as: (1) Real-Time
17 Revenue Neutrality Uplift Amount; (2) Real-Time Miscellaneous Amount for
18 Energy Markets non-fuel related costs; (3) Real-Time MVP Distribution Amount;
19 and (4) MISO Tariff Schedule 26 (Network Upgrade Charge from Transmission
20 Expansion Plan) charges related to recovery of certain charges for Regional

1 Expansion Criteria and Benefits (“RECB”) transmission projects;² and MISO
2 Tariff Schedule 26-A (Multi-Value Project “MVP” Usage Rate) charges related to
3 recovery of certain charges for transmission projects of other transmission
4 owners.³ In this and future filings, credits related to increased capacity from
5 MVP projects placed in service are included as well.

6 **Q. PLEASE EXPLAIN THE REAL-TIME REVENUE NEUTRALITY**
7 **UPLIFT AMOUNT.**

8 A. The Real-Time Revenue Neutrality Uplift Amount is a mechanism used by MISO
9 to settle a number of charges and credits via a one line item on the settlement
10 statement. The following charges and credits are settled via the Real-Time
11 Revenue Neutrality Uplift Amount:

- 12 ▪ Revenue Inadequacy Uplift - uplift charge or credit imposed to ensure
13 that MISO does not over or under collect revenues for each hour in the
14 real-time market;
- 15 ▪ Joint Operating Agreement (“JOA”) Uplift - uplift charge related to
16 administration of joint operating agreements with bordering ISOs that
17 enables one ISO on an hourly basis to request the other to redispatch to

² In its December 19, 2007 Order in Cause No. 42736 RTO-12, and its June 25, 2008 Order in Cause No. 42736 RTO-14, the Commission authorized the Company to recover MISO Schedule 26 costs assessed by MISO to the Company involving transmission projects owned by other transmission owners, as well as Company-owned transmission projects in its Rider No. 68 proceedings.

³ In its June 27, 2012 Order in Cause No. 42736 RTO-30, the Commission authorized the Company to recover MISO Schedule 26-A costs assessed by MISO to the Company involving transmission projects of other transmission owners in its Rider No. 68 proceedings.

1 make additional flowgate capacity available for use by the requesting

2 ISO;

- 3 ▪ Option B Grandfathered Agreement Financial Schedule Congestion

4 Rebate Distribution Amount Uplift - uplift charge representing

5 congestion rebates that were not funded from MISO held Option B

6 FTRs;

- 7 ▪ Carved-Out Grandfathered Agreement Congestion Rebate Distribution

8 Amount Uplift - uplift charge representing congestion rebates that

9 were not funded from MISO held Carved-Out FTRs;

- 10 ▪ Real-Time Revenue Sufficiency Guarantee Make Whole Payments

11 Second Pass Distribution Amount - uplift charge used to fund Real-

12 Time Revenue Sufficiency Guarantee Make Whole Payments

13 attributable to Transmission De-rates and Topology Adjustments,

14 Intra-Hour Demand Changes, and Real-Time Revenue Sufficiency

15 Guarantee Make Whole Payment Amounts that exceed amounts

16 collected via the Real-Time Revenue Sufficiency Guarantee First Pass

17 Distribution charge;

- 18 ▪ Real Time Contingency Reserve Deployment Failure Charge Uplift

19 Amount – a credit that is funded by charges incurred by Resources that

20 fail to deploy Contingency Reserves per their instruction. This amount

21 is not a component of the RTO and is instead part of the FAC

22 proceedings;

- 1 ▪ Real Time Price Volatility Make-Whole Payment Uplift – charges
- 2 used to fund the credits received by Resources through the Real Time
- 3 Price Volatility Make-Whole Payment Amount Charge Type;
- 4 ▪ Demand Response Compensation Uplift – amount not recovered from
- 5 the Demand Response Allocation Uplift charge;
- 6 ▪ Real-Time Total Mileage Uplift – funding mechanism for Additional
- 7 Regulation Mileage Uplift Amount and Failure Mileage Performance
- 8 Test; and
- 9 ▪ Ramp Capability Distribution Uplift – funding mechanism for the
- 10 Day-Ahead Amount and Real-Time Ramp Capability Amount.

11 **Q. PLEASE EXPLAIN THE REAL-TIME MISCELLANEOUS AMOUNT**
12 **FOR MISO’S ENERGY MARKETS NON-FUEL RELATED COSTS.**

13 A. The Real-Time Miscellaneous Amount is a mechanism that allows MISO to issue
14 charges and/or credits based on specific requirements to either an Asset Owner (as
15 defined by the MISO Tariff) or the entire market. This charge type can be used
16 for charges or credits ordered by the MISO Independent Market Monitor.

17 **Q. PLEASE EXPLAIN THE REAL-TIME MVP DISTRIBUTION AMOUNT.**

18 A. This credit is the result of MVP transmission projects that are largely outside of
19 Duke Energy Indiana’s transmission system. Although FTR and Auction
20 Revenue Rights (“ARR”) charge types are included in the fuel adjustment
21 proceeding, these charges and credits are associated with fuel costs and are the
22 result of the Company’s own generating units. Since the Commission authorized

1 the Company to recover MISO MVP or Schedule 26-A costs assessed by MISO
2 to the Company involving transmission projects in the RTO proceeding, and since
3 this charge type is a credit associated with the same transmission projects,
4 inclusion in this proceeding was consistent.

5 **Q. IN YOUR OPINION, WAS THE COMPANY'S INCURRENCE OF THE**
6 **ADMINISTRATIVE CHARGES AND OTHER MISO TARIFF CHARGES**
7 **AND CREDITS YOU DESCRIBED ABOVE FOR PURPOSES OF THIS**
8 **PROCEEDING REASONABLE?**

9 A. Yes. MISO's Energy Markets are the direct result of FERC directives that
10 required MISO to provide its transmission customers access to a market-based
11 mechanism for transmission congestion management and a real-time balancing
12 market. Implementation of the MISO Markets has resulted in a centralized
13 regional dispatch involving over thirty (30) control areas. In addition to
14 transmission congestion management and reliability benefits, the MISO Markets
15 are expected to result in substantial annual gross savings in the form of lower
16 production costs and decreased purchased power costs throughout the MISO
17 region. The administrative charges and other MISO Tariff charges and credits
18 included in this filing were imposed to provide MISO the resources necessary to
19 administer the MISO Markets and to facilitate participation in those markets by a
20 diverse group of market participants throughout the MISO region. The FERC-
21 approved charges that the Company seeks to recover in this proceeding are
22 unavoidable costs of participating in the MISO Markets that are largely outside of

1 the Company's control. While the Company's actions as a market participant
2 have some incremental effect on the administrative and other MISO Tariff
3 charges and credits that the Company seeks to recover under Rider No. 68, for the
4 most part, those charges and credits are the combined result of all market
5 participants' actions and the actions of MISO.

6 **Q. ARE THERE ANY NEW CHARGES OR CREDITS THAT WILL FLOW**
7 **THROUGH THE COMPANY'S STANDARD RIDER NO. 68?**

8 A. Yes. There are now charges and credits received from the PJM Interconnection
9 LLC ("PJM") that result from operation of the Ohio-based Madison Generation
10 Station, as an Indiana resource in MISO, that will flow through Rider No. 68.
11 This was approved by the Commission in its June 29, 2020, Final Order issued in
12 Cause No. 45253, at page 168. There are also three (3) new MISO charge types,
13 Schedule 26-C, Schedule 26-D and Schedule 49, that the Company is seeking
14 authority to include in its calculation of proposed Rider No. 68 rates in this and
15 future RTO proceedings. I will describe these in more detail later in my
16 testimony.

17 **Q. PLEASE DESCRIBE MADISON GENERATING STATION AND THE**
18 **UNIQUE STRUCTURE OF THIS GENERATING STATION BETWEEN**
19 **MISO AND PJM?**

20 A. The Madison Generating Station consists of eight (8) simple cycle combustion
21 turbines, each with eighty-eight (88) MW Net Winter Capability Ratings, for a
22 site total of seven hundred and four (704) MW. The station is physically located

1 and connected to the PJM transmission grid. Energy from the station is
2 transferred to MISO using firm transmission service through a Pseudo-Tie. From
3 an energy perspective, Madison is essentially like all other units within the MISO
4 Regional Transmission Organization (RTO). Duke Energy Indiana personnel
5 provide generation and ancillary service offers to MISO, receive unit commitment
6 and dispatch instructions from MISO, and receive settlement charges and credits
7 from MISO. Additionally, Duke Energy Indiana receives a settlement statement
8 from PJM as the Madison Generating Station injects energy into the PJM grid and
9 Duke Energy Indiana exports an equivalent amount from PJM into MISO.

10 **Q. PLEASE DESCRIBE THE PJM SETTLEMENT IMPACT FROM THE**
11 **OPERATION OF THE MADISON GENERATING STATION.**

12 A. Charges and credits from MISO related to the operation of the Madison
13 Generating Station have been included in various Company filings with the
14 Commission since Duke Energy Indiana began participating in the MISO energy
15 market in 2005. For these units to remain part of the MISO energy and ancillary
16 services market after January 1, 2012, a transmission pseudo-tie from PJM to
17 MISO was established. As a result, Duke Energy Indiana began receiving a
18 settlement statement from PJM for charges and credits related to the firm
19 transmission, congestion and loss charges or credits, and other charges or credits.
20 Since 2012, the Company has paid or received all the charges and credits on this
21 statement and these costs or credits have not impacted retail customers to date
22 because Duke Energy Indiana has not passed them onto customers.

1 **Q. PLEASE DEFINE THE PJM CHARGES AND CREDITS THAT WILL**
2 **NOW BE INCLUDED AS PART OF THIS FILING.**

3 A. Please see Petitioner's Exhibit 2-A for a description of PJM Charges and Credits
4 that will now be included as part of this filing.

5 **Q. WHAT IS THE EXPECTED MONTHLY IMPACT OF PJM CHARGES**
6 **AND CREDITS INCLUDED AS PART OF THIS FILING?**

7 A. The expected monthly impact of PJM charges and credits included as part of this
8 filing is a net cost of \$150,000/month based on the last fifteen (15) months of
9 PJM billing activity.

10 **Q. ARE THERE OTHER PJM CHARGES AND CREDITS ASSOCIATED**
11 **WITH THE MADISON GENERATING STATION THAT WILL NOT**
12 **FLOW THROUGH RIDER NO. 68?**

13 A. Yes. Charges and credits from Day Ahead and Balancing Transmission
14 Congestion, as well as Day Ahead and Balancing Transmission Losses will flow
15 through either the Company's Fuel Adjustment Clause or Rider No. 70. Finally,
16 charges and credits due to PJM Customer Payment Default will flow through the
17 Company's Fuel Adjustment Clause.

18 **Q. PLEASE PROVIDE FURTHER INFORMATION RELATED TO THE**
19 **NEW MISO SCHEDULES 26-C, 26-D AND 49.**

20 A. Beginning in January 2020, MISO began assessing charges under the charge type
21 Schedule 49 Cost Allocation for Available Capacity Usage ("Schedule 49").
22 Schedule 49 compensates the Southwest Power Pool ("SPP") for available system

1 capacity usage by MISO on a North-South SPP tie line. Previously, these charges
2 have been part of the Real Time Miscellaneous Amount charge type and have
3 now been moved to a separate and distinct charge type for greater transparency.
4 The reconciliation period of July 2018 through June 2020 contains \$290,523 in
5 charges under Schedule 49.

6 The Company also began receiving charges under MISO Schedule 26-C,
7 Cost Recovery For Targeted Market Efficiency Projects Constructed By MISO
8 Transmission Owners, for MISO Targeted Market Efficiency Projects ("TMEPs")
9 cost-shared projects and MISO Schedule 26-D, Cost Recovery for Targeted
10 Market Efficiency Projects Constructed By PJM Transmission Owners. TMEPs
11 are FERC accepted, interregional projects in the MISO-PJM Joint Operating
12 Agreement to reduce congestion on known Reciprocal Coordinated Flowgates
13 along the border between MISO and PJM to benefit customers and improve
14 coordination between the RTOs.

15 **IV. CONCLUSION**

16 **Q. WAS PETITIONER'S EXHIBIT 2-A PREPARED BY YOU OR UNDER**
17 **YOUR SUPERVISION?**

18 A. Yes, it was.

19 **Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY IN**
20 **THIS PROCEEDING?**

21 A. Yes, it does.

PETITIONER'S EXHIBIT 2-A: DESCRIPTION OF PJM CHARGES AND CREDITS

The source of descriptions in this Appendix is the PJM Open Access Transmission Tariff (OATT).

Schedule 9-1: PJM Scheduling, System Control and Dispatch Service – Control Area Administration

PJM Charge Type 1301- Fixed stated rate which comprises of all the activities of PJM associated with preserving the reliability of the PJM Region and administering Point-to-Point Transmission Service and Network Integration Transmission Service. PJM provides Control Area Administration Service to customers using Point-to-Point or Network Integration Transmission Service under this Tariff. The amount charged under this charge type equals the fixed stated rate multiplied by MWh Point-to-Point Transmission Service used.

Schedule 9-3: PJM Scheduling, System Control and Dispatch Service – Market Support

PJM Charge Type 1303 – Fixed stated rate which comprises all of the activities of PJM associated with supporting the operation of the PJM Interchange Energy Market and related functions, as described in Operating Agreement, Schedule 1 and Tariff, Attachment K-Appendix, including, but not limited to, market modeling and scheduling functions, locational marginal pricing support, and support of PJM's Internet-based customer transaction tools. PJM provides this service to customers using Point-to-Point or Network Integration Transmission Service under this Tariff, to Generation Providers, as defined below, and to entities that submit offers to sell or bids to buy energy in the PJM Interchange Energy Market. The amount charged under this charge type equals the fixed stated rate multiplied by MWh Point-to-Point Transmission Service used.

Schedule 9-3: Market Support Offset

PJM Charge Type 1307 - Amount refunded through a quarterly adjusted rate to transmission customers based on their network load and exports, to providers of generation and imports, and to day-ahead energy market participants based on their accepted increment offers, decrement bids, and up-to congestion bids to reflect the reimbursement made to offset the PJM Settlement, Inc. charges.

Schedule 9-1: PJM Scheduling, System Control and Dispatch Service Refund – Control Area Administration

PJM Charge Type 1308 - Charge refunds are provided when there is a cumulative collection above PJM's operating expenses in excess of the allowable reserve. Refunds are provided by quarterly rate adjustments multiplied by MWh usage under Schedule 9-1 charges.

Schedule 9-3: PJM Scheduling, System Control and Dispatch Service Refund – Market Support

PJM Charge Type 1310 - Charge refunds are provided when there is a cumulative collection above PJM's operating expenses in excess of the allowable reserve. Refunds are provided by quarterly rate adjustments multiplied by MWh usage under Schedule 9-3 charges.

Schedule 9-PJM Settlement: PJM Settlement, Inc.

PJM Charge Type 1313 - This charge funds the administration of PJM Settlement, Inc. who acts as the contractual counterparty to PJM market transactions and performs the billing collection and credit management services for PJM members. These charges are offset by the Charge Type 1307 described above.

Schedule 9 – MMU: Market Monitoring Unit (MMU) Funding

PJM Charge Type 1314 – This charge recovers the costs of providing the market monitoring functions to the PJM region as specified in Tariff, Attachment M. This Schedule 9-MMU recovers PJM's payments to MMU as set forth in Schedule 9- MMU. PJM provides this service to all customers using Point-to-Point or Network Integration Transmission Service under this Tariff, to all Generation Providers, and to all entities that submit offers to sell or bids to buy energy in the PJM Interchange Energy Market.

Schedule 9 – FERC: FERC Annual Recovery

PJM Charge Type 1315 – This charge recovers PJM's payments to FERC for the FERC annual charge. FERC assesses its annual charge to PJM and other public utilities based on their total megawatt-hours of transmission of electric energy in interstate commerce. Accordingly, the charge under this Schedule 9-FERC shall be assessed on all megawatt-hours of transmission provided by PJM. PJM provides this service to customers using Point-to-Point and Network Integration Transmission Service under this Tariff.

Schedule 9 – OPSI: Organization of PJM States, Inc (OPSI) Funding

PJM Charge Type 1316 – This charge recovers PJM's payments to OPSI as set forth under Schedule 9-OPSI, which shall be assessed on all megawatt-hours of transmission provided by PJM. PJM provides this service to customers using Point-to-Point and Network Integration Transmission Service under this Tariff.

Schedule 1A – Transmission Owner Scheduling, System Control and Dispatch Service

PJM Charge Type 1320 - Scheduling, System Control and Dispatch Service is provided directly by the Transmission Provider under Schedule 1. The Transmission Customer must purchase this service from the Transmission Provider. Schedule 1A sets forth the charges for Scheduling, System Control and Dispatch Service based on the cost of operating the control centers of the Transmission Owners.

Schedule 2 – Reactive Supply and Voltage Control from Generation and Other Sources Service

PJM Charge Type 1330 - In order to maintain transmission voltages on the Transmission Provider's transmission facilities within acceptable limits, generation facilities and non-generation resources capable of providing this service that are under the control of the control area operator are operated to produce (or absorb) reactive power. Thus, Reactive Supply and Voltage Control from Generation or Other Sources Service must be provided for each transaction on the Transmission Provider's transmission facilities. The amount of Reactive Supply and Voltage Control from Generation or Other Sources Service that must be supplied with respect to the Transmission Customer's transaction will be determined based on the reactive power support necessary to maintain transmission voltages within limits that are generally accepted in the region and consistently adhered to by the Transmission Provider. Purchasers of Reactive Supply and Voltage Control from Generation or Other Sources Service shall be charged for such service.

Schedule 6A – Black Start Service

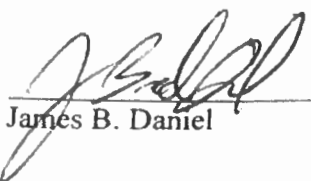
PJM Charge Type 1380 - To ensure the reliable restoration following a shut down of the PJM transmission system, Black Start Service is necessary to facilitate the goal of complete system restoration. Black Start Service enables the Transmission Provider to designate specific generators called Black Start Units whose location and capabilities are required to re-energize the transmission system following a system-wide blackout. The Transmission Provider shall administer the provision of Black Start Service. All Transmission Customers and Network Customers must obtain Black Start Service through the Transmission Provider, with PJMSettlement as the Counterparty, pursuant to this Schedule 6A.

PJM Charge Type 1980 is not Schedule specific and covers any other charges or credits due to bilateral transactions. Whether this charge type is included in Rider No. 68 is situation dependent. There is currently very little Charges/ Credits activity through this charge type.

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: _____


James B. Daniel

Dated: _____

11-10-20