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May 10, 2022

VIA eFILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17105-3265

**Re: Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of Its Default Service Program for the Period from June 1, 2023 through May 31, 2027
Docket Nos. P-2021-3030012, P-2021-3030013, P-2021-3030014, and P-2021-3030021**

Dear Secretary Chiavetta:

In accordance with 52 Pa. Code § 5.412a, please accept the following **Testimony and Exhibits**, for filing on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company, which were duly admitted into the record by stipulation at the hearing held on April 13, 2022 before Administrative Law Jeffrey A. Watson, in the above-referenced matter.

**Met-Ed/Penelec/Penn Power/ West Penn
Statement No. 1**

Direct Testimony of Joanne M. Savage

Exhibit JMS-1

**Index of the Companies' Response to the
Topics Set Forth in the Secretarial Letter
Issued on January 23, 2020 at Docket No.
M-2019-3007101**

Exhibit JMS-2

Customer Referral Program Agreement

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Exhibit JMS-3	Purchase of Receivables Clawback Charge Calculations
Met-Ed/Penelec/Penn Power/ West Penn Statement No. 1R	Rebuttal Testimony of Joanne M. Savage
Met-Ed/Penelec/Penn Power/ West Penn Statement No. 2 (CORRECTED VERSION)	Direct Testimony of James H. Catanach
Exhibit JHC-1	Proposed Procurement Schedule
Exhibit JHC-2	Bidding Rules for Default Service Auctions
Exhibit JHC-3	Appendix 1-Part 1 Application
Exhibit JHC-4	Appendix 2-Part 2 Application
Exhibit JHC-5	Alternative Energy Portfolio Standards Act Percentages
Exhibit JHC-6	Long-Term Solar Request for Proposals
Exhibit JHC-7	Independent Credit Requirement Per Tranche Schedule
Met-Ed/Penelec/Penn Power/ West Penn Statement No. 2R	Rebuttal Testimony of James H. Catanach
Exhibit JHC-2R	Bidding Rules for Default Service Auctions (Revised)
Exhibit JHC-8	Constellation Response to Interrogatory ME/PE/PP/WP (Constellation)-I-2
Exhibit JHC-9	Constellation Response to Interrogatory ME/PE/PP/WP (Constellation)-I-3

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**Met-Ed/Penelec/Penn Power/West Penn
Statement No. 3**

Exhibit WZ-1

**Met-Ed/Penelec/Penn Power/West Penn
Statement No. 3R**

**Exhibit WZ-1R (CORRECTED
VERSION)**

Exhibit WZ-2

**Met-Ed/Penelec/Penn Power/West Penn
Statement No. 4**

Exhibit JDR-NEP-1

**Met-Ed/Penelec/Penn Power/West Penn
Statement No. 4R**

**Met-Ed/Penelec/Penn Power/West Penn
Statement No. 5**

Exhibit PML-1

Exhibit PML-2

Exhibit PML-3

Exhibit PML-4

Direct Testimony of Wenyu Zhong

Default Service Supplier Master Agreement

Rebuttal Testimony of Wanyun Zhong

**Default Service Supplier Master Agreement
(Revised)**

**Illustrative Example of CPP True Up
Methodologies**

**Direct Testimony of James D. Reitzes and
Nicholas E. Powers**

**Comparisons of Default Service Full
Requirements Auction Price to Expected
Wholesale Market Costs**

**Rebuttal Testimony of James D. Reitzes and
Nicholas E. Powers**

Direct Testimony of Patricia M. Larkin

Price-to-Compare (“PTC”) History

**Comparison of Three-Month and Six-Month
PTC E-Factors**

**Met-Ed Electric Pa. P.U.C. No. 52 (“Tariff
No. 52”) Definitions**

**Penelec Electric Pa. P.U.C. No. 81 (“Tariff
No. 81”) Definitions**

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Exhibit PML-5	Penn Power Electric Pa. P.U.C. No. 36 ("Tariff No. 36") Definitions
Exhibit PML-6	West Penn Electric Pa. P.U.C. No. 40 ("Tariff No. 40") Definitions
Exhibit PML-7	Met-Ed PTC Default Service Rate Rider
Exhibit PML-8	Penelec PTC Default Service Rate Rider
Exhibit PML-9	Penn Power PTC Default Service Rate Rider
Exhibit PML-10	West Penn PTC Default Service Rate Rider
Exhibit PML-11	Met-Ed Hourly Pricing ("HP") Default Service Rider
Exhibit PML-12	Penelec HP Default Service Rider
Exhibit PML-13	Penn Power HP Default Service Rider
Exhibit PML-14	West Penn HP Default Service Rider Tariff No. 40
Exhibit PML-15	West Penn HP Default Service Rider Tariff No. 38
Exhibit PML-16	Met-Ed Default Service Support Rider ("DSS")
Exhibit PML-17	Penelec DSS Rider
Exhibit PML-18	Met-Ed Electric Generation Supplier Coordination Tariff ("Supplier Tariff") (Relevant Pages)
Exhibit PML-19	Penelec Supplier Tariff (Relevant Pages)
Exhibit PML-20	Penn Power Supplier Tariff (Relevant Pages)

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Exhibit PML-21	West Penn Supplier Tariff (Relevant Pages)
Exhibit PML-22	Met-Ed/Penelec/Penn Power/West Penn System Total Peak Usage Analysis
Exhibit PML-23	Met-Ed Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis
Exhibit PML-24	Penelec Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis
Exhibit PML-25	Penn Power Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis
Exhibit PML-26	West Penn Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis
Exhibit PML-27	Met-Ed Time-of-Use Default Service Rider
Exhibit PML-28	Penelec Time-of-Use Default Service Rider
Exhibit PML-29	Penn Power Time-of-Use Default Service Rider
Exhibit PML-30	West Penn Time-of-Use Default Service Rider
Exhibit PML-31	Met-Ed/Penelec/Penn Power/West Penn Estimated DSP VI Administrative Costs
Met-Ed/Penelec/Penn Power/West Penn Statement No. 5R	Rebuttal Testimony of Patricia M. Larkin
Exhibit PML-32	RESA/NRG Response to Interrogatory ME/PN/PP/WP (RESA/NRG)-I-15

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Exhibit PML-33	Shipley Response to Interrogatory ME/PN/PP/WP (Shipley)-I-1
Exhibit PML-34	CAUSE-PA Response to Interrogatory ME/PN/PP/WP (CAUSE-PA)-I-2
Met-Ed/Penelec/Penn Power/West Penn Statement No. 5R-Supplemental	Supplemental Rebuttal Testimony of Patricia M. Larkin
Exhibit PML-35	Illustrative Example of the Appropriateness of Gross-Up for Losses
Met-Ed/Penelec/Penn Power/West Penn Statement No. 6	Direct Testimony of Tiffanne L. Cowan
Exhibit TLC-1	Met-Ed Third-Party Data Access Tariff
Exhibit TLC-2	Penelec Third-Party Data Access Tariff
Exhibit TLC-3	Penn Power Third-Party Data Access Tariff
Exhibit TLC-4	West Penn Third-Party Data Access Tariff
Met-Ed/Penelec/Penn Power/West Penn Statement No. 6R	Rebuttal Testimony of Tiffanne L. Cowan
Met-Ed/Penelec/Penn Power/West Penn Statement No. 7R	Rebuttal Testimony of Kenneth A. Strah
Met-Ed/Penelec/Penn Power/West Penn Statement No. 8R-Supplemental	Supplemental Rebuttal Testimony of Edward B. Stein

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Rosemary Chiavetta, Secretary
May 10, 2022
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As evidenced by the enclosed Certificate of Service, a copy of this letter was served upon Administrative Law Judge Jeffrey A. Watson, and all parties of record.

If you have any questions, please contact me directly at 215.963.5384.

Very truly yours,



Kenneth M. Kulak

KMK/tp
Enclosures

c: Per Certificate of Service (w/encl.)

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**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

JOINT PETITION OF	:	DOCKET NO. P-2021-3030012
METROPOLITAN EDISON COMPANY,	:	
PENNSYLVANIA ELECTRIC	:	DOCKET NO. P-2021-3030013
COMPANY, PENNSYLVANIA POWER	:	
COMPANY, AND WEST PENN POWER	:	DOCKET NO. P-2021-3030014
COMPANY, FOR APPROVAL OF	:	
THEIR DEFAULT SERVICE	:	DOCKET NO. P-2021-3030021
PROGRAMS	:	

CERTIFICATE OF SERVICE

I hereby certify and affirm that I have this day served copy of the **Letter to Secretary Rosemary Chiavetta regarding the Compliance Filing (52 Pa. Code § 5.412a) of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company** on the persons listed below, in the manner specified in accordance with the requirements of 52 Pa. Code § 1.54:

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Dated: May 10, 2022

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA ELECTRIC COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA POWER COMPANY
Docket No. P-2021-_____**

**WEST PENN POWER COMPANY
Docket No. P-2021-_____**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2027**

**Direct Testimony
Of
Joanne M. Savage**

List of Topics Addressed

**DSP V Commitments
Customer Benefits and Notice
Plan Term
Customer Referral Program
Purchase of Receivables Clawback Charge
Customer Assistance Program Shopping Rules**

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1 **DIRECT TESTIMONY**
2 **OF**
3 **JOANNE M. SAVAGE**

4 **I. INTRODUCTION AND BACKGROUND**

5 **Q. Please state your name and business address.**

6 A. My name is Joanne M. Savage, and my business address is 2800 Pottsville Pike, Reading,
7 Pennsylvania.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as the Director of the Rates and
10 Regulatory Affairs Department – Pennsylvania. This department provides regulatory
11 support for each of FirstEnergy Corp.'s wholly owned Pennsylvania distribution operating
12 Companies, which are: Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric
13 Company ("Penelec"), Pennsylvania Power Company ("Penn Power"), and West Penn
14 Power Company (individually referred to as "Company" and in any combination as the
15 "Companies"). I report directly to the Vice President, Rates and Regulatory Affairs and
16 am responsible for the development, coordination, preparation, and presentation of the
17 Companies' rate-related matters before the Pennsylvania Public Utility Commission
18 ("Commission") and New York Public Service Commission. I am also responsible for the
19 Companies' tariffs, including developing retail electric rates, rules, and regulations as well
20 as their uniform application and interpretation.

21 **Q. What is your educational background?**

22 A. I received a Bachelor of Science in Accounting and Finance from Albright College and a
23 Master of Business Administration in Corporate Finance from Alvernia University. I have

1 been employed by FirstEnergy Service Company since 2005. During the period of my
2 employment, I have held various positions of increasing responsibility in the Rates and
3 Regulatory Affairs Department. In March 2019, I was named to my current position. My
4 work experience is more fully described in Appendix A of my testimony.

5 **Q. Have you ever testified before the Commission?**

6 A. Yes. I have testified before the Commission in various rate-related proceedings.

7 **Q. On whose behalf are you testifying in this proceeding?**

8 A. I am testifying on behalf of Met-Ed, Penelec, Penn Power, and West Penn. My testimony
9 equally applies to all of the Companies, unless otherwise stated.

10 **Q. What is the purpose of your direct testimony?**

11 A. My testimony will describe the following elements of the Companies' sixth default service
12 programs ("DSPs") (hereinafter "DSP VI") that are the subject of these proceedings: (i)
13 compliance with Commission directives and settlement commitments arising from the
14 Companies' fifth DSP proceedings ("DSP V") decided in Docket Nos. P-2017-2637855
15 (Met-Ed), P-2017-2637857 (Penelec), P-2017-2637858 (Penn Power), and P-2017-
16 2637866 (West Penn); (ii) customer benefits and notice; (iii) plan term; (iv) the Customer
17 Referral Program ("CRP"); (v) the purchase of receivables ("POR") clawback charge; and
18 (vi) Customer Assistance Program ("CAP") participant shopping rules.

1 **Q. On January 23, 2020, the Commission issued a Secretarial Letter requesting that**
2 **electric distribution companies (“EDCs”) address several topics in upcoming DSP**
3 **filings.¹ Have the Companies addressed those topics?**

4 A. Yes. The January 2020 Secretarial Letter requested the Companies and other EDCs
5 address the following topics:

6 (1) Cost allocation based on peak load contribution (“PLC”) and network service peak
7 load (“NSPL”);

8 (2) The manner in which time of use (“TOU”) rates for electric vehicle operators may
9 be made available;

10 (3) How each EDC’s DSP proposal complies with the “prudent mix” requirements
11 under the Pennsylvania Public Utility Code (“Code”);

12 (4) Analysis and history of the price paid by customers for the EDC’s default service
13 (the “Price to Compare” (“PTC”)), including consideration of the benefits of an
14 adjustment to the PTC every six months to reflect current costs instead of an
15 adjustment every three months;

16 (5) The issues and concerns raised by the Commission in prior proceedings relating to
17 shopping for electric generation service by customers participating in universal
18 service programs; and

19 (6) Recent Commission rulings relating to the scripts used in EDC standard offer
20 customer referral programs to encourage customers receiving default service to
21 shop with electric generation suppliers (“EGSs”).

22 Because these topics are addressed in this proceeding by different witnesses, I have
23 attached an exhibit to my testimony (Met-Ed/Penelec/Penn Power/West Penn Exhibit JMS-

24 1) that lists the topics and identifies each witness who addresses the topics. In my
25 testimony, I will address Topic Nos. 5 and 6 from the above list.

¹ *Investigation into Default Serv. and PJM Interconnection, LLC Settlement Reforms*, Docket No. M-2019-3007101 (Secretarial Letter issued Jan. 23, 2020) (“January 2020 Secretarial Letter”).

1 **Q. Have you prepared any exhibits to accompany your testimony?**

2 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits JMS-1 through JMS-3 were
3 prepared by me or under my supervision and are described in detail later in my testimony.

4 **II. SUMMARY OF DSP AND COMPLIANCE WITH DSP V COMMITMENTS AND**
5 **OBLIGATIONS**

6 **Q. Please describe the Companies' default service obligations.**

7 A. The Companies are obligated to arrange for and provide electric generation service (default
8 service) to all customers within their service territories who do not select an EGS or who
9 return to default service after being served by an EGS that becomes unable or unwilling to
10 serve. By law, the Companies are required to file a plan with the Commission that sets
11 forth how they will meet their default service obligations, including a strategy for procuring
12 generation supply, a schedule for implementation, and a rate design to recover the
13 Companies' reasonable costs.

14 **Q. Why are the Companies filing new DSPs?**

15 A. The Companies' current DSPs (collectively, the "DSP V Programs") will expire on May
16 31, 2023. To comply with the Commission's default service regulations, the Companies
17 must file new DSPs to establish supply plans to obtain market-based generation supply for
18 their customers that choose not to, or are unable to, shop for generation service not less
19 than 12 months prior to the conclusion of their currently effective Commission-approved
20 DSP V Programs.²

² 52 Pa. Code § 54.181-54.189.

1 For the most part, the Companies propose to continue the framework of their existing DSP
2 V Programs, which, as noted above, were previously approved by the Commission. In
3 addition, the Companies have used the Commission’s default service regulations,³ the
4 associated Policy Statement,⁴ the Electricity Generation Customer Choice and Competition
5 Act (the “Competition Act”), Act 129 of 2008 (“Act 129”),⁵ and the January 2020
6 Secretarial Letter as guides in developing their proposed DSPs. As explained in the direct
7 testimony submitted by the Companies in this proceeding, the Companies believe that the
8 DSPs set forth in their filing: (1) comply with the Commission’s default service regulations
9 and Policy Statement, as well as applicable provisions of the Competition Act and Act 129;
10 (2) are consistent with Commission decisions in similar prior proceedings; and (3) are in
11 the public interest.

12 **Q. Please describe the DSP V Settlement commitments and Commission directives in the**
13 **DSP V Orders that are relevant to the Companies’ proposed DSPs in this proceeding,**
14 **and explain how the Companies have complied with their obligations related thereto.**

15 A. The provisions and the Companies’ compliance actions are as follows:

³ See *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co. (Penelec), Pennsylvania Power Co., and West Penn Power Co. for Approval of their Default Serv. Programs for the Period Beginning June 1, 2019 through May 31, 2023*, Docket Nos. P-2017-2637855, *et al.* (Opinion and Order entered Sept. 4, 2018) (“September 2018 Order”). In the September 2018 Order, the Commission approved a partial settlement of the Companies’ DSP V proceeding (“DSP V Settlement”) and resolved the remaining contested issues, including the residential procurement schedule, continuation of the CRP, and shopping by customers enrolled in the Companies’ CAPs for products priced above the PTC. On February 28, 2019, the Commission entered a Final Order (“February 2019 Order” and together with the September 2018 Order, the “DSP V Orders”) adopting rules and procedures for the CAP shopping programs approved in the September 2018 Order and revising the Companies’ CRP scripts.

⁴ Commission Policy Statement on Default Service, 52 Pa. Code §§ 69.1801- 69.1817 (“Policy Statement”).

⁵ 66 Pa.C.S. § 2801 *et. seq.*

1 1. As part of the DSP V Settlement, the Companies agreed to put forth a specific
2 proposal regarding their residential TOU rate offerings in the earlier of their first
3 base rate case or DSP proceeding following full implementation of smart meter
4 back-office functionality. The Companies’ smart meter back-office functionality
5 is in place, and the smart meter plan is expected to be fully implemented as of
6 December 31, 2022. Accordingly, in compliance with their DSP V commitment,
7 the Companies are proposing to implement new TOU rates in this proceeding to
8 comply with Act 129 and Commission requirements. The Companies’ witness, Ms.
9 Patricia Larkin, will explain the proposal for residential and small commercial
10 default service customers in her direct testimony (Met-Ed/Penelec/Penn
11 Power/West Penn Statement No. 5).

12 2. Consistent with the September 2018 Order, the Companies extended the pilot for
13 the POR clawback charge for the four-year period beginning with the twelve-
14 months ended August 31, 2018 and continuing annually through August 31, 2021.
15 The clawback charge is assessed to EGSs whose write-offs as a percentage of
16 revenues are 200% higher than their peers and whose average price per kilowatt
17 hour (“kWh”) is greater than 150% of the average PTC of the Company that is the
18 default service provider for the customers served by the EGS in question. The
19 results of the pilot are reviewed later in my testimony, where I also discuss the
20 Companies’ proposal to continue the clawback charge in DSP VI. In addition, as
21 required by the September 2018 Order, the Companies developed EGS-specific
22 customer arrears reports with unpaid aged account balances for EGSs participating

1 in the Companies' PORs. The Companies have provided these reports to POR-
2 participating EGSs on a quarterly basis since October 19, 2018.

3 3. In the DSP V Orders, the Commission adopted rules and procedures for CAP
4 customer shopping programs where CAP customers may only enter a contract with
5 an EGS for a rate that is at or below the applicable Company's PTC and does not
6 contain any early termination, cancellation, or other fees. Those rules imposed new
7 requirements for EGSs who choose to serve CAP customers, including use of the
8 Companies' "rate-ready" EDC consolidated billing, and established contract-
9 expiration- and change-notice procedures. The Companies will routinely update
10 their sync lists of suppliers' customers, Eligible Customer Lists, and account
11 number access portals to allow EGSs to identify CAP customers and tailor products
12 and service options for those customers in accordance with the DSP V Orders. The
13 Companies implemented the CAP rate protections and other CAP shopping rules
14 consistent with the DSP V Orders effective June 1, 2019, the start date of DSP V.
15 As discussed later in my testimony, the Companies are not proposing any revisions
16 to their existing Commission-approved CAP shopping programs in this proceeding.

17 4. The February 2019 Order required the Companies to modify the CRP scripts for
18 the program administrator and the Companies' customer service representatives
19 ("CSRs"). For DSP V, the Companies modified those scripts to incorporate the
20 specific language and disclosures prescribed by the February 2019 Order.

21

1 **III. CUSTOMER BENEFITS AND NOTICE**

2 **Q. Are the Companies proposing any changes to their DSP V Programs that will benefit**
3 **customers?**

4 A. Yes. The Companies are proposing several changes to their DSP V Programs that will
5 provide customer benefits, including:

- 6 • an introduction of credit enhancements as described in the direct testimony of
7 James H. Catanach (Met-Ed/Penelec/Penn Power/West Penn Statement No. 2);
- 8 • a new TOU option as described in the direct testimony of Patricia M. Larkin (Met-
9 Ed/Penelec/Penn Power/West Penn Statement No. 5);
- 10 • a change to the frequency of the PTC rate from quarterly to semi-annual updates as
11 described in the direct testimony of Patricia M. Larkin (Met-Ed/Penelec/Penn
12 Power/West Penn Statement No. 5);
- 13 • an introduction of a Solar Purchase Power Agreement as described in the direct
14 testimony of James H. Catanach (Met-Ed/Penelec/Penn Power/West Penn
15 Statement No. 2) and James D. Reitzes and Nicholas E. Powers (Met-
16 Ed/Penelec/Penn Power/West Penn Statement No. 4); and
- 17 • a continuation of the CRP, POR Clawback Charge and CAP Shopping rules as
18 described below.

19 **Q. Please describe how the Companies will provide notice to customers of this DSP filing.**

20 A. Pursuant to 52 Pa. Code § 54.188(e)(1), the Companies must provide all customers with
21 notice of their DSP filings in a manner similar to that described in 52 Pa. Code § 53.68.
22 Accordingly, within thirty days of filing their Joint DSP VI Petition, each of the Companies
23 will provide public notice of the filing by publishing a notice in the major newspapers

1 serving their respective service areas. The notice will contain information about the
2 Companies' Joint Petition; the Companies' proposed competitive solicitations of
3 generation resources; how the Companies' plans may affect customers; where the filings
4 are available for public inspection; how comments or complaints can be filed; and how
5 customers can participate in this proceeding. Additionally, the Companies' Joint Petition
6 and supporting testimony and exhibits will be posted on each Company's public internet
7 domain, where those materials will be available electronically for public inspection.
8 Finally, the Companies are providing additional public notice by means of a press release.

9 In accordance with 52 Pa. Code § 54.185(c), the Companies are also serving complete
10 copies of their Joint Petition on the Pennsylvania Office of Consumer Advocate ("OCA"),
11 the Pennsylvania Office of Small Business Advocate ("OSBA"), the Commission's Bureau
12 of Investigation and Enforcement ("I&E"), PJM Interconnection L.L.C., and all EGSs
13 registered to provide service in the Companies' service territories. As a courtesy, the
14 Companies are also serving complete copies of their Joint Petition on the Coalition for
15 Affordable Utility Service and Energy Efficiency in Pennsylvania, the Met-Ed Industrial
16 Users Group, the Penelec Industrial Customer Alliance, the Penn Power Users Group, and
17 the West Penn Power Industrial Interveners (collectively, the "Industrials"), the
18 Pennsylvania State University ("PSU"), and the Retail Energy Supply Association.

19 **Q. Please describe the proposed customer notices that will be provided for any default**
20 **service rate changes.**

21 A. The Companies will continue to submit tariff supplements to recover the costs reasonably
22 incurred in acquiring electricity at market prices the later of forty-five days prior to the
23 effective date of each change in their default service rate, seven days after the last supply

1 auction for that delivery period, or more frequently. The tariff supplements will be
2 accompanied by the calculations that convert procurement plan results into retail rates.
3 Written notice of the submission of these tariff supplements will be provided to the OCA,
4 OSBA, I&E, the Industrials, PSU, and other parties included on the service list of this
5 proceeding. The tariff supplements will be posted on the Companies' public internet
6 domain when they are filed with the Commission. In addition, the Companies will continue
7 to post the filed PTC rates for the residential and commercial classes on the Commission's
8 website at www.papowerswitch.com. Also, within one business day of the effective date
9 of the revised PTC for the residential and commercial customer classes, the revised PTC
10 will be posted on the Companies' public internet site. Consistent with the Companies'
11 current practice, as approved in their DSP V Programs, customers will be provided notice,
12 via bill message, that new default service rates will take effect. The notices will enable
13 customers to analyze how the new rates will affect their bills and provide an opportunity
14 for them to seek competitive alternatives from EGSs.

15 **IV. PLAN TERM**

16 **Q. What is the proposed term of DSP VI?**

17 A. If approved, DSP VI would span the forty-eight month period of June 1, 2023 through May
18 31, 2027. This term is consistent with the four-year DSP V term approved by the
19 Commission in its September 2018 Order.

20 **Q. What are the benefits of a four-year DSP term?**

21 A. As recently noted by the Commission, a four-year DSP term would minimize future
22 litigation expenses and reduce administrative costs due to fewer DSP filings/proceedings

1 as compared to shorter-term DSPs, which must be filed more frequently.⁶ A four-year DSP
2 term is permitted under the Policy Statement, which states that DSPs should be for two-
3 year periods unless the Commission directs otherwise.⁷ The Commission has recently
4 approved longer terms for other default service programs, including the Companies' DSP
5 V.⁸

6 **V. CUSTOMER REFERRAL PROGRAM**

7 **Q. Are the Companies proposing to continue the CRP in DSP VI?**

8 A. Yes. The Companies propose to continue the CRP throughout DSP VI (i.e., May 31, 2027,
9 the proposed end date of DSP VI). The Companies' current CRP is consistent with Section
10 69.1815 of the Commission's Policy Statement on default service, which provides: "[t]he
11 public interest would be served by consideration of customer referral programs in which
12 retail customers are referred to EGSs".⁹ An extension of the CRP is consistent with the
13 Commission's conclusion in the Companies' DSP V proceeding that continuation of the
14 CRP with the script improvements set forth in the February 2019 Order was in the public
15 interest and compliant with the Commission's guidance and regulations.¹⁰

⁶ See, e.g., *Petition of Duquesne Light Co. for Approval of Its Default Serv. Plan for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019522, at 27 (Opinion and Order entered Jan. 14, 2021); *Petition of PECO Energy Co. for Approval of Its Default Serv. Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019290, at 30-31 (Opinion and Order entered Dec. 3, 2020).

⁷ 52 Pa. Code § 69.1804.

⁸ September 2018 Order 2, at 61; see also note 8, *supra*.

⁹ 52 Pa. Code § 69.1815.

¹⁰ See, e.g., September 2018 Order at 31-32; February 2019 Order at 38-42. The January 2020 Secretarial Letter directed EDCs to review standard offer customer referral program scripts in their upcoming DSP filings in light of the Commission's "most recent statement on SOP scripting" in the February 2019 Order. See January 2020 Secretarial Letter at 10. The Companies' current CRP scripts reasonably present the opportunity to enroll in the CRP to customers and incorporate appropriate customer protections in accordance with the DSP V Orders.

1 **Q. What is the Customer Referral Program Agreement (“CRP Agreement”)?**

2 A. The CRP Agreement is the contract established between each Company and qualified
3 EGSs that wish to participate in the CRP. The CRP Agreement outlines the terms and
4 conditions to which a supplier must agree and meet to qualify to serve load through the
5 CRP.

6 **Q. Are the Companies proposing any modifications to the CRP Agreement?**

7 A. Yes. Minor modifications are being made to extend the date of the CRP Agreement
8 between the Companies and participating EGSs through May 31, 2027, and to support the
9 Companies’ proposal to modify the PTC rate change from quarterly to semi-annually, as
10 discussed more fully in the direct testimony of Patricia Larkin (Met-Ed/Penelec/Penn
11 Power/West Penn Statement No. 5). Met-Ed/Penelec/Penn Power/West Penn Exhibit
12 JMS-2 reflects the limited changes proposed to the CRP Agreement.

13 **VI. POR CLAWBACK CHARGE**

14 **Q. Please describe the POR program included in the Companies’ supplier tariffs.**

15 A. Consistent with the Commission’s Policy Statement at 52 Pa. Code § 69.1814, each of the
16 Companies agreed to provide, and the Commission approved, POR programs for
17 residential and small commercial accounts served by EGSs.¹¹ Under each of the
18 Companies’ existing POR programs, accounts receivable are purchased from participating
19 EGSs at a zero discount rate (meaning, the Companies pay the face value of the account

¹¹ See *Joint Petition of Metro. Edison Co. and Pennsylvania Elec. Co. for Approval of Their Default Serv. Programs*, Docket Nos. P-2009-2093053 and P-2009-2093054 (Opinion and Order entered Nov. 6, 2009); *Petition of Pennsylvania Power Co. for Approval of Its Default Serv. Programs*, Docket No. P-2010-2157862 (Opinion and Order entered Nov. 17, 2010); *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co., Pennsylvania Power Co., and West Penn Power Co. for Approval of Their Default Serv. Programs*, Docket Nos. P-2013-2391368, et al. (Opinion and Order entered July 24, 2014).

1 receivable regardless of what they are actually able to collect from customers), which
2 eliminates the risk to EGSs of uncollectible accounts expense associated with serving
3 residential and small commercial customers. As such, the POR program offers a significant
4 benefit to participating EGSs.

5 **Q. How do the Companies recover uncollectible accounts expense associated with their**
6 **POR programs?**

7 A. Adjusted allowances for uncollectible accounts expense were approved in the Companies’
8 most recent base rate cases. These Commission-approved allowances split uncollectible
9 expense into a portion attributable to base distribution rates and a separate portion
10 attributable to default service and POR rates, with the default service/POR-related portion
11 recovered through the Companies’ Default Service Support (“DSS”) Riders. The default
12 service/POR-related portion of uncollectible accounts expense for each Company is
13 incurred, in part, as a result of the Companies’ POR programs.

14 **Q. Please explain the purpose of the POR clawback charge as it relates to the default**
15 **service/POR-related portion of uncollectible accounts expense.**

16 A. The clawback charge, as approved in the Companies’ prior two DSPs, was designed to
17 collect a portion of uncollectible accounts expense from EGSs—specifically, those EGSs
18 whose pricing practices are driving significantly higher write-offs as compared to other
19 EGSs. Any charges assessed under the clawback provision are imposed based on the
20 principle of cost causation. EGSs that have much higher-than-average write-offs and
21 charge prices that are significantly higher than the PTC impose costs that, absent the
22 clawback charge, would be borne entirely by the Companies and their customers.

1 **Q. Please describe the POR clawback charge calculation.**

2 A. The clawback charge calculation is a two-prong test. The first prong identifies those EGSs
3 in the POR program whose average percentage of write-offs as a percentage of revenues
4 over a twelve-month period exceed 200% of the average percentage of total EGS write-
5 offs as a percentage of revenues per operating company. The second prong of the test
6 identifies those EGSs identified under the first prong whose average price charged over the
7 same twelve-month period exceeds 150% of the operating company average PTC for the
8 period. For those EGSs that fail both prongs of the test, the annual clawback charge
9 assessed is the difference between that EGS's actual write-offs and their actual write-off
10 amount calculated at 200% of the average EGS percentage of write-offs per operating
11 company. The charge recovers the amount of EGS write-offs over 200% of the operating
12 company average and is billed to the EGS annually.

13 **Q. What do the Companies do with the amounts collected from EGSs?**

14 A. This depends on the situation. A Company retains the amount charged to EGSs if that
15 Company's actual uncollectible accounts expense is higher than the amount of
16 uncollectible expense in base rates, plus the amount included in the DSS Riders for the
17 twelve-month period ended August 31st of each year. Alternatively, a Company will refund
18 the EGS charge to customers through a reduction to its DSS Rider if that Company's actual
19 uncollectible expense is less than the amount of uncollectible expense recovered in base
20 rates and the DSS Rider.

1 **Q. A reconciliation of uncollectible accounts expense is prohibited under provisions of**
2 **Section 1408 of the Code, 66 P.S. § 1408. Is that what you are doing?**

3 A. No. Section 1408 prohibits the full reconciliation of all revenues and expenses associated
4 with uncollectible accounts expense. The clawback charge is a supplemental means of cost
5 recovery which relieves customers of having to pay for the uncollectible accounts expense
6 driven by EGS pricing that result in excessive write-offs. The uncollectible accounts
7 expense billing procedure and mechanism is clearly not a reconciliation of any type and is
8 thus permissible under the Code.

9 The uncollectible accounts expense cost recovery also provides customers with the benefits
10 of any collections obtained from EGSs by passing back a portion of those collections under
11 certain circumstances. In this way, the Companies will collect uncollectible accounts
12 obligations through the three sources of cost recovery available: (1) base distribution rates;
13 (2) DSS Rider rates; and (3) POR clawback billings, if applicable. This clawback provision
14 is designed to serve as a customer protection from those EGSs that are driving uncollectible
15 accounts expense to unreasonable levels.

16 **Q. What were the results of the POR clawback charge over the four-year pilot period,**
17 **and what did the Companies do with the amounts collected?**

18 A. Table 1 below presents a summary of the POR clawback charges assessed for the twelve
19 months ended August 31 in each year of the pilot, including the amount of the charges, the
20 number of EGSs that incurred the charges, and a description of the disposition of the funds
21 collected from EGSs.

Year	ME	PN	PP	WP	Total	# of EGSs
2018	\$ 358,477	\$ 322,083	\$ 13,522	\$ 238,340	\$ 932,422	17
	Refunded	Refunded	Refunded	Refunded		
2019	\$ 330,187	\$ 504,433	\$ 28,404	\$ 132,369	\$ 995,393	19
	Refunded	Refunded	Refunded	Refunded		
2020	\$ 231,211	\$ 111,597	\$ 76,090	\$ 195,054	\$ 613,953	25
	Refunded	Retained	Retained	Retained		
2021	\$ 104,865	\$ 122,330	\$ 25,138	\$ 203,642	\$ 455,975	22
	Refunded	Refunded	Retained	Refunded		

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Met-Ed/Penelec/Penn Power/West Penn Exhibit JMS-3 provides the clawback charge calculation for each year of the pilot and the uncollectible expense analysis that determined whether the Companies would retain or refund to customers the charges collected from EGSs.

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Q. Are the Companies proposing to continue the POR clawback charge?

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A. Yes. The POR clawback charge reduces the Companies' and customers' exposure to unreasonable EGS-driven uncollectible accounts expense by providing a source of cost recovery from those same EGSs who are benefiting from the PORs, while at the same time incentivizing EGSs to consider the results of their pricing programs as they relate to a customer's ability to pay. In turn, the revenues generated by this mechanism accrue to customers over time by reducing uncollectible accounts expense that would otherwise have to be collected from the Companies' customers through retail rates. The charge has been effective in achieving the Companies' goal of reducing the uncollectible expense borne by the Companies and their customers. As such, the Companies are proposing to continue the clawback charge as a permanent element of its POR program as outlined in their existing supplier coordination tariffs.

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1 **Q. Are the Companies proposing any changes to the POR clawback charge calculation?**

2 A. No. The Companies believe the charge is effective as currently designed.

3 **VII. CUSTOMER ASSISTANCE PROGRAM SHOPPING RULES**

4 **Q. Are the Companies' CAP customers able to shop for electric generation supply today?**

5 A. Yes. Prior to their DSP V Programs, the Companies allowed CAP customers to shop in
6 the competitive market without restriction. However, as I discussed earlier in my
7 testimony, effective June 1, 2019, the Companies implemented CAP shopping rules that
8 limit the terms of offers from EGSs in accordance with the Commission's direction in the
9 DSP V Orders.

10 On the same day as the February 2019 Order, the Commission issued a Policy Statement
11 on Electric Customer Assistance Program Participant Shopping designed to set guidelines
12 for CAP participants shopping with EGSs.¹² In the Proposed Policy Statement Order, the
13 Commission outlined uniform CAP shopping policies and requirements for Pennsylvania
14 EDCs. The CAP shopping requirements include: (1) a CAP shopping product rate at or
15 below the EDC's PTC for the duration of the contract; (2) a prohibition in EGS-CAP
16 customer contracts against fees unrelated to the provision of electric generation service,
17 including early termination and cancellation fees; and (3) specific options for CAP
18 customers upon expiration of the current contract period, who may (i) enter into another
19 contract with their existing EGS with the same CAP protections, (ii) switch to another

¹² See *Elec. Distrib. Co. Default Serv. Plans – Customer Assistance Program Shopping*, Proposed Policy Statement and Order, Docket No. M-2018-3006578 (entered Feb. 28, 2019) (“Proposed Policy Statement Order”). The Commission has not yet issued a final CAP shopping policy statement.

1 supplier offering a contract with the same CAP protections, or (iii) return to default
2 service.¹³

3 **Q. Are the Companies proposing any changes to CAP shopping as part of this**
4 **proceeding?**

5 A. No. The Companies' CAP shopping program approved in the DSP V Orders is consistent
6 with the guidelines provided in the Proposed Policy Statement Order. EGSs must charge
7 CAP customers a rate for generation service that is always at or below the Company's
8 residential PTC during the contract. To ensure EGS compliance with this limitation on
9 rates, the Companies' billing system only accepts rate-ready, percentage-off rates on CAP
10 customer accounts. Also, in accordance with the Proposed Policy Statement Order, EGSs
11 serving CAP customers may not enter into contracts that impose early cancellation and
12 termination fees or other fees unrelated to generation service. This prohibition ensures that
13 the overall rate charged to a CAP customer does not exceed the applicable PTC.

14 **VIII. CONCLUSION**

15 **Q. Does this complete your direct testimony?**

16 A. Yes, it does.

¹³ Proposed Policy Statement Order at 5, 9-10.

Witness: Joanne M. Savage

Appendix A

Appendix A

Resume: Education and Experience of Joanne M. Savage

Education:

- 2006 Bachelor of Science Degree in Accounting and Finance – Albright College
- 2010 Master of Business Administration Degree in Corporate Finance –
Alvernia University

Experience:

- 6/05 – 5/06 Intern – Rates & Regulatory Affairs – Pennsylvania – FirstEnergy
Service Company
- 5/06 – 2/11 Analyst – Rates & Regulatory Affairs – Pennsylvania – FirstEnergy Service
Company
- 2/11 – 4/16 Analyst – Rates & Regulatory Affairs – Ohio – FirstEnergy Service Company
- 5/16 – 3/19 Manager, Revenue Requirements – Rates & Regulatory Affairs – Ohio –
FirstEnergy Service Company
- 3/19 – present Director – Rates & Regulatory Affairs – Pennsylvania – FirstEnergy Service
Company

Prepared and presented testimony in the following rate-related cases:

Pennsylvania Public Utility Commission Cases: Docket Nos.

M-2010-2162846

M-2010-2162848

M-2010-2186760

M-2010-2186764

M-2010-2186772

M-2011-2228497

M-2011-2228617

P-2019-3012628

C-2020-3019347

M-2021-3026675

Public Utilities Commission of Ohio Cases: Case Nos.

13-2145-EL-CSS

14-1297-EL-SSO

16-925-EL-UNC

17-993-EL-UNC

18-857-EL-UNC

19-361-EL-RDR

New York Public Service Commission Case: Case No:

Case 21-E-0252

**Index of the Companies' Response to the Topics Set Forth in the Secretarial Letter
Issued on January 23, 2020 at Docket No. M-2019-3007101**

<u>Secretarial Letter Topic</u>	<u>Met-Ed/Penelec/Penn Power/West Penn Witness</u>	<u>DSP VI Filing Reference</u>
<p>1. “[W]e request that the large EDCs, in their next DSP filings, provide information and analysis on their NSPL/PLC cost allocation calculations and why they use such cost allocation for consideration by the Commission. This analysis should also include a discussion on why any large EDC may still be using monthly summary usage data instead of actual customer usage data to determine PLCs/NSPLs, and what steps and timelines, would be needed to implement a change to their current practice, as well as any associated costs.”</p> <p>Secretarial Letter, p. 5.</p>	Tiffanne H. Cowan	Met-Ed/Penelec/Penn Power/West Penn St. 6, pp. 2-4.
<p>2. “While the adoption rate of EVs is a matter of speculation, it is indisputable that during the timeframe covered by the upcoming DSP’s, EV use will increase. With that said, we find that TOU rates, especially in the context of EV expansion, needs to be explored further, especially whether the lack of TOU rate offerings for operators of EVs presents a barrier to EV adoption. Accordingly, we urge all parties participating in the upcoming DSP proceedings to consider how EV specific TOU rate offerings could be made available to consumers.”</p> <p>Secretarial Letter, pp. 6-7.</p>	Patricia M. Larkin	Met-Ed/Penelec/Penn Power/West Penn St. 5, pp. 17-18.
<p>3. “We request that the EDCs include in their filings evidence showing how its DSP proposal complies with the prudent mix requirements of the Public Utility Code and case law.”</p> <p>Secretarial Letter, p. 8.</p>	James H. Catanach James D. Reitzes and Nicholas E. Powers	Met-Ed/Penelec/Penn Power/West Penn St. 2, pp. 3-16. Met-Ed/Penelec/Penn Power/West Penn St. 4, pp. 20-31.
<p>4. “We find that it may be worthwhile for the Commission and the large EDCs to closely examine the history of PTC changes over the past few years to see if a 6-month PTC change interval would have provided more stability. Accordingly, we request that the large EDCs include in their upcoming DSP filings a 10 year history of their PTC changes and assess the benefits of a 6 month PTC change compared to a 3-month PTC change. EDCs are also free to propose other PTC change intervals that change no more frequently than on a quarterly basis.”</p> <p>Secretarial Letter, pp. 8-9.</p>	James D. Reitzes and Nicholas E. Powers Patricia M. Larkin	Met-Ed/Penelec/Penn Power/West Penn St. 4, pp. 15-19. Met-Ed/Penelec/Penn Power/West Penn St. 5, pp. 5-6.

<p>5. While not a topic of the proceeding at this docket, the Commission wants to take this opportunity to remind the EDCs and all interested parties to assess how Customer Assistance Program (CAP) customers can participate in the competitive market in future DSP proceedings. This topic has been addressed in various dockets, and we refer all parties to these dockets for more information. In addition, parties should review the most recent Commission actions on this topic, including how CAP-shopping was addressed in the FirstEnergy EDCs DSP IV proceedings and the Commission’s proposed CAP-shopping policy statement. While we acknowledge that the proposed policy statement is unlikely to be final and effective in time for some of the upcoming DSP proceedings, we still think the EDCs and interested stakeholders should consider the issues and concerns raised by the Commission and commenters in that proceeding in any future DSP proceeding. We suggest that all the EDCs with CAP programs, as well as interested stakeholders, consider the issues and concerns raised by the Commission in the above-noted prior proceedings when developing their CAP shopping proposals in the upcoming DSP filings.</p> <p>Secretarial Letter, pp. 9-10.</p>	Joanne M. Savage	Met-Ed/Penelec/Penn Power/West Penn St. 1, pp. 7, 17-18.
<p>6. “Another topic not included in this docket, but again we think it prudent to mention because it has been a subject litigated in past DSP proceedings, is Standard Offer Program (SOP) scripting language. These are the scripts used by the EDCs and their vendor call centers to refer customers to the SOPs. We direct the EDCs and all interested parties to our most recent statement on SOP scripting as found in the 2018-2019 FirstEnergy DSP proceeding; specifically, the February 28, 2019 order, in that proceeding. We suggest that EDCs, when preparing their upcoming DSP filings, review the Commission’s actions in the above-noted FirstEnergy proceeding and to include in their filings analyses of their SOPs, the current scripting, and any proposed scripting that adequately informs customers about the SOPs while maintaining important safeguards and protections.”</p> <p>Secretarial Letter, p. 10.</p>	Joanne M. Savage	Met-Ed/Penelec/Penn Power/West Penn St. 1, p. 7.

Customer Referral Program Agreement

Residential and Small Commercial Customer Class Full Requirements

for

{Insert EDC Here}

CUSTOMER REFERRAL PROGRAM AGREEMENT

THIS CUSTOMER REFERRAL PROGRAM AGREEMENT (“Agreement”) is made and entered into as of {Insert Date} (“Effective Date”) by and between **{Insert EDC Name Here }** (“Company”), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania and _____ (“Customer Referral Supplier”) a corporation organized and existing under the laws of [State of or Commonwealth of.....]. The Company and the Customer Referral Supplier hereinafter are sometimes referred to collectively as the “Parties,” or individually as a “Party.”

WITNESSETH:

WHEREAS, the Company is an electric public utility engaged, inter alia, in providing retail electric service within its service territory located in the Commonwealth of Pennsylvania; and

WHEREAS, the Pennsylvania Public Utility Commission (“PaPUC” or “Commission”) has found that it would serve the public interest for the Company to establish a Customer Referral Program to refer customers that contact the Company to licensed Electric Generation Suppliers (“EGSs”), -and the PaPUC has approved the Program; and

WHEREAS, the undersigned EGS desires to participate in the Customer Referral Program.

WHEREAS, the Customer Referral Supplier is licensed by the PaPUC to offer and supply competitive retail electric services in Pennsylvania, and is a registered supplier under the Company’s Supplier Coordination Tariff.

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, hereby covenant, promise and agree as follows:

Article 1 Definitions

Any capitalized or abbreviated term not elsewhere defined in this Agreement shall have the definition set forth in this Article.

- 1.1 **Agreement** – This Agreement for an EGS to become a Customer Referral Supplier and to participate in the Company’s Customer Referral Program together with attached Appendices.
- 1.2 **Applicable Legal Authorities** - Those federal and Pennsylvania statutes and administrative rules, regulations and Orders that govern the electric utility industry in Pennsylvania, as they may be amended from time to time.
- 1.3 **Business Day** – Any day on which the Company’s corporate offices are open for business.
- 1.4 **Company** – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company or West Penn Power Company individually, or in combination as the “Companies.”
- 1.5 **Consolidated EDC Billing** - Shall have the meaning set forth in the Company’s Supplier Tariff as filed with the PaPUC and available on the Company’s website.
- 1.6 **Customer** – Any person or entity who enters a contractual agreement with the Company to receive retail electric service including, without limitation, all persons or entities taking service under a retail tariff that are eligible to receive competitive electricity supply from an EGS or Default Service in accordance with the Applicable Legal Authorities.
- 1.7 **Customer Referral Customer(s)** – Customers who are provided competitive retail electric service as part of the Customer Referral Program in accordance with the terms of this Agreement.
- 1.8 **Customer Referral Program or “CRP”** – The Customer Referral Program as defined in this agreement
- 1.9 **Customer Referral Program Implementation Team** – customer service representatives trained in Pennsylvania customer choice issues and processes and the Customer Referral Program, employed by the Company directly or as independent contractors to implement the Customer Referral Program on behalf of the Company.

- 1.10 **Customer Referral 12 Month Fixed Price** – The 12 month fixed price set forth ~~each quarter~~ semi-annually in the Confirmation Sheet, which shall be in the form provided in Appendix A. The fixed price includes all EGS charges for Basic Electricity Supply including generation charges, market based transmission charges, and all Independent System Operator charges and gross receipt taxes. The fixed price shall be billed to an enrolled customer for 12 consecutive billing periods.
- 1.11 **Customer Referral Supplier** – An entity that: (i) has accepted the obligations and associated rights to provide competitive retail electric service under the terms of this Agreement to retail customers in accordance with the Applicable Legal Authorities; (ii) has entered into this Agreement with the Company; (iii) is a full member of PJM and registered with PJM as a Load Serving Entity; (iv) is licensed by the PaPUC to offer and supply electric generation services in Pennsylvania, and (v) is in compliance with the terms and conditions of the Company’s Supplier Tariff.
- 1.12 **Customer Referral Supplier Representative** – Any officer, director, employee, consultant, contractor, or other agent or representative of the Customer Referral Supplier having actual or apparent authority to act on behalf of the Customer Referral Supplier in connection with the Customer Referral Supplier’s performance under this Agreement. To the extent the Customer Referral Supplier is a division or group of a Company, the term Customer Referral Supplier Representative does not include any person in that Company who is not part of the Customer Referral Supplier’s division or group.
- 1.13 **Default Service** – Shall mean Default Service as defined in 52 Pa. Code § 54.182.
- 1.14 **Electric Distribution Company or “EDC”** – A public utility providing facilities for the transmission and distribution of electricity to retail Customers in Pennsylvania subject to the jurisdiction of the Commission.
- 1.15 **Electric Generation Supplier or “EGS”** – A person or entity that is duly certified by the Commission to offer and provide competitive retail electric service to retail customers located in the Commonwealth of Pennsylvania.
- 1.16 **Electronic Data Interchange or “EDI”** – The standardized format for the electronic transfer of data between different entities.
- 1.17 **FERC** – The Federal Energy Regulatory Commission.
- 1.18 **Price-to-Compare** – Shall mean “price-to-compare” as defined in 52 Pa. Code § 54.182.
- 1.19 **Participating EGSs** – All EGSs that have executed this Agreement.
- 1.20 **PJM** – PJM Interconnection, LLC.
- 1.21 **Rate Schedule(s)** – The Customer rate schedule(s) in the electric service tariff of the Company on file with the Commission as they may be modified from time to time.

- 1.22 **Rate Ready** – Shall have the meaning set forth in the Company’ Supplier Tariff as filed with the PaPUC and available on the Company’s website.
- 1.23 **Residential Customer** – Customers on: Rate Schedules RS and GS-Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service. (Metropolitan Edison Company and Pennsylvania Electric Company); Rate Schedules RS and GS Special Provision for Volunteer Fire Companies, Non-Profit Senior Citizen Centers, Non-Profit Rescue Squads, and Non-Profit Ambulance Services (Pennsylvania Power Company); or Domestic Service Schedule 10 and Rate Schedule 20 special provision for Volunteer Fire Company, Non-Profit Ambulance Service, Non-Profit Rescue Squad and Non-Profit Senior Citizen Center (West Penn Power Company), each as defined in the electric service tariff of the Company on file with the Commission as they may be modified from time to time.
- 1.24 **Seller** – means the Customer Referral Supplier.
- 1.25 **Service Territory** – The service territory in which the Company is authorized to furnish retail electric service in Pennsylvania.
- 1.26 **Small Commercial Customer** - Customer on Rate Schedule GS-Small (Metropolitan Edison Company and Pennsylvania Electric Company); General Service - Small (Pennsylvania Power Company); or General Service Schedule 20 (West Penn Power Company) as defined in each respective Company’s electric service tariff on file with the Commission as such may be modified from time to time.
- 1.27 **Supplier Tariff** –The PaPUC-approved Electric Generation Supplier Tariff for the Company.

Article 2 General Terms and Conditions

2.1 Term

This Agreement shall be effective upon execution by the Parties and with the approval of the PaPUC and shall terminate on May 31, ~~2023~~2027. This Agreement may be terminated prior to the end of each such term by the existence of any of the following conditions: (1) if the Customer Referral Program is terminated by governmental action; (2) if the Customer Referral Supplier is no longer a certified EGS; (3) if either Party is in material breach of this Agreement or the Supplier Tariff; or (4) pursuant to Article 3 of this Agreement.

2.2 Customer Referral Supplier Participation and Suspension of Participation

Customer Referral Suppliers will be able to begin participation in the Program effective on the following dates each year: June 1, ~~September 1~~, or December 1 ~~or~~ ~~March 1~~. In order to participate, a Customer Referral Supplier must provide initial notice of its intent to participate in the Customer Referral Program at least sixty days prior to its desired effective date. A Customer Referral Supplier that has previously participated in the Company's Customer Referral Program must provide notice of its intent to participate at least thirty days prior to its desired effective date. A Customer Referral Supplier may suspend its participation in the Customer Referral Program effective on those same ~~four~~two dates (June 1, ~~September 1~~, or December 1 ~~or~~ ~~March 1~~) and must provide notice of its intent to suspend participation at least thirty days prior to its desired effective suspension date. Notice of participation or suspension of participation shall be provided in the Form of Appendix C attached hereto.

2.3 Supplier Tariff

Except as otherwise stated herein, all the terms and conditions of the Company's Supplier Tariff, as filed with the PaPUC and available on the Company's website, and as modified from time to time with the approval of the Commission, are incorporated herein by reference, are in full force and effect and are binding upon the Parties for the duration of this Agreement.

2.4 CRP Charges – Calculation

Each Company will incur the following types of cost related to the Customer Referral Program: (1) capital and ~~start-up~~startup costs, such as costs associated with programming, development of phone scripts, administration of developing third party

vendor arrangements, etc. (the “Initial CRP Costs”); and (2) ongoing monthly costs, such as third party contractor charges and continuing internal administrative costs (the “Ongoing CRP Costs”; collectively, “CRP Costs”). The Companies will update their estimate of the CRP Costs prior to soliciting EGS participation in the CRP.

Each Company will track and record its CRP Costs separately, and each Company will recover CRP Costs from Customer Referral Suppliers by assessing a standard, per-customer charge (the “CRP Charge”), not to exceed \$30. The CRP Charge is subject to change by order of the Pa PUC or a Court of competent jurisdiction, and such change might be retroactive. A Customer Referral Supplier will be assessed a CRP Charge for every CRP customer enrollment that has been completed for that Customer Referral Supplier. The CRP Charge will be calculated on an annual basis, with a new CRP Charge becoming effective June 1 of each year.

The CRP Charge will be calculated by dividing CRP Costs by a projected number of customer enrollments in the CRP during the applicable year. Three cost components will be included in the CRP calculation: (1) Initial CRP Costs; (2) Ongoing CRP Costs; and (3) a reconciliation component for each year beyond the first year of the CRP (the “Reconciliation Component”). The Initial CRP Costs will be recovered utilizing a 12-month amortization period, and will include a return at the legal rate of interest.

In the event that the actual CRP Costs result in a cost per customer that exceeds the CRP Charge, the Companies will recover the resulting difference between their actual costs and the amount recovered by their CRP Charge through a non-bypassable surcharge applied to the bills of all Customers eligible to participate in the CRP.

2.5 CRP Charges

(a) Consistent with the calculation methodology in Section 2.4, the Companies will provide updates of the CRP Charge to the Customer Referral Suppliers annually and will communicate the annual CRP Charge to Customer Referral Suppliers through a modification to Appendix B attached hereto, by May 1 of each year.

(b) The Companies shall charge any Customer Referral Supplier in confirmed violation of the CRP Agreement an hourly fee, consistent with the Technical Support and Assistance Charge allowed for under the Supplier Tariff, for time spent researching, manually verifying and confirming a Customer Referral Customer's account. The Companies will notify the affected Customer Referral Supplier and such Supplier will have ten days to submit a formal objection to the Companies' initial determination. The formal objection shall be processed consistent with Section 18 of the Companies' Supplier Coordination Tariffs.

(c) The Companies shall charge any Customer Referral Supplier in confirmed violation of the CRP Agreement all legal fees resulting from customer complaints from Customer Referral Customers caused by the action or inaction of the Customer Referral Supplier.

2.6 Company Obligations and Authority

The Company shall:

(a) Record the Customer's intent to participate and then transmit the following to each participating EGS via a secure website post or secure EDI transmittal: (1) the Customer's intent to participate; (2) the Company's twenty-digit customer identification number; and (3) the Customer's billing address. This transmission will provide the EGS with a valid referral for processing an enrollment.

(b) Bill the Customer Referral Customers on behalf of the Customer Referral Supplier under Rate Ready Consolidated EDC Billing utilizing the Customer Referral 12-Month Fixed Price in effect when the Customer enrolls, as set forth in Appendix A (the “Confirmation Sheet”);

(c) Assign to the Customer Referral Supplier all eligible Customer accounts enrolled by the Customer Referral Supplier, with the requisite Customer consent, consistent with the Supplier Tariff as filed with the PaPUC and available on the Company’s website;

(d) Inform Residential and Small Commercial Default Service Customers that contact the Company regarding a high bill, a new service request, or electric choice inquiry, that they have the ability to purchase power from an EGS and offering such Customers the opportunity to have their call transferred to the Company’s Customer Referral Program Implementation Team;

(e) Have the Customer Referral Program Implementation Team inform the customer that the Company can refer the customer to an EGS with a 12-month fixed price that is below the EDC’s current Price-To-Compare default service rate.

(f) The Company will give the Customer an opportunity, at the Customer’s election, to choose an EGS or to be referred to an EGS on a rotating basis. The rotation process is designed to provide each EGS participating in the Customer Referral Program generally equivalent numbers of rotation-assigned customers, by service type. EGSs must serve all such Residential or Small Commercial Customers referred through a Customer Referral Program.

(g) Secure PaPUC approval to implement the Customer Referral Program for the period June 1, ~~2021~~2019~~23~~ to May 31, ~~2023~~2027.

2.7 Obligations of the Customer Referral Supplier

The Customer Referral Supplier shall:

(a) Provide Competitive Energy Supply (as defined in the Supplier Tariff) to Customer Referral Customers, consistent with the terms and conditions of service set forth in this Agreement (“Customer Referral Supply”), and PaPUC Orders regarding the Customer Referral Program;

(b) Meet all of the obligations and requirements of a PaPUC-licensed EGS under the then current Supplier Tariff;

(c) Cooperate, at its own expense, with the Company in any regulatory compliance efforts that may be required to maintain the ongoing validity and enforceability of the terms of this Agreement, and fulfill any regulatory reporting requirement associated with the provision of the Customer Referral Supply, before the PaPUC, FERC or any other regulatory body asserting jurisdiction;

(d) Use EDC Rate Ready Consolidated Billing to bill Customer Referral Customers the Customer Referral 12-Month Fixed Price in effect when the Customer enrolled in the Customer Referral Program as set forth in the applicable Confirmation Sheet for 12 consecutive billing periods, unless the contract is terminated by the customer;

(e) After receiving a valid referral for enrollment, issue a standard disclosure statement, consistent with the Terms and Conditions of the Customer Referral Program

and welcome kit to the customer at least 3 days prior to transmitting an EDI 814 enrollment transaction to the EDC;

(f) Transmit an EDI 814 enrollment transaction to the EDC consistent with Commission regulations and comply with the switching rules in the Company's Supplier Tariff;

(g) Pay bills rendered from the EDC relating to the CRP (including the CRP Charge) within 30 days; and

(h) Comply with Commission regulations regarding notice of a price change and changes in the terms and conditions of service following the 12-month initial contract period.

2.8 No Guarantee of Customer Referral Customers

The Company makes no guarantee or representation as to the number of Residential or Small Commercial Customers, if any, that will become Customer Referral Customers or will become Customer Referral Customers of any particular EGS during the term of this Agreement.

2.9 Fees, Penalties, and Exceptions

Customer Referral Customers will be billed the Customer Referral 12-Month Fixed Price, as applicable, set forth in the applicable Confirmation Sheet under and subject to the terms and conditions set forth herein and in applicable PaPUC Orders. Customer Referral Suppliers will be paid by the Company pursuant to the Customer Referral 12-Month Fixed Price, as applicable, set forth in the applicable Confirmation

Sheet and the terms and conditions of the Supplier Tariff. Customer Referral Suppliers will not impose any penalties or fees on Customer Referral Customers.

2.10 Guaranteed Power Supply to Customer Referral Customers for One Year

All Customer Referral Customers enrolled in the Customer Referral Program shall receive power at the Customer Referral 12-Month Fixed Price, as applicable, as set forth in the applicable Confirmation Sheet from the Customer Referral Customer's initial meter read date during the contract terms set forth in Appendix A and ending with the Customer Referral Customer's last meter read date during the 12 month contract term such that the Customer will receive 12 consecutive bills calculated using the Customer Referral 12-Month Fixed Price applicable to the Customer at the time of enrollment.

2.11 Enrollment Procedures and Policies

Customer Referral Customers can enroll or switch to an EGS, including an alternative offer from the Customer Referral Supplier, or return to Default Service at any time during the 12 month period that the 12-Month Fixed Price is billed without restriction or penalty.

2.12 Service Inquiries and Notices to Customer Referral Customers

Customer Referral Customers may direct inquiries regarding this Agreement and any power supply or billing questions regarding the Customer Referral Program to the Customer Referral Supplier, whose address and phone number shall be provided in all communications with Customer Referral Customers regarding the Customer Referral Program.

Article 3 Early Termination of Agreement

The Customer Referral Supplier may only terminate its Consumer Contract and Disclosure Statement with Customer Referral Customers during the initial 12 month billing period upon 30 days' prior written notice to the customer due to a change in law or other act beyond the Customer Referral Supplier's reasonable control or if the Customer Referral Supplier is no longer able to serve the customer. In addition, the Customer Referral Supplier may reject the enrollment or terminate its Consumer Contract if the Customer does any of the following:

- Moves within or outside of the EDC's service territory or fails to remain an EDC distribution Customer throughout the term under the applicable residential or small commercial electric rate class;
- Fails to be eligible for EDC consolidated billing throughout the term;
- Provides any false, inaccurate or misleading information to the Customer Referral Supplier or the EDC.

Article 4 Energy Efficiency and Conservation Programs

The Customer Referral Supplier acknowledges that Customer Referral Customers may participate in energy efficiency and conservation programs offered by the Company (as required by Applicable Legal Authorities or otherwise), by PJM, or by other third parties, and that such participation may reduce or change the amount of Customer Referral Supply that Customer Referral Supplier is required to provide and, therefore, the amount of money it may receive under this Agreement. Customer Referral Supply does not include the load which the Customer Referral Supplier may have served in the absence of such programs, and the Company shall have no obligation whatsoever to Customer Referral Supplier with respect to the effect, if any, of such programs. Customer Referral Supplier is solely responsible for determining the effect, if any, of such programs on future load requirements.

Article 5 Entire Agreement

This Agreement and Appendices attached hereto constitute the entire Agreement and understanding between the Parties with respect to the services that are being provided hereunder. All prior written and verbal agreements and representations, if any, with respect to these services are merged into and superseded by this Agreement. No revisions or modifications to this Agreement will be valid, unless written and executed by all Parties and approved by the PaPUC.

Article 6 Authorization

Each Party to this Agreement represents and warrants that it has full and complete authority to enter into and perform this Agreement. Each person who executes this Agreement on behalf of either Party represents and warrants that he or she has full and complete authority to do so and that such Party will be bound by the Agreement.

Article 7 Jurisdiction

Any and all matters of dispute between the Parties, whenever arising, shall be governed, construed and enforced in accordance with the laws of the Commonwealth of Pennsylvania regardless of the theory upon which such matter is asserted.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives to be effective as of the day and year first written above.

ATTEST:

{INSERT EDC HERE}

By: _____ By: _____

Name: [Insert Name]
Title: [Insert Title]

Name: [Insert Name]
Title: [Insert Title]

APPENDIX A

**RESIDENTIAL OR SMALL COMMERCIAL CUSTOMER REFERRAL
PROGRAM PRICING
CONFIRMATION SHEET**

**FOR CUSTOMER ENROLLMENTS FOR THE PERIOD XX/XX/XXXX TO
XX/XX/XXXX**

The Customer Referral Supplier shall bill Customer Referral Customers in the [Name of EDC and name of Class] program that have been enrolled* during the period XX/XX/XXXX to XX/XX/XXXX at the prices set forth below. The following Fixed Rate shall be in effect through the last meter read date for 12 monthly billing periods after Enrollment.

Residential Customer Referral 12-Month Fixed Rate \$0.XXXX per kWh

Small Commercial Customer Referral 12-Month Fixed Rate \$0.XXXX per kWh

***Enrolled shall mean the day the customer accepts the EGS proposal for service**

Customers Referral Customers shall be enrolled using Rate Code xxxxxx for the Period xx/xx/xxxx to xx/xx/xxxx

APPENDIX B

CUSTOMER REFERRAL PROGRAM CHARGE

**PER CUSTOMER ENROLLED FOR THE PERIOD XX/XX/XXXX TO
XX/XX/XXXX**

The Companies shall charge the Customer Referral Suppliers for each customer enrolled during the period XX/XX/XXXX to XX/XX/XXXX at the CRP Charge set forth below.

CRP Charge Rate

\$XX.XX per customer enrolled

APPENDIX C

EGS PARTICIPATION OR SUSPENSION OF PARTICIPATION NOTICE

The Customer Referral Supplier shall be permitted to participate or suspend participation June 1, ~~September 1,~~ or December 1 ~~or March 1,~~ upon providing the Companies with proper notice, as set forth below.

CUSTOMER REFERRAL SUPPLIER NOTICE TO PARTICIPATE IN OR WITHDRAW FROM THE ENROLLMENT OF NEW CRP CUSTOMERS

{INSERT EGS Name HERE} did not previously participate in the Company's Customer Referral Program and is hereby providing the Company 60-days notice of intent to enroll new customers in the [Name of EDC and Class] Customer Referral Program beginning XX/XX/XXXX.

{INSERT EGS Name HERE} previously participated in the Company's Customer Referral Program and is hereby providing the Company 30-days notice of intent to enroll new customers in the [Name of EDC and Class] Customer Referral Program beginning XX/XX/XXXX.

{INSERT EGS Name HERE} is hereby providing the Company 30-days notice of intent to withdraw from enrolling new customers in the [Name of EDC and Class] Customer Referral Program beginning XX/XX/XXXX.

EGS Representative _____
Date _____

DSP V POR Clawback Charge
12-Months Ended August 31, 2018
Calculation Summary

Co	EGS	First Prong					Second Prong				Charge		
		EGS Revenues (1)	EGS Write-Offs (2)	EGS Write-Offs as a % of Revenues (3) = (2)/(1)	OpCo Average % (4)	200% of OpCo Average % (5) = (4)x2	kWh (6)	Average Rate c/kWh 7) = ((1)/(6))x10	OpCo Weighted Avg PTC c/kWh (8)	150% Weighted Avg PTC c/kWh (9) = (8) x 1.5	EGS Write-Offs Calculated at 200% of OpCo Average % (10) = (1)x(5)	Clawback Charge (11) = (2)-(10)	Total OpCo Clawback Charge (12)
ME	EGS-1	7,041,215.58	273,888.25	3.89%	1.26%	2.51%	74,518,631	9.45	6.26	9.39	176,841.50	97,046.75	\$ 358,477.29
	EGS-2	632,551.47	42,104.27	6.66%	1.26%	2.51%	6,378,540	9.92	6.26	9.39	15,886.65	26,217.62	
	EGS-3	882,915.03	48,395.34	5.48%	1.26%	2.51%	8,930,761	9.89	6.26	9.39	22,174.58	26,220.76	
	EGS-4	1,458,101.37	127,412.45	8.74%	1.26%	2.51%	14,200,099	10.27	6.26	9.39	36,620.50	90,791.95	
	EGS-5	2,816,057.03	150,916.15	5.36%	1.26%	2.51%	29,123,898	9.67	6.26	9.39	70,725.82	80,190.33	
	EGS-6	123,000.29	10,217.39	8.31%	1.26%	2.51%	1,093,232	11.25	6.26	9.39	3,089.18	7,128.21	
	EGS-7	5,519,060.56	149,047.56	2.70%	1.26%	2.51%	58,247,750	9.48	6.26	9.39	138,612.28	10,435.28	
	EGS-8	1,103,298.75	45,080.03	4.09%	1.26%	2.51%	11,042,274	9.99	6.26	9.39	27,709.56	17,370.47	
	EGS-9	331,937.90	11,412.62	3.44%	1.26%	2.51%	3,356,264	9.89	6.26	9.39	8,336.69	3,075.93	
PN	EGS-2	354,479.15	16,721.08	4.72%	1.19%	2.38%	3,820,922	9.28	6.12	9.18	8,423.52	8,297.56	\$ 322,082.55
	EGS-4	1,762,936.04	114,048.74	6.47%	1.19%	2.38%	18,858,238	9.35	6.12	9.18	41,892.80	72,155.94	
	EGS-10	289,535.17	17,928.52	6.19%	1.19%	2.38%	3,002,912	9.64	6.12	9.18	6,880.25	11,048.27	
	EGS-5	4,471,776.13	117,799.99	2.63%	1.19%	2.38%	42,964,042	10.41	6.12	9.18	106,263.19	11,536.80	
	EGS-6	1,461,339.88	100,791.54	6.90%	1.19%	2.38%	15,772,923	9.26	6.12	9.18	34,725.94	66,065.60	
	EGS-11	2,343,210.87	89,785.23	3.83%	1.19%	2.38%	24,349,453	9.62	6.12	9.18	55,681.91	34,103.32	
	EGS-7	6,338,901.89	155,841.04	2.46%	1.19%	2.38%	68,882,961	9.20	6.12	9.18	150,631.85	5,209.19	
	EGS-12	1,802,544.13	137,930.70	7.65%	1.19%	2.38%	14,805,743	12.17	6.12	9.18	42,834.01	95,096.69	
	EGS-8	61,992.43	3,187.67	5.14%	1.19%	2.38%	564,289	10.99	6.12	9.18	1,473.13	1,714.54	
EGS-9	400,203.48	26,364.70	6.59%	1.19%	2.38%	4,215,214	9.49	6.12	9.18	9,510.07	16,854.63		
PP	EGS-5	1,104,414.94	23,875.57	2.16%	0.77%	1.55%	9,815,416	11.25	7.04	10.56	17,063.27	6,812.30	\$ 13,521.80
	EGS-13	373,692.62	6,307.77	1.69%	0.77%	1.55%	3,450,345	10.83	7.04	10.56	5,773.57	534.20	
	EGS-8	305,986.42	10,902.81	3.56%	0.77%	1.55%	2,800,139	10.93	7.04	10.56	4,727.51	6,175.30	
WP	EGS-5	6,277,399.39	143,984.66	2.29%	1.06%	2.11%	57,088,085	11.00	5.72	8.58	132,490.82	11,493.84	\$ 238,340.13
	EGS-2	449,186.95	13,862.26	3.09%	1.06%	2.11%	4,502,210	9.98	5.72	8.58	9,480.54	4,381.72	
	EGS-6	2,512,411.13	140,290.32	5.58%	1.06%	2.11%	29,028,508	8.65	5.72	8.58	53,026.96	87,263.36	
	EGS-14	249,269.05	19,755.47	7.93%	1.06%	2.11%	2,592,743	9.61	5.72	8.58	5,261.07	14,494.40	
	EGS-12	634,225.81	59,472.32	9.38%	1.06%	2.11%	5,257,864	12.06	5.72	8.58	13,385.97	46,086.35	
	EGS-15	723,504.31	25,066.40	3.46%	1.06%	2.11%	7,071,524	10.23	5.72	8.58	15,270.28	9,796.12	
	EGS-8	372,386.31	8,358.37	2.24%	1.06%	2.11%	3,600,384	10.34	5.72	8.58	7,859.59	498.78	
	EGS-16	660,456.52	24,586.82	3.72%	1.06%	2.11%	6,891,581	9.58	5.72	8.58	13,939.60	10,647.22	
	EGS-17	1,519,391.48	77,096.14	5.07%	1.06%	2.11%	16,924,318	8.98	5.72	8.58	32,068.28	45,027.86	
EGS-9	511,868.95	19,453.99	3.80%	1.06%	2.11%	5,155,297	9.93	5.72	8.58	10,803.51	8,650.48		
Total Clawback Charge											\$ 932,421.76		

DSP V POR Clawback Charge
12-Months Ended August 31, 2019
Calculation Summary

		First Prong					Second Prong				Charge			
Co	EGS	EGS Revenues	EGS Write-Offs	EGS Write-Offs as a % of Revenues	OpCo Average %	200% of OpCo Average %	kWh	EGS Average Rate c/kWh	OpCo Weighted Avg PTC c/kWh	150% OpCo Weighted Avg PTC c/kWh	EGS Write-Offs Calculated at 200% of OpCo Average %	Clawback Charge	Total OpCo Clawback Charge	
		(1)	(2)	(3) = (2)/(1)	(4)	(5) = (4)x2	(6)	7) = ((1)/(6))x10	(8)	(9) = (8) x 1.5	(10) = (1)x(5)	(11) = (2)-(10)	(12)	
ME	EGS-1	6,658,035.74	193,474.26	2.91%	1.12%	2.23%	65,961,893	10.09	6.24	9.37	148,584.82	44,889.44	\$ 330,187.15	
	EGS-2	1,051,412.37	45,208.84	4.30%	1.12%	2.23%	10,243,955	10.26	6.24	9.37	23,463.96	21,744.88		
	EGS-3	575,898.37	13,678.63	2.38%	1.12%	2.23%	5,133,263	11.22	6.24	9.37	12,852.10	826.53		
	EGS-4	2,192,429.84	117,139.93	5.34%	1.12%	2.23%	21,247,036	10.32	6.24	9.37	48,927.61	68,212.32		
	EGS-5	2,922,184.49	84,749.42	2.90%	1.12%	2.23%	28,297,134	10.33	6.24	9.37	65,213.26	19,536.16		
	EGS-6	476,328.60	14,915.95	3.13%	1.12%	2.23%	4,881,985	9.76	6.24	9.37	10,630.04	4,285.91		
	EGS-7	2,139,236.37	79,894.05	3.73%	1.12%	2.23%	21,492,076	9.95	6.24	9.37	47,740.51	32,153.54		
	EGS-8	496,189.57	14,964.96	3.02%	1.12%	2.23%	4,710,735	10.53	6.24	9.37	11,073.27	3,891.69		
	EGS-9	4,810,634.15	122,303.88	2.54%	1.12%	2.23%	48,333,676	9.95	6.24	9.37	107,357.07	14,946.81		
	EGS-10	2,059,117.65	121,786.76	5.91%	1.12%	2.23%	21,351,025	9.64	6.24	9.37	45,952.53	75,834.23		
	EGS-11	729,226.80	29,281.42	4.02%	1.12%	2.23%	6,479,026	11.26	6.24	9.37	16,273.87	13,007.55		
	EGS-12	286,547.12	8,453.34	2.95%	1.12%	2.23%	2,983,411	9.60	6.24	9.37	6,394.76	2,058.58		
	EGS-13	300,242.21	35,499.92	11.82%	1.12%	2.23%	2,954,382	10.16	6.24	9.37	6,700.39	28,799.53		
PN	EGS-1	3,611,754.35	143,320.00	3.97%	0.92%	1.84%	37,508,782	9.63	6.03	9.04	66,412.77	76,907.23	\$ 504,433.01	
	EGS-2	846,261.25	19,565.09	2.31%	0.92%	1.84%	8,395,071	10.08	6.03	9.04	15,561.01	4,004.08		
	EGS-3	54,447.87	6,917.38	12.70%	0.92%	1.84%	475,133	11.46	6.03	9.04	1,001.18	5,916.20		
	EGS-4	3,421,588.72	121,792.11	3.56%	0.92%	1.84%	33,639,478	10.17	6.03	9.04	62,916.02	58,876.09		
	EGS-5	2,566,930.42	126,193.28	4.92%	0.92%	1.84%	25,837,840	9.93	6.03	9.04	47,200.60	78,992.68		
	EGS-6	202,525.14	30,931.44	15.27%	0.92%	1.84%	1,993,030	10.16	6.03	9.04	3,724.02	27,207.42		
	EGS-8	1,180,322.58	46,961.59	3.98%	0.92%	0.018388	11,264,168	10.48	6.03	9.04	21,703.72	25,257.87		
	EGS-14	149,472.05	8,425.39	5.64%	0.92%	1.84%	1,398,175	10.69	6.03	9.04	2,748.49	5,676.90		
	EGS-15	1,621,345.46	67,941.35	4.19%	0.92%	1.84%	15,159,619	10.70	6.03	9.04	29,813.23	38,128.12		
	EGS-16	1,519,905.08	117,163.59	7.71%	0.92%	1.84%	16,391,032	9.27	6.03	9.04	27,947.94	89,215.65		
	EGS-10	1,390,248.33	81,988.28	5.90%	0.92%	0.018388	9,917,093	14.02	6.03	9.04	25,563.82	56,424.46		
	EGS-17	510,730.90	36,526.05	7.15%	0.92%	1.84%	5,488,636	9.31	6.03	9.04	9,391.30	27,134.75		
	EGS-12	481,455.78	17,063.97	3.54%	0.92%	1.84%	4,819,265	9.99	6.03	9.04	8,852.99	8,210.98		
EGS-13	25,291.78	2,945.64	11.65%	0.92%	1.84%	231,812	10.91	6.03	9.04	465.06	2,480.58			
PP	EGS-14	83,892.53	5,745.44	6.85%	0.65%	1.29%	719,379	11.66	7.17	10.76	1,084.56	4,660.88	\$ 28,404.25	
	EGS-15	1,209,653.84	20,687.67	1.71%	0.65%	1.29%	10,325,815	11.71	7.17	10.76	15,638.32	5,049.35		
	EGS-10	217,996.87	15,612.56	7.16%	0.65%	1.29%	1,643,852	13.26	7.17	10.76	2,818.25	12,794.31		
	EGS-11	176,748.48	6,907.73	3.91%	0.65%	1.29%	1,470,642	12.02	7.17	10.76	2,284.99	4,622.74		
	EGS-12	520,545.96	7,831.96	1.50%	0.65%	1.29%	4,640,730	11.22	7.17	10.76	6,729.58	1,102.38		
	EGS-13	12,766.10	339.62	2.66%	0.65%	1.29%	115,093	11.09	7.17	10.76	165.04	174.58		
WP	EGS-1	9,690,577.91	211,238.24	2.18%	1.08%	2.16%	101,339,850	9.56	5.83	8.75	208,992.66	2,245.58	\$ 132,368.72	
	EGS-5	4,512,678.37	122,061.87	2.70%	1.08%	2.16%	46,194,289	9.77	5.83	8.75	97,323.06	24,738.81		
	EGS-6	214,331.24	7,897.60	3.68%	1.08%	2.16%	2,315,767	9.26	5.83	8.75	4,622.39	3,275.21		
	EGS-14	198,885.49	6,372.05	3.20%	1.08%	2.16%	1,910,699	10.41	5.83	8.75	4,289.28	2,082.77		
	EGS-15	2,676,364.26	90,937.03	3.40%	1.08%	2.16%	24,357,562	10.99	5.83	8.75	57,720.03	33,217.00		
	EGS-10	421,583.04	23,055.93	5.47%	1.08%	2.16%	2,983,468	14.13	5.83	8.75	9,092.11	13,963.82		
	EGS-11	197,143.34	8,560.48	4.34%	1.08%	2.16%	1,843,365	10.69	5.83	8.75	4,251.71	4,308.77		
	EGS-18	1,515,823.41	48,144.68	3.18%	1.08%	2.16%	17,083,593	8.87	5.83	8.75	32,691.13	15,453.55		
	EGS-19	217,475.16	10,663.06	4.90%	1.08%	2.16%	2,482,727	8.76	5.83	8.75	4,690.20	5,972.86		
	EGS-17	429,200.81	32,388.18	7.55%	1.08%	2.16%	4,139,793	10.37	5.83	8.75	9,256.40	23,131.78		
	EGS-13	43,575.17	4,918.33	11.29%	1.08%	2.16%	409,095	10.65	5.83	8.75	939.77	3,978.56		
	Total Clawback Charge											\$ 995,393.14		

DSP V POR Clawback Charge
12-Months Ended August 31, 2020
Calculation Summary

		First Prong					Second Prong				Charge		
Co	EGS	EGS Revenues (\$) (1)	EGS Write- Offs (\$) (2)	EGS Write- Offs as a % of Revenues (3) = (2)/(1)	OpCo Average % (4)	200% of OpCo Average % (5) = (4)x2	kWh (6)	Average Rate C/kWh 7) = ((1)/(6))x10 (7)	OpCo Weighted Avg PTC C/kWh (8)	150% Weighted Avg PTC C/kWh (9) = (8) x 1.5	EGS Write-Offs Calculated at 200% of OpCo Average % (\$) (10) = (1)x(5)	Clawback Charge (\$) (11) = (2)-(10)	Total OpCo Clawback Charge (12)
ME	EGS-1	5,367,928.56	131,176.08	2.44%	1.03%	2.07%	49,350,603	10.88	5.73	8.59	111,098.58	20,077.50	\$ 231,211.49
	EGS-2	890,476.02	58,087.72	6.52%	1.03%	2.07%	7,644,297	11.65	5.73	8.59	18,429.94	39,657.78	
	EGS-3	388,112.53	13,117.12	3.38%	1.03%	2.07%	3,552,905	10.92	5.73	8.59	8,032.66	5,084.46	
	EGS-4	2,174,578.12	85,846.80	3.95%	1.03%	2.07%	22,755,933	9.56	5.73	8.59	45,006.66	40,840.14	
	EGS-5	535,362.81	17,719.55	3.31%	1.03%	2.07%	6,025,979	8.88	5.73	8.59	11,080.26	6,639.29	
	EGS-6	4,251,722.52	91,919.24	2.16%	1.03%	2.07%	41,757,310	10.18	5.73	8.59	87,996.77	3,922.47	
	EGS-7	948,574.57	50,041.10	5.28%	1.03%	2.07%	7,613,753	12.46	5.73	8.59	19,632.39	30,408.71	
	EGS-8	3,879,505.50	83,402.29	2.15%	1.03%	2.07%	35,209,634	11.02	5.73	8.59	80,293.09	3,109.20	
	EGS-9	847,711.89	21,796.40	2.57%	1.03%	2.07%	8,797,366	9.64	5.73	8.59	17,544.87	4,251.53	
	EGS-10	1,945,166.56	51,566.44	2.65%	1.03%	2.07%	22,330,036	8.71	5.73	8.59	40,258.59	11,307.85	
	EGS-11	118,686.53	12,163.26	10.25%	1.03%	2.07%	1,349,373	8.80	5.73	8.59	2,456.42	9,706.84	
	EGS-12	188,772.96	4,635.40	2.46%	1.03%	2.07%	2,171,536	8.69	5.73	8.59	3,906.98	728.42	
	EGS-13	189,685.58	32,202.46	16.98%	1.03%	2.07%	1,745,381	10.87	5.73	8.59	3,925.87	28,276.59	
	EGS-14	215,683.79	31,391.50	14.55%	1.03%	2.07%	2,083,004	10.35	5.73	8.59	4,463.95	26,927.55	
	EGS-15	1,617.37	306.66	18.96%	1.03%	2.07%	15,090	10.72	5.73	8.59	33.47	273.19	
PN	EGS-2	687,873.36	40,374.81	5.87%	1.16%	2.32%	6,627,933	10.38	5.63	8.44	15,990.28	24,384.53	\$ 111,597.39
	EGS-3	28,718.46	2,908.04	10.13%	1.16%	2.32%	250,257	11.48	5.63	8.44	667.59	2,240.45	
	EGS-4	3,296,448.82	95,925.91	2.91%	1.16%	2.32%	29,630,871	11.13	5.63	8.44	76,629.12	19,296.79	
	EGS-5	235,968.99	12,583.94	5.33%	1.16%	2.32%	2,421,727	9.74	5.63	8.44	5,485.33	7,098.61	
	EGS-16	201,708.33	4,933.76	2.45%	1.16%	2.32%	1,789,812	11.27	5.63	8.44	4,688.90	244.86	
	EGS-17	1,166,165.34	34,364.04	2.95%	1.16%	2.32%	10,636,280	10.96	5.63	8.44	27,108.63	7,255.41	
	EGS-18	1,204,557.82	36,396.04	3.02%	1.16%	2.32%	13,193,266	9.13	5.63	8.44	28,001.10	8,394.94	
	EGS-8	2,785,511.90	77,496.99	2.78%	1.16%	2.32%	26,481,792	10.52	5.63	8.44	64,751.90	12,745.09	
	EGS-11	63,085.97	9,349.97	14.82%	1.16%	2.32%	732,738	8.61	5.63	8.44	1,466.49	7,883.48	
	EGS-19	616,602.11	26,825.24	4.35%	1.16%	2.32%	6,250,729	9.86	5.63	8.44	14,333.51	12,491.73	
	EGS-12	288,963.46	16,278.73	5.63%	1.16%	2.32%	3,280,733	8.81	5.63	8.44	6,717.23	9,561.50	
	PP	EGS-20	700,443.83	11,136.79	1.59%	0.73%	1.46%	6,481,203	10.81	6.83	10.25	10,235.73	
EGS-21		526,847.23	9,471.27	1.80%	0.73%	1.46%	4,836,818	10.89	6.83	10.25	7,698.92	1,772.35	
EGS-16		85,076.42	1,937.70	2.28%	0.73%	1.46%	747,320	11.38	6.83	10.25	1,243.24	694.46	
EGS-17		840,569.06	20,215.25	2.40%	0.73%	1.46%	6,926,922	12.13	6.83	10.25	12,283.40	7,931.85	
EGS-18		705,674.13	27,865.38	3.95%	0.73%	1.46%	6,541,718	10.79	6.83	10.25	10,312.16	17,553.22	
EGS-6		2,080,972.00	55,313.50	2.66%	0.73%	1.46%	20,100,138	10.35	6.83	10.25	30,409.66	24,903.84	
EGS-7		150,564.99	16,356.13	10.86%	0.73%	1.46%	1,265,262	11.90	6.83	10.25	2,200.24	14,155.89	
EGS-22		129,067.59	3,055.68	2.37%	0.73%	1.46%	1,067,550	12.09	6.83	10.25	1,886.09	1,169.59	
EGS-23		1,154,380.71	23,876.72	2.07%	0.73%	1.46%	10,769,070	10.72	6.83	10.25	16,869.20	7,007.52	
WP	EGS-5	215,506.45	10,374.70	4.81%	1.16%	2.32%	2,502,120	8.61	5.59	8.39	4,990.71	5,383.99	\$ 195,054.32
	EGS-24	16,147,576.54	426,013.93	2.64%	1.16%	2.32%	176,293,992	9.16	5.59	8.39	373,946.68	52,067.25	
	EGS-25	3,265,453.75	88,776.65	2.72%	1.16%	2.32%	33,413,722	9.77	5.59	8.39	75,621.60	13,155.05	
	EGS-2	1,226,216.39	40,789.42	3.33%	1.16%	2.32%	9,801,806	12.51	5.59	8.39	28,396.80	12,392.62	
	EGS-17	1,947,226.69	65,667.92	3.37%	1.16%	2.32%	17,164,410	11.34	5.59	8.39	45,094.01	20,573.91	
	EGS-7	245,687.36	30,871.44	12.57%	1.16%	2.32%	1,559,605	15.75	5.59	8.39	5,689.64	25,181.80	
	EGS-8	4,721,381.08	153,955.67	3.26%	1.16%	2.32%	41,763,817	11.30	5.59	8.39	109,338.07	44,617.60	
	EGS-11	138,091.39	10,523.83	7.62%	1.16%	2.32%	1,572,374	8.78	5.59	8.39	3,197.93	7,325.90	
	EGS-19	523,262.50	20,643.57	3.95%	1.16%	2.32%	4,986,474	10.49	5.59	8.39	12,117.75	8,525.82	
	EGS-12	796,516.76	20,215.15	2.54%	1.16%	2.32%	9,017,184	8.83	5.59	8.39	18,445.79	1,769.36	
	EGS-14	81,153.09	5,940.37	7.32%	1.16%	2.32%	899,004	9.03	5.59	8.39	1,879.35	4,061.02	
	Total Clawback Charge											\$ 613,953.00	

DSP V POR Clawback Charge
12-Months Ended August 31, 2021
Calculation Summary

		First Prong					Second Prong				Charge		
Co	EGS	EGS Revenues	EGS Write-Offs	EGS Write-Offs as a % of Revenues	OpCo Average %	200% of OpCo Average %	kWh	Average Rate c/kWh	OpCo Weighted Avg PTC c/kWh	150% Weighted Avg PTC c/kWh	EGS Write-Offs Calculated at 200% of OpCo Average %	Clawback Charge	Total OpCo Clawback Charge
		(1)	(2)	(3) = (2)/(1)	(4)	(5) = (4)x2	(6)	7) = ((1)/(6))x10	(8)	(9) = (8) x 1.5	(10) = (1)x(5)	(11) = (2)-(10)	(12)
ME	EGS-1	890,476.02	12,250.35	1.38%	0.56%	1.11%	7,644,297	11.65	5.98	8.97	9,917.99	2,332.36	\$ 104,865.41
	EGS-2	2,174,578.12	34,251.34	1.58%	0.56%	1.11%	22,755,933	9.56	5.98	8.97	24,220.12	10,031.22	
	EGS-3	15,782,916.78	236,016.22	1.50%	0.56%	1.11%	172,514,827	9.15	5.98	8.97	175,787.72	60,228.50	
	EGS-4	174,685.35	2,976.56	1.70%	0.56%	1.11%	1,457,971	11.98	5.98	8.97	1,945.62	1,030.94	
	EGS-5	4,251,722.52	51,531.19	1.21%	0.56%	1.11%	41,757,310	10.18	5.98	8.97	47,355.04	4,176.15	
	EGS-6	948,574.57	14,290.50	1.51%	0.56%	1.11%	7,613,753	12.46	5.98	8.97	10,565.08	3,725.42	
	EGS-7	61,114.82	1,223.64	2.00%	0.56%	1.11%	563,458	10.85	5.98	8.97	680.69	542.95	
	EGS-8	4,773,370.65	59,045.81	1.24%	0.56%	1.11%	50,490,620	9.45	5.98	8.97	53,165.08	5,880.73	
	EGS-9	189,685.58	10,119.89	5.34%	0.56%	1.11%	1,745,381	10.87	5.98	8.97	2,112.69	8,007.20	
	EGS-10	215,683.79	10,698.36	4.96%	0.56%	1.11%	2,083,004	10.35	5.98	8.97	2,402.25	8,296.11	
	EGS-11	5,310.41	672.97	12.67%	0.56%	1.11%	54,518	9.74	5.98	8.97	59.15	613.82	
PN	EGS-1	687,873.36	24,175.99	3.51%	0.48%	0.95%	6,627,933	10.38	5.73	8.60	6,536.45	17,639.54	\$ 122,330.23
	EGS-2	3,296,448.82	56,739.62	1.72%	0.48%	0.95%	29,630,871	11.13	5.73	8.60	31,324.18	25,415.44	
	EGS-3	8,701,063.76	92,528.47	1.06%	0.48%	0.95%	98,616,589	8.82	5.73	8.60	82,680.99	9,847.48	
	EGS-4	201,708.33	5,269.88	2.61%	0.48%	0.95%	1,789,812	11.27	5.73	8.60	1,916.71	3,353.17	
	EGS-12	2,785,511.90	40,813.32	1.47%	0.48%	0.95%	26,481,792	10.52	5.73	8.60	26,469.05	14,344.27	
	EGS-13	63,085.97	1,255.34	1.99%	0.48%	0.95%	732,738	8.61	5.73	8.60	599.47	655.87	
	EGS-8	2,407,428.26	39,918.04	1.66%	0.48%	0.95%	26,220,165	9.18	5.73	8.60	22,876.35	17,041.69	
	EGS-14	616,602.11	32,551.21	5.28%	0.48%	0.95%	6,250,729	9.86	5.73	8.60	5,859.20	26,692.01	
	EGS-15	288,963.46	6,144.34	2.13%	0.48%	0.95%	3,280,733	8.81	5.73	8.60	2,745.85	3,398.49	
	EGS-10	65,259.06	2,714.25	4.16%	0.48%	0.95%	668,133	9.77	5.73	8.60	620.12	2,094.13	
	EGS-16	51,332.11	2,335.91	4.55%	0.48%	0.95%	580,298	8.85	5.73	8.60	487.78	1,848.13	
PP	EGS-17	526,847.23	13,273.58	2.52%	0.44%	0.88%	4,836,818	10.89	6.84	10.26	4,641.41	8,632.17	\$ 25,137.53
	EGS-4	85,076.42	2,443.31	2.87%	0.44%	0.88%	747,320	11.38	6.84	10.26	749.50	1,693.81	
	EGS-6	150,564.99	11,214.53	7.45%	0.44%	0.88%	1,265,262	11.90	6.84	10.26	1,326.44	9,888.09	
	EGS-18	129,067.59	2,872.23	2.23%	0.44%	0.88%	1,067,550	12.09	6.84	10.26	1,137.06	1,735.17	
	EGS-19	1,154,380.71	13,299.36	1.15%	0.44%	0.88%	10,769,070	10.72	6.84	10.26	10,169.84	3,129.52	
EGS-9	7,380.10	123.79	1.68%	0.44%	0.88%	62,689	11.77	6.84	10.26	65.02	58.77		
WP	EGS-20	3,511,592.27	36,626.79	1.04%	0.46%	0.91%	32,003,362	10.97	5.36	8.04	32,113.76	4,513.03	\$ 203,641.70
	EGS-3	16,147,576.54	199,354.12	1.23%	0.46%	0.91%	176,293,992	9.16	5.36	8.04	147,670.73	51,683.39	
	EGS-21	156,867.11	1,649.11	1.05%	0.46%	0.91%	1,835,484	8.55	5.36	8.04	1,434.56	214.55	
	EGS-22	605,729.04	21,645.80	3.57%	0.46%	0.91%	7,294,785	8.30	5.36	8.04	5,539.43	16,106.37	
	EGS-1	1,226,216.39	32,677.08	2.66%	0.46%	0.91%	9,801,806	12.51	5.36	8.04	11,213.84	21,463.24	
	EGS-4	209,794.84	5,647.13	2.69%	0.46%	0.91%	1,790,777	11.72	5.36	8.04	1,918.59	3,728.54	
	EGS-12	4,721,381.08	70,904.75	1.50%	0.46%	0.91%	41,763,817	11.30	5.36	8.04	43,177.36	27,727.39	
	EGS-19	4,047,787.95	63,383.94	1.57%	0.46%	0.91%	47,054,138	8.60	5.36	8.04	37,017.31	26,366.63	
	EGS-8	2,936,169.06	46,523.75	1.58%	0.46%	0.91%	34,159,709	8.60	5.36	8.04	26,851.47	19,672.28	
	EGS-14	523,262.50	30,271.30	5.79%	0.46%	0.91%	4,986,474	10.49	5.36	8.04	4,785.27	25,486.03	
	EGS-16	200,635.80	6,098.20	3.04%	0.46%	0.91%	2,166,572	9.26	5.36	8.04	1,834.83	4,263.37	
EGS-10	81,153.09	3,159.04	3.89%	0.46%	0.91%	899,004	9.03	5.36	8.04	742.15	2,416.89		
Total Clawback Charge											\$ 455,974.88		

Uncollectible Expense Analysis

12-Months Ended August 31, 2018

	Actuals	Rate Recovery	Company Retains or Refunds Clawback Charge
ME	\$ 12,823,682	\$ 19,733,268	Refunds
PN	\$ 13,840,821	\$ 18,095,846	Refunds
PP	\$ 2,929,653	\$ 3,697,364	Refunds
WP	\$ 13,394,794	\$ 16,073,309	Refunds

12-Months Ended August 31, 2019

	Actuals	Rate Recovery	Company Retains or Refunds Clawback Charge
ME	\$ 13,114,665	\$ 19,733,268	Refunds
PN	\$ 12,773,878	\$ 18,095,846	Refunds
PP	\$ 3,080,473	\$ 3,697,364	Refunds
WP	\$ 13,874,023	\$ 16,073,309	Refunds

12-Months Ended August 31, 2020

	Actuals	Rate Recovery	Company Retains or Refunds Clawback Charge
ME	\$ 17,128,858	\$ 19,733,268	Refunds
PN	\$ 18,988,226	\$ 18,095,846	Retains
PP	\$ 4,186,394	\$ 3,697,364	Retains
WP	\$ 18,500,768	\$ 16,073,309	Retains

12-Months Ended August 31, 2021

	Actuals	Rate Recovery	Company Retains or Refunds Clawback Charge
ME	\$ 15,304,302	\$ 19,733,268	Refunds
PN	\$ 17,136,724	\$ 18,095,846	Refunds
PP	\$ 4,829,434	\$ 3,697,364	Retains
WP	\$ 14,163,870	\$ 16,073,309	Refunds

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
Docket No. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
Docket No. P-2021- 3030013**

**PENNSYLVANIA POWER COMPANY
Docket No. P-2021-3030014**

**WEST PENN POWER COMPANY
Docket No. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2027**

**REBUTTAL TESTIMONY
OF
JOANNE M. SAVAGE**

List of Topics Addressed

**Customer Referral Program
Purchase of Receivables Clawback Charge
Customer Assistance Program Shopping Rules
Request for a Generic Proceeding to Re-examine the Default Service Provider Role**

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**REBUTTAL TESTIMONY
OF
JOANNE M. SAVAGE**

4 **I. INTRODUCTION AND BACKGROUND**

5 **Q. Please state your name and business address.**

6 A. My name is Joanne M. Savage, and my business address is 2800 Pottsville Pike, Reading,
7 Pennsylvania.

8 **Q. Have you previously submitted testimony in this proceeding?**

9 A. Yes. I submitted written testimony and exhibits on behalf of Metropolitan Edison
10 Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power
11 Company (“Penn Power”) and West Penn Power Company (“West Penn”) (individually, a
12 “Company” and in any combination, the “Companies”), which have been designated as
13 Met-Ed/Penelec/Penn Power/West Penn Statement No. 1 and Exhibits JMS-1 to JMS-3.

14 **Q. Please describe the purpose of your testimony.**

15 A. I will provide rebuttal testimony responding to various issues regarding the Companies’
16 sixth default service programs (the “Programs” or “DSP VI”) raised in the direct testimony
17 of witnesses on behalf of: (1) the Pennsylvania Public Utility Commission’s
18 (“Commission” or “PUC”) Bureau of Investigation and Enforcement (“I&E”); (2) the
19 Office of Consumer Advocate (“OCA”); (3) the Coalition for Affordable Utility Services
20 and Energy Efficiency in Pennsylvania (“CAUSE-PA”); (4) the Retail Energy Supply
21 Association (“RESA”) and NRG Energy, Inc. (“NRG”); and (5) Shipley Choice, LLC d/b/a
22 Shipley Energy (“Shipley”).

1 Specifically, I will address the following topics: (1) the Companies’ proposed continuation
2 of the Customer Referral Program (“CRP”) and the changes recommended by OCA
3 witness Barbara R. Alexander, CAUSE-PA witness Harry Geller, RESA/NRG witness
4 Travis Kavulla, and Shipley witness Laura Greenholt-Tasto; (2) concerns regarding
5 continuation of the “clawback provision” in the Companies’ Purchase of Receivables
6 (“POR”) programs expressed by I&E witness Christopher Keller; (3) the recommendations
7 of OCA witness Alexander and CAUSE-PA witness Geller that the Companies prohibit
8 customers enrolled in each Company’s Customer Assistance Program (“CAP”) from
9 purchasing competitive generation supply; and (4) Mr. Kavulla’s recommendation that the
10 Commission initiate a generic, statewide proceeding to re-examine the role of the
11 Companies and other electric distribution companies (“EDCs”) as default service
12 providers.

13 **II. CUSTOMER REFERRAL PROGRAM**

14 **Q. Ms. Savage, do any parties oppose continuing, or recommend modifications to, each**
15 **Company’s existing CRP as previously approved by the Commission?**

16 **A.** Yes. In her direct testimony (OCA Statement No. 2, pp. 8-9), Ms. Alexander recommends
17 termination of the CRP on May 31, 2023 because, in her view, the program has “served its
18 initial purpose” and the Companies have not presented evidence of significant “value” to
19 customers that would justify continuing the CRP during DSP VI. In support of her
20 recommendation, Ms. Alexander claims that most customers who enrolled in the CRP from
21 June 2019 through December 2021 paid more than the applicable Price-to-Compare
22 (“PTC”) for three or more months during the 12-month CRP contract. If the CRP continues
23 past May 31, 2023, Ms. Alexander recommends that the Companies amend the CRP to: (1)

1 require electric generation suppliers (“EGSs”) to offer a guaranteed 7% discount off the
2 PTC for the entire duration of the CRP contract; and (2) return CRP customers to default
3 service if they do not make an affirmative decision to either stay with their current EGS or
4 elect a new EGS at the end of the 12-month contract.

5 CAUSE-PA also opposes continuation of the CRP on the ground that the Companies have
6 not conducted an analysis of the price CRP customers pay for electric supply during or
7 after the initial 12-month contract and have not performed customer satisfaction surveys to
8 support the conclusion that continuation of the program is in the public interest. If the
9 Commission approves continuation of the CRP, CAUSE-PA argues that the Companies
10 should: (1) modify the scripts and training materials used by the Companies’ third-party
11 administrator, Allconnect, to provide a clear description of what happens at the end of the
12 CRP contract and the potential consequences if customers do not actively select a new EGS
13 contract or return to default service; (2) conduct and file a third-party assessment of the
14 CRP within six months of the Final Order in this proceeding; and (3) not offer the CRP to
15 those customers who make high bill complaints and have been screened for CAP eligibility
16 or other appropriate universal services.

17 RESA/NRG, in turn, recommends that the Companies implement the following operational
18 and design changes to the CRP: (1) automatic CRP enrollment for all new customers who
19 have not already made an affirmative choice of an EGS; (2) implementation of an online
20 CRP enrollment process through the Companies’ websites; (3) re-evaluation of the
21 situations in which the CRP is mentioned on customer calls; and (4) issuance of periodic
22 communications promoting the CRP to all default service customers.

1 Shipley also argues that the Companies should allow CRP online web-enrollments and
2 contends that the Companies should permit EGSs to opt in and out of the CRP each month.
3 Finally, Shipley proposes a working group to revisit the Companies' CRP scripts because
4 Ms. Greenholt-Tasto believes changes to the content of those scripts made in May 2017
5 have led to a decline in enrollment in the program.

6 **Q. Do you agree that the CRP should terminate at the end of the Companies' current**
7 **default service programs ("DSP V")¹ absent evidence of customer savings, as OCA**
8 **witness Alexander and CAUSE-PA witness Geller suggest?**

9 A. No. The CRP was first established in the Companies' second default service proceeding,
10 consistent with the Commission's guidelines in its Retail Markets Investigation.² The
11 Companies' current CRP has evolved over the course of nearly a decade in four default
12 service proceedings and are consistent with the parameters approved by the Commission
13 in those cases.

14 In the Companies' DSP V proceeding, the OCA raised concerns about bill savings achieved
15 by CRP customers and contended that the CRP must be terminated or redesigned to comply

¹ See *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co. (Penelec), Pennsylvania Power Co., and West Penn Power Co. for Approval of their Default Serv. Programs for the Period Beginning June 1, 2019 through May 31, 2023*, Docket Nos. P-2017-2637855, et al. (Opinion and Order entered Sept. 4, 2018) ("September 2018 Order"). In the September 2018 Order, the Commission approved a partial settlement of the Companies' DSP V proceeding ("DSP V Settlement") and resolved the remaining contested issues, including the residential procurement schedule, continuation of the CRP, and shopping by customers enrolled in the Companies' CAPs for products priced above the PTC. On February 28, 2019, the Commission entered a Final Order ("February 2019 Order" and together with the September 2018 Order, the "DSP V Orders") adopting rules and procedures for the CAP shopping programs approved in the September 2018 Order and revising the Companies' CRP scripts.

² See *Investigation of Pennsylvania's Retail Elec. Mkt.: Intermediate Work Plan*, Docket No. I-2011-2237952 (Final Order entered Mar. 2, 2012) ("Intermediate Work Plan Order"), p. 31; *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co., Pennsylvania Power Co. and West Penn Power Co. for Approval of Their Default Serv. Programs*, Docket Nos. P-2011-2273650 et al. (Opinion and Order entered Aug. 16, 2021) ("DSP II Order"), pp. 137-140, 144-146.

1 with PUC guidance and regulations. The Commission concluded that continuation of the
2 CRP with the script improvements set forth in the February 2019 Order was in the public
3 interest notwithstanding the OCA's testimony that some of the Companies' CRP customers
4 paid prices above the PTC at certain points during the program.³ In the February 2019
5 Order (p. 39), the PUC found that the OCA's concern regarding an alleged lack of customer
6 savings was unwarranted and reasoned:

7 In response to OCA's concerns with the savings or lack of customer
8 savings, we have always acknowledged that a customer's savings or
9 lack of savings can change with the quarterly changes of the default
10 PTC. This is one of the reasons why we structured the program to
11 include no early termination fees. And with 3-business day
12 accelerated switching (and the customer right to contact the EDC
13 directly to return to default service that we instituted in 2014) a
14 change can take place within days. We also point out that any
15 analysis of savings is heavily dependent upon the time-period
16 examined, how long the customer remained in the program, and
17 which EDCs are examined.

18 **

19 We also note that CRP enrollees, like all shoppers, receive a written
20 disclosure explaining the terms and conditions that includes a 3-
21 business day rescission period and a contract summary that
22 highlights the key information such as the price. Statewide, nearly
23 a million consumers have enrolled in Standard Offer Programs like
24 CRP, with few informal or formal complaints. We maintain that the
25 CRP is the easiest and safest way for a consumer to shop, especially
26 for those consumers who, for whatever reason, do not want the
27 bother of comparison-shopping but would still like to try a
28 competitive offer.

29 In short, the Commission has approved continuation of the CRP on several prior occasions
30 regardless of whether CRP customers may pay a price for competitive generation supply
31 that is above or below the PTC during or after the program term.

³ See September 2018 Order, pp. 31-32; February 2019 Order, pp. 38-42.

1 **Q. Do the Companies object to Ms. Alexander’s recommendation that participating**
2 **customers who do not make an affirmative election at the end of the CRP contract**
3 **term should revert to default service?**

4 A. Yes. The OCA’s proposal deviates from the Commission’s current guidance about
5 customer options upon expiration of standard offer customer referral program contracts.
6 Most recently, the Commission rejected a proposal to modify the Standard Offer Program
7 (“SOP”) of PPL Electric Utilities Corp. (“PPL”) so that customers would automatically
8 return to default service at the end of the initial 12-month term instead of rolling onto a
9 month-to-month contract with their SOP supplier with no cancellation fees, despite
10 evidence in that case that more than 90% of PPL’s customers who remained with their SOP
11 supplier after the conclusion of the initial contract paid prices above the PTC.⁴ The PUC
12 found that those statistics did not demonstrate harm to SOP customers from the existing
13 SOP program design necessary to implement the new program rule proposed by PPL that
14 would restrict competition.

15 Consistent with the Intermediate Work Plan Order (p. 21) and the PPL DSP V Order (pp.
16 92-95), the Companies’ CRP provides the same options at the end of the contract term to
17 CRP customers as other shopping customers. The Companies also note that the OCA’s
18 alternative recommendation for a CRP product with a guaranteed savings off the PTC for
19 the entire 12-month contract term is inconsistent with PUC guidance on the composition
20 of the CRP product offer.⁵

⁴ *Petition of PPL Elec. Utils. Corp. for Approval of Its Default Serv. Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019356 (Dec. 17, 2020) (“PPL DSP V Order”), pp. 92-98.

⁵ *See* Intermediate Work Plan Order, p. 31.

1 **Q. Ms. Savage, CAUSE-PA witness Geller notes that the Companies have not performed**
2 **a survey regarding customers’ experience with the CRP. Have any of the Companies**
3 **received a significant number of customer complaints that the Customer Referral**
4 **Program causes customer confusion or dissatisfaction during DSP V?**

5 A. No. Between June 1, 2019 and December 31, 2021, over 45,000 residential customers
6 enrolled in the CRP and the Companies only received one informal customer complaint
7 specifically related to the CRP during that period. In addition, the Companies do not
8 believe that information that could be generated from customer satisfaction surveys is
9 relevant to continuation of the CRP in light of the Commission’s conclusion in the February
10 2019 Order (p. 39) that “the CRP is the easiest and safest way for a consumer to shop.”

11 **Q. Do the Companies agree with the CRP script and training material changes**
12 **recommended by CAUSE-PA witness Geller and the working group proposed by**
13 **Shipley witness Greenholt-Tasto?**

14 A. No. As I explained in my direct testimony, the Companies’ current CRP scripts produced
15 by the February 2019 Order reasonably present the opportunity to enroll in the CRP and
16 include appropriate customer protections. In Mr. Geller’s view, those scripts and training
17 materials mislead customers about the potential for savings and do not clearly disclose the
18 risks to customers if they fail to take action at the end of the 12-month CRP contract. Over
19 the course of their last three default service proceedings, the Companies have refined their
20 CRP-related scripts and training materials to incorporate several disclosures requested by
21 the OCA, including clear messaging regarding the operation of the CRP discount. These
22 disclosures coupled with the end of term notices provided by CRP suppliers in accordance
23 with the Commission’s regulations at 52 Pa. Code § 54.10 address Mr. Geller’s concerns.

1 Shipley’s proposed working group is also unwarranted. In the Companies’ DSP V
2 proceeding, the PUC referred the issue of CRP scripting to the Office of Competitive
3 Market Oversight to convene a stakeholder group to investigate the cause of a recent
4 decline in CRP enrollments in the Companies’ service areas and consider improvements to
5 the presentation of the CRP during eligible customer contacts. Based on the results of that
6 stakeholder group, the Commission directed the Companies to revert to their pre-May 2017
7 CRP scripts with limited revisions to remove references to the “confirmation number” and
8 to specify “current” when mentioning the PTC.⁶

9 **Q. Do the Companies agree that the CRP should not be presented to a customer that**
10 **calls about a high bill and is referred for enrollment in a universal service program,**
11 **as CAUSE-PA witness Geller contends?**

12 A. No. The Companies’ call center agents already request income information to determine
13 eligibility for their universal service programs, as Mr. Geller recommends, if a customer
14 calls about a high bill and/or seeks a payment arrangement. If the customer is eligible,
15 according to regulatory income guidelines, they are referred to Dollar Energy Fund for
16 enrollment in a universal service program. However, that customer may also be presented
17 with an opportunity to enroll in the CRP at the end of a billing inquiry call after the
18 customer’s high bill concerns are satisfied consistent with the Commission’s guidance in
19 the Intermediate Work Plan Order (p. 32) and DSP II Order (pp. 139-140).

⁶ See February 2019 Order, pp. 39-41.

1 **Q. Please respond to Ms. Greenholt-Tasto’s recommended modifications to the**
2 **Customer Referral Program Agreement.**

3 A. The Customer Referral Program Agreement includes rules on EGS participation and
4 suspension to facilitate administration of the CRP. Currently, EGSs can begin and suspend
5 participation in the CRP on four dates each year synchronized with the Companies’
6 quarterly adjustments to residential and small commercial default service rates (June 1,
7 September 1, December 1, or March 1). The Companies proposed modifications to the
8 Customer Referral Program Agreement that would require EGSs to participate in the CRP
9 for six months align with the Companies’ proposal to transition to semi-annual PTC rate
10 changes. Moreover, Shipley’s proposal is not feasible because of the increased
11 administrative burden of configuring, testing and validating rate codes in the Companies’
12 billing systems for EGSs beginning and discontinuing participation in the CRP twelve
13 times per year, instead of twice per year. This process, which is currently performed on a
14 quarterly basis, is already a significant undertaking for the Companies’ Information
15 Technology (“IT”) and Supplier Services business units.

16 **Q. Do you agree with RESA/NRG witness Kavulla that the Companies’ new/moving**
17 **customers should be automatically enrolled in the Customer Referral Program?**

18 A. No. The “opt-in” nature of the CRP is consistent with the Commission’s guidelines in its
19 Intermediate Work Plan Order (p. 31) that standard offer customer referral programs should
20 be voluntary for both customers and EGSs.

1 **Q. Do the Companies support RESA/NRG’s proposal to expand the scope of customer**
2 **calls in which the Customer Referral Program is presented?**

3 A. No. Mr. Kavulla provides no compelling justification for his proposal. Consistent with
4 the Commission’s guidance in the Intermediate Work Plan Order (p. 32), the Companies
5 currently offer the CRP during calls from new/moving customers and other customer calls
6 except for calls related to outages, emergencies, terminations, and billing disputes in which
7 such a presentation would be inappropriate.

8 **Q. Do the Companies believe the web-enrollment process proposed by RESA/NRG and**
9 **Shipley should be adopted?**

10 A. While the Companies do not oppose allowing customers to enroll in the CRP via telephone
11 or online, the Companies would incur costs associated with system programming necessary
12 to enable web-enrollment functionality. While only preliminary, the Companies’ current
13 estimate is that the costs to implement online enrollment in the CRP would total
14 approximately \$500,000. If the Commission directs the Companies to proceed with CRP
15 web-enrollment, those costs will have to be recovered from customers through the
16 Companies’ Default Service Support Riders.

17 **Q. If the CRP continues during the DSP VI term, Mr. Geller asserts the Companies**
18 **should submit a third-party evaluation of the CRP and file a petition to end or amend**
19 **the program based on the outcome of the assessment. Please comment.**

20 A. The Companies do not agree with this recommendation. As I mentioned previously, the
21 CRP is a Commission-directed program that is designed to introduce customers to
22 shopping in the retail market with reduced risk over what they otherwise may experience
23 on their own. A customer that enrolls in the program has the option to drop out at any time

1 if the EGS contracted fixed rate is higher than the applicable PTC. A customer who decides
2 to drop out of the program does not incur early termination or cancellation fees. For these
3 reasons, the Commission concluded in the Companies' DSP V proceeding that the CRP is
4 the "easiest and safest way for a consumer to shop" regardless of the level of customer
5 savings.⁷ Moreover, the study recommended by Mr. Geller would likely require additional
6 IT expenditures, as the Companies do not track a customer's status as a CRP customer after
7 enrollment in the program. The Companies support the retail market and support
8 continuation of the program without modification as an option for customers to learn about
9 the market.

10 **III. POR CLAWBACK CHARGE**

11 **Q. Ms. Savage, in your direct testimony, you explained that the Companies propose to**
12 **continue the clawback charge as a permanent element of their POR programs as**
13 **outlined in the Companies' existing Electric Generation Supplier Coordination**
14 **Tariffs. Do the parties generally support continuation of the clawback provision?**

15 A. Yes. However, I&E witness Keller recommends continuation of the clawback provision
16 until the Companies' next default service proceeding, on a pilot basis, rather than making
17 the charge a permanent provision of their POR programs. In support of his position, Mr.
18 Keller asserts that the clawback provision does not address all EGS write-offs because a
19 significant number of EGSs with write-offs less than 200% of the applicable Company's
20 average are still recovering the face value of their receivables and therefore have no
21 incentive to reduce write-offs.

⁷ February 2019 Order, p. 39.

1 **Q. Do you agree with Mr. Keller’s assessment?**

2 A. In part. While it is true that all EGS write-offs burden the Companies and their customers,
3 a certain percentage of accounts receivable will be written off in the normal course of
4 business. The Companies’ clawback charge was designed as an administrative charge to
5 collect a portion of uncollectible accounts expense from EGSs; specifically, those EGSs
6 whose practices are driving significantly higher write-offs as a product of the types of
7 offers they make to customers. The Companies’ clawback charge reduces their exposure
8 to *excessive* EGS write-offs and only impacts those EGSs with disproportionately higher
9 write-offs than their peers that are, as a result, unfairly burdening the Companies and their
10 customers by driving higher uncollectible expense. As shown in Met-Ed/Penelec/Penn
11 Power/West Penn Exhibit JMS-3, the clawback charges assessed during the 2018-2021
12 period offset the amount of POR-related uncollectible accounts expense borne by the
13 Companies’ customers by approximately \$3 million. This data demonstrates that the
14 clawback provision is operating as designed and supports the Companies’ proposal to
15 continue the charge as a permanent element of their POR programs.

16 **Q. Mr. Keller also suggests that the Companies could utilize a POR discount rate**
17 **assessed to EGSs to address uncollectible accounts expense associated with the POR**
18 **programs. Have the Companies considered proposing a discount rate?**

19 A. Yes. However, replacement of the clawback provision with a discount rate that would
20 apply to all EGSs would result in the majority of EGSs effectively providing a subsidy to
21 the smaller number of EGSs that create the greatest risk of generating excessive write-offs
22 and charge the highest premiums above the PTC. The fact that the Commission has
23 previously adopted a discount model for other EDCs (Duquesne Light Company and PPL)

1 does not necessarily mean that the discount model is the only approach to cost recovery of
2 these expenses, nor is it the most effective approach towards managing these costs. The
3 bottom line is that a discount model creates a subsidy for EGSs with disproportionately
4 higher write-offs than their peers, which is something the Companies have attempted to
5 avoid with the clawback provision.

6 **IV. CUSTOMER ASSISTANCE PROGRAM CUSTOMER SHOPPING RULES**

7 **Q. Ms. Savage, do any parties propose changes to the Companies' existing, PUC-**
8 **approved CAP shopping rules and procedures as part of this proceeding?**

9 A. Yes. In my direct testimony, I explained that the Companies will continue the rules and
10 procedures for CAP customer shopping adopted by the PUC in the DSP V Orders where
11 CAP customers may only enter a contract with an EGS for a rate that is at or below the
12 applicable Company's PTC and does not contain any early termination, cancellation, or
13 other fees. However, CAUSE-PA and the OCA recommend that the Companies prohibit
14 CAP customer shopping in their service areas based on data showing that the Companies'
15 residential customers, including non-CAP confirmed low-income customers, have paid
16 generation service rates greater than the applicable PTC since 2017. CAUSE-PA witness
17 Geller and OCA witness Alexander recognize that the Companies' current CAP shopping
18 rules are consistent with the guidelines set forth in the Policy Statement on Electric
19 Customer Assistance Program Participant Shopping proposed by the PUC on February 28,
20 2019.⁸ Nonetheless, they contend that CAP customers should receive default service
21 because, in their view, the Companies' CAP shopping rules do not sufficiently protect CAP

⁸ *Elec. Distribution Co. Default Serv. Plans – Customer Assistance Program Shopping*, Docket No. M-2018-3006578 (Proposed Policy Statement Order entered Feb. 28, 2019).

1 customers from paying EGS rates above the PTC to ensure full universal service
2 protections and affordability of service. CAUSE-PA also proposed new rules that Mr.
3 Geller believes are necessary to remove barriers to CAP enrollment for customers with pre-
4 existing EGS contracts.

5 RESA/NRG witness Kavulla asserts that, if the Companies' proposal to transition from
6 quarterly to semi-annual default service rate adjustments is approved, the limit on EGS
7 prices charged to CAP customers to no more than the applicable Company's residential
8 PTC should only apply to the initial offer and that EGSs should be able to adjust CAP rates
9 during the contract term to reflect market conditions.

10 **Q. Have you reviewed the statistics presented by CAUSE-PA witness Geller and OCA**
11 **witness Alexander regarding CAP customer shopping at prices above the PTC after**
12 **the Companies implemented the CAP rate protections adopted in the DSP V Orders?**

13 A. Yes. Mr. Geller and Ms. Alexander analyzed the CAP customer usage and supplier charges
14 for January 2020 through March 2020 and assert that such data shows that more than half
15 of the Companies' CAP shopping customers were paying above-PTC prices during those
16 three months. However, looking at a snapshot of data (even over the course of a year) will
17 not necessarily provide an accurate picture of whether EGSs are complying with the
18 Companies' CAP rate protections because customers that enter CAP with pre-existing,
19 fixed-duration EGS contracts at prices above the PTC are permitted to remain with that
20 supplier until the end of the contract term (or, in the case of pre-existing month-to-month
21 contracts, for 120 days from CAP enrollment).

22 To ensure compliance with the limitation on rates EGSs can charge to CAP customers, the

1 Companies' billing system only accepts rate-ready, percentage-off rates on CAP customer
2 accounts. However, the Companies do not have an effective way of enforcing the CAP
3 rate protections for the subset of customers that may become eligible for CAP while they
4 remain on an existing EGS contract. The Companies do not have any visibility into pre-
5 program contracts, and even if they did, the Companies would need to engage in a time-
6 consuming evaluation of all CAP customer accounts to determine the timing of CAP
7 enrollment and monitor compliance with pre-existing EGS contract terms.

8 For these reasons, continuation of the Companies' existing PUC-approved CAP shopping
9 rules during DSP VI strikes a reasonable balance among the Commission's policies of
10 further developing Pennsylvania's competitive retail market, ensuring affordability of
11 service for the Companies' low-income customers, and containing costs for all residential
12 customers that pay for CAP.

13 **Q. Please respond to Mr. Geller's recommendations to ensure that low-income**
14 **customers will be able to access CAP without facing fees if the Commission adopts**
15 **CAUSE-PA's proposal to require customers that elect CAP benefits to receive default**
16 **service while enrolled in the program.**

17 A. Mr. Geller recommends that the Companies should allow low-income customers to join
18 CAP and return to default service without fees or penalties imposed by suppliers.
19 However, the Companies cannot implement Mr. Geller's proposal because the Companies
20 have no authority over the terms of EGS contracts with non-CAP customers, including
21 cancellation and early termination fees.

22 Mr. Geller also recommends that the Companies add a checkbox to the CAP application

1 for prospective enrollees to indicate whether they would like to be returned to default
2 service to enroll in CAP. Dollar Energy Fund administers the Companies' CAP, along
3 with the customer assistance programs for other utilities, including Columbia Gas and
4 Peoples Gas in Pennsylvania. Because Dollar Energy Fund handles application intake for
5 several utility assistance programs, Mr. Geller's proposed modification to the CAP
6 application form should not be adopted even if the Commission determines that the
7 Companies should prohibit CAP customers from shopping.

8 **Q. Do the Companies believe that restrictions on the price for generation for CAP**
9 **customers should only apply to the initial offer as proposed by RESA/NRG?**

10 A. The CAP rate protections established in the DSP V Orders are not contingent on quarterly
11 adjustment of the Companies' default service rates. Moreover, EGS do not have to make
12 offers to CAP customers and, if they choose to do so, an EGS can offer term lengths to
13 CAP customers that the EGS determines is necessary to address its view of price risk.

14 **V. RESA/NRG'S REQUEST FOR THE COMMISSION TO REVISIT**
15 **TRANSITIONING DEFAULT SERVICE PROVIDER ROLE FROM ELECTRIC**
16 **DISTRIBUTION COMPANIES TO ELECTRIC GENERATION SUPPLIERS IN**
17 **A GENERIC PROCEEDING**

18 **Q. In his testimony, Mr. Kavulla recommends that the PUC initiate a generic proceeding**
19 **to revisit transitioning the default service provider role from EDCs to EGSs to**
20 **support a retail market in which "all customers are shopping for electricity" and**
21 **default service becomes a "true backstop" for EGSs. Do you support this**
22 **recommendation?**

23 A. No. During its Retail Markets Investigation, the Commission considered whether the
24 Companies and other EDCs should remain in the default service provider role, or whether

1 these responsibilities should be transitioned to an alternative default service supplier. In
2 its Final Order on the “end state” of default service, the Commission determined that it
3 would be prudent to retain EDCs in this role.⁹

4 In Met-Ed/Penelec/Penn Power/West Penn Statement No. 4R, Drs. James D. Reitzes and
5 Nicholas E. Powers address Mr. Kavulla’s assertion that the retail market has “stagnated”
6 in light of the declining percentage of customers served by EGSs in the last several years,
7 which he largely blames on the presence of an EDC default service provider. Mr. Kavulla
8 also presents no evidence to support his claim that removal of the Companies and other
9 EDCs from the default service provider role would “enable the EDC to focus on its core
10 competencies and obligations for safe, reliable and adequate distribution service.” The
11 Companies have served as the default service providers in their respective service areas
12 since the beginning of electric restructuring, without any Commission finding of adverse
13 effects related to this service.

14 **VI. CONCLUSION**

15 **Q. Does this complete your rebuttal testimony?**

16 A. Yes, it does.
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⁹ *Investigation of Pennsylvania’s Retail Elec. Mkt.: End State of Default Serv.*, Docket No. I-2011-2237952) (Final Order entered Feb. 15, 2013), p. 20.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021- _____

PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021- _____

PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021- _____

WEST PENN POWER COMPANY
DOCKET NO. P-2021- _____

DEFAULT SERVICE PROGRAMS
June 1, 2023 - May 31, 2027

Direct Testimony
Of
James H. Catanach

List of Topics Addressed

Procurement Plan Product Definitions
Procurement Process and Schedule
Alternative Energy Portfolio Standards Act Requirements
Network Integration Transmission Service Charge Collection
Long-Term Solar Procurement
Credit Enhancements

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1 **DIRECT TESTIMONY**
2 **OF**
3 **JAMES H. CATANACH**

4 **I. INTRODUCTION AND PURPOSE**

5 **Q. Please state your name and business address.**

6 A. My name is James H. Catanach. My business address is 2800 Pottsville Pike, Reading,
7 Pennsylvania 19605.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as Manager, Regulated Commodity
10 Sourcing Department (“RCS”). RCS is primarily responsible for procuring power and
11 power-related products for all of FirstEnergy Corp.’s (“FirstEnergy”) regulated utilities.
12 In my role, I am primarily responsible for the procurement and management of the
13 regulated energy supply and renewable energy portfolio that FirstEnergy’s electric
14 distribution utilities are required to maintain in their role as load serving entities (“LSEs”)
15 on behalf of their Pennsylvania and New Jersey retail electric customers. I have either
16 directed or participated in sixty competitive power- and renewable-energy-credit
17 procurements in Pennsylvania and New Jersey utilizing both auction and request for
18 proposal (“RFP”) formats. As a result, I am very familiar with the attributes of these
19 procurement processes, which are tailored for the specific markets in which the
20 solicitations are conducted. One of the primary functions of RCS is to provide oversight
21 in the implementation of these power-procurement processes, including, but not limited to,
22 supporting the procurement plans of the FirstEnergy utilities in regulatory proceedings;
23 developing both solicitation and contract materials; interacting with independent
24 evaluators; executing contracts; and handling many of the operational aspects of these

1 solicitations as they relate to regional transmission organizations (e.g., PJM
2 Interconnection, L.L.C. (“PJM”)).

3 **Q. Please describe your educational background and professional experience.**

4 A. I graduated from the University of Rhode Island with a Bachelor of Science in Mechanical
5 Engineering and earned a Master of Business Administration from the Pennsylvania State
6 University. I also have a professional engineering license in the Commonwealth of
7 Pennsylvania.

8 I have been employed in the energy field since 1982 with General Public Utilities and
9 FirstEnergy. My professional experience has primarily been in the Regional Operation at
10 FirstEnergy: Customer Service, Meter Reading, Meter Engineering, Planning and
11 Protection, Line Design and Maintenance, Asset and Project Management, Revenue
12 Protection, Business Office Operations. While in Operations I have held several Manager
13 positions: Easton/Stroudsburg Line and Business Office Operations, Cleveland Electric
14 Illuminating Engineering Department, Customer Support, Meter Reading and Engineering,
15 and Asset Strategy. Since December 2015, I have been a Manager in the Regulated
16 Commodity Sourcing Department. My professional experience is more fully detailed in
17 Appendix A.

18 **Q. Have you ever testified before the Commission?**

19 A. Yes. I have testified before the Commission in prior default service proceedings.

20 **Q. On whose behalf are you testifying in this proceeding?**

21 A. I am testifying on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania
22 Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”), and West

1 Penn Power Company (“West Penn”) (individually referred to as “Company” and in any
2 combination as the “Companies”).

3 **Q. Please describe the purpose of your testimony.**

4 A. The purpose of my testimony is to describe the Companies’ proposed: (i) products to be
5 procured under each Company’s Default Service Program (“DSP”) for the period June 1,
6 2023 through May 31, 2027; (ii) procurement process and schedule for the multiple
7 procurements by the Companies; (iii) compliance with Pennsylvania’s Alternative Energy
8 Portfolio Standards (“AEPS”) Act; (iv) long-term solar procurement; and (v) credit-related
9 enhancements.

10 **Q. Have you prepared any exhibits to accompany your testimony?**

11 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits JHC-1 through JHC-7 were
12 prepared by me or under my supervision and are described in detail later in my testimony.

13 **II. PROCUREMENT PLAN PRODUCT DEFINITIONS**

14 **Q. Please provide an overview of the Companies’ DSPs.**

15 A. In this proceeding, the Companies are proposing a four-year term for their DSPs. As such,
16 each plan would span the forty-eight months beginning June 1, 2023 and ending May 31,
17 2027. The proposed DSPs will procure the required power supply in the wholesale
18 marketplace, by Company and rate class, through multiple solicitations. Power to serve
19 the non-shopping loads of each of the Companies will be procured in tranches of
20 approximately 50 megawatts (“MW”) each for the residential and commercial rate classes
21 and in tranches of approximately 100 MW each for the industrial rate class.

1 The DSPs are designed to offer non-shopping customers power through a prudent mix of
2 products. Specifically, the Companies are proposing a variable-priced product for
3 industrial customers at each Company. A blend of 5% variable-priced products and 95%
4 fixed-price, 12- and 24-month products are being proposed for residential customers. And
5 a blend of fixed-price 6-, 12-, and 24-month products are proposed for commercial
6 customers. Default service suppliers who are successful bidders in the competitive
7 procurement process will be responsible for satisfying the AEPS Act requirements.

8 **Q. What products do the Companies' DSPs include?**

9 A. Under the DSPs, customers will be served by products reflecting market-based generation
10 rates, which will provide opportunities for electric generation suppliers ("EGSs") to offer
11 competitive alternatives in accordance with the provisions of the Electricity Generation
12 Customer Choice and Competition Act and the Commission's default service regulations.
13 For residential and commercial customers, the DSPs will offer fixed generation rates that
14 change on a semi-annual basis and will be synchronized with the PJM energy year
15 beginning June 1. For industrial customers, the DSPs will continue to offer hourly pricing.
16 The DSPs will enable the Companies to procure their generation supplies through multiple
17 solicitations, providing price diversity to the DSP rates while protecting residential
18 customers from short-term price variations due to anomalies in the generation marketplace.
19 In particular, the 24- and 12-month fixed products will provide some price stability for
20 residential and commercial customers and both the 24- and 12-month fixed products will
21 reduce residential customers' exposure to significant price volatility associated with
22 shorter-term products (e.g., variable and 6-month) due to short-term market anomalies as
23 experienced during the 2014 Polar Vortex and the 2015 Siberian Express. At the same

1 time, the 5 percent variable priced component included in the DSP product for residential
2 customers and the 6-month product for commercial customers for both residential and
3 commercial customers will refresh default service rates to make those rates more reflective
4 of current market trends over the term of the DSPs. The Companies will simultaneously
5 procure their generation supplies through a descending price clock auction (“DCA”)
6 process, a feature which is expected to increase the number of bidders and, in turn, the
7 competitiveness of the procurement process. In fact, based on the six DSP V auctions
8 conducted through November 8, 2021, the number of registered bidders has ranged from
9 ten to sixteen and winning suppliers has ranged from four to twelve. In total, the
10 Companies’ DSPs are designed to yield market-reflective rates through a prudent mix of
11 products acquired at the least cost over time, which is a key requirement of Act 129 of 2008
12 (“Act 129”). In Met-Ed/Penelec/Penn Power/West Penn Statement No. 4, Drs. James
13 Reitzes and Nicholas Powers further describe how the Companies’ proposed DSPs comport
14 with Act 129’s least-cost-over-time mandate.

15 **Q. What is the nature of the products the Companies seek to obtain under the DSPs?**

16 A. The Companies propose to procure full-requirements, load-following energy and energy-
17 related products for their non-shopping customers. Each Company’s non-shopping load
18 will be segregated into customer classes, and each class will have its own product
19 specifications. The load of each class will be divided into tranches, with each tranche
20 representing a fixed percentage of the Company’s non-shopping load. Procurement
21 winners will be responsible for fulfilling all obligations of a PJM LSE. As such, winning
22 suppliers will be required to provide energy, capacity, and transmission service, as well as
23 all PJM administrative expenses and any other services or fees required by PJM of an LSE,

1 with some limited exceptions. Specifically, winning bidders will not be responsible for (i)
2 Regional Transmission Expansion Plan (“RTEP”) charges, (ii) Expansion Cost Recovery
3 Charges, (iii) Reliability Must Run/Generation Deactivation Charges associated with
4 generating plants for which specific RMR charges began being assessed following July 24,
5 2014, (iv) historical out-of-market tie line, generation, and retail customer meter
6 adjustments, (v) unaccounted for energy, and (vi) any approved reallocation by the Federal
7 Energy Regulatory Commission (“FERC”) of PJM Regional Transmission Expansion Plan
8 charges related to Docket No. EL05-121-009 (collectively, referred to as “non-market
9 based charges” or “NMB charges”).

10 Under the Companies’ proposal, default service suppliers in the Met-Ed, Penelec, Penn
11 Power, and West Penn service territories will also be responsible for meeting 100% of the
12 solar, non-solar Tier I and Tier II AEPS Act requirements. AEPS Act compliance is
13 discussed further in Section IV of my testimony.

14 The NMB charges will be paid by the Companies on behalf of all customers and recovered
15 from all customers through the Default Service Support (“DSS”) Rider in each Company’s
16 tariff. Ms. Patricia Larkin discusses these costs and their proposed recovery in her direct
17 testimony (Met-Ed/Penelec/Penn Power/West Penn Statement No. 5).

18 **Q. What customer classes are being proposed by the Companies?**

19 A. The Companies propose to segregate load into the same three classes that they have
20 traditionally used for default service purposes—residential, commercial, and industrial.

1 **Q. How many and what size customer class tranches are being proposed by the**
2 **Companies?**

3 A. For the residential class, the Companies propose to bid out a total of ninety-five (95)
4 tranches of approximately 50 MW each. A total of thirty-five (35) tranches of
5 approximately 50 MW each is proposed for the commercial class, and thirty-two (32)
6 tranches of approximately 100 MW each of an hourly pricing service are proposed for
7 industrial customers. A tranche represents a defined percentage of the load of a particular
8 customer class that the default service supplier must serve, including the provision of
9 energy, capacity, ancillary services, and transmission services but excluding NMB charges.

10 **Q. You stated that the Companies proposed to hold simultaneous procurement**
11 **processes. Will residential, commercial, and industrial class products be offered**
12 **concomitantly using the same type of procurement process as well?**

13 A. Yes. As was the case with DSP V, the Companies propose to employ procurement
14 processes for their fixed-price residential and commercial products and the hourly-priced
15 service for industrial customers that occur on the same day. Each will feature a DCA
16 process that will be administered by CRA International, Inc. d/b/a Charles River Associates
17 (“CRA”), the Companies’ proposed DSP VI independent auction manager (i.e.,
18 independent evaluator). CRA presently serves in this role under the Companies’ extant
19 DSPs as it has for the majority of the Companies’ prior DSPs.

20 **Q. Please describe the residential class products proposed by the Companies.**

21 A. For the residential-class tranche, the Companies propose a 95% fixed-price, load-
22 following, full-requirements product, with either a 12- or 24-month term. The remaining
23 5% is the real-time hourly load locational marginal price (“LMP”) for the delivery point

1 plus a fixed adder of \$20.00 per megawatt hour (“MWh”). This additional adder is
2 intended to capture an estimate of costs of other supply components associated with
3 meeting this full-requirements obligation, including capacity, ancillary services, AEPS
4 compliance, and other costs. The fixed adder is consistent with the Companies’ prior DSPs.
5 All required residential tranches will be secured over eight procurement dates.

6 **Q. Please describe the commercial class products proposed by the Companies.**

7 A. The commercial-class tranche proposed by the Companies is a fixed-price, load-following,
8 full requirements product, with either a 6-, 12-, or 24-month term. All tranches would be
9 secured over nine procurement dates. The Companies are proposing to replace the 3-month
10 commercial product currently used in DSP V with a 6-month commercial product to align
11 with their proposed semiannual PTC adjustments and to smooth out the price swings from
12 the 3-month commercial product. This will also reduce the number of auctions conducted
13 in a year from four to two, which will reduce the procurement costs recovered from default
14 service customers.

15 **Q. Please describe the industrial class products proposed by the Companies.**

16 A. Consistent with the Companies’ current DSPs, the Companies propose to secure power
17 supply for the industrial class utilizing a service referred to as the “hourly pricing service”
18 (“HPS”). Contracts for HPS will be for 12-month terms beginning June 1 in 2023, 2024,
19 2025, and 2026. The HPS is not a fixed-price service; rather, it is a variable hourly service
20 that is priced to the PJM real-time hourly total LMP for each Company’s PJM delivery
21 point. Default service suppliers will be bidding for the right to serve a portion of a
22 Company’s HPS load: a total of thirty-two tranches will be up for bid across all of the
23 Companies. Customers on HPS will pay, and winning default service suppliers will

1 receive: 1) the winning price bid by the winning default service supplier in the hourly-
2 priced auction; 2) the applicable PJM zonal real-time hourly LMP; and 3) a fixed adder of
3 \$4/MWh. This additional adder is intended to capture an estimate of costs of other supply
4 components associated with meeting this full-requirements obligation, including capacity,
5 ancillary services, AEPS compliance, and other costs.

6 **Q. Do the residential, commercial, and industrial products proposed by the Companies**
7 **comply with Act 129 and the Commission’s default service regulations and policy**
8 **statement?**

9 A. Yes. The proposed product mix, including the long-term solar procurement, meets the
10 current legislative standard under Act 129 and the Commission’s default service
11 regulations and policy statement, which require a default service procurement plan to
12 include a prudent mix of variable market purchases, short-term contracts, and long-term
13 purchase contracts that provides adequate and reliable service and is designed to ensure
14 least cost to customers over time.¹ This is further described in the testimony of James D.
15 Reitzes and Nicholas E. Power (Met-Ed/Penelec/Penn Power/West Penn Statement 4).
16 This conclusion is supported by the fact that the Commission approved a similar product
17 mix as part of the Companies’ previous DSPs.

18 **Q. Please describe the general obligations imposed by PJM on default service suppliers.**

19 A. Winning default service suppliers must schedule delivery to the applicable PJM delivery
20 point of the Company for which it won tranches to supply load. Winning default service
21 suppliers must be members of PJM and cognizant of and compliant with all regulations,

¹ See 66 Pa.C.S. § 2807(e); 52 Pa. Code § 54.186; 52 Pa. Code § 69.1805.

1 business rules, scheduling protocols, and all other aspects of doing business within PJM—
2 including, the introduction of new billing line items that are not otherwise specified as the
3 responsibility of the Companies. All operational supply risk to perform under this
4 procurement process will be borne by the winning default service suppliers.

5 **Q. Are the Companies proposing any modifications to the procurement process?**

6 A. Yes. The changes will be discussed in Section VI below.

7 **Q. Have the Companies experienced a default by any of their default service suppliers?**

8 A. No. The Companies have not experienced a default by any of their default service suppliers
9 since the inception of their default service programs. However, in the wake of the recent
10 run-up in energy prices, the Companies have witnessed retail supplier defaults and have
11 had to work with wholesale suppliers who were having difficulty maintaining the margin
12 requirements imposed by the Supplier Master Agreement (“SMA” or “Agreement”).
13 Given the significant customer harm that could result from a default by one of the
14 Companies’ default service suppliers, the Companies believe this is the time to ensure their
15 customers are adequately protected. This will be discussed later in my testimony in Section
16 VI.

17 **Q. Do you have plans in place to address a supplier default?**

18 A. Yes. There are contingency plans to address a supplier default. Ms. Wanyun Zhong will
19 address the contingency plans in her direct testimony (Met-Ed/Penelec/Penn Power/West
20 Penn Statement No. 3).

1 **III. PROCUREMENT PROCESS AND SCHEDULE**

2 **Q. Are the Companies proposing any changes to the frequency and timing of default**
3 **service auctions?**

4 A. Yes. The Companies are proposing to conduct auctions twice a year, rather than the four-
5 auction annual cycle that is currently in place under DSP V. The first auction for DSP VI
6 would be conducted in November 2022. From 2023 to 2026, auctions would be conducted
7 semiannually in March and September. The proposed procurement schedule is shown in
8 Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-1

9 **Q. What auction design is being proposed for the default service auctions?**

10 A. The Companies propose to continue their current approach of using a version of the
11 simultaneous, multiple-round, DCA format to procure default service supplies. This
12 auction platform is commonly used for multiple commodity types and has been
13 successfully used in numerous electricity procurements, including the Companies', in
14 Pennsylvania and across various states since the late 1990s.

15 The bidding format is simultaneous: multiple products or tranches, or both, are bid on
16 simultaneously. Bidding takes place online using web-based software in a series of bidding
17 rounds, with pre-specified starting and ending times for each round. Prior to the start of
18 each round, the announced price for each product is disclosed to bidders. The announced
19 price is the same for each tranche for a product but may differ across products. The
20 announced round 1 starting price for each product is set sufficiently high enough to
21 encourage bidder participation. At the end of each round, the bidding software (through
22 CRA's oversight) determines which products are over-subscribed and which products are
23 under-subscribed. A product is over-subscribed if suppliers bid to supply more tranches

1 than the number of tranches needed of that product. Conversely, a product is under-
2 subscribed if fewer tranches were bid on it than the number that is needed. If a product is
3 over-subscribed, the announced price for that product will be reduced by a decrement for
4 the next round. If a product is not over-subscribed, its announced price will not change for
5 the next round. The bidding process continues in this manner, with prices tending to tick
6 down like a countdown clock. As prices change across the products, bidders are allowed
7 to change the number of tranches they bid, with certain restrictions. Subject to these
8 restrictions, in each round a bidder simply specifies the number of tranches it is willing and
9 able to supply for each product at the announced price for each product. There is no pre-
10 determined number of rounds before the auction closes. The auction closes after the first
11 round in which no product is over-subscribed. The clearing price for a product is the lowest
12 price at which the product is not under-subscribed. Winning tranches for the product are
13 tranches that were bid at a price no higher than the clearing price. Winning bidders are
14 those bidders who bid the winning tranches. Throughout the auction, the pricing for each
15 product is known to the suppliers, which provides price transparency.

16 This price transparency allows the bidders flexibility to switch products throughout the
17 auction, as is described in the direct testimony of Messrs. Reitzes and Powers (Met-
18 Ed/Penelec/Penn Power/West Penn Statement No. 4).

19 The Bidding Rules and appendices for the default service procurement auctions are
20 included as Met-Ed/Penelec/Penn Power/West Penn Exhibits JHC-2, JHC-3 and JHC-4
21 and provide a more detailed description of the bidding process.

1 **Q. How are the Companies proposing to qualify prospective bidders for participation in**
2 **the DSP auctions?**

3 A. The Companies propose to qualify prospective bidders for participation in their respective
4 DSP auctions in the same manner that they currently employ. That is, prospective bidders
5 would be required to satisfy financial and non-financial requirements through a two-part
6 application process designed to demonstrate their ability and commitment to meet the dual
7 requirements of participating in the auction process and being a default service supplier.
8 The Part 1 Application and Part 2 Application forms, as well as pre-bid credit documents,
9 are included in Met-Ed/Penelec/Penn Power/West Penn Exhibits JHC-3 and JHC-4 and
10 will be available through the CRA web-based data room, as in past auctions. If a
11 prospective bidder is interested in participating in the 95% fixed-priced and 5% variable-
12 priced residential, fixed-price commercial, or the hourly-priced industrial auctions, it will
13 need to complete and submit one Part 1 Application and, subsequent to that, one Part 2
14 Application. As much as possible, the application process will be conducted electronically
15 via the CRA web-based data room using protocols CRA has used successfully in other
16 similar auction processes, including the Companies' current DSPs. The CRA process is
17 designed to be secure and to make it easier and less time consuming for applicants to submit
18 application materials. The process further provides for: (i) the review and assessment of
19 the applications; (ii) timely feedback to applicants; (iii) the ability of applicants to easily
20 check on the status of their applications; and (iv) the ability of applicants to cure any
21 deficiencies.

1 **Q. Are the bidding rules and associated appendices reflected in Met-Ed/Penelec/Penn**
2 **Power/West Penn Exhibits JHC-2, JHC-3 and JHC-4 consistent with those that are**
3 **being used by the Companies in their current DSPs?**

4 A. Yes. The bidding rules and associated Appendices in Met-Ed/Penelec/Penn Power/West
5 Penn Exhibits JHC-2, JHC-3 and JHC-4 are virtually identical to those currently used in
6 the Companies' DSP V auctions. Each exhibit includes a redline version of the document
7 showing all changes made to the document utilized currently in DSP V. Proposed therein,
8 however, are mostly minor updates related to dates and addresses and the addition of an
9 option to electronically sign and submit documents. Apart from those items, the Part 1
10 Application and Part 2 Application processes to qualify and register bidders, the web-based
11 data room, the frequently asked question ("FAQ") process, the communications protocol,
12 the bidding format, and the post-auction process will all be the same as under the
13 Companies' current DSPs.

14 **Q. When will the Companies and the independent evaluator hold information sessions**
15 **for interested participants?**

16 A. A bidder information session will be held generally at least a month before each auction.
17 The purpose of these sessions will be to describe the bid rules, the two-part qualification
18 process, the SMA, and the procurement information website and its contents, as well as
19 other pertinent information bidders will need to evaluate this procurement opportunity.

20 **Q. How can prospective default service suppliers learn more about the load**
21 **characteristics of the Companies' default service products?**

22 A. Prospective default service suppliers will have access to the web-based data room
23 administered by CRA as part of the auction information website which will be operational

1 prior to the start of the procurement process. The data room will include hourly historical
2 load characteristics of each product and the most current customer shopping statistics by
3 customer class by Company, which is updated monthly. This will afford prospective
4 default service suppliers an opportunity to view product load volatility over a period of
5 time, which should help them gauge volume risk. Furthermore, participants will have the
6 opportunity to ask questions about any of the default service products in the procurement
7 process at an information session or via a FAQ feature in the CRA web-based data room.

8 **Q. Please describe the process following the close of the default service auctions.**

9 A. After the last round of the auction, bidders who remained active in the auction will see
10 preliminary auction results on the bidding website. The bidders will see the clearing price
11 for each product and the number of tranches the bidder tentatively won for each product.
12 CRA will also provide the Companies the identities of the winning bidders, the number of
13 tranches each winning bidder has won for each product, and the associated clearing prices.
14 Of note, auction results are subject to Commission approval.

15 After the close of the auction, CRA will provide a confidential report to the Commission
16 that will include, among other things, the list of winning bidders and the clearing price for
17 each product. The Commission will have one business day after receiving the CRA auction
18 report to approve the results of the auction.

19 Upon approval by the Commission, the winning bidders and the Companies will execute
20 an SMA, the form of which is attached as Met-Ed/Penelec/Penn Power/West Penn Exhibit
21 WZ-1 to Wanyun Zhong's direct testimony (Met-Ed/Penelec/Penn Power/West Penn
22 Statement No. 3). Pre-bid security will be returned to all bidders upon execution of the

1 SMA on or before the third business day after the Commission has rendered its decision
2 on the auction results. Pre-bid security may be held for any bidder that violated any of the
3 rules or certifications of the auction process.

4 **Q. Do you believe that the use of a DCA is the appropriate design for the default service**
5 **auctions?**

6 A. Yes. As previously mentioned, the Companies' proposed DCA process is identical to the
7 auction process used under the Companies' current and past DSPs and is similar to auction
8 processes used in other jurisdictions to successfully procure electric power supply. It is a
9 process that default service suppliers and other stakeholders accept and are experienced
10 with. Further, its design encourages participation because it is fair, open, transparent, and
11 non-discriminatory, and it provides low barriers to participation for a variety of prospective
12 bidders. The tranche sizes and the range of contract durations appeal to various bidders
13 because they are consistent with products available in energy markets. With the
14 simultaneous bidding on products that are related in value (the residential and commercial
15 products across the Companies, and the industrial products across the Companies), bidders
16 are able to switch their bid quantities across the Companies' products and bid
17 simultaneously on substitutable products or complementary products, or both, in response
18 to changes in pricing. Because these factors encourage active participation and allow
19 participants to bid efficiently, a DCA auction design foments competitive outcomes.

1 **IV. ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT REQUIREMENTS**

2 **Q. What requirements does the AEPS Act impose on Pennsylvania’s default service**
3 **providers?**

4 A. The AEPS Act requires the Companies and other electric distribution companies (“EDCs”)
5 and EGSs in Pennsylvania to obtain a percentage of electricity sold to the Commonwealth’s
6 retail customers from certain alternative energy sources—such as, wind, solar energy and,
7 biomass. Compliance is measured through alternative energy credits or “AECs,” which
8 are equal to one MWh of energy from approved “Tier I” or “Tier II” alternative energy
9 sources. The AEPS Act also includes a solar “set-aside,” which mandates that a specific
10 portion of the Companies’ Tier I requirements be satisfied through AECs derived from
11 solar photovoltaic energy (i.e., Solar Photovoltaic Alternative Energy Credits or
12 “SPAECs”).² The AEPS Act defines Tier I and Tier II alternative energy sources and the
13 dates and percentages of supply required for compliance. The Tier I, Tier II, and SPAEC
14 percentage requirements during the term of the proposed DSPs are more fully described in
15 Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-5.

16 **Q. Are the Companies proposing to make winning default service suppliers responsible**
17 **for the AEPS Act requirements described in Met-Ed/Penelec/Penn Power/West Penn**
18 **Exhibit JHC-5?**

19 A. Yes, with two exceptions. First, in the initial year of the proposed DSPs only, default
20 service and retail suppliers for Met-Ed, Penelec, and Penn Power will be allocated SPAECs
21 obtained through existing long-term contracts which expire on May 31, 2024. The

² In addition, pursuant to Commission directives implementing Act 40 of 2017, SPAECs must be generated by facilities located within the Commonwealth (subject to limited exceptions). See Docket No. M-2017-2631527.

1 allocations will be based on the load served by the default service and retail suppliers.
2 Second, the Companies will allocate SPAECs from long-term solar power purchase
3 agreements (“PPAs”), described later in my testimony, to their respective default service
4 suppliers, in proportion to the residential load they served in a compliance year. This
5 allocation is expected to satisfy up to an estimated 32% of residential default service
6 suppliers’ SPAEC obligations.

7 **Q. Is this a change from DSP V?**

8 A. Yes. Met-Ed, Penelec and Penn Power currently procure all necessary SPAECs on behalf
9 of both default service suppliers and retail suppliers. In addition, pursuant to long-term
10 contracts which expired May 31, 2021, West Penn allocated Tier I AECs and SPAECs to
11 default service suppliers. The Companies have several 10-year SPAEC contracts that are
12 ending during the DSP V period. The Companies entered into those contracts to encourage
13 and incent investment in solar energy projects. However, with the solar energy market
14 now becoming increasingly mature, SPAECs are readily available to suppliers for
15 compliance, and the suppliers have the ability to hedge their positions. For those reasons,
16 the Companies believe it is appropriate for default service suppliers to be responsible for a
17 substantial portion of their SPAEC obligations.

18 **Q. Will the Companies continue to procure SPAECs for retail suppliers?**

19 A. No. After completing the allocations from certain existing long-term contracts which end
20 on May 31, 2024, Met-Ed, Penelec, and Penn Power will no longer be procuring SPAECs
21 on behalf of retail suppliers. As I stated above, the solar energy market is becoming
22 increasingly mature. SPAECs are readily available to retail suppliers for compliance, and
23 suppliers have the ability to hedge their positions. With the increasingly mature solar

1 market, retail suppliers will be able to offer their customers tailored solutions that meet
2 their customers environmental needs including, but not limited to, AEPS compliance.

3 **Q. Will default service suppliers be responsible for any changes to the AEPS**
4 **requirements going forward?**

5 A. Yes. If AEPS requirements change, due to federal or state law or any other reason, the
6 suppliers will be responsible for any incremental AEPS compliance obligations.

7 **Q. What procedure will the Companies use to verify that winning default service**
8 **suppliers have complied with the AEPS Act?**

9 A. The Companies will continue to only accept AECs from Tier I and Tier II sources that are
10 approved by the Commission's AEPS Program Administrator and generated through PJM
11 Environmental Information Services Inc.'s Generation Attributes Tracking System
12 ("GATS"), which the Commission has designated under the AEPS Act as the "registry"
13 for tracking and issuing AECs. It will be incumbent on the winning default service supplier
14 to open and maintain, at its own expense, a GATS account in order to satisfy the AEPS Act
15 requirements. This process is currently and successfully being used by the Companies to
16 comply with AEPS Act requirements.

17 **Q. What happens if a portion of a default service supplier's sourced AECS are found by**
18 **the Commission to be non-compliant with the AEPS Act requirements, and a penalty**
19 **is levied against the Companies?**

20 A. Any default service supplier that fails to acquire the necessary AECs during the compliance
21 periods will be identified by the Companies and assessed an alternative compliance
22 payment or other penalty imposed by the Commission for the AEPS non-compliance.

1 **Q. Is the Companies’ proposed plan for meeting AEPS Act obligations consistent with**
2 **Act 129 and the Commission’s default service regulations?**

3 A. Yes. Act 129’s requirement that EDCs procure power through a competitive process also
4 applies to the Companies’ procurement of SPAECs or AECs to satisfy AEPS Act
5 obligations.³ Further, the Commission’s AEPS regulations state that a default service
6 provider “shall demonstrate compliance” with the AEPS regulations and default service
7 regulations “by identifying a competitive procurement process for acquiring alternative
8 energy credits” in its default service plan.⁴ The Companies propose to use competitive
9 processes to fulfill their AEPS obligations through the default service procurement.

10 **Q. Are the Companies making any proposals relative to the procurement of short-term**
11 **market AECs?**

12 A. Yes. If necessary for compliance purposes, the Companies plan to conduct short-term AEC
13 procurements at market prices to fulfill any compliance needs. During the current DSP V
14 term, such procurements include bilateral purchases from Commission-approved AEC
15 providers/facilities or transactions conducted through AEC brokers. Under the proposed
16 DSPs, the Companies will continue to address potential compliance needs through market
17 purchases.

18 **Q. How are the Companies proposing to treat excess AECs?**

19 A. Should Met-Ed, Penelec, Penn Power, or West Penn have excess AECs, the Company in
20 question will first see if they can be used by one of the other Companies. If that Company
21 still has excess AECs, the Companies propose to sell the excess AECs to the open market.

³ See 66 Pa.C.S. § 2807(e)(3.5).

⁴ See 52 Pa. Code § 75.67(b).

1 Proceeds from the sale of excess AECs will be recovered through the Companies' DSS
2 Riders.

3 **Q. How would the Companies ensure that intercompany purchases would be conducted**
4 **at market prices?**

5 A. On the date of the transaction, bid/offer market quotes will be obtained from three AEC
6 brokers through their published broker sheets. The offer portion of the quote for the
7 applicable AEC product from the three AEC brokers would be averaged to determine a
8 representative market price for the intercompany purchase.

9 **V. LONG-TERM SOLAR PROCUREMENT**

10 **Q. Please describe the Companies' long-term solar proposal.**

11 A. The Companies propose to use an RFP process to procure up to 20 MWs of solar capacity
12 for energy and SPAECs through PPAs with terms of greater than four and no more than 10
13 years from utility-scale and grid connected solar projects located in Pennsylvania.

14 **Q. Why are the Companies proposing a long-term solar procurement?**

15 A. The Companies have previously supported the development of solar projects through 10-
16 year SPAEC contracts. The proposed solar PPAs continue this support by providing solar
17 projects that successfully bid in response to the Companies' RFP with long-term
18 procurement of energy and SPAECs. The solar PPAs also contribute to AEPS compliance
19 and align with FirstEnergy's commitment to environmental sustainability. Additionally,
20 the solar PPAs will serve as the long-term component of each Company's "prudent mix"
21 of default service contracts. Drs. Reitzes and Powers discuss the Act 129 "prudent mix"

1 requirements in their direct testimony (Met-Ed/Penelec/Penn Power/West Penn Statement
2 No. 4).

3 **Q. Please explain the procurement approach and PPA in more detail.**

4 A. The Companies propose to conduct a single RFP where winning bidders would execute a
5 separate PPA with each Company. The Companies intend to purchase both the energy and
6 SPAECs from the selected project(s). Projects must be located in the Commonwealth of
7 Pennsylvania and preference will be given to projects located within the Companies'
8 service territories. The Companies' proposed RFP documents, attached as Met-
9 Ed/Penelec/Penn Power/West Penn Exhibit JHC-6, detail the RFP format, requirements for
10 bidders and bidder proposals, and the bid evaluation process.

11 The entire procurement process will be overseen by an independent RFP monitor, The
12 Brattle Group ("Brattle"), who will evaluate the bids and develop an opinion concerning
13 the RFP process and results. Brattle will submit a confidential RFP report to the
14 Commission. The Commission will have a ten-day review period to evaluate the RFP
15 report and results and decide whether to approve the RFP results and the prices obtained.
16 If a bid is accepted and approved, the winning bidder will be required to execute a PPA
17 with each of the Companies that is consistent with the form PPA appended to the RFP.

18 **Q. Do the Companies believe the form PPA includes appropriate terms and conditions?**

19 A. Yes. The agreement includes terms and conditions that are typical of power purchase and
20 solar renewable energy credit agreements, including provisions for default and termination
21 and representations and warranties regarding the energy and SPAECs that will be delivered
22 to each Company.

1 **Q. Will the energy procured be used to offset default service load?**

2 A. Yes. A block of residential default service load will be carved out from each of the
3 Companies to be served by energy from the solar PPAs. The size of load carved out will
4 be determined based upon the final MWs procured in the RFP, and the Companies will use
5 spot purchases from PJM, as needed, to ensure adequate supply is obtained for each carve-
6 out. The carve out could be set to zero MWs if the solar facility cannot produce energy
7 due to, for example, a catastrophic facility failure or the bankruptcy of the facility owner.

8 **Q. What do the Companies plan to do with the SPAECs received from the solar PPA?**

9 A. The SPAECs will be allocated to default service suppliers based on the percentage of
10 residential load they served in a compliance year.

11 **Q. Why are the Companies proposing a 20 MW procurement?**

12 A. 20 MW is expected to produce enough SPAECs to satisfy up to an estimated 32% of the
13 residential default service suppliers' SPAEC requirements based on the current Solar Tier
14 I requirement of 0.5%.

15 **Q. Do the Companies have a contingency plan if the Solar PPAs are not successful?**

16 A. Yes. As is further explained in the testimony of Wanyun Zhong (Met-Ed/Penelec/Penn
17 Power/West Penn Statement No. 3), to satisfy the long-term procurement portion of the
18 plan, the Companies propose to conduct a solicitation for a five-year block of SPAECs if
19 there are no bidders for the solar procurement or due to rejection of bids by the
20 Commission. Energy will not be procured in the contingency plan.

21

22

1 **VI. ADDITIONAL PROTECTIONS AGAINST SUPPLIER DEFAULT**

2 **Q. Please summarize the additional measures the Companies are proposing to protect**
3 **customers from supplier default.**

4 A. The Companies are proposing to make modifications to the Maximum Unsecured Credit
5 Limits, Credit Rating Determination Methodology and load caps as well as implement a
6 new credit-based tranche cap and an Independent Credit Requirement per Tranche. As I
7 mentioned earlier in my testimony, such protections are appropriate in light of challenges
8 being faced by suppliers.

9 **Q. Please describe the “maximum unsecured credit limit”.**

10 A. The maximum unsecured credit limit is the lesser of the applicable percentage of Tangible
11 Net Worth (“TNW”) or the Credit Limit Cap and means an amount of credit, based on the
12 creditworthiness of a supplier or its guarantor, if applicable, determined pursuant to Section
13 6.4 of the SMA, granted by the Companies to such supplier to be applied towards the Total
14 Exposure Amount for such supplier.

15 **Q. Is a maximum unsecured credit limit currently provided to a supplier on an**
16 **individual-Company basis?**

17 A. Yes.

18 **Q. What changes to the maximum unsecured credit limit do the Companies propose?**

19 A. The Companies propose to have a supplier’s maximum unsecured credit limit be in
20 aggregate and made available in total across the Companies. The current process is
21 additive and provides suppliers with a greater total unsecured credit limit value if they serve
22 more than one Company. Specifically, under the current DSP V process, pursuant to

1 Section 6.4 and Appendix A of the SMA, a maximum unsecured credit limit is established
2 for all eligible suppliers who satisfy the requirements set forth therein and enter into an
3 Agreement with one of the Companies for the provision of default supply. Because
4 suppliers must enter into an SMA with each Company for which they will provide default
5 supply, those suppliers who win tranches with more than one Company will have one SMA
6 in place with each. In light of the fact that each Company currently establishes a maximum
7 unsecured credit limit for each eligible supplier who has an SMA in place with it for the
8 provision of default supply, suppliers who have an SMA with more than one Company end
9 up having a maximum unsecured credit limit with each such Company, thereby artificially
10 inflating that supplier's actual maximum unsecured credit limit.

11 For example, a supplier that qualifies with one Company for a maximum unsecured credit
12 limit of \$25,000,000 based on an 8% TNW and current credit ratings, which is defined as
13 the minimum senior unsecured debt rating, could have up to \$100,000,000 in total
14 maximum unsecured credit limits if they win tranches with all four Companies. The
15 proposed change would limit the maximum unsecured credit limit to \$25,000,000 in total
16 for all four Companies combined, with the supplier having the option to apportion this
17 maximum aggregated amount amongst the Companies as it deems fit.

18 **Q. What is the credit rating determination methodology?**

19 A. The credit rating determination methodology is based on the most current senior unsecured
20 debt rating (or, if unavailable, the most current corporate issuer rating). For a default
21 service supplier to be granted an unsecured line of credit, the supplier must be rated by at
22 least two of the following rating agencies: S&P, Moody's, or Fitch.

1 **Q. What changes do the Companies propose to the credit rating determination**
2 **methodology?**

3 A. The Companies are proposing to modify the treatment of split ratings. To this end, the
4 Companies propose to add the following language to the SMA and Bidding Rules, where
5 applicable:

6 If the DS Supplier or Guarantor is rated by only two rating agencies,
7 and the ratings are split, the lower rating will be used. If the DS
8 Supplier or Guarantor is rated by three rating agencies, and the
9 ratings are split, the lower of the two highest ratings will be used;
10 provided, however, that in the event that the two highest ratings are
11 common, such common rating will be used.

12 The Companies have found that ratings splits are common. Utilizing the ‘lower’ of two
13 ratings is a more conservative approach that will help protect customers from higher-risk
14 suppliers being provided excessive maximum unsecured credit limits.

15 **Q. What is a load cap?**

16 A. Load caps are a restriction on the amount of supply any one bidder can win in an auction.
17 Load caps, which have the potential to attract additional bidders, are generally used in
18 competitive solicitations to encourage supplier diversity and mitigate the impact of a
19 supplier default on retail customers.

20 **Q. What is the current load cap, and are the Companies proposing to change it?**

21 A. The current load cap is 75% for both fixed- and hourly-product auctions. The Companies
22 are proposing to reduce the load cap to 40% on an aggregated load basis across all products
23 in each fixed price auction such that no bidder may bid on and win more tranches than the
24 load cap. The load cap will remain at 75% on an aggregated load basis across all products
25 in each hourly product auction such that no bidder may bid on and win more tranches than

1 the load cap. Load caps for other EDCs in Pennsylvania are lower than the current 75%
2 and bidder participation has not been impacted. In addition, over the course of several
3 years of auctions, the Companies have seen an increasing number of below-investment-
4 grade suppliers with large obligations and exposures. As power prices have increased,
5 some suppliers are stretched to meet the collateral requirements, which are significant.
6 Reducing the load cap will diversify the load to additional suppliers, reduce the
7 concentration risk, and reduce the potential collateral requirements on any one supplier that
8 could lead to a default.

9 **Q. What is a credit-based tranche cap?**

10 A. A credit-based tranche cap is a limit to which bidders with poor or no credit ratings will be
11 limited from having the ability to bid on a large number of tranches.

12 **Q. Do the Companies currently utilize a credit-based tranche cap?**

13 A. No, but the Companies are proposing to include a credit-based tranche cap in the DSP VI
14 Bidding Rules.

15 **Q. What is the benefit of a credit-based tranche cap?**

16 A. The proposed credit-based tranche cap will limit bidders with poor or no credit ratings from
17 having the ability to bid on a large number of tranches. Without such a cap, these bidders
18 could potentially win more load obligations than they can serve and result in exposures that
19 they are not able to cover with collateral requirements.

1 **Q. Please explain the parameters of the credit-based tranche cap being proposed by the**
2 **Companies.**

3 A. As described in the proposed Bidding Rules, the Companies propose allowing any bidder
4 with investment-grade credit ratings (BBB- and higher by S&P/Fitch and Baa3 and higher
5 by Moody's) to bid on unlimited tranches up to the auction's tranche target. A step-down
6 tranche cap would be put in place for bidders with lower credit ratings from a limit of 8
7 tranches down to a maximum of 4 tranches for bidders with no credit ratings or ratings of
8 BB- and below by S&P/Fitch and Ba3 and below by Moody's. If a bidder is only rated by
9 one rating agency, that rating will be used. If it is rated by two rating agencies, the lower
10 of the two ratings will be used.

11 **Q. Do the Companies have any additional credit-related proposals?**

12 A. Yes. The Companies are proposing an Independent Credit Requirement per Tranche
13 ("ICRT") for winning bidders.

14 **Q. What is an ICRT?**

15 A. An ICRT is a financial security requirement which requires suppliers to provide collateral
16 based on the number of tranches they win. The ICRT requires a set amount of collateral
17 per tranche.

18 **Q. What are the benefits of implementing an ICRT?**

19 A. The ICRT would provide more security and protection above the mark-to-market ("MtM")
20 collateral requirements in cases of a supplier default. An ICRT is utilized successfully in
21 other state jurisdictions and does not impact supplier participation. The security would be
22 provided to the Companies regardless of the MtM positions. The ICRT would be reduced

1 over time as the supplier completes load obligations during the duration of the SMA. A
2 proposed schedule for the ICRT is appended hereto as Met-Ed/Penelec/Penn Power/West
3 Penn Exhibit JHC-7.

4 **Q. Will the implementation of an ICRT impact the MtM credit exposure?**

5 A. Yes. When an ICTR is implemented, the total MtM credit exposure will be equal to the
6 MtM credit exposures for each Billing Month instead of the MtM credit exposures being
7 multiplied by 1.1.

8 **Q. Why is the multiplier being reduced?**

9 A. The multiplier is reduced to reflect the additional security provided by the ICRT.

10 **VII. CONCLUSION**

11 **Q. Does this conclude you direct testimony?**

12 A. Yes, it does.

EDUCATION AND PROFESSIONAL BACKGROUND

My name is James H. Catanach and my business address is 2800 Pottsville Pike, Reading, PA 19605. I am employed by FirstEnergy Service Company (“FirstEnergy”) as Manager of the Regulated Commodity Sourcing Department. This position is primarily responsible for the procurement and management of the regulated energy supply portfolio, including compliance with renewable energy / alternative energy portfolio standard requirements, that FirstEnergy’s electric utilities are required to maintain as load serving entities to serve their West Virginia, Ohio, Pennsylvania, New Jersey and Maryland retail electric customers.

I have prepared supporting case materials in various jurisdictions including the Pennsylvania Public Utility Commission and the New Jersey Board of Public Utilities. Such cases include but are not limited to:

State & General Description

Case / Docket #

Pennsylvania

Joint Petition of Metropolitan Edison Company,
 Pennsylvania Electric Company,
 Pennsylvania Power Company
 and West Penn Power Company
 For Approval of Their Default Service Programs

P-2015-2511333
 P-2015-2511351
 P-2015-2511355
 P-2015-2511356

Joint Petition of Metropolitan Edison Company,
 Pennsylvania Electric Company,
 Pennsylvania Power Company
 and West Penn Power Company
 For Approval of Their Default Service Programs

P-2017-2637855
 P-2017-2637857
 P-2017-2637858
 P-2017-2637866

New Jersey

In the Matter of the Provision of Basic Generation Service
For the Period Beginning June 1, 2017 ER16040337

In the Matter of the Provision of Basic Generation Service
For the Period Beginning June 1, 2018 ER17040335

In the Matter of the Provision of Basic Generation Service
For the Period Beginning June 1, 2019 ER19040428

In the Matter of the Provision of Basic Generation Service
For the Period Beginning June 1, 2020 ER20030190

In the Matter of the Provision of Basic Generation Service
For the Period Beginning June 1, 2021 ER21030631

Hourly Price Service Tranche Procurement Schedule											
Auction Date	Percent Load	# Tranches	# Mos to Delivery	6/1/23 to 11/30/23	12/1/23 to 5/31/24	6/1/24 to 11/30/24	12/1/24 to 5/31/25	6/1/25 to 11/30/25	12/1/25 to 5/31/26	6/1/26 to 11/30/26	12/1/26 to 5/31/27
March 2023	100.00%	32	2	12-Months							
March 2024	100.00%	32	2			12-Months					
March 2025	100.00%	32	2					12-Months			
March 2026	100.00%	32	2							12-Months	
Commercial Full Requirements Tranche Procurement Schedule											
November 2022	8.57%	3	6	24-Months							
November 2022	22.86%	8	6	12-Months							
March 2023	17.14%	6	2	24-Months							
March 2023	22.86%	8	2	12-Months							
March 2023	28.57%	10	2	6-Months							
September 2023	0.00%	0	8			24-Months					
September 2023	11.43%	4	8			12-Months					
September 2023	28.57%	10	2	6-Months							
March 2024	11.43%	4	2			24-Months					
March 2024	22.86%	8	2			12-Months					
March 2024	28.57%	10	2			6-Months					
September 2024	8.57%	3	8					24-Months			
September 2024	11.43%	4	8					12-Months			
September 2024	28.57%	10	2			6-Months					
March 2025	17.14%	6	2					24-Months			
March 2025	22.86%	8	2					12-Months			
March 2025	28.57%	10	2			6-Months					
September 2025	20.00%	7	8							12-Months	
September 2025	28.57%	10	2					6-Months			
March 2026	22.86%	8	2							12-Months	
March 2026	31.43%	11	2						6-Months		
September 2026	31.43%	11	2								6-Months
Residential Full Requirements Tranche Procurement Schedule											
November 2022	21.05%	20	6	24-Months							
November 2022	25.26%	24	6	12-Months							
March 2023	24.21%	23	2	24-Months							
March 2023	29.47%	28	2	12-Months							
September 2023	2.11%	2	8			24-Months					
September 2023	21.05%	20	8			12-Months					
March 2024	5.26%	5	2			24-Months					
March 2024	26.32%	25	2			12-Months					
September 2024	20.00%	19	8					24-Months			
September 2024	23.16%	22	8					12-Months			
March 2025	24.21%	23	2					24-Months			
March 2025	25.26%	24	2					12-Months			
September 2025	26.32%	25	8							12-Months	
March 2026	29.47%	28	2							12-Months	

Bidding Rules

For Fixed-Price and Hourly-Priced Auctions

To Procure Default Service Products

Under Default Service Program DSP-VI for

Metropolitan Edison Company (“Met-Ed”)

Pennsylvania Electric Company (“Penelec”)

Pennsylvania Power Company (“Penn Power”)

West Penn Power Company (“West Penn”)

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Bidding Rules to Procure Default Service Products

1. INTRODUCTION

These Bidding Rules apply to the auctions to procure Default Service products for Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”) (each of which may be referred to as a “Company”, and/or in combinations as “Companies”) for all of their retail customers that take retail generation service from the Companies.

Default Service products for residential and commercial customers will be procured in a separate auction (“Residential/Commercial Auction” or “Fixed-Price Auction” or “FP Auction”) from the auction for industrial customers (“Industrial Auction” or “Hourly-Priced Auction” or “HP Auction”). Unless otherwise noted, these Bidding Rules apply to each auction.

Bidders need to be familiar with the Supplier Master Agreement (“SMA”), the Bidding Rules, and all other documents for the auctions, including the Part 1 Application and the Part 2 Application which apply to both auctions. Bidders should visit the Information Website regularly for up-to-date information, including information specific to each auction. The Information Website contains relevant data, the schedule and key dates for participating in the auction process, frequently asked questions, and other information.

The following documents are appended to, and shall be considered integral parts of, these Bidding Rules:

- Appendix 1 Part 1 Application for Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products
- Appendix 2 Part 2 Application for Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products
- Appendix 3 Sample Pre-Bid Letter of Credit

Unless noted otherwise, “days” refer to business days and times refer to prevailing Eastern Time. Capitalized terms in this document, which are not defined explicitly herein, are defined in the SMA. In accordance with the SMA, “Default Service” and “DS” are equivalent (e.g., “Default Service Load” in these Bidding Rules corresponds to “DS Load” in the SMA).

Examples in these Bidding Rules are illustrative only.

These Bidding Rules may be modified from time to time by the Independent Evaluator in order to: (i) facilitate a more competitive auction process, (ii) make any necessary corrections and/or clarifications, (iii) account for any change in auction products, (iv) conform to any change in state or federal law or rule, and (v) apply any change deemed necessary at the discretion of the Independent Evaluator. All modifications will be posted to the Information Website and carried out in consultation with the Companies.

Bidding Rules to Procure Default Service Products

1.1 Independent Evaluator

The Independent Evaluator is CRA International, Inc. d/b/a Charles River Associates (“CRA”). The Independent Evaluator (also referred to as the Auction Manager) can be contacted by sending an email to fepaauction@crai.com. The full contact information for the Independent Evaluator is as follows:

Independent Evaluator
c/o Brad Miller, Vice President
CRA International, Inc.
~~John Hancock Tower, T-9~~
200 Clarendon Street, ~~T-9~~
Boston, MA 02116-5092
Phone: 617.425.3384
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2. THE PRODUCTS BEING PROCURED

This section summarizes the common elements of the products to be procured in the auctions. The Information Website provides details about the products to be procured in a specific auction, including the delivery periods, the number of tranches, and the nominal MW size of the tranches.

2.1 Default Service Load

Default Service Load is each Company’s aggregate requirement to serve its Default Service customers. For purposes of these Bidding Rules, a “Default Service Customer” is a retail customer of a Company taking Default Service.

2.2 Full Requirements Service

The auctions are designed to procure full requirements, load-following energy and energy-related services for Default Service Customers of the Companies.

Obligations of Default Service Suppliers include the following:

- Assume all responsibilities of a PJM Load Serving Entity (“LSE”), including all PJM administrative expenses and any other services or fees as required by PJM of an LSE.
- Provide for energy.
- Provide for capacity.
- Provide for ancillary services.
- Provide for transmission service, including Network Integration Transmission Service (“NITS”).

Bidding Rules to Procure Default Service Products

Obligations of Default Service Suppliers exclude the following:

- Regional Transmission Expansion Plan charges (“RTEP”);
- PJM Expansion Cost Recovery charges (“ECRC”);
- Reliability Must Run / Generation Deactivation charges (“RMR”) associated with generating plants for which specific RMR charges begin after the approval of the Companies’ current Default Service Plans (“DSP-IV”) by the Pennsylvania Public Utility Commission (“Commission”). All Suppliers will continue to be responsible for RMR charges associated with generating plants that began before the approval of DSP-III by the Commission, as those charges may change over time;
- Unaccounted for Energy;
- Historical out of market tie line, generation and retail customer meter adjustments; or
- Any Federal Energy Regulatory Commission (“FERC”)-approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009.

Alternative Energy Portfolio Standards Act (“AEPS Act” or “AEPS”) credits needed to meet the requirements of the Companies’ Default Service Load

~~The It is the responsibility obligations of Default Service Suppliers to provide all Alternative Energy Credits (“AECs”) necessary to meet the AEPS obligations under the SMA vary among the Companies.~~

- ~~• Default Service Suppliers in the Met-Ed, Penelec, and Penn Power service territories will be responsible for meeting 100 percent of the non-solar Tier I and Tier II AEPS Act requirements. Met-Ed, Penelec, and Penn Power will procure all necessary solar photovoltaic requirements on behalf of Default Service Suppliers and EGSs that serve load in their respective service areas.~~
- ~~• In the West Penn service territory, Default Service Suppliers will be responsible for all Tier I and Tier II AEPS Act requirements (including solar photovoltaic requirements) less any Tier I AECs or solar photovoltaic AECs (“SPAECs”) that are allocated to the suppliers from existing long-term purchases made by West Penn.~~

The requirements of Default Service Suppliers are described more specifically in the SMA.

2.3 Tranches

Default Service Load will be divided into identical units called tranches, each representing a defined percentage of Default Service Load. For example, if there are 25 tranches for a given customer class, then each tranche equals one divided by twenty-five, or four percent of that class’s load. This includes four percent (4%) of the actual hourly energy required for Default Service Load for the applicable delivery period as well as four percent (4%) of the PJM capacity requirement for the applicable delivery period.

The number of tranches intended to be procured in the auction for a product is referred to as the “tranche target” for that product. The Independent Evaluator may reduce the tranche targets if indications of interest in the auction are such that doing so is required to promote more competitive bidding.

Bidding Rules to Procure Default Service Products

3. PRICES PAID TO DEFAULT SERVICE SUPPLIERS

This section summarizes the components of the prices to be paid to Default Service Suppliers. The SMA takes precedent over the summary provided here.

3.1 Prices Paid to Winning Suppliers in the Fixed-Price Auction

In accordance with the SMA, the Default Service Suppliers from the Fixed-Price Auction for residential customer load will be paid a price comprising a fixed-price component and a variable price component while the Default Service Suppliers from the Fixed-Price Auction for commercial customer load will be paid a price comprising a fixed-price component only. ~~An additional line item (payment or credit) is added for the 2022/2023 Energy Year; See Appendix H, "Supplement," of the SMA.~~

- The residential fixed-price component will be equal to 95 percent (95%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process. The residential variable price component will be equal to 5 percent (5%) of the delivered supply each hour multiplied by a "spot price." The "spot price" will be equal to the sum of:
 - (a) The real time hourly total locational marginal price ("LMP") established by PJM Interconnection L.L.C. ("PJM"), the Companies' regional transmission organization, for the PJM delivery point of the applicable Company (i.e., the PJM designated METED, PENELEC, Penn Power Aggregate, or APS Zone), plus
 - (b) An adder of \$20/MWh. This adder is designed to capture an estimate of costs of other supply components associated with meeting the full-requirements obligation, including capacity, ancillary services, NITS, AEPS compliance, and other costs.
- The commercial fixed-price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process.

3.2 Prices Paid to Winning Suppliers in the Hourly-Priced Auction

In accordance with the SMA, the Default Service Suppliers from the Hourly-Priced Auction will be paid a price comprising a fixed-price component and a variable price component. ~~An additional line item (payment or credit) is added for the 2022/2023 Energy Year; See Appendix H, "Supplement," of the SMA.~~

- The fixed-price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process.
- The variable price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by a "spot price." The "spot price" will be equal to the sum of:
 - (a) The real time hourly total LMP established by PJM for the PJM delivery point of the applicable Company, plus
 - (b) An adder of \$4/MWh. This adder is designed to capture an estimate of costs of other supply components associated with meeting the full-requirements obligation, including capacity, ancillary services, NITS, AEPS compliance, and other costs.

4. PRIOR TO THE START OF BIDDING

4.1 Information Provided to Bidders

The Companies will make available certain information to suppliers in advance of qualification. This information will be posted on the Information Website.

4.1.1 Data

Load and other data that are posted to the Information Website are described in a data description document on the Information Website.

4.1.2 Minimum and Maximum Starting Prices

The Independent Evaluator will announce a minimum starting price and a maximum starting price for each product in the auction. The minimum and maximum starting prices establish the range for the possible round 1 prices for the auction.

4.1.3 Tranche Size, Tranche Targets

No later than eight (8) days prior to the Part 1 Application Due Date, the Independent Evaluator will announce for each product in the auction:

- The tranche targets or the number of tranches being procured for each product.
- The size (%) and MW-measure of the tranches in the auction.

No later than four (4) days prior to the Part 2 Application Due Date, the Independent Evaluator will announce:

- Any update to the MW-measure of the tranches in the auction.

Bidding Rules to Procure Default Service Products

4.2 Qualification Process

There are two parts to the bidder application and qualification process. In Part 1, prospective bidders apply to become Qualified Bidders. In Part 2, each Qualified Bidder provides certifications and its indicative offer and pre-bid security in order to become a Registered Bidder.

A prospective bidder is required to submit a new Part 1 Application before the first auction in a calendar year in which it would like to participate.

If a prospective bidder submits a successful Part 1 Application for an upcoming auction, in general the Qualified Bidder will not need to submit a new Part 1 Application for any subsequent auction that is held in the same calendar year as the upcoming auction. For example, if the prospective bidder submits a successful Part 1 Application and becomes a Qualified Bidder for an auction held in January, the Qualified Bidder generally would not need to submit a Part 1 Application prior to any other auctions held in the same calendar year. However, the Qualified Bidder will need to submit a new Part 1 Application if the information in the prior successful Part 1 Application has changed. Also, the Qualified Bidder is required to submit its most recent (e.g., quarterly) financial statements before each auction.

A Qualified Bidder is required to submit a new Part 2 Application before each auction it would like to participate in.

4.2.1 Part 1 Application: Certifications and Other Qualified Bidder Requirements

In the Part 1 Application process, prospective bidders will be required to:

- Submit an application from a person with the power to bind the bidder.
- Agree to comply with all rules of the auction.
- Agree that if they become winning bidders, they will execute the applicable SMA with the Companies within 3 business days following the date of the Commission's approval of the auction results.
- Show either that they are a PJM Market Participant and Load Serving Entity in PJM, or that there exist no impediments to them becoming a PJM Market Participant and Load Serving Entity in PJM by the start of the applicable delivery period.
- Agree that if they become winning bidders, they will comply with the creditworthiness requirements set forth in the SMA.
- Certify that if they qualify to participate, they will not disclose information regarding the list of Qualified Bidders or confidential information that may be obtained during the bidding process about Qualified Bidders.
- Certify that if they qualify to participate, they will not substitute another entity in their place, transfer their rights to another entity, or otherwise assign their status as Qualified Bidders to another entity.

Bidding Rules to Procure Default Service Products

Part 1 Applications must be submitted to the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 1 Application Due Date. Prospective bidders will be notified by the Independent Evaluator no later than three (3) days after the Part 1 Application Due Date whether they succeeded in becoming Qualified Bidders.

A prospective bidder that has qualified during the Part 1 Application process becomes a Qualified Bidder. The Independent Evaluator will send a list of all Qualified Bidders to relevant parties that have undertaken to maintain the confidentiality of the list of Qualified Bidders. The relevant parties that will receive this list of Qualified Bidders are as follows:

- Each Qualified Bidder.
- Other parties as necessary to oversee the proper conduct of the auction, including representatives from the Companies and Commission Staff.

All parties receiving a list of Qualified Bidders will be subject to the confidentiality requirements as specified below and in the section, "Communications Protocols," in these Bidding Rules.

4.2.2 Part 2 Application: Certifications, Indicative Offer, and Pre-Bid Security

For each auction, a Qualified Bidder must successfully complete the Part 2 Application process in order to become a Registered Bidder that can bid in the auction. Only Qualified Bidders may submit a Part 2 Application.

Part 2 Applications must be submitted to the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date. Qualified Bidders will be notified by the Independent Evaluator whether they succeeded in the Part 2 Application process no later than three (3) days after the Part 2 Application Due Date.

Certifications

In the Part 2 Application, each Qualified Bidder will make a number of certifications to ensure the confidentiality of information regarding the auction, and in regards to associations with other Qualified Bidders, to ensure that they are participating independently of other Qualified Bidders. More details on the certifications can be found in the section, "Confidential Information, Certifications, and Sanctions," later in this document.

The competitiveness of the auction and the ability of the auction to produce competitive prices may be harmed by the coordinated or collusive behavior that associations among bidders may facilitate. As the Independent Evaluator relies on a number of factors to assess and promote competitive bidding, including the number of independent competitors, providing inaccurate information or insufficient disclosure of associations in the Part 2 Application is prohibited. More details on rules and protocols for participation by associated bidders can be found in the section, "Bidder Associations," later in this document.

Bidding Rules to Procure Default Service Products

Indicative Offers

With its Part 2 Application, a Qualified Bidder will be required to submit indicative offers and to post pre-bid security sufficient for their indicative offers. A Qualified Bidder provides two indicative offers for each auction that the Qualified Bidder is applying to participate in: one indicative offer at the minimum starting prices for the products in the auction, and one indicative offer at the maximum starting prices for the products in the auction. An indicative offer specifies for each product in the auction the number of tranches that the Qualified Bidder is willing to serve for that product. Thus, the indicative offer at the minimum starting prices in the auction specifies the number of tranches that the Qualified Bidder is willing to serve for each product in the auction at the minimum starting price for the product. The indicative offer at the maximum starting prices in the auction specifies the number of tranches that the Qualified Bidder is willing to serve for each product in the auction at the maximum starting price for the product. For each product in the auction, the number of tranches specified in the indicative offer at the minimum starting price cannot exceed the number of tranches specified in the indicative offer at the maximum starting price.

Indicative offers are important in two respects. First, the Independent Evaluator may use the indicative offers to inform the setting of the starting price for each product (i.e., round 1 announced price). Second, the total number of tranches in the Qualified Bidder's indicative offer at the maximum starting prices is used to determine the Qualified Bidder's initial eligibility (i.e., the maximum total number of tranches the Qualified Bidder can bid across all products in round 1 of the auction): the Qualified Bidder's initial eligibility is set to the total number of tranches across all products in the Qualified Bidder's indicative offer at the maximum starting prices. During the auction, bidders are free to switch their tranches among products in response to changes in announced prices (subject to any bidding restrictions). However, a bidder will never be able to bid a total number of tranches across products that exceeds the bidder's initial eligibility. Thus, the number of tranches for each product in the Qualified Bidder's indicative offer at the maximum starting prices does not limit the number of tranches the Qualified Bidder can bid on a particular product, but the total number of tranches across all products in the indicative offer at the maximum starting prices must be equal to the Qualified Bidder's desired initial eligibility across all products in the auction.

Restrictions on the Indicative Offer: ~~Load Cap~~

Each Qualified Bidder will be subject to a load cap that limits the number of tranches the bidder can bid on and win. Thus, the Qualified Bidder's indicative offer at the maximum starting prices across all products in the auction is not allowed to exceed the load cap. The load cap will be ~~40~~75 percent for fixed-price products and 75 percent for hourly-price products on an aggregated load basis across all products in each auction such that no bidder may bid on and win more tranches than the load cap. The load cap will be implemented by ensuring that each bidder's initial eligibility does not exceed the load cap in an auction.

Bidding Rules to Procure Default Service Products

Restrictions on the Indicative Offer: Credit-Based Tranche Cap

A Qualified Bidder may have a credit-based tranche cap that limits the Qualified Bidder's initial eligibility. The Qualified Bidder's indicative offer at the maximum starting prices across all products in the auction is not allowed to exceed the Qualified Bidder's credit-based tranche cap. This credit-based tranche cap is based on the credit rating of the Qualified Bidder or its Guarantor. A Qualified Bidder's credit-based tranche cap is determined as shown in Table -1.

Table 1. Credit-Based Tranche Cap

<u>Credit Rating of Qualified Bidder or Guarantor</u>			<u>Credit-Based Tranche Cap</u>
<u>S&P</u>	<u>Moody's</u>	<u>Fitch</u>	
<u>BB and above</u>	<u>Ba2 and above</u>	<u>BB and above</u>	<u>Unlimited up to auction's tranche target</u>
<u>BB-</u>	<u>Ba3</u>	<u>BB-</u>	<u>8 tranches</u>
<u>Below BB-</u>	<u>Below Ba3</u>	<u>Below BB-</u>	<u>4 tranches</u>
<u>If not rated by any of those rating agencies</u>			<u>4 tranches</u>

Note that the parameters in the table above may vary by auction and over time, at the sole discretion of the Companies.

To be assigned a credit-based tranche cap greater than the minimum credit-based tranche cap, the Qualified Bidder or its Guarantor must:

- Be rated by at least one of the following rating agencies: Standard & Poor's Rating Services ("S&P"), Moody's Investors Service, Inc. ("Moody's"), or Fitch, Inc. ("Fitch"), and
- Have a senior unsecured debt rating (or, if unavailable, corporate or issuer rating).

If the Qualified Bidder or Guarantor is rated by only one rating agency, that rating will be used. If the Qualified Bidder or Guarantor is rated by only two rating agencies, and the ratings differ, the lowest rating will be used. If the Qualified Bidder or Guarantor is rated by the three rating agencies, and the ratings differ, the lower of the two highest ratings will be used; provided that, in the event that the two highest ratings are common, such common rating will be used.

If a Qualified Bidder is not rated by any of the rating agencies, the Qualified Bidder's credit-based tranche cap will be the minimum credit-based tranche cap as shown in Table- 1.

Bidding Rules to Procure Default Service Products

The credit-based tranche cap is in effect only during the bidding process. After the SMA has been executed by a winning bidder, the credit-based tranche cap no longer will be in effect and the Default Service Supplier will be required to meet the credit terms in accordance with the SMA.

Pre-Bid Security

Each Qualified Bidder must post pre-bid security sufficient for its indicative offer at the maximum starting prices. Each Qualified Bidder must post pre-bid security in an amount specified in the Part 2 Application for all products included in the bidder's indicative offer at the maximum starting prices. Either cash or a pre-bid letter of credit will be accepted as pre-bid security. Letters of Credit can be submitted as a hard copy or in electronic form. Interest will not be paid on cash posted as pre-bid security. The standard form of the pre-bid letter of credit that is acceptable to the Companies will be posted to the Information Website.

If a draft pre-bid letter of credit submitted by the prospective bidder with the Part 1 Application does not conform to the standard form, the prospective bidder shall indicate clearly any and all modifications in electronic, redlined format from the standard form. The Companies will assess, in their sole and exclusive discretion, whether such modifications are acceptable. Modifications that are accepted by the Companies will be posted on the Website. Subsequently in its Part 2 Application, a Qualified Bidder must provide the required executed pre-bid letter of credit that either is the standard form or is the version that incorporates only those modifications to the standard form accepted by the Companies upon review of the bidder's Part 1 Application.

The following is an example calculation of the pre-bid security.

Example 1. Pre-Bid Security

A Qualified Bidder submits an indicative offer of 5 tranches for the Met-Ed 24-month residential product at the minimum starting price and 10 tranches for the Met-Ed 24-month residential product at the maximum starting price, 3 tranches for the Penelec 12-month residential product at the minimum starting price and 6 tranches for the Penelec 12-month residential product at the maximum starting price, and 2 tranches for the Penn Power 3-month commercial product at the minimum starting price and 4 tranches for the Penn Power 12-month commercial product at the maximum starting price. The Qualified Bidder must submit with this indicative offer of 20 tranches at the maximum starting prices cash or a pre-bid letter of credit of \$250,000 per tranche (as specified in the Part 2 Application). The Qualified Bidder thus posts cash or a pre-bid letter of credit of \$5 million (20 tranches X \$250,000 per tranche).

For a Part 2 Application to be accepted, it must be complete and include the Qualified Bidder's indicative offers and pre-bid security (either a pre-bid letter of credit or cash). After its Part 2 Application is accepted, a Qualified Bidder becomes a Registered Bidder. The Independent Evaluator will send each Registered Bidder a summary of its indicative offers, pre-bid security amount, and the Registered Bidder's initial eligibility.

Bidding Rules to Procure Default Service Products

The Independent Evaluator also will send simultaneously to each Registered Bidder, and to those other parties as necessary to oversee the proper conduct of the auction, a list of Registered Bidders, and the total initial eligibility aggregated across all Registered Bidders. The list of Registered Bidders and the total initial eligibility will not be released publicly. Qualified Bidders, in their Part 2 Applications, will have undertaken to maintain the confidentiality of the list of Registered Bidders and the total initial eligibility, and to destroy documents including electronic files with this information provided by the Independent Evaluator within five (5) days following the conclusion of the auction, as explained further in the Part 2 Application.

Pre-bid security will remain in full force, at a minimum, until the fifth calendar day after the conclusion of the auction. Subsequently, a bidder's pre-bid security will be cancelled and returned:

- For non-winning bidders: ~~As~~ as soon as after the Commission issues its post-auction Secretarial Letter if the bidder has won no tranches.
- For winning bidders: ~~A~~after the bidder has signed the SMA and has complied with all creditworthiness requirements of the SMA for the tranches that ~~#the bidder~~ has won.

The Companies can collect on the pre-bid security of bidders that win tranches but that fail to sign the SMA or fail to comply with the creditworthiness requirements immediately following the close of the auction.

4.2.3 Sanctions for Failing to Comply with the Part 1 and Part 2 Applications

Sanctions can be imposed on a bidder for failing to disclose information relevant to determining associations, for coordinating with another bidder, or for failing to abide by any of the certifications that it will have made in its Part 1 and Part 2 Applications. Such sanctions can include, but are not limited to, termination of the SMA, loss of all rights to provide supply for the Companies to serve any load won by such bidder, forfeiture of financial guarantees and other fees posted or paid, prosecution under applicable state and federal laws, debarment from participation in future solicitations, and other sanctions that may be appropriate. For any failure to disclose information or for any violation of the certifications, the Independent Evaluator will make a recommendation on a possible sanction.

4.3 Starting Prices (Round 1 Prices)

No later than three (3) days before bidding starts for an auction, the Independent Evaluator will inform all Registered Bidders of the starting price for each product in the auction, which is the announced price that will be in effect for round 1. For each product, the starting price will be no higher than the maximum starting price and no lower than the minimum starting price for the product. The Independent Evaluator will set the starting prices.

Bidding Rules to Procure Default Service Products

4.4 Extraordinary Events

The Independent Evaluator, in consultation with the Companies, may determine that, due to extraordinary events, the minimum starting prices and the maximum starting prices require revision. In this event, the schedule for the auction process also may be revised. If the indicative offers have already been received, the Independent Evaluator will request that the Registered Bidders (or the Qualified Bidders if the Part 2 Application process had not been completed) revise their indicative offers on the basis of the revised minimum starting prices and the revised maximum starting prices.

For such a revision to be necessary, an extraordinary event must occur between the time at which the minimum starting prices and the maximum starting prices are announced and the day on which bidding starts. An extraordinary event must be agreed to by the Companies and the Independent Evaluator. Such events could include, but are not limited to, the advent of war, the disruption of a major supply source for potentially extended periods, or other events that could affect significantly the cost of supply.

If an extraordinary event occurs during that time, the Independent Evaluator in consultation with the Companies will determine revised minimum starting prices and revised maximum starting prices. New indicative offers based on these prices will be required from bidders. To the extent practicable, the determination of new minimum and maximum starting prices, the submission of new indicative offers, and if necessary the announcement of new starting prices, will be carried out so as to afford bidders sufficient time. If an extraordinary event occurs during that time that causes a possible change in the schedule, the Independent Evaluator in consultation with the Companies and Commission Staff, will determine a revised schedule.

5. BIDDING FORMAT

In order to participate in the auction, bidders must have been successful in the Part 1 Application process and the Part 2 Application process. Only Registered Bidders are permitted to participate in the auction. Registered Bidders will bid in the auction by accessing the Independent Evaluator's secure Bidding Website.

5.1 Descending-Price Clock Format

The auction format is a simultaneous, multiple-round, descending-price clock format for "N" rounds. The number of rounds "N" for the auction is not pre-determined. Instead, it is determined by the closing rule for the auction (described below). All products are available to bid on simultaneously in the auction. Bids are submitted during bidding rounds. Prices are announced for the products prior to each bidding round, and during a bidding round, a bidder submits for each product the number of tranches it would supply at the product's announced price. If the total number of tranches bid on a product exceeds the product's tranche target — i.e., the product is over-subscribed — the announced price for the product will be reduced for the next round. Announced prices will tend to decline round by round until the number of tranches bid falls sufficiently so that no product is over-subscribed and the auction closes.

An important rule is that a bidder cannot reduce the number of tranches it bids on a product if the product's announced price does not fall from one round to the next; in this case, the bidder can only maintain or increase the number of tranches it bids on the product (subject to other rules).

Bidding Rules to Procure Default Service Products

5.1.1 Rounds

Each bidding round has a specified start time and a specified end time. These start and end times are enforced by the Bidding Website. Prior to the start of the auction, the initial schedule of rounds will be available on the Bidding Website. As the auction progresses, the Independent Evaluator will keep bidders informed of the start and end times of subsequent rounds through the Bidding Website. The Independent Evaluator retains the option of pausing a round, delaying the start or end of a round, or otherwise adjusting the round times. The Independent Evaluator will inform bidders through the Bidding Website if it exercises this discretion to change the start time or end time of a round.

Bidders submit bids only during a round. When a round ends, the bids submitted during that round are processed and results of that round are reported to all bidders as explained in the section "Reporting Round Results" below. Each bidder then prepares to submit a bid for the next round if the auction remains open.

5.1.2 The Announced Prices and a Bid

Prior to the start of each round, the Independent Evaluator announces the price that will be in effect for each product for the round. The announced prices are specified in dollars per MWh or \$/MWh. The price announced by the Independent Evaluator for a product applies to all of the product's tranches. Each bidder decides how many tranches it is willing and able to supply for each product at the product's announced price. A bid by a bidder is, for each product, the number of tranches that the bidder is willing to supply at that announced price for the product. All bids are irrevocable and binding upon the bidders.

At sufficiently high announced prices there will be excess supply for a product causing it to be over-subscribed; that is, the number of tranches bid on the product will exceed the product's tranche target. Excess supply for a product is measured as the total number of tranches bid across all bidders on the product in the round minus the product's tranche target.

5.1.3 Reservation Prices and Starting Prices

There are reservation prices for the auction. The reservation price for a product is the price above which tranches for the product will not be purchased. If, at the conclusion of the auction, the reservation price for a product has not been met, no tranches for that product will be awarded. At the conclusion of the auction, the Independent Evaluator will inform bidders through the Bidding Website if the reservation price for a product has not been met.

Starting prices for the auction are determined after reservation prices are determined. The starting price for a product will be no lower than the reservation price for the product. The starting price may be the same as or higher than the reservation price for the product. The Independent Evaluator will not announce the reservation prices to bidders in advance of an auction.

Bidding Rules to Procure Default Service Products

5.1.4 Restrictions on What a Bidder Can Bid

The total number of tranches a bidder bids across all products in a round cannot exceed the bidder's eligibility for that round. That is, a bidder's eligibility to bid in a round is the maximum number of tranches it is allowed to bid across all products in that round. A bidder's eligibility for a round simply is the number of tranches the bidder bid across all products in the preceding round. Thus, a bidder cannot increase its eligibility from round to round; its eligibility can only stay the same or decrease from round to round.

A bidder is not allowed to bid more tranches on a product in a round than the product's tranche target.

A bidder is not allowed to bid a number of tranches that would violate any applicable load cap.

If the announced price for a product has been reduced from one round to the next round, the bidder can reduce the number of tranches it bid on that product.

If the announced price for a product has not been reduced from one round to the next round, the bidder cannot reduce the number of tranches it bid on that product.

Subject to the rules above, in each round a bidder is free to bid its tranches of eligibility across products however it would like to. Thus, subject to the rules above, bidders are free to reduce the tranches they bid and/or to switch tranches across products from round to round in response to changes in the announced prices for the products.

As discussed above, a bidder's initial eligibility is its eligibility for round 1 of the auction and is determined by the total number of tranches across products at the maximum starting prices in the bidder's indicative offer. During the course of the auction, the bidder's eligibility will decline or remain unchanged depending on the total number of tranches bid by the bidder across all products in each round of the auction.

If a bidder's eligibility falls to zero tranches, it will not be allowed to bid in any more rounds of the auction.

5.1.5 Multiple Bids by a Bidder

Because a bidder may decide to change a bid it submitted previously within the current open round, a bidder is allowed to make multiple bid submissions in a round as long as the round remains open for bidding, with each new confirmed bid fully replacing any prior bids it submitted in the round. If a bidder submits multiple bids in a round, the only bid considered in the round for that bidder is the last confirmed bid it submitted in the round.

Bidding Rules to Procure Default Service Products

5.1.6 Default Bid

After the end of a round, a default bid is submitted automatically on behalf of a bidder if the bidder:

- Entered the round with positive eligibility, and
- Did not submit a confirmed bid in the round.

If the announced price for a product declined from the prior round, then zero tranches will be the default bid for that product.

If the announced price for a product did not decline from the prior round, then the number of tranches that the bidder bid on the product in the prior round as determined by the end-of-round ("EOR") procedure following the prior round will be the default bid for the product.

Each bidder is solely responsible for ensuring it submits a confirmed bid prior to the end of the round in order to avoid a default bid of being submitted on the bidder's behalf.

Bidding Rules to Procure Default Service Products

5.1.7 The EOR Procedure

At the end of each round, the EOR procedure is used to process the confirmed bids submitted during the round. The EOR procedure includes the following steps.

- (a) The supply for each product is measured by summing up — across the confirmed bids for all bidders — the number of tranches bid for each product.
- (b) The subscription level for each product is measured by comparing the supply for the product to the tranche target for the product. A product is over-subscribed, subscribed, or under-subscribed if supply (i.e., the number of tranches bid) is greater than, equal to, or less than the product's tranche target, respectively.
- (c) If a product has become under-subscribed in a round after being over-subscribed or subscribed in the preceding round, then tranches will be rolled back to the point that the product is subscribed. That is, at least some of the tranches that were bid on the product in the preceding round but that were not bid on the product this round will be deemed to still be bid on the product. The price at which a rolled-back tranche is deemed to have been bid simply is the announced price at which the bidder had bid the tranche. There is a priority for selecting tranches to roll back: tranches that otherwise would no longer be bid on any product in the auction and therefore would be reductions in bidders' eligibilities are rolled back first (referred to as "eligibility reduction tranches"), and then if needed, tranches that were switched from being bid on the product to being bid on another product are selected next for rollbacks (referred to as "switched tranches"). Eligibility reduction tranches are selected for rollback proportionally tranche by tranche, not bidder by bidder. Likewise, switched tranches are selected for rollback proportionally tranche by tranche, not bidder by bidder. More precisely, because integer tranches are needed, the actual selection mechanism uses a random number generator to select rollbacks tranche by tranche (first for eligibility reduction tranches and then for switched tranches), but on average the selection process results in proportional rollbacks (with priority given to rolling back eligibility reduction tranches first and then switched tranches second). All tranches that are rolled back maintain their eligibility for the bidder. Any bidder subjected to a rollback will be notified through the Bidding Website that a rollback has taken place and will be informed about the number of tranches deemed bid on each product and the price at which those tranches have been deemed bid.

For example, suppose a bidder bids five tranches on a product and no tranches on other products in round 8, and the price for that product is reduced for round 9 and the bidder bids only 1 tranche on the product and no tranches on other products for round 9. Absent any EOR rollbacks following round 9, the bidder's eligibility would fall from 5 tranches to 1 tranche. But during the EOR procedure, suppose two of the bidder's 4 "eligibility reduction tranches" are rolled back on the product, so after the EOR procedure the bidder is deemed to have bid 3 tranches on the product — one at the announced price of the round just ended and two at the announced price of the preceding round — and therefore the bidder is deemed to have 3 tranches of eligibility for round 10.

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- (d) "Free eligibility tranches" are determined as follows. A product's "bid stack" is a list of the tranches currently deemed bid on the product and the price at which each tranche was bid for the product. Because of rollbacks, a product's bid stack could have tranches bid at two different prices: some tranches bid at the earlier, higher announced price and some tranches bid at the current, lower announced price. Any new tranche bid on such a product necessarily will be bid at the current, lower announced price. This new tranche will displace a tranche in the product's bid stack at the earlier, higher announced price. The displaced tranche becomes a "free eligibility tranche". The free eligibility tranche counts as eligibility for the bidder and the bidder can bid the tranche on any product next round, or the bidder can choose not to bid the tranche at all. But if the bidder does not bid the free eligibility tranche next round, the tranche will be withdrawn from the auction permanently and will reduce the bidder's eligibility by one tranche after the next round.
- (e) In some cases, the Independent Evaluator may reduce the tranche targets. The criteria that could lead to such a reduction will be determined prior to the auction but will not be announced to bidders. Once certain pre-specified criteria related to excess supply and related to the reservation price have been met, the discretion to reduce a product's tranche target because of insufficient supply will be eliminated. Thus, any tranche target reduction would more likely occur in the earlier rounds of the auction. If the Independent Evaluator reduces the tranche target for a product, bidders will be informed of the revised tranche target. Any bidder that otherwise would have eligibility exceeding the new tranche targets will have its eligibility reduced so as not to exceed the new tranche targets.
- (f) The closing rule determines whether the auction has concluded. The closing rules is that the auction concludes if either case (1) or case (2) holds as follows:
- (1) If no product is over-subscribed and no bidder has free eligibility tranches, then the auction has concluded. Note that it is possible for the auction to continue with no reductions in announced prices: if no product is over-subscribed there will be no reductions in announced prices but if there are free eligibility tranches (which "expire" after one round), the auction will remain open for one more round (subject to case (2) described next), allowing bidders with free eligibility to bid those tranches.
 - (2) If this is the Nth consecutive round in which no product is over-subscribed, and the number of tranches of free eligibility across all bidders as a percentage of the sum of the tranche targets across all products is less than or equal to X percent, then the auction has concluded. The parameter values for N and X will be determined before the auction. The likelihood that this case (2) would occur in a particular auction is expected to be low.
- (g) If the auction has concluded, the winning tranches, winning bidders, and winning prices are determined as described below.
- (h) If the auction has not concluded, then each bidder's eligibility is determined for the next round and the price decrement (if any) is determined for each product for the next round.

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5.1.8 Price Decrements

The announced prices will decrease round by round by a price decrement for over-subscribed products. Pre-specified price guidelines are used to determine the price decrements. Generally the price decrement for a product will be larger for the earlier rounds in the auction and when the excess supply for the product is greater. The price decrement is expected to be between 0.5 percent and 5 percent of the announced price for the most recently completed round.

The Independent Evaluator reserves the right to override the price decrement guidelines. The exercise of that right is expected to occur rarely and only if doing so is believed to facilitate timely progression of the bidding process.

5.2 Determination of Winning Tranches, Winning Bidders, and Winning Prices

At the close of the auction, the winning tranches, winning bidders, and winning prices will be determined as follows.

As a result of the EOR procedure as described above, there are two possible scenarios for a product at the close of the auction.

5.2.1 Bid Stack for a Product has All Tranches at the Same Price

In this scenario, there are no rolled-back tranches in the product's bid stack: all tranches in the bid stack were bid at the last announced price, including any tranches bid on the product in the last round of the auction as determined by the EOR procedure. That announced price is the product's clearing price, and all tranches in the product's bid stack are winning tranches if the clearing price satisfies the product's reservation price. Bidders who bid those tranches are winning bidders for those tranches, and all bidders with winning tranches on a product are paid the same price — i.e., the clearing price — for each winning tranche on the product. Note that this scenario includes the case in which a product was over-subscribed at some point in the auction and later became subscribed, as well as the case in which a product was always under-subscribed in the auction (i.e., it was never subscribed or over-subscribed in the auction).

5.2.2 Bid Stack for a Product has Tranches at Two Different Prices

In this scenario, there are rolled-back tranches in the product's bid stack: some tranches in the bid stack were bid at the last announced price (including any tranches bid on the product in the last round of the auction as determined by the EOR procedure), and some tranches in the bid stack were bid at the next most recent announced price. In this case, the product's clearing price is the next most recent announced price — which necessarily is higher than the last announced price for the product. All tranches in the product's bid stack are winning tranches if the clearing price satisfies the product's reservation price. Bidders who bid those tranches are winning bidders for those tranches, and all bidders with winning tranches on a product are paid the same price — i.e., the clearing price — for each winning tranche on the product.

5.3 Example of Round-by-Round Bidding

Appendix A provides an illustrative example of round-by-round bidding.

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5.4 Reporting Round Results

During a round, a bidder can see the current status of the auction and the status of the current round including the announced price for each product as well as the bidder's own bidding status. A bidder will not see information about other bidders.

Between rounds the Bidding Website will report the results for the most recently completed round. Results for all prior rounds also will be accessible. The round results for each completed round in the auction will show:

- The announced price for each product and a range of total supply across all bidders and all products (that is, a range that includes the total number of tranches bid). The range of total supply will be defined by two different integers. Actual total supply will not be reported but will be at least as high as the lower of the two integers and no higher than the higher of the two integers. There is an exception to reporting total supply as a range of two integers: if and when total supply has declined below a pre-determined level, total supply will be reported simply as being below that level. The reporting ranges will be made available to bidders in advance of each auction.
- For each bidder, that bidder's bid for the round — i.e., the number of tranches bid on each product — and the bidder's eligibility for the next round. (Each bidder does not see information about other bidders.)
- The announced price for each product for the next round if the auction will continue with the next round.

5.5 Frequency of Rounds

The early rounds of bidding may be longer in duration than later rounds. The duration of a bidding round will be at least five (5) minutes.

The time between early rounds of bidding may be longer in duration than for later rounds. The time between bidding rounds will be at least five (5) minutes.

The schedule of rounds and any changes to the schedule will be made available to bidders through the Bidding Website.

5.6 Auction Pause Declared by Independent Evaluator

At any time during the auction, the Independent Evaluator may decide to pause the auction. This is not expected to happen often if at all. If the Independent Evaluator pauses the auction or changes the round schedule in any way, bidders will be notified.

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6. AFTER THE AUCTION CLOSES

6.1 Notification of Results

At the close of the auction, the Independent Evaluator will notify the Companies, the Commission, and the bidders as follows.

- The Independent Evaluator will notify the Companies and the Commission of the identities of the winning bidders, the number of tranches won by each winning bidder, the prices for the tranches won, and other aggregated information on the bidding process.
- The Independent Evaluator will notify each winning bidder of how many tranches the bidder has won and at what prices. The Independent Evaluator also will notify the unsuccessful bidders that they have not won any tranches.

The names of the winning bidders, the number of tranches won by each bidder, and the winning prices will remain confidential until released publicly by the Commission or as required by law.

The auction results are tentative subject to Commission approval.

After the conclusion of the auction and provision of the auction results to the Commission by the Independent Evaluator, the Commission is expected to make a decision within two ~~will have one~~ business days to approve or reject the auction results.

6.2 Execution of SMA

The winning bidders and the Companies will execute the SMA within three (3) business days following the Commission's approval of the auction results. If the supplier has already executed a SMA with the Company they have won tranches for, they will only need to execute the Transaction Confirmation. Each winning bidder must demonstrate compliance with the creditworthiness requirements set forth in the SMA.

6.3 Sanctions for Failure to Execute the SMA

A winning bidder's pre-bid security posted with its Part 2 Application may be forfeited if the winning bidder does not execute the SMA within three (3) business days following the Commission's approval of the auction result, if it fails to demonstrate compliance with the creditworthiness requirements set forth in the SMA, or if it fails to agree to any of the terms of the SMA. In addition, the winning bidder will be liable for damages incurred by the Companies, which will be determined in accordance with the terms of the SMA as though the winning bidder were a defaulting party to the SMA.

7. USE OF THE BIDDING WEBSITE

Bidders will bid in the auction by accessing the Independent Evaluator's secure Bidding Website. A bidder will access the Bidding Website using their own Web browser. The URL address for the Bidding Website, as well as usernames and passwords, will be provided to Registered Bidders prior to the start of the auction.

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The Bidding Website allows a Registered Bidder to submit and confirm bids, to verify its status, to view results from prior rounds, to view the schedule of rounds, and to view messages from the Independent Evaluator.

7.1 Importance of Confirmed Bids

Submitting a bid on the Bidding Website involves three steps:

- (1) Web page for entry and submission of the bid quantities. The bidder enters its desired bid and then submits the bid in order to proceed to the next step.
- (2) Web page for validation of the bid. The bidder is asked to review the bid it submitted in the first step before proceeding to the confirmation step.
- (3) Web page showing confirmation of the bid. The bidder receives a unique confirmation ID for the bid and the time-stamp at which the bid was recorded by the Bidding Website server.

It is important to note that a bid is not accepted and recorded as an accepted bid until and unless the bidder reaches the third step in which the bid confirmation Web page displays the unique confirmation ID and time-stamp for the bid.

7.2 Requirements for Using the Bidding Website

Access to the Bidding Website requires all of the following:

- Username and password provided by the Independent Evaluator.
- Access to the Internet.
- Use of one of the more recent versions of a standard Web browser.
- Status as a Registered Bidder.

A bidder loses access to the Bidding Website after it no longer is possible for the bidder to win tranches in the auction.

7.3 Messaging

The Bidding Website displays messages from the Independent Evaluator. These messages from the Independent Evaluator are displayed for all bidders with access to the Bidding Website.

Bidding Rules to Procure Default Service Products

8. BACKUP BIDDING PROCEDURES

In case a bidder has technical difficulties, and as a result is not able to submit a bid via the Bidding Website in a round, backup bidding procedures will be provided as described below. ~~±~~Note that the Authorized Representative and the Delegate automatically are designated as authorized bidders. Requests to designate additional authorized bidders must be sent to the Independent Evaluator in writing prior to the start of round 1 of the auction.

~~(1) Option 1. The bidder should use the Backup Bidding Fax Number to submit its bid via facsimile. It is recommended that the bidder call the Independent Evaluator's Help Desk and inform the Help Desk operator that it has submitted a bid via facsimile. Reasonable efforts will be made to contact the bidder if the backup bid is not received via facsimile in the time expected. Once the backup bid is received via facsimile, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with the Backup Bidding Fax Number and with forms to use for faxing a bid using the faxed-based backup bidding procedure.~~

(1) Option 12. Upon encountering a technical difficulty, in case a bidder is unable to submit its bid via facsimile, it is recommended that the bidder call the Independent Evaluator's Help Desk and inform the Help Desk operator that it would like to submit a bid over the phone. The Help Desk operator will verify the identity of the caller, for example by asking for the bidder's company name, and the first and last name of the caller, along with the username and password of the bidder. Then a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Please note that the Independent Evaluator can accept bids over the phone only from callers that have been identified as authorized bidders by the bidder company. The Authorized Representative and Delegate automatically are designated as authorized bidders. Requests to designate additional authorized bidders must be sent to the Independent Evaluator in writing prior to the start of round 1 of the auction.

(2) Option 2. In case the bidder is unable to place a call to the Independent Evaluator's Help Desk, it is recommended that the bidder submit its bid via email to the Independent Evaluator. If possible, the email should be sent using encrypted email. Once the backup bid is received via email, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with one or more forms to use for submitting a bid using this email-based backup bidding procedure.

(3) Option 34. In case the bidder is unable to place a call to the Independent Evaluator's Help Desk or to submit a bid via e-mail, the bidder should use the Backup Bidding Fax Number to submit its bid via facsimile. Once the backup bid is received via facsimile, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with the Backup Bidding Fax Number and with one or more forms to use for faxing a bid using the faxed-based backup bidding procedure.

~~(2)~~

Bidding Rules to Procure Default Service Products

Bidders must be aware and understand that there is no guarantee or other assurance that if it submits a bid using a backup bidding procedure that its bid will be submitted and confirmed on its behalf by the Independent Evaluator team consistent with the intentions of the bidder and in time before the round ends.

If a backup bid submitted by a bidder is not accepted and confirmed by the Bidding Website because the round has ended, a default bid will be entered for the bidder as described above in the sections on default bids.

If a backup bid submitted by a bidder is not accepted and confirmed by the Bidding Website for other reasons (e.g., the number of tranches bid is greater than a bidder's eligibility or violates the bidder's credit-based tranche limit or applicable load cap), the Independent Evaluator team will use reasonable efforts to inform the bidder that a new bid must be submitted.

If a backup bid submitted by a bidder is confirmed by the Bidding Website, the Independent Evaluator team will contact the bidder and provide the confirmation of the accepted bid to the bidder.

Bidders use the backup bidding procedures at their own risk. In all cases involving backup bids, the Independent Evaluator team does not accept any responsibility, obligation, or liability for errors, omissions, timeliness, or otherwise, related to whether a backup bid is entered into and confirmed by the Bidding Website on behalf of the bidder or as intended by the bidder.

9. WHO TO CONTACT IN CASE OF PROBLEMS DURING THE AUCTION

A bidder should contact the Help Desk if it has questions or problems. The phone number for the Help Desk will be provided to bidders prior to the start of the auction.

10. CONTINGENCY PLAN

There is a contingency plan to cover two scenarios:

- At least one of the products in an auction is not fully subscribed.
- At least one of the winning suppliers defaults prior to the start of the delivery period or at any time during the delivery period.
- ~~A Capacity Proxy Price is utilized.~~
- A Capacity Proxy Price is utilized.

Bidding Rules to Procure Default Service Products

10.1 If an Auction is Not Fully Subscribed

In the event that an auction is not fully subscribed, the Companies will re-bid the unfilled tranches from that auction provided the start of the delivery period for the tranches is more than 30 calendar days away. If the delivery period is more than 30 calendar days away:

- The unfilled tranches will be re-bid in the next scheduled auction — if there is sufficient calendar time to include the unfilled tranches — where supply is sought with the same delivery start date as the unfilled tranches.
- If there is no such scheduled auction, then the unfilled tranches will be re-bid in a separate solicitation no later than 30 calendar days before the original delivery start date.

For any remaining unfilled tranches, the Companies will purchase the necessary physical supply through PJM administered markets and meet any AEPS compliance requirements through purchases at market prices.

10.2 If a Winning Bidder Defaults

If a winning bidder defaults prior to the start of or during the delivery period, the Companies will offer the unfilled tranches to the other Registered Bidders who participated in the most recent solicitation. The Companies will enter into an agreement with the Registered Bidder or Bidders offering the best terms for the unfilled tranches resulting from the default, provided the prices offered by such bidder or bidders are consistent with the original prices under which the unfilled tranches were procured and changes in market conditions from the time when the original tranches were procured. If the Companies are not able to enter into such agreement and a minimum of 30 calendar days exists prior to the start of the delivery period, the Companies will seek to bid the defaulted tranches in the next scheduled solicitation for supply with the same start date as the unfilled tranches or in a separate supplemental competitive solicitation. As with other unfilled tranches described above, if insufficient time exists to conduct an additional competitive solicitation, or if the supplemental solicitation is unsuccessful, the Companies will supply the tranches using PJM-administered markets. In addition to damages to which the Companies may be entitled, costs incurred by the Companies in implementing this contingency plan for supply and AEPS requirements will be assessed against the defaulting supplier's credit security, to the extent available.

10.3 If a Capacity Proxy Price (“CPP”) is Used

A Capacity Proxy Price is used for Default Service auctions to establish a capacity cost when PJM does not conduct their Base Residual Auction (“BRA”) in time for Default Service Suppliers to incorporate into their bids. The CPP for each Company will be the average of the capacity prices from the last auction of the previous two capacity auctions conducted by PJM. The Companies will calculate reconciliations for those Default Service Suppliers impacted by utilizing their daily Unforced Capacity (“UCAP”) obligation by class, tranches served by class, and the differential between the CPP and the final capacity price. Once the BRA results are known, the Companies will commence true ups in the next billing month.

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11. COMMUNICATIONS PROTOCOLS

The communications protocols described here are intended to promote a fair, open, transparent, objective, and non-discriminatory auction. These protocols also are intended to protect proprietary information of participants and information that, should it be released, would be detrimental to the outcome of the auction process or future solicitations.

11.1 The Companies and Affiliates

11.1.1 Internal Communications

The Companies will designate individuals to work on the auction process. These individuals directly or indirectly will not have communication with, or exchange information with, any individuals of an affiliate of the Companies that may bid in the auction process where such communication or information is related directly or indirectly to this auction process.

11.1.2 Communications with Bidders

The Companies will not communicate with bidders prior to the selection of winning bids. When the Independent Evaluator informs the Companies about the prices and tranches of the winning bids and the identity of winning bidders in accordance with Section 6.1 of the Bidding Rules, representatives from the Companies then will communicate with the winning bidders in order to execute the necessary documents.

If a bidder attempts to contact the Companies regarding the auction process by phone call, email, fax, or other means, the Companies will direct the bidder to the Information Website and/or to the Independent Evaluator.

11.1.3 Part 1 Application Process

For the Part 1 Application process, the Independent Evaluator will need to provide the names of applicants to the Companies' credit department for purposes of confirming the applicants' credit requirements.

11.1.4 Part 2 Application Process

For the Part 2 Application process, the Independent Evaluator will need to provide the aggregate eligibility and other information from the Part 2 Applications to the Companies with the names of applicants redacted.

11.2 General Public and Media

While bidding is in progress, there is to be no communication with the media or the public. After the auction process is completed, results are determined, and bidders have been notified, all media inquiries will be forwarded to the Companies.

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11.2.1 The Information Website

The central source of information made available publicly and to bidders is the Information Website. The Independent Evaluator will manage the information flow on the Information Website and will be designated on the Website as the contact for any questions or inquiries from parties. Any party will have access to the public sections of the Information Website.

11.2.2 Frequently Asked Questions

Among other information and resources on the Information Website, there will be an FAQ (frequently asked questions) section with posted questions and answers. As inquiries are received, they will be converted into an FAQ and posted on the Information Website without revealing the identity of the party posing the inquiry.

Inquiries to be answered by the Companies will be forwarded by the Independent Evaluator to the Companies. Inquiries to be answered by the Independent Evaluator will be forwarded to the Companies with a draft response. Any inquiry or draft response forwarded by the Independent Evaluator to the Companies will not identify the party posing the inquiry. Both the Companies and the Independent Evaluator will review any inquiry and response before the FAQ is posted to the Information Website.

11.2.3 Registered Users

If a party wishes to receive notices and updates regarding public information and new postings to the Information Website, then the party can register through the Information Website to become a Registered User.

Any information the Independent Evaluator has concerning the auction process that is relevant and that can be disclosed publicly will be made available equally to all Registered Users in a timely manner. The method of such communication likely will be via the Information Website and/or emails to Registered Users using the BCC email field so identification of Registered Users is not disclosed to other Registered Users.

11.2.4 Press Releases

The Companies and/or the Independent Evaluator may issue one or more press releases or may place news items in the trade press with the intent to disseminate information about the auction process in an efficient, fair, and timely manner.

11.2.5 Answering Inquiries from the General Public or Media

Inquiries from the general public or the media to the Independent Evaluator will be directed to the Information Website.

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11.3 Bidders

11.3.1 Communications Among Bidders

Bidders are prohibited from communicating with each other in ways that would compromise the integrity and competitiveness of the auction process. Sanctions will be applied if these rules are violated.

11.3.2 Communications between the Independent Evaluator and Bidders

The central source of information made available to bidders is the Information Website. The Website facilitates making information available equally to bidders in a timely manner.

Bidders are encouraged to become Registered Users of the Information Website to receive ongoing information about the auction process. As discussed above, once registered through the Information Website, Registered Users will receive notifications from the Independent Evaluator about updates to the auction process and to the Information Website.

If the Independent Evaluator receives an inquiry from a party and prepares a response that would be relevant for other parties, the Independent Evaluator will ensure the information will be made available equally to all Registered Users in a timely manner and will post the information on the Information Website and/or will email the Registered Users without revealing the identity of parties.

In addition to posting information to the Information Website, the Independent Evaluator may contact bidders directly in order to seek or provide information about the auction process in a way that does not advantage any bidder.

Any communications from the Independent Evaluator to a bidder will not reveal the identity of other bidders.

11.3.3 Bidding Process

During the auction, the Independent Evaluator, the Commission, and Companies' personnel may monitor the bidding process.

The Independent Evaluator will ensure the bids submitted by bidders conform to the rules of the auction process.

The Bidding Rules and pre-determined bid selection criteria will be applied to determine which bids, if any, are winning bids.

11.3.4 Limitations on Disclosures by Bidders

Bidders are not allowed to disclose they are participating in the Fixed-Price Auction or the Hourly-Priced Auction, and winning bidders are not allowed to disclose that they have won any tranches in the Fixed-Price Auction or the Hourly-Priced Auction until the Commission publicly reports the results of the auction. Such limitation on public disclosure by bidders is waived if disclosure is required by law.

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11.4 The Commission

11.4.1 Communications with the Independent Evaluator

During the bidding process, the identity of bidders, prices, and the number of tranches bid will be kept confidential. This information may be released to the Commission after the auction results are finalized.

11.4.2 Communications with the Companies

The Commission may communicate with the Companies regarding the auction process. However, the Companies will not disclose any proprietary information until after the final round of the auction is completed and bidders are informed of the results of the auction.

11.4.3 Communications with Bidders

The Commission will not communicate with bidders about the auction process prior to the determination of winning bids. If a bidder attempts to contact the Commission by phone call, email, fax, or other means, the Commission will direct the bidder to the Information Website and/or to the Independent Evaluator.

11.4.4 Information on Auction Participation

In order to maintain confidential and proprietary information provided by bidders as part of the auction process, the identity of all bidders that submitted Part 1 and/or Part 2 Applications in the auction and the indicative offers will be kept confidential until released publicly by the Commission. The Commission may elect to keep these data confidential at its sole discretion.

11.4.5 Round-by-Round Bids

Round-by-round bids by bidders will be kept confidential pursuant to the confidentiality provisions of the Bidding Rules and the SMA for as long as the Companies continue to procure Default Service.

12. CONFIDENTIAL INFORMATION, CERTIFICATIONS, AND SANCTIONS

12.1 Confidential Information

Confidential Information relative to bidding strategy means information relating to a bidder's bid(s) in the auction, whether transmitted in writing or verbally, which if it were to be made public likely would have an effect on any of the bids that another bidder would be willing to submit. Confidential Information relative to bidding strategy includes (but is not limited to): a bidder's strategy; a bidder's indicative offer; the quantities that a bidder wishes to supply; the bidder's estimation of the value of a tranche; the bidder's estimation of the risks associated with serving the load for the auction; and a bidder's contractual arrangements for purchasing power to serve such load were the bidder to win tranches in the auction.

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Confidential Information regarding the auction means information that is not released publicly by the Commission, the Companies or the Independent Evaluator and that a bidder acquires as a result of participating in the auction, whether transmitted in writing or verbally, which if it were to be made public could impair the integrity of current or future solicitations, impair the ability of the Companies to hold future solicitations, or harm consumers, bidders or applicants. Confidential Information regarding the auction includes (but is not limited to): the list of Qualified Bidders, the list of Registered Bidders, the initial eligibility, the status of a bidder's participation, and all non-public reports of results and announcements made by the Independent Evaluator to any or all bidders in this auction.

Confidential Information may not receive continued confidential or protected treatment should: (a) a bidder publicly disclose Confidential Information relating solely to that bidder; or (b) public disclosure is required or compelled by the Commission, a court or otherwise by law. The Independent Evaluator, the Commission, and the Companies shall not be liable for such public disclosures or, so long as reasonable measures have been taken to keep such information confidential, any other public disclosure of Confidential Information. By participating in this auction process, each bidder acknowledges and agrees to the confidentiality provisions set forth herein, as well as any limitations thereto.

In addition, the bidder agrees the bidder's data and information submitted in this auction process will be disclosed if required by any federal, state or local agency (including, without limitation, the Commission) or by a court of competent jurisdiction. However, the Companies will endeavor to notify the bidder in advance of such disclosure. In any event, neither the Companies nor the Independent Evaluator, nor any of their employees or agents, will be responsible to the bidders or any other party, or liable for any disclosure of such designated materials before, during or subsequent to this auction. Notwithstanding the above, the Companies and the Independent Evaluator reserve the right to use and communicate publicly and/or to third parties any and all information/data submitted as part of this auction process in any proceedings before FERC, the Commission, and any other regulatory body and the courts, if necessary, without the prior consent/approval of, or notice to, any such bidder. The bidder expressly agrees that the Companies may provide bidder information on a confidential basis to the Commission, the Pennsylvania Office of the Consumer Advocate, and the Office of Small Business Advocate as necessary for compliance with any default service procurement reporting obligations.

12.2 Certifications and Disclosures to Be Made

A prospective bidder will be required in its Part 1 Application to disclose any bidding agreement or any other arrangement in which the prospective bidder may have entered and that is related to its participation in the auction. A prospective bidder that has entered into such an agreement or arrangement must name the entities with which the prospective bidder has entered into a bidding agreement, or a joint venture for the purpose of participating in the auction, or a bidding consortium, or any other arrangement pertaining to participating in the auction. A bidding consortium is a group of separate businesses or business people joining together to submit joint bids in the auction.

Bidding Rules to Procure Default Service Products

In addition, a prospective bidder will be required to make the certifications listed in the Part 1 and Part 2 Applications.

The Commission may publicly release the winning prices and the names of the winning bidders from the auction. The Commission may choose to release additional information. After the auction, a winning bidder itself may release information regarding the number of tranches it has won, and a non-winning bidder itself may release information only regarding the fact that it participated in the auction. The winning bidders and the non-winning bidders otherwise continue to be bound by their certifications as described previously. In particular, no winning bidder and no non-winning bidder itself can reveal the winning prices of the auction prior to these being publicly released by the Commission.

12.3 Actions to Be Taken if Certifications Cannot Be Made

If a bidder cannot make all the certifications above, the Independent Evaluator will decide within five (5) days following the deadline to submit the Part 2 Application on a course of action on a case-by-case basis. To decide on this course of action, the Independent Evaluator may make additional inquiries and information requests to understand the reason for the inability of the bidder to make the certification.

If Qualified Bidders do not comply with additional information requests by the Independent Evaluator regarding certifications required in the Part 2 Application, the Independent Evaluator may reject the application.

12.4 Sanctions for Failure to Comply

Sanctions may be imposed on a bidder for failing to properly disclose information relevant to determining associations, for coordinating with another bidder, for failure to abide by any of the certifications made in its Part 1 Application or Part 2 Application, for releasing Confidential Information or disclosing information during the auction (aside from only specific exceptions provided with respect to entities explicitly named in the Part 1 Application as entities that are part of a bidding agreement or other arrangement), and in general for failing to abide by any of the communications protocols in the section, "Communications Protocols," of these Bidding Rules. Such sanctions can include, but are not limited to, any one or more of the following:

- Termination of the SMA.
- The loss of all rights to provide tranches won by such bidder.
- The forfeiture of letters of credit and other fees posted or paid.
- Action (including prosecution) under applicable state and/or federal laws.
- Attorneys' fees and court costs incurred in any litigation that arises out of the bidder's improper disclosure.
- Debarment from participation in future solicitations.
- And/or other sanctions that may be appropriate.

Bidding Rules to Procure Default Service Products

Should such an event occur, the Independent Evaluator will make a recommendation to the Companies regarding sanctions. The imposition of such sanctions will be at the discretion of the Companies.

13. BIDDER ASSOCIATIONS

A Qualified Bidder is associated with another Qualified Bidder if the two bidders have ties that could allow them to act in concert or that could prevent them from competing actively against each other.

The competitiveness of the auction and the ability of the auction to produce competitive prices may be harmed by the coordinated or collusive behavior that associations among bidders may facilitate. As a result, the Independent Evaluator has developed standards that apply when associated parties apply to participate in FP and/or HP auctions. The following sections outline the specific protocols that will be followed when associated entities submit Part 1 and/or Part 2 Applications to participate in an auction for the Companies.

13.1 Procedure Followed by the Independent Evaluator

Potential associations among participants may come to the attention of the Independent Evaluator at different points in the bidder qualification application process. In order to improve the process efficiency and minimize the risk of disclosure of potentially confidential information, the Independent Evaluator will approach each case as described below.

13.1.1 Following the Receipt of the Part 1 Applications

Potential associations among applicants may become apparent after the Part 1 Applications are submitted but before Qualified Bidders are required to disclose such associations as part of their Part 2 Applications. The Independent Evaluator will take no action related to potential associations until each party submits their completed Part 1 Application. In cases where there is an apparent relationship among applicants, the Independent Evaluator will initiate a request for additional information regarding the relationship among the potentially associated parties, the structure of their organization, and the independence of the respective bidding teams.

In such cases, the Independent Evaluator will notify representatives of the Companies and Commission Staff that there is a potential association among applicants.

Bidding Rules to Procure Default Service Products

In addition, as outlined in the Part 2 Application, the Independent Evaluator reserves the right to request additional information from each party including, but not necessarily limited to:

- (a) Information on how the entity maintains its independence from the associated party including any available supporting documentation such as a Corporate Separation Agreements, Codes of Conduct, and/or organization charts.
- (b) A list of individuals within the organization who have played or will play a material role in the auction(s).
- (c) Information regarding the nature of any work done in conjunction with or on behalf of the associated party.
- (d) Information describing the organizational structure of the associate(s), identifying common management and oversight among the associated entities as well as the management involved in or responsible for bid approval.
- (e) The internal process or protocol related to determining indicative offers submitted as part of the Part 2 Application.
- (f) Disclosure of whether the entity is bidding on behalf of itself or acting as an agent for other entities.

Any responses to the above will be treated as confidential if labeled as such.

13.1.2 Following the Receipt of the Part 2 Applications

In some cases, the potential relationship among Qualified Bidders will not be known to the Independent Evaluator until the Qualified Bidders submit final certifications along with their Part 2 Applications. In such cases, the Independent Evaluator will initiate the steps outlined above, upon receipt of the completed Part 2 Applications.

After the Independent Evaluator has requested and received additional information from each associated bidder, the Independent Evaluator will work with representatives of the Companies and Commission Staff to determine:

- (a) Whether each of the associated bidders will be allowed to participate independently in the auction(s); and
- (b) Any restrictions that may be applied as a result of the participation by associated bidders.

Any restrictions will be based on the information provided by the associated bidders as part of the Part 1 Application, the Part 2 Application, and the additional information that was provided at the request of the Independent Evaluator.

13.2 Remedies and Actions Related to Participation by Associated Bidders

This section summarizes the potential restrictions that will be considered by the Independent Evaluator, the Companies, and Commission Staff in relationship to associated participation. Restrictions on participation may include, but may not be limited to, the following:

- (a) Indicative offers may be restricted such that any applicable load cap may apply across the associated bidders;
- (b) Pre-bid security or collateral requirements may be altered for the associated bidders to ensure that associated bidders do not gain a competitive advantage over other bidders; and,
- (c) In some cases, one or more associated bidders may not be allowed to participate in the auction(s).

13.3 Handling of Confidential Information

In order to execute the process of gathering information on associated entities and executing the remedies outlined above, there may be situations that require the Independent Evaluator to share, directly, certain confidential information among the associated parties, the Companies, and the Commission and its Staff.

In addition, as part of the remedies outlined in above, an associated party may gain access to or be able to ascertain certain confidential information of the other associated entities. While access to such information otherwise may be counter to certifications in the Part 2 Application, access to such information acquired through the data gathering and remedies related to associated bidders will not be considered a violation of the auction rules.

Confidential information includes but may not be limited to the initial eligibility for each associated bidder based on indicative bids submitted with the Part 2 Application. The Independent Evaluator will make reasonable efforts to minimize the disclosure of any such confidential information.

14. MISCELLANEOUS

14.1 Warranty on Information

The information provided for the auction, including but not limited to information provided on the Information Website, has been prepared to assist bidders in evaluating the auction process. It does not purport to contain all the information that may be relevant to a bidder in satisfying its due diligence efforts. Neither the Companies nor the Independent Evaluator make any representation or warranty, expressed or implied, as to the accuracy or completeness of the information, and shall not, either individually or as a corporation, be liable for any representation expressed or implied in the auction process or any omissions from the auction process, or any information provided to a bidder by any other source. A bidder should check the Information Website frequently to ensure it has the latest documentation and information. Neither the Companies, nor the Independent Evaluator, nor any of their representatives, shall be liable to a bidder or any of its representatives for any consequences relating to or arising from the bidder's use of information.

Bidding Rules to Procure Default Service Products

14.2 Hold Harmless

Bidder shall hold the Companies and the Independent Evaluator harmless of and from all damages and costs, including but not limited to legal costs, in connection with all claims, expenses, losses, proceedings or investigations that arise in connection with the auction process or the award of a bid pursuant to the auction process.

14.3 Bid Submissions Become the Companies' Property

All bids submitted by bidders participating in the auction will become the exclusive property of the Companies upon conclusion of the auction process.

14.4 Bidder's Acceptance

Through its participation in the auction process, a bidder acknowledges and accepts all the terms, conditions and requirements of the auction process and the SMA.

14.5 Permits, Licenses, Compliance with the Law and Regulatory Approvals

Bidders shall obtain all licenses, permits and status that may be required by any governmental body, agency or organization necessary to conduct business or to perform hereunder. Bidders' subcontractors, employees, agents and representatives of each in performance hereunder shall comply with all applicable governmental laws, ordinances, rules, regulations, orders and all other governmental requirements.

14.6 Auction Intellectual Property

All title, interests and other intellectual property rights in and to the auction design, the auction format and methodology, the auction software, the source code (including all modifications, enhancements, customization, adaptations and derivative works made by the Independent Evaluator) and associated documentation, including but not limited to these Bidding Rules, and the screen formats and forms designed by the Independent Evaluator (the "Auction Software"), are proprietary to the Independent Evaluator and all rights, title, and interest to the Auction Software remain with the Independent Evaluator. The Independent Evaluator grants Qualified Bidders a non-exclusive, non-transferable, limited license to use the Auction Software, solely for use in connection with the auction, subject to the terms and conditions set forth herein, and not for copying, relicensing, sublicensing, distribution or marketing by the Qualified Bidder. No other interest is conveyed to the Qualified Bidder other than the license expressly granted herein. The foregoing use license shall immediately terminate upon disqualification of the Qualified Bidder or upon termination or completion of the auction process. If at any time it is determined in the Independent Evaluator's sole discretion that the Qualified Bidder is in breach of this Section 13.6, the Independent Evaluator shall be entitled to terminate the Qualified Bidder's access rights to the Auction Software.

Bidding Rules to Procure Default Service Products

Notwithstanding anything herein to the contrary, and without limiting the Qualified Bidder's other obligations herein, the Qualified Bidder shall not, nor shall it permit any third party to: (i) modify, translate or otherwise create derivative works of the Auction Software; (ii) reverse engineer, decompile, decode, disassemble or translate any Auction Software, or output thereof, or otherwise attempt to reduce to human readable form or derive the source code, protocols or architecture of any Auction Software; (iii) use or study any Auction Software, or output thereof, for the purpose of developing any software that is intended to replace, or that has functions, structure or architecture similar to, such Auction Software, or any part thereof; (iv) publish, or otherwise make available to any third party, any benchmark or other testing information or results concerning the Auction Software; (v) permit any other person who is not authorized to access or use all or any part of the Auction Software or (vi) copy the Auction Software, distribute the Auction Software, remove or obscure any proprietary labeling on or in the Auction Software, create any derivative works based on the Auction Software, or modify the Auction Software, in each case, except to the extent expressly permitted by the Independent Evaluator in writing.

In using the Auction Software, a Qualified Bidder shall take steps to prevent any virus, worm, built-in or use-driven destruction mechanism, algorithm, or any other similar disabling code, mechanism, software, equipment, or component designated to disable, destroy or adversely affect the Auction Software from being introduced into the systems.

Bidding Rules to Procure Default Service Products

APPENDIX A — EXAMPLE OF ROUND-BY-ROUND BIDDING

The illustrative example below shows for two bidders (BidderA and BidderB) and two products (Product-1 and Product-2) the confirmed bids (pre-EOR) and the post-EOR results for each round. In the example, the auction closes after round 4.

Round 1

For round 1, the announced prices are \$75.00 and \$82.00 for Product-1 and Product-2, respectively. At those announced prices, BidderA bids 55 tranches and 85 tranches on Product-1 and Product-2, respectively. BidderB bids 80 tranches and 27 tranches on Product-1 and Product-2, respectively.

When the round closes the EOR procedure is executed. Each product is over-subscribed: 135 tranches were bid on Product-1 which has a tranche target of 100, and 112 tranches were bid on Product-2 which has a tranche target of 100.

The announced price for Product-1 will be reduced from \$75.00 to \$72.50 for round 2. The announced price for Product-2 will be reduced from \$82.00 to \$78.60 for round 2.

BidderA will have eligibility of $55+85 = 140$ tranches for round 2, and BidderB will have eligibility of $80+27 = 107$ tranches for round 2.

Round 2

At the announced prices for round 2, BidderA bids 40 tranches and 85 tranches on Product-1 and Product-2, respectively. Thus, BidderA reduced its tranches bid on Product-1 from 55 to 40 tranches. BidderB bids 50 tranches and 57 tranches on Product-1 and Product-2, respectively. Thus, BidderB switched 30 tranches from Product-1 to Product-2.

When the round closes the EOR procedure is executed. Product-1 is under-subscribed by 10 tranches: only 90 tranches bid against the tranche target of 100 tranches: BidderA's bid represents a reduction in its eligibility by 15 tranches, while BidderB's bid maintained its eligibility. Thus, 10 of the 15 eligibility reduction tranches of BidderA are rolled back on Product-1. Those 10 tranches are priced at the announced price for Product-1 at which they were bid in round 1: \$75.00. The announced price for Product-1 will remain at \$72.50 for round 3.

Product-2 is over-subscribed by 42 tranches. The announced price for Product-2 will be reduced from \$78.60 to \$76.10 for round 3.

BidderA will have eligibility of $50+85 = 135$ tranches for round 3 (including the 10 tranches rolled back on Product-1), and BidderB will have eligibility of $50+57 = 107$ tranches for round 3.

Bidding Rules to Procure Default Service Products

Round 3

At the announced prices for round 3, BidderA bids 99 tranches and 36 tranches on Product-1 and Product-2, respectively. Thus, BidderA is switching 49 of the tranches bid from Product-2 to Product-1. BidderB bids 50 tranches and 35 tranches on Product-1 and Product-2, respectively. Thus, BidderB is reducing its tranches bid on Product-2 from 57 to 35 tranches.

When the round closes the EOR procedure is executed. Product-1 is over-subscribed by 49 tranches. Product-2 is under-subscribed by 29 tranches: only 71 tranches bid against the tranche target of 100 tranches: BidderA's bid maintained its eligibility while BidderB's bid represents a reduction in its eligibility by 22 tranches. Thus, all 22 of the eligibility reduction tranches of BidderB are rolled back on Product-2. Those 22 tranches are priced at the announced price for Product-2 at which they were bid in round 2: \$78.60. Even after rolling back those 22 eligibility reduction tranches of BidderB, Product-2 still is under-subscribed — by 7 tranches. So 7 tranches that BidderA had switched from Product-2 to Product-1 are rolled back to Product-2. Those 7 tranches are priced at the announced price for Product-2 at which they were bid in round 2: \$78.60.

After rolling back 7 tranches from Product-1 to Product-2 for BidderA, BidderA still has increased the number of tranches it is bidding on Product-1: from 50 tranches bid in round 2 (10 tranches at \$75.00 and 40 tranches at \$72.50) to 92 tranches bid in round 3 (10 tranches at \$75.00 and 82 tranches at \$72.50). Product-1 is over-subscribed as a result, so higher-priced tranches in Product-1's bid stack can be removed. All 10 of BidderA's higher-priced tranches are removed from Product-1's bid stack, and these 10 tranches become BidderA's free eligibility for round 4. In round 4, BidderA can bid any of the 10 tranches on any product, but to the extent those 10 tranches are not bid on a product in round 4, those free eligibility tranches and their associated eligibility for BidderA will be permanently removed from the auction after round 4.

Because Product-1 is over-subscribed, the announced price for Product-1 will be reduced from \$72.50 to \$70.15 for round 4. Because Product-2 is not over-subscribed, the announced price for Product-2 will remain at \$76.10 for round 4.

BidderA will have eligibility of $82+43+10 = 135$ tranches for round 4, and BidderB will have eligibility of $50+57 = 107$ tranches for round 4 (including the 22 tranches rolled back on Product-2).

Round 4

At the announced prices for round 4, BidderA bids 46 tranches and 43 tranches on Product-1 and Product-2, respectively. Thus, BidderA reduced its tranches bid on Product-1 from 82 to 46 tranches. BidderB bids 32 tranches and 57 tranches on Product-1 and Product-2, respectively. Thus, BidderB reduced its tranches bid on Product-1 from 50 to 32 tranches.

Bidding Rules to Procure Default Service Products

When the round closes the EOR procedure is executed. Product-1 is under-subscribed by 22 tranches: only 78 tranches bid against the tranche target of 100 tranches: BidderA's bid represents a reduction in its eligibility by 36 tranches, while BidderB's bid represents a reduction in its eligibility by 18 tranches. Of the 54 fewer tranches bid on Product-1, 36 were eligibility reductions from BidderA and 18 were eligibility reductions from BidderB. Of those 54 fewer tranches bid, $100-78 = 22$ tranches need to be rolled back on Product-1. The selection of which tranches are rolled back is done by assigning random numbers tranche by tranche (not bidder by bidder) to each of the 54 fewer tranches bid on Product-1. On average, the selection of the rolled back tranches will be proportional based on the number of tranches by which each bidder reduced its bid on the product. Thus, if the assignment of random numbers and selection of rolled back tranches were repeated many times, the number of rolled back tranches for BidderA on Product-1 would be expected to be 15 on average or $(82-46)/(132-78)*(100-78) = 36/54*22$, rounded, and the number of rolled back tranches for BidderB on Product-1 would be expected to be 7 on average: $(50-32)/(132-78)*(100-78) = 18/54*22$, rounded.

Auction Close

After the rollback is done for Product-1, it is determined that no product is over-subscribed and no bidder has free eligibility tranches. Thus, the criteria are met for closing the auction.

Product-1's bid stack has tranches bid at \$72.50 and tranches bid at \$70.15. So Product-1's clearing price is the higher of the two, or \$72.50. BidderA wins 61 tranches and BidderB wins 39 tranches for Product-1. All 100 tranches procured for Product-1 are paid the price of \$72.50.

Product-2's bid stack has tranches bid at \$78.60 and tranches bid at \$76.10. So Product-2's clearing price is the higher of the two, or \$78.60. BidderA wins 43 tranches and BidderB wins 57 tranches for Product-2. All 100 tranches procured for Product-2 are paid the price of \$78.60.

Bidding Rules to Procure Default Service Products

Example 2. Round-by-Round Bidding with Pre-EOR and Post-EOR Results

Round	Product-1					Product-2					Next-Round Eligibility	
	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Free	Total
1	\$75.00					\$82.00						
Pre-EOR		100	135		35		100	112		12		
BidderA			55	@ \$75.00				85	@ \$82.00		—	140
BidderB			80	@ \$75.00				27	@ \$82.00		—	107
Post-EOR		100	135		35		100	112		12		
BidderA			55	@ \$75.00				85	@ \$82.00		—	140
BidderB			80	@ \$75.00				27	@ \$82.00		—	107
2	\$72.50					\$78.60						
Pre-EOR		100	90		(10)		100	142		42		
BidderA			40	@ \$72.50				85	@ \$78.60		—	125
BidderB			50	@ \$72.50				57	@ \$78.60		—	107
Post-EOR		100	100		0		100	142		42		
BidderA			50	10 @ \$75.00 40 @ \$72.50				85	@ \$78.60		—	135
BidderB			50	@ \$72.50				57	@ \$78.60		—	107

Bidding Rules to Procure Default Service Products

Round	Product-1					Product-2					Next-Round Eligibility	
	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Free	Total
3	\$72.50					\$76.10						
Pre-EOR		100	149		49		100	71		(29)		
BidderA			99	10 @ \$75.00 89 @ \$72.50				36	@ \$76.10		—	135
BidderB			50	50 @ \$72.50				35	@ \$76.10		—	85
Post-EOR		100	132		32		100	100		0		
BidderA			82	@ \$72.50				43	7 @ \$78.60 36 @ \$76.10		10	135
BidderB			50	@ \$72.50				57	22 @ \$78.60 35 @ \$76.10		—	107
4	\$70.15					\$76.10						
Pre-EOR		100	78		(22)		100	100		0		
BidderA			46	@ \$70.15				43	7 @ \$78.60 36 @ \$76.10		—	89
BidderB			32	@ \$70.15				57	22 @ \$78.60 35 @ \$76.10		—	89
Post-EOR		100	100		0		100	100		0		
BidderA			61	15 @ \$72.50 46 @ \$70.15				43	7 @ \$78.60 36 @ \$76.10		—	104
BidderB			39	7 @ \$72.50 32 @ \$70.15				57	22 @ \$78.60 35 @ \$76.10		—	96

Bidding Rules to Procure Default Service Products

	Product-1				Product-2				Tranches Won
	Clearing Price	Tranche Target	Tranches Won		Clearing Price	Tranche Target	Tranches Won		
Results	\$72.50	100	100		\$78.60	100	100		100
BidderA			61				43		104
BidderB			39				57		96

Part 1 Application

For Fixed-Price and Hourly-Priced Auctions

To Procure Default Service Products

Under Default Service Program DSP-VI for

Metropolitan Edison Company (“Met-Ed”)

Pennsylvania Electric Company (“Penelec”)

Pennsylvania Power Company (“Penn Power”)

West Penn Power Company (“West Penn”)

Appendix 1 to Bidding Rules

Name of Applicant

PART 1 APPLICATION

AUCTIONS TO PROCURE DEFAULT SERVICE PRODUCTS FOR MET-ED / PENELEC / PENN POWER / WEST PENN

INSTRUCTIONS

There are two parts to the application process.

- **Part 1 Application:** Applicants submit the Part 1 Application and all documents required therein to become Qualified Bidders for the fixed-price auction (“FP Auction”) and/or the hourly-priced auction (“HP Auction”) used to procure default service products for Met-Ed, Penelec, Penn Power, and West Penn (“Companies”). A Qualified Bidder for an auction need not submit a new Part 1 Application for subsequent auctions in the same calendar year unless the information in the Qualified Bidder’s Part 1 Application has changed. In any case, a Qualified Bidder must submit its most recent financial statements during the Part 1 Application process before each auction.
- **Part 2 Application:** Qualified Bidders for the FP Auction and/or the HP Auction submit the Part 2 Application in which they will: (a) agree to comply with the Bidding Rules, (b) agree to accept the terms of the Supplier Master Agreement (“SMA”) should they become a winning supplier, (c) make certifications regarding associations and the handling of Confidential Information, (d) submit Indicative Offers, and (e) post Pre-Bid Security to become Registered Bidders.

This document is the Part 1 Application.

For further information, consult the Information Website.

Unless otherwise defined, capitalized terms in this document have the definitions provided in the SMA. “Communications Protocols” refers to the section “Communications Protocols” and related sections in the Bidding Rules.

Name of Applicant

PART 1 APPLICATION SUBMISSION

To become a Qualified Bidder for the FP Auction and/or the HP Auction, Applicants must submit the following to the Independent Evaluator electronically through the Secure Online Application Process ~~or in hardcopy format to the address below~~ by the Part 1 Application Due Date:

- **Electronic Application Form:** Completed Part 1 Application submitted online;
- ~~**Hardcopy Application Form:** One (1) printed Part 1 Application document with original signatures, notarized signatures where applicable, and the name of the Applicant on every page of the Application;~~
- ~~PDF Copy Application Form: A copy of the Part -1 Application document with signatures, notarized signatures where applicable, and the name of the Applicant on every page of the Application;~~
- **Supporting Documentation:** ~~One (1)~~A copy of required financial statements and other requested documents supporting the Application as specified in Appendix A; and
- **Changes to Pre-Bid Letter of Credit (Optional):** Any suggested modifications to the template for the Pre-Bid Letter of Credit must be provided to the Independent Evaluator in an electronic, red-lined version.

Proposed modifications to the Pre-Bid Security Letter of Credit and any other inquiries may be directed to the Independent Evaluator by email at fepaauction@crai.com. Inquiries can also be made through the Information Website.

~~Photocopies and facsimiles of completed documents will not be accepted under any circumstances.~~

It is in your interest to seek independent legal and financial advice before deciding to participate in the FP Auction and/or the HP Auction.

Name of Applicant

The completed Part 1 Application and any proposed modifications to the Pre-Bid Security Letter of Credit MUST be received by the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 1 Application Due Date as posted in the timeline on the Information Website.

~~Any hardcopies must be addressed to:~~

~~Independent Evaluator
c/o Brad Miller, Vice President
GRA International, Inc.
200 Clarendon Street, T-9
Boston, MA 02116-5092
Phone: 617.425.3384~~

Name of Applicant

CONFIDENTIALITY OF PART 1 APPLICATION SUBMISSIONS

Confidentiality requirements specific to the Part 1 Application are provided below.

CONFIDENTIALITY OF CREDIT INFORMATION

Any information and materials that you submit in this Part 1 Application may be provided on a confidential basis to the Independent Evaluator Team and the Pennsylvania Public Utility Commission (“Commission”) and their representatives. Information that you provide in this Part 1 Application, except for information regarding bidding agreements provided in Section 1.11, may be provided on a confidential basis to representatives of the Companies for a creditworthiness assessment.

CONFIDENTIALITY OF QUALIFIED BIDDERS

Upon completion of the Part 1 Application process, the names of Qualified Bidders will be provided to other Qualified Bidders on a confidential basis. As part of this Part 1 Application, you are required to certify that you agree to release your name to other Qualified Bidders and that you will keep confidential the list of Qualified Bidders that is provided to you.

Name of Applicant

PART 1 APPLICATION

Fixed-Price Auction and Hourly-Priced Auction to Procure Default Service Products

This Part 1 Application is the application form to become a Qualified Bidder in the FP Auction and/or the HP Auction.

Background Information

Before completing this application, please review the Bidding Rules document, the SMA, and other documents posted on the Information Website so that you understand the conditions under which the FP Auction and HP Auction will be conducted.

Confirmation of Receipt

When your Part 1 Application is submitted online through the Secure Online Application Process, an email will be sent to the Authorized Representative and the Delegate of the Applicant to confirm receipt. ~~You will not be required to submit a hardcopy of the Part 1 Application.~~

~~Delivery by Post or Hand Delivery: If your Part 1 Application is received by post or hand delivery, an email will be sent to the Authorized Representative and Delegate to confirm receipt.~~

Incomplete Applications

If your Part 1 Application is incomplete or requires clarification, the Independent Evaluator will send a deficiency notice to your Authorized Representative by email. You will have until 12:00 p.m. noon prevailing Eastern Time on the Part 1 Application Due Date, or until 5:00 p.m. prevailing Eastern Time on the Business Day following the Business Day during which a deficiency notice is sent to you, whichever comes later, to respond. If you do not correct or adequately explain the deficiency within the time allowed, your Part 1 Application may be rejected and you may be unable to participate in the FP Auction or the HP Auction. All corrections to remedy deficiencies within an Applicant's Part 1 Application must be submitted online. The Authorized Representative needs to sign and date next to the correction(s) to the Part 1 Application and send a copy as an email attachment to the Independent Evaluator at fepaauction@crai.com or through the Secure Online Application Process.

Late Applications

Part 1 Applications received after the Part 1 Application Due Date will NOT be accepted under any circumstances.

Name of Applicant

Notification to Qualified Bidders

If you become a Qualified Bidder for the FP Auction and/or the HP Auction, the Independent Evaluator will send a Notification of Qualification to your Authorized Representative by email after the Part 1 Application Due Date.

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

PART 1 APPLICATION FORMS

1.1. Applicant Basic Information

Name of Applicant (Company Name)

[Empty text box for Name of Applicant (Company Name)]

Legal Name of Applicant (if different from above)

[Empty text box for Legal Name of Applicant (if different from above)]

Place of Incorporation, if applicable

[Empty text box for Place of Incorporation, if applicable]

Federal Tax ID

[Empty text box for Federal Tax ID]

D&B DUNS #

[Empty text box for D&B DUNS #]

Please state whether the Applicant is a corporation, partnership, etc.

[Empty text box for Please state whether the Applicant is a corporation, partnership, etc.]

Years in Business

[Empty text box for Years in Business]

URL for Applicant's Website

[Empty text box for URL for Applicant's Website]

Has the Applicant participated in a prior Met-Ed, Penelec, Penn Power, or West Penn Power Default Service solicitation?

[Empty text box for Has the Applicant participated in a prior Met-Ed, Penelec, Penn Power, or West Penn Power Default Service solicitation?]

If yes, indicate the most recent auction date (month, year):

[Empty text box for If yes, indicate the most recent auction date (month, year):]

 Name of Applicant

1.2. Authorized Representative

The Authorized Representative is authorized to represent the Applicant in the FP Auction and/or the HP Auction. The Authorized Representative will receive all documentation related to the relevant auction(s) if and when the Applicant becomes a Qualified Bidder and subsequently a Registered Bidder, including any auction procedures and Confidential Information required for the submission of bids in any trial auction(s) and in the actual auction(s). The Authorized Representative must ensure that only authorized persons act on behalf of the Applicant in the FP Auction and/or the HP Auction. The Authorized Representative is the only person authorized to distribute auction procedures and Confidential Information and should do so in accordance with the Communications Protocols. The integrity of the FP Auction and the HP Auction depends upon each Authorized Representative safeguarding Confidential Information and passwords used in the auctions.

The person designated below is the Applicant's Authorized Representative.

Last Name

Given Name(s)

Mr/Mrs/Ms/Dr/(other)

Title

Street Address 1

Street Address 2

City

State

Zip Code

Telephone No.

Cell Phone No.

Fax No.

Email Address

Name of Applicant

Communications with the Authorized Representative for purposes of the Part 1 Application are typically done via email ~~and courier.~~

The Applicant hereby acknowledges that any notification or other communication given by the Independent Evaluator to the Applicant with respect to the Part 1 Application shall be ~~delivered by courier to the address provided above or~~ emailed to the email address above, ~~and shall be deemed received by the Applicant at the time of delivery, provided that where delivery occurs after 5:00 p.m. prevailing Eastern Time on a Business Day or on a day which is not a Business Day, receipt shall be deemed to occur at 8:00 a.m. prevailing Eastern Time on the following Business Day.~~

This certification must be signed by the Authorized Representative ~~and the signature must be notarized.~~

I hereby certify that I am authorized by the Applicant to serve as Authorized Representative, to represent the Applicant both (i) in the FP Auction and/or the HP Auction, and (ii) for purposes of this Part 1 Application. I further certify that I will be responsible for all Confidential Information regarding the FP Auction and/or the HP Auction and I will distribute Confidential Information only to other individuals who are authorized to act on behalf of the Applicant according to the Communications Protocols.

Signature of Authorized Representative

Date

~~_____
Signature and Seal from Notary Public~~

~~_____
Date~~

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

The person designated in this section by the Applicant is the Delegate. The Delegate serves as a secondary point person for communications with the Independent Evaluator.

Last Name	Given Name(s)	Mr/Mrs/Ms/Dr/(other)
-----------	---------------	----------------------

Company Name	Title
--------------	-------

Street Address 1

Street Address 2

City	State	Zip Code
------	-------	----------

Telephone No.	Cell Phone No.	Fax No.	Email Address
---------------	----------------	---------	---------------

Name of Applicant

1.3. Designation of the Applicant’s Authorized Representative and the Applicant’s Delegate for the FP Auction and/or the HP Auction

This certification should be signed by an officer or director of the Applicant and should either be notarized or attested with the corporate seal. The person making this certification cannot be either the Authorized Representative or the Delegate.

I certify that I am an officer or director of the Applicant, empowered to undertake contracts and bind the Applicant. I have read and accept the Bidding Rules, the provisions contained in the SMA, and the provisions of the Communications Protocols pertaining to bidders in the FP Auction and/or the HP Auction.

All the information contained in this Application is true and correct to the best of my knowledge. If there are material changes to the Applicant’s information provided in this Part 1 Application, I agree to notify the Independent Evaluator. I designate _____ to act as the Authorized Representative of the Applicant in the FP Auction and/or the HP Auction and _____ to act as the Delegate for the Authorized Representative. I am not designating myself as Authorized Representative or Delegate.

Signature of Officer or Director of the Applicant

Date

Printed Name

Title

~~_____
Signature and Seal from Notary Public~~

~~_____
Date~~

Name of Applicant

1.4. Applicant’s Legal Representative in Pennsylvania

Please check here if the Applicant’s Authorized Representative is also the Applicant’s Legal Representative.

The Applicant’s Legal Representative in Pennsylvania must:

- be a legal counsel or a representative agent;
- have an address in Pennsylvania; and
- be authorized and agree to accept service of process on the Applicant’s behalf.

The person designated below is the Applicant’s Legal Representative or Representative Agent.

Last Name	Given Name(s)	Mr/Mrs/Ms/Dr/(other)	
Company Name		Title	
Street Address 1			
Street Address 2			
City	State	Zip Code	
Telephone No.	Cell Phone No.	Fax No.	Email Address

Name of Applicant

This certification must be signed by the Legal Representative and the signature must be notarized.

I agree to serve as Legal Representative of the Applicant. I am authorized and I agree to receive service of process on the Applicant's behalf.

Signature of Legal Representative

Date

~~Signature and Seal from Notary Public~~

~~Date~~

Name of Applicant

1.5. Applicant’s Credit Representative

The Applicant’s Credit Representative is the Applicant’s in-house Credit Representative who can answer questions or provide information about the Applicant’s credit with respect to the requirements for the FP Auction and/or the HP Auction.

The person designated below is the Applicant’s Credit Representative.

Last Name	Given Name(s)	Mr/Mrs/Ms/Dr/(other)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Title			
<input type="text"/>			
Street Address 1			
<input type="text"/>			
Street Address 2			
<input type="text"/>			
City	State	Zip Code	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Telephone No.	Cell Phone No.	Fax No.	Email Address
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Name of Applicant

1.6. General Requirements to Participate in the Auctions to Procure Default Service Products

- 1. If the Applicant already is a Transmission Customer of PJM who has executed the applicable PJM Agreements as that term is defined in the SMA, please check and please provide a copy of the signature page of the PJM Agreements.

Otherwise, please certify that there exist no known impediments for the Applicant to execute the applicable PJM Agreements prior to the start of the supply period.

Signature of Authorized Representative

Date

- 2. If the Applicant already has PJM E-Accounts necessary to provide Default Service supply, please check and please provide documentation from PJM that the Applicant has a PJM E-Account.

Otherwise, please certify that there exist no known impediments for the Applicant to establish the PJM E-Accounts necessary to provide Default Service Supply and execute the PJM E-Account contract(s) for the supply period prior to the beginning of the supply period.

Signature of Authorized Representative

Date

- 3. If the Applicant already is a PJM Market Participant and a Load Serving Entity in PJM, please check and please provide documentation from PJM that the Applicant is a Market Participant.

Otherwise, please certify that there exist no known impediments for the Applicant to become a PJM Market Participant and a Load Serving Entity in PJM by the start of the supply period.

Signature of Authorized Representative

Date

Name of Applicant

4. Further, please certify that:

- (a) The Applicant and its corporate officers have no indictments or pending criminal litigation in any federal, state or local jurisdiction relating to the Applicant;
- (b) The Applicant and its corporate officers have no criminal convictions;
- (c) The Applicant has no civil penalties, judgments, sanctions or consent decrees arising out of the violation of any law, rule, regulation or ordinance in connection with its business activities;
- (d) The Applicant has not had any permit or authority to do business in any jurisdiction revoked or suspended; and
- (e) The Applicant has never been barred from public bidding or sanctioned for unauthorized disclosure of Confidential Information.

Signature of Authorized Representative

Date

If you are unable to make these certifications in Section 1.6, subsections (1) to (4), please state which certifications you are unable to make and explain all reasons in the space given below.

 Name of Applicant

1.7. Financial and Credit Information for the Applicant

Please provide the following information for the Applicant:

- (a) If the Applicant is not an SEC registrant, provide the most recent Annual Report;
- (b) If the Applicant is an SEC registrant, provide the Form 10-Q or Form 10-K, whichever was filed most recently with the SEC. If unavailable, please provide the most recent audited quarterly or annual financial information (including a balance sheet, income statement, and cash flow statement);
- (c) If the Applicant is an SEC registrant and if both the Form 10-K and Form 10-Q most recently filed with the SEC are not available, please provide the most recent annual or quarterly financial data accompanied by an attestation by the Applicant’s Chief Financial Officer that the information submitted is true, correct and a fair representation of the Applicant’s financial condition;
- (d) The following financial information along with page references to the relevant financial filings submitted:

	Amount (\$)	Financial Document Page Number	Financial Document Source	Date of Financial Document Source
Goodwill				
Shareholders' Equity				
Net Intangible Assets				

Name of Applicant _____

- (e) Applicant’s senior unsecured debt ratings from the following three rating agencies if available, and the date of the rating, along with documentation showing the name of the rating agency, the type of rating, and the rating of the Applicant:

	Rating	Date of the Rating
Moody’s		
Standard & Poor’s		
Fitch		

If senior unsecured debt ratings are unavailable, but corporate issuer ratings are available, please provide the corporate issuer ratings, and the date of the rating, along with documentation showing the name of the rating agency, the type of rating, and the rating of the Applicant:

	Rating	Date of the Rating
Moody’s		
Standard & Poor’s		
Fitch		

- (f) If the Applicant has not been incorporated or otherwise formed under the laws of the United States, the Applicant is asked to provide in addition to (a)-(f) above:
- i. A legal opinion acceptable to the Companies of counsel qualified to practice in the foreign jurisdiction in which the Applicant is incorporated or otherwise formed that the SMA will become the binding obligation of the Applicant in the jurisdiction in which it has been incorporated or otherwise formed.
 - ii. Any additional information that the Applicant wishes to include that could provide comparable credit assurances to those that are provided by other Applicants that have been incorporated or otherwise formed under the laws of the United States.

An Applicant that has not been incorporated or otherwise formed under the laws of the United States and that does not provide this information or any information that could provide comparable assurances of creditworthiness will be required to post the maximum ~~Pre-Bid Security~~ Pre-Bid Security with its Part 2 Application if they were to become a winning bidder.

 Name of Applicant

Further, if such Applicants become Default Service Suppliers, they will be required to submit additional documents as detailed in Article 6 of the SMA, including:

- A legal opinion of counsel qualified to practice in the foreign jurisdiction in which the Default Service Supplier is incorporated or otherwise formed that this Agreement is, or upon the completion of execution formalities will become, the binding obligation of the Default Service Supplier in the jurisdiction in which it has been incorporated or otherwise formed;
- The sworn certificate of the corporate secretary (or similar officer) of such Default Service Supplier that the person executing the Agreement on behalf of the Default Service Supplier has the authority to execute the Agreement and that the governing board of such Default Service Supplier has approved the execution of the Agreement; and
- The sworn certificate of the corporate secretary (or similar officer) of such Default Service Supplier that the Default Service Supplier has been authorized by its governing board to enter into agreements of the same type as the SMA.

Is the Applicant and/or its parent:

	<u>Applicant</u>		<u>Parent</u>	
	Yes	No	Yes	No
Operating under federal bankruptcy laws or bankruptcy laws in any jurisdiction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subject to pending litigation or regulatory proceedings (in state court, or in federal court, or from regulatory agencies, or in any other jurisdiction) which could materially impact the Applicant's and/or parent's financial condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subject to collection lawsuits or outstanding judgments that could impact solvency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Name of Applicant

Please provide a statement disclosing any existing, pending or past adverse rulings, judgments, litigation, contingent liabilities, revocations of authority, administrative, regulatory (state, FERC, SEC or DOJ) investigations and any other matters relating to financial or operational status for the past three years that arise from the sale of electricity or natural gas, or that materially affect current financial or operational status.

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Name of Applicant

1.8. Guarantor Information

The Guarantor information is required only if the Applicant expects to have a third party act as a Guarantor should the Applicant become a Default Service Supplier.

Please check here and proceed to the next section if this section does not apply to you because you will not have a third party act as a Guarantor.

Basic Information for the Guarantor

Name of Guarantor

Legal Name of Guarantor (if different from above)

Place of Incorporation, if applicable

Federal Tax ID

D&B DUNS #

Please state whether the Guarantor is a corporation, partnership, etc.

Years in Business

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Name of Applicant

Guarantor's Contact Information

Last Name

Given Name(s)

Mr/Mrs/Ms/Dr/(other)

Title

Street Address 1

Street Address 2

City

State

Zip Code

Telephone No.

Cell Phone No.

Fax No.

Fax No.

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Name of Applicant

The Guarantor's Credit Representative

The Guarantor's in-house Credit Representative is the individual who can answer questions or provide information about the Guarantor's credit with respect to the requirements for the FP Auction and/or the HP Auction.

The person designated below is the Guarantor's Credit Representative.

Last Name <input type="text"/>	Given Name(s) <input type="text"/>	Mr/Mrs/Ms/Dr/(other) <input type="text"/>	
Title <input type="text"/>			
Street Address 1 <input type="text"/>			
Street Address 2 <input type="text"/>			
City <input type="text"/>	State <input type="text"/>	Zip Code <input type="text"/>	
Telephone No. <input type="text"/>	Cell Phone No. <input type="text"/>	Fax No. <input type="text"/>	Email Address <input type="text"/>

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Name of Applicant

Please provide the following information for the Guarantor:

- (a) If the Guarantor is not an SEC registrant, provide the most recent Annual Report;
- (b) If the Guarantor is an SEC registrant, provide the Form 10-Q or Form 10-K, whichever was filed most recently with the SEC. If unavailable, please provide the most recent audited quarterly or annual financial information (including a balance sheet, income statement, and cash flow statement);
- (c) If the Guarantor is an SEC registrant and if both the Form 10-K and Form 10-Q most recently filed with the SEC are not available, please provide the most recent annual or quarterly financial data accompanied by an attestation by the Guarantor’s Chief Financial Officer that the information submitted is true, correct and a fair representation of the Applicant’s financial condition;
- (d) The following financial information along with page references to the relevant financial filings submitted:

	Amount (\$)	Financial Document Page Number	Financial Document Source	Date of Financial Document Source
Goodwill				
Shareholders' Equity				
Net Intangible Assets				

- (e) Guarantor’s senior unsecured debt ratings from the following three rating agencies if available, and the date of the rating, along with documentation showing the name of the rating agency, the type of rating, and the rating of the Guarantor:

	Rating	Date of the Rating
Moody's		
Standard & Poor's		
Fitch		

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant _____

If senior unsecured debt ratings are unavailable, but corporate issuer ratings are available, please provide the corporate issuer ratings, and the date of the rating, along with documentation showing the name of the rating agency, the type of rating, and the rating of the Guarantor:

	Rating	Date of the Rating
Moody's		
Standard & Poor's		
Fitch		

- (f) If the Guarantor has not been incorporated or otherwise formed under the laws of the United States, the Guarantor is asked to provide in addition to a)-f) above:
- i. A legal opinion acceptable to the Companies of counsel qualified to practice in the foreign jurisdiction in which the Guarantor is incorporated or otherwise formed that the Guaranty will become the binding obligation of the Guarantor in the jurisdiction in which it has been incorporated or otherwise formed.
 - ii. Any additional information that the Guarantor wishes to include that could provide comparable credit assurances to those that are provided by other Guarantors that have been incorporated or otherwise formed under the laws of the United States.

An Applicant whose Guarantor has not been incorporated or otherwise formed under the laws of the United States and that does not provide this information or any information that could provide comparable assurances of creditworthiness will be required to post the maximum ~~Pre-Bid \$~~security if they were to become a winning bidder. with its Part 2 Application.

Further, if an Applicant with such a Guarantor becomes a Default Service Supplier, the Guarantor will be required to submit additional documents as detailed in Article 6 of the SMA, including:

- A legal opinion of counsel qualified to practice in the foreign jurisdiction in which the Guarantor is incorporated or otherwise formed that this Guaranty is, or upon the completion of execution formalities will become, the binding obligation of the Guarantor in the jurisdiction in which it has been incorporated or otherwise formed;

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Name of Applicant

- The sworn certificate of the corporate secretary (or similar officer) of such Guarantor that the person executing the Guaranty on behalf of the Guarantor has the authority to execute the Guaranty and that the governing board of such Guarantor has approved the execution of the Guaranty; and
- The sworn certificate of the corporate secretary (or similar officer) of such Guarantor that the Guarantor has been authorized by its governing board to enter into agreements of the same type as the Guaranty.

Is the Guarantor and/or its parent (if applicable):

	Guarantor		Parent	
	Yes	No	Yes	No
Operating under federal bankruptcy laws or bankruptcy laws in any jurisdiction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subject to pending litigation or regulatory proceedings (in state court, or in federal court, or from regulatory agencies, or in any other jurisdiction) which could materially impact the Guarantor's and/or parent's financial condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subject to collection lawsuits or outstanding judgments that could impact solvency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Name of Applicant

Please provide a statement disclosing any existing, pending or past adverse rulings, judgments, litigation, contingent liabilities, revocations of authority, administrative, regulatory (State, FERC, SEC or DOJ) investigations and any other matters relating to financial or operational status for the past three years that arise from the sale of electricity or natural gas, or that materially affect current financial or operational status of the Guarantor.

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Name of Applicant

1.9. Additional Certifications

The Bidding Rules, the SMA, and the Information Website include important information that an Applicant should understand prior to participating in the FP Auction and/or the HP Auction.

- (a) Please certify that you have read the Bidding Rules for the Auction(s) in which you intend to participate (the FP Auction and/or the HP Auction) and that you will comply with these rules.

Signature of Authorized Representative

Date

- (b) Please certify that you have read the SMA and that you accept its terms. Please also certify that if you become a winning bidder, you will execute the SMA within three (3) Business Days following the date of the Commission's approval of the auction results:

Signature of Authorized Representative

Date

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- (c) Please certify that if you qualify to participate in the FP Auction and/or the HP Auction, you will not disclose at any time information regarding the list of Qualified Bidders in the FP Auction and/or the HP Auction, including but not limited to the number of Qualified Bidders, the identity of any one of the Qualified Bidders (including yourself), or the fact that an entity has not qualified for participation in the FP Auction and/or the HP Auction. Further, please certify that you will destroy any document distributed by the Independent Evaluator that lists the Qualified Bidders within five (5) days of the close of the bidding, or earlier if so instructed by the Independent Evaluator.

Signature of Authorized Representative

Date

- (d) No Qualified Bidder in the FP Auction and/or the HP Auction shall substitute another party, transfer its rights to another party, or otherwise assign its status as a Qualified Bidder to another party. Any such substitutions, transfers, or assignments shall be null and void and will result in the exclusion of the Qualified Bidder from the FP Auction and/or the HP Auction. Please certify that you agree to the limitation set forth in this paragraph.

Signature of Authorized Representative

Date

The Bidding Rules and Communications Protocols include restrictions on the disclosure of Confidential Information. For purposes of the following certifications, the definition of Confidential Information relative to bidding strategy is defined according to Section 12.2 of the Bidding Rules.

- (e) Please certify that you agree not to disclose any Confidential Information relative to bidding strategy to any party that may have an effect on the participation of another bidder, prospective bidder, or on any of the bids that another bidder would be willing to submit.

Signature of Authorized Representative

Date

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

- (f) Please certify that, to the extent Confidential Information relative to bidding strategy is disclosed within your organization or to a third party, you will ensure that sufficient precautions are taken to ensure that such Confidential Information is not made public or made available to another bidder. Such precautions include, but are not limited to confidentiality agreements, non-disclosure agreements, firewalls, and other contractual or structural protections that would maintain the confidential nature of a bidder's bidding strategy.

Signature of Authorized Representative

Date

If unable to make the certifications requested above please identify the nature of your need to disclose Confidential Information without sufficient precautions to ensure that such Confidential Information is not made public or made available to another bidder.

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Name of Applicant

1.10. Alternate Guaranty Form

A prospective Default Service Supplier that wishes to rely on a Guarantor upon becoming a Default Service Supplier can use the standard form of guaranty (Appendix G to the SMA) and be assured that the standard form of guaranty is acceptable to the Companies. Alternatively, the Companies will consider alternate forms of guaranty if they are submitted with this Part 1 Application. Also, you may submit an alternate form of guaranty that was previously approved by the Companies in a prior solicitation.

The Alternate Guaranty Form must be a financial guaranty for unlimited liability. Additional requirements are specified in Appendix B of this Part 1 Application.

Please check here and proceed to the next section if this section does not apply to you because you are not submitting an alternate form of guaranty. Otherwise please read Appendix B and complete this section.

The Authorized Representative acknowledges by signing below that he/she has read the requirements of Appendix B and that he/she believes that the proposed Alternate Guaranty Form complies with these requirements:

Signature of Authorized Representative

Date

Please check below to show that you are including all required documents.

- The proposed form of alternate guaranty;
- Certification that the alternate guaranty has been in general use by the Applicant in its ordinary course of business over the past twelve months;
- An enforceability opinion with respect to the alternate form of guaranty from counsel; and
- Previously approved alternate form of guaranty.

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Name of Applicant

1.11. Bidding Agreements

Please note that the Companies will not review information provided in this section.

Please check here and proceed to the next section if you will be bidding independently and not as a party to any bidding agreement with another party or through any other arrangement involving joint or coordinated bidding with any other party.

Otherwise, please indicate below whether you are a party to or a part of a bidding agreement, a joint venture, a bidding consortium, or other arrangements for purposes of participating in the FP Auction and/or the HP Auction or pertaining to bidding in the FP Auction and/or the HP Auction. On the next page, please also provide the names of the other parties to the bidding agreement or other arrangement.

Other parties to the arrangement:

- | | |
|--|---|
| <input type="checkbox"/> Bidding Agreement | <input type="checkbox"/> Bidding Consortium |
| <input type="checkbox"/> Joint Venture | <input type="checkbox"/> Other (define) |

If you are part of a bidding agreement, bidding consortium or joint venture, you must nominate a single party to the bidding agreement, bidding consortium or joint venture to fulfill the creditworthiness requirements. This party may have a Guarantor. Please indicate below which party from the bidding agreement, bidding consortium, or joint venture will be fulfilling the creditworthiness requirements:

Name of the single party fulfilling the creditworthiness requirements:

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Name of Applicant

The Authorized Representative of the party named above must sign here to acknowledge the fact that this party has agreed to fulfill the creditworthiness requirements:

Signature of Authorized Representative

Date

1.12. Justification of Omissions

If you are unable to provide all documents or all information requested in this Part 1 Application, please justify fully any omissions in the space provided below.

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Name of Applicant

Appendix A – Enclosures to the Part 1 Application

This is a checklist of documents to be enclosed with this Part 1 Application. Please submit only one copy of required supporting documents to the application unless noted otherwise.

A copy of the completed Part 1 Application with original signatures and original notarized signatures of Sections 1.2, 1.3 and 1.4 [Instructions Part 1]

For the Applicant:

- A copy of the signature page of the applicable PJM Agreements as that term is defined in the SMA [Section 1.6]
- If the Applicant is not an SEC registrant, provide the most recent Annual Report [Section 1.7]
- If the Applicant is an SEC registrant, provide the Form 10-Q or Form 10-K, whichever was filed most recently with the SEC. If unavailable, please provide the most recent audited quarterly or annual financial information (including a balance sheet, income statement, and cash flow statement) [Section 1.7]
- If the Applicant is an SEC registrant and if both the Form 10-K and Form 10-Q most recently filed with the SEC are not available, please provide the most recent annual or quarterly financial data accompanied by an attestation by the Applicant's Chief Financial Officer that the information submitted is true, correct and a fair representation of the Applicant's financial condition [Section 1.7]
- Senior unsecured debt ratings or, if unavailable, corporate issuer ratings [Section 1.7]
- If the Applicant has not been incorporated or otherwise formed under the laws of the United States, (i) a legal opinion acceptable to Companies of counsel qualified to practice in the foreign jurisdiction in which the Applicant is incorporated or otherwise formed that the SMA will become the binding obligation of the Applicant in the jurisdiction in which it has been incorporated or otherwise formed, and (ii) any additional information that the Applicant wishes to give that could provide comparable credit assurances to those that are provided by other Applicants that have at least two credit ratings from accepted credit ratings agencies. [Section 1.7]

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For the Guarantor:

- If the Guarantor is not an SEC registrant, provide the most recent Annual Report [Section 1.8]
- If the Guarantor is an SEC registrant, provide the Form 10-Q or Form 10-K, whichever was filed most recently with the SEC. If unavailable, please provide most recent audited quarterly or annual financial information (including a balance sheet, income statement, and cash flow statement) [Section 1.8]
- If the Guarantor is an SEC registrant and if both the Form 10-K and Form 10-Q most recently filed with the SEC are not available, please provide most recent annual or quarterly financial data accompanied by an attestation by the Guarantor's Chief Financial Officer that the information submitted is true, correct and a fair representation of the Applicant's financial condition [Section 1.8]
- Senior unsecured debt ratings or, if unavailable, corporate issuer ratings [Section 1.8]
- If the Guarantor has not been incorporated or otherwise formed under the laws of the United States, (i) a legal opinion acceptable to the Companies of counsel qualified to practice in the foreign jurisdiction in which the Guarantor is incorporated or otherwise formed that the Guaranty will become the binding obligation of the Guarantor in the jurisdiction in which it has been incorporated or otherwise formed, and (ii) any additional information that the Guarantor wishes to give about the Guarantor's financial standing that could provide comparable credit assurances to those that are provided by other Guarantors that have at least two credit ratings from accepted credit rating agencies. [Section 1.8]

If the Applicant is proposing an Alternate Guaranty Form:

- Proposed form of alternate guaranty [Section 1.10]
- Certification that the alternate guaranty has been in general use by the Applicant in its ordinary course of business over the past twelve months [Section 1.10]
- An enforceability opinion with respect to the alternate form of guaranty from counsel [Section 1.10]
- Proposed form of alternate guaranty [Section 1.10]

Name of Applicant

Appendix B – Alternate Guaranty Form (Optional)

The criteria used to review the alternate form of guaranty are as follows:

1. The alternate guaranty must be a financial guaranty; performance guarantees are not acceptable.
2. The Companies will consider alternate forms of guaranty only if the guaranty is for unlimited liability.
3. The alternate guaranty must be an unconditional guaranty of payment of all amounts due by the Default Service Supplier to the Companies under the SMA. The SMA must be expressly identified and the satisfaction of obligations through performance may not be authorized.
4. The alternate guaranty may be terminated upon not less than thirty (30) days advance written notice to the Companies and termination shall not discharge liabilities and obligations of the Guarantor that have been incurred before the effective date of the termination.
5. The alternate guaranty must not be subject to any monetary limit.
6. The alternate guaranty must be accompanied by a certification that this form of guaranty, subject to changes needed to conform to the specific requirements of the Companies, has been in general use by the submitting party in its ordinary course of business over the past twelve months.
7. The alternate guaranty must be a guaranty of payment and not of collection.
8. Assignment of the alternate guaranty shall not be permitted except with the prior written consent of the Companies.
9. The Applicant must provide an enforceability opinion with respect to the alternate form of guaranty from its counsel. The accompanying enforceability opinion must be from a law firm of national (i.e., United States) standing, must not be weaker than would be industry norm and must contain only those qualifications that would be typical. The opinion shall name the Companies and explicitly state that the Companies are entitled to rely on the opinion.

The alternate forms of guaranty will be reviewed in accordance with the following process:

- Upon receipt of the Part 1 Application, the Independent Evaluator will redact the proposed alternate form of guaranty to remove any information identifying the Applicant. The Independent Evaluator will then forward the redacted version to a credit and legal representative of the Companies.

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

- The credit and legal representative will determine whether the alternate form of guaranty provides sufficient assurances of payment, taking into account the following considerations:
 - (i) whether the alternate form of guaranty conforms with the specific requirements identified by the Companies (listed above);
 - (ii) whether the alternate form of guaranty provides substantially similar credit protections to the credit protections provided to Companies by the standard form of guaranty; and
 - (iii) whether the alternate form of guaranty includes defenses in favor of the Guarantor not found in the standard form of guaranty. The Companies representative may also identify specific changes that would permit the alternate form of guaranty to be acceptable, if such changes are of a limited nature.
- The credit and legal representative shall inform the Independent Evaluator of its decision no later than seven (7) Business Days following the Part 1 Application Due Date.
- Upon receipt of the Companies' decision, the Independent Evaluator will notify the Applicant of the Companies' decision. The Companies' decision will state one of the following:
 - (i) The proposed alternate guaranty is acceptable to the Companies in the form in which it was submitted.
 - (ii) The proposed alternate guaranty is not acceptable to the Companies in the form in which it was submitted, but would be acceptable subject to specific changes of a minor nature. The correspondence from the Independent Evaluator will set forth the required changes.
 - (iii) The proposed alternate guaranty is not acceptable to the Companies.
- If specific changes are required to the proposed alternate guaranty, the Applicant will be required to resubmit the alternate guaranty form with changes identified by the Companies on the Business Day following the Business Day during which the Independent Evaluator notified the Applicant of the Companies' decision. No later than three (3) Business Days after the Applicant's resubmission, the Independent Evaluator will notify the Applicant of the Companies' final decision.

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

A potential bidder that had secured approval for an alternate form of guaranty from any previous Default Service procurement auction held by one or more of the Companies and wishes to use the same alternate form of guaranty can renew this by submitting the following:

1. The alternate form of guaranty from any previous Default Service procurement auction by the Companies;
2. The enforceability opinion from any previous Default Service procurement auction by the Companies;
3. A certification that the text of the alternate form of guaranty is exactly the same as the alternate form of guaranty that had been previously approved from any previous Default Service procurement auction by the Companies;
4. A certification that the text of the enforceability opinion is exactly the same as the enforceability opinion that had been previously approved from any previous Default Service procurement auction by the Companies.

If a potential bidder submits the materials as specified above, the alternate form of guaranty will be approved for the FP Auction and/or the HP Auction without further re-evaluation. If a potential bidder had secured approval for an alternate form of guaranty from any previous Default Service procurement auction by the Companies but is unable to provide the materials as specified above, the potential bidder must resubmit the alternate form of guaranty and all supporting documentation as specified in the Alternate Form of Guaranty section above and these materials will be re-evaluated according to the criteria set forth in this document.

All proposing parties that become Qualified Bidders under the Part 1 Application process, but whose alternate guaranty is rejected by the Companies, are required to submit with their Part 2 Application a supplemental certification that the Applicant unconditionally accepts all terms and conditions of the SMA.

Name of Applicant

Appendix C – Proposing Changes to the Pre-Bid Security Letter of Credit (Optional)

The standard form of the Pre-Bid Security Letter of Credit that is acceptable to the Companies will be posted to the Information Website. However, an Applicant has the option to propose changes to the Pre-Bid Security Letter of Credit during the Part 1 Application process by clearly identifying the proposed changes in an electronic, redlined version. This version may be submitted by email to fepaauction@crai.com or as an attachment through the Secure Online Application.

The Companies will assess, in their sole and exclusive discretion, whether such modifications are acceptable. The Qualified Bidder, in its Part 2 Application, must provide the required executed Pre-Bid Security Letter of Credit that either uses the standard form or incorporates only those modifications to the standard form accepted by the Companies upon review of the Part 1 Application. The draft Pre-Bid Security Letter of Credit will be reviewed in accordance with the following process:

- Upon receipt of the Part 1 Application, the Independent Evaluator will redact the draft Pre-Bid Security Letter of Credit to remove any information identifying the Applicant. The Independent Evaluator will then forward the redacted version to a credit and legal representative of the Companies.
- The credit and legal representative will determine whether such modifications are acceptable. The credit and legal representative shall inform the Independent Evaluator of its decision no later than seven (7) Business Days following the Part 1 Application Due Date.
- Upon receipt of the Companies' decision, the Independent Evaluator will notify the Applicant of the Companies' decision. The Companies' decision will either state:
 - (i) The proposed changes to the Pre-Bid Security Letter of Credit are acceptable to the Companies in the form in which they were submitted.
 - (ii) The proposed changes to the Pre-Bid Security Letter of Credit are not acceptable to the Companies in the form in which they were submitted, but would be acceptable subject to specific changes of a minor nature. The correspondence from the Independent Evaluator will set forth the required changes.
 - (iii) The proposed changes to the Pre-Bid Security Letter of Credit are not acceptable to the Companies.
- If specific changes are required pursuant to (ii) above, the Applicant will be required to resubmit the draft Pre-Bid Security Letter of Credit with changes identified by the Companies on the Business Day following the Business Day during which the

Part 1 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Independent Evaluator notified the Applicant of the Companies' decision. No later than three (3) Business Days after the Applicant's resubmission, the Independent Evaluator will notify the Applicant of the final decision.

End of Part 1 Application

Part 2 Application

For Fixed-Price and Hourly-Priced Auctions

To Procure Default Service Products

Under Default Service Program DSP-VI for

Metropolitan Edison Company (“Met-Ed”)

Pennsylvania Electric Company (“Penelec”)

Pennsylvania Power Company (“Penn Power”)

West Penn Power Company (“West Penn”)

Appendix 2 to Bidding Rules

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

PART 2 APPLICATION

AUCTIONS TO PROCURE DEFAULT SERVICE PRODUCTS FOR MET-ED / PENELEC / PENN POWER / WEST PENN

INSTRUCTIONS

There are two parts to the application process.

- **Part 1 Application:** Applicants submit the Part 1 Application and all documents required therein to become Qualified Bidders for the fixed-price auction (“FP Auction”) and/or the hourly-priced auction (“HP Auction”) used to procure default service products for Met-Ed, Penelec, Penn Power, and West Penn (“Companies”). A Qualified Bidder for an auction need not submit a new Part 1 Application for subsequent auctions in the same calendar year unless the information in the Qualified Bidder’s Part 1 Application has changed. In any case, a Qualified Bidder must submit its most recent financial statements during the Part 1 Application process before each auction.
- **Part 2 Application:** Qualified Bidders for the FP Auction and/or the HP Auction submit the Part 2 Application in which they will: (a) agree to comply with the Bidding Rules, (b) agree to accept the terms of the Supplier Master Agreement (“SMA”) should they become a winning supplier, (c) make certifications regarding associations and the handling of Confidential Information, (d) submit Indicative Offers, and (e) post Pre-Bid Security to become Registered Bidders.

This document is the Part 2 Application.

For further information, consult the Information Website.

Unless otherwise defined, capitalized terms in this document have the definitions provided in the SMA. “Communications Protocols” refers to the section “Communications Protocols” and related sections in the Bidding Rules.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

PART 2 APPLICATION SUBMISSION

To become a Registered Bidder for the FP Auction and/or the HP Auction, Applicants must submit the following to the Independent Evaluator electronically through the Secure Online Application Process ~~or in hardcopy format to the address below~~ by the Part 2 Application Due Date:

- **Electronic Application Form:** Completed Part 2 Application submitted online;
- ~~**Hardcopy Application Form:** One (1) printed Part 2 Application document with original signatures, notarized signatures where applicable, and the name of the Applicant on every page of the Application;~~
- PDF Copy Application Form: A copy of the Part- 2 Application document with signatures and the name of the Applicant on every page of the Application;

In addition to the completed Part 2 Application Forms, each Qualified Bidder must:

- Submit an Indicative Offer for each auction — either the FP Auction, the HP Auction, or both auctions;
- Submit a Pre-Bid Security Letter of Credit and/or cash to support the Indicative Offers. The Letter of Credit can be submitted either as a hard-copy or electronically; and
- Make required certifications on Applicant Associations and Confidential Information and, if unable to do so, make required information disclosures.

Please note that interest will not be paid by the Companies for cash posted as Pre-Bid Security.

It is in your interest to seek independent legal and financial advice before deciding to participate in the FP Auction and/or the HP Auction.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

The completed Part 2 Application and Pre-Bid Security MUST be received by the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date as posted in the timeline on the Information Website.

~~Any hardcopies must be addressed to:~~

~~Independent Evaluator
c/o Brad Miller, Vice President
CRA International, Inc.
200 Clarendon Street, T-9
Boston, MA 02116-5092
Phone: 617.425.3384~~

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

CONFIDENTIALITY OF PART 2 APPLICATION SUBMISSIONS

Confidentiality requirements specific to the Part 2 Application are ~~reiterated~~ provided below.

CONFIDENTIALITY OF CREDIT INFORMATION

Any information and materials that you submit in this Part 2 Application may be provided on a confidential basis to the Independent Evaluator ~~T~~team and the Pennsylvania Public Utility Commission (the "Commission") and their representatives. Representatives from the Companies will decide whether the form of Pre-Bid Security submitted is acceptable; Pre-Bid Security documents will be redacted prior to the closing of the bidding process so as not to reveal an Applicant's identity or the amount of the Applicant's Indicative Offer.

CONFIDENTIALITY OF REGISTERED BIDDERS AND INITIAL ELIGIBILITY

Upon completion of the Part 2 Application process, the names of Registered Bidders will be provided to other Registered Bidders on a confidential basis for each auction independently, as well as the total Initial Eligibility aggregated across all Registered Bidders for each auction. As part of this Part 2 Application, you are required to certify that you agree to release your name to other Registered Bidders and that you will keep confidential the list of Registered Bidders and total Initial Eligibility that is provided to you.

Name of Applicant

PART 2 APPLICATION

Fixed-Price Auction and Hourly-Priced Auction To Procure Default Service Products

This Part 2 Application is the application form to become a Registered Bidder in the FP Auction and/or the HP Auction.

Background Information

Before completing this application, please review the Bidding Rules document, the SMA, and other documents posted on the Information Website so that you understand the conditions under which the FP Auction and HP Auction will be conducted.

Confirmation of Receipt

~~Online Delivery: If/When~~ your Part 2 Application is submitted online through the Secure Online Application Process, an email will be sent to the Authorized Representative and the Delegate of the Applicant to confirm receipt. ~~You will not be required to submit a hardcopy of the Part 2 Application.~~

~~Delivery by Post or Hand Delivery: If your Part 2 Application is received by post or hand delivery, an email will be sent to the Authorized Representative and Delegate to confirm receipt.~~

Incomplete Applications

If your Part 2 Application is incomplete or requires clarification, the Independent Evaluator will send a deficiency notice to your Authorized Representative by email. You will have until 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date, or until 5:00 p.m. prevailing Eastern Time on the Business Day following the Business Day during which a deficiency notice is sent to you, whichever comes later, to respond. If you do not correct or adequately explain the deficiency within the time allowed, your Part 2 Application may be rejected and you may be unable to participate in the FP Auction or the HP Auction. All corrections to remedy deficiencies within an Applicant's Part 2 Application must be submitted online. The Authorized Representative needs to sign and date next to the correction(s) to the Part 2 Application and send a copy as an email attachment to the Independent Evaluator at fepaauction@crai.com or through the Secure Online Application Process.

Late Applications

Part 2 Applications received after the Part 2 Application Due Date will NOT be accepted under any circumstances.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Changes to Part 1 Application

If changes to the Part 1 Application are warranted in order to fulfill the requirements of the Part 2 Application, those changes to the Part 1 Application must be received by the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time seven (7) Business Days prior to the Part 2 Application Due Date. All changes to an Applicant's Part 1 Application must be signed and dated by the Authorized Representative and sent as an email attachment to the Independent Evaluator at fepaauction@crai.com or through the Secure Online Application Process.

Deficient Pre-Bid Security

If your Pre-Bid Security Letter of Credit is not in a form acceptable to the Companies, your Authorized Representative will be emailed a deficiency notice. You will have until 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date or 5:00 p.m. prevailing Eastern Time of the second Business Day following the Business Day during which you are notified, whichever comes later, to submit a revised Pre-Bid Security Letter of Credit. If you fail to meet this deadline, your Part 2 Application will be rejected.

If your Pre-Bid Security amount is insufficient for your Indicative Offer, your Authorized Representative will be emailed a deficiency notice. You will have until 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date or 5:00 p.m. prevailing Eastern Time of the second Business Day following the Business Day during which you are notified, whichever comes later, to submit acceptable Pre-Bid Security. If you cannot correct the deficiency, your Part 2 Application may be rejected or your Initial Eligibility may be reduced by the Independent Evaluator so that your Pre-Bid Security is sufficient to cover your Indicative Offer.

Certifications Regarding Associations

You may be required to provide additional information to the Independent Evaluator and to the Commission and its representatives if you are unable to make the certifications in this Part 2 Application.

Notification to Registered Bidders

If you become a Registered Bidder for the FP Auction and/or the HP Auction, the Independent Evaluator will send your Authorized Representative a Notice of Registration by email after the Part 2 Application Due Date. ~~The Notice of Registration also will be sent to your Authorized Representative by courier.~~ If there are material changes to the Applicant's information provided in this Part 2 Application, you are obligated to notify the Independent Evaluator.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Prior to the auction date, Registered Bidders will receive information on how to participate in the auction(s) using the Independent Evaluator's secure Bidding Website.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Please select one of the following. This application is for:

The Fixed-Price Auction	<input type="checkbox"/>
The Hourly-Priced Auction	<input type="checkbox"/>
Both Auctions	<input type="checkbox"/>

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

PART 2 APPLICATION FORMS

Applicant Information

Name of Applicant (Company Name)

Authorized Representative's Contact Information

Last Name

Given Name(s)

Mr/Mrs/Ms/Dr/(other)

Title

Street Address 1

Street Address 2

City

State

Zip Code

Telephone No.

Cell Phone No.

Fax No.

Email Address

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Delegate's Contact Information

Last Name	Given Name(s)	Mr/Mrs/Ms/Dr/(other)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Company Name	Title		
<input type="text"/>	<input type="text"/>		
Street Address 1			
<input type="text"/>			
Street Address 2			
<input type="text"/>			
City	State	Zip Code	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Telephone No.	Cell Phone No.	Fax No.	Email Address
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

NOTE: The contact information for the Authorized Representative and the Delegate in the Part 2 Application should be the same contact information that was provided in the Part 1 Application. Please email fepaauction@crai.com if there are any changes to this information prior to the deadline for making changes as outlined in the section above, "Changes to Part 1 Application."

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Indicative Offers and Pre-Bid Security

Provide your Indicative Offers in Table 1 and Table 2 below. For each auction that you are applying for, you will provide an Indicative Offer at the Minimum Starting Prices and you will provide an Indicative Offer at the Maximum Starting Prices for the products in the auction. For each auction, your Indicative Offer should be the maximum number of tranches that you would be willing to supply at the applicable starting prices subject to the limitations of any applicable load cap for the auction. In each auction itself, you are not required to bid the number of tranches in your Indicative Offer. However, your Initial Eligibility to bid in each auction will be determined by the total number of tranches across the products in your Indicative Offer at the Maximum Starting Prices for that auction.

For the FP Auction, you are required to submit Pre-Bid Security in the form of cash or a Pre-Bid Security Letter of Credit for an amount equal to \$~~250,000~~500,000 multiplied by the total number of tranches in your Indicative Offer at the Maximum Starting Prices for the FP Auction.

For the HP Auction, you are required to submit Pre-Bid Security in the form of cash or a Pre-Bid Security Letter of Credit for an amount equal to \$~~250,000~~500,000 multiplied by the total number of tranches in your Indicative Offer at the Maximum Starting Prices for the HP Auction.

If using a Pre-Bid Security Letter of Credit for your Pre-Bid Security, it should be in the form provided on the Information Website or as approved in modified form during the Part 1 Application process.

After completing Tables 1 and 2, complete Table 3 to include the amount of the cash deposit or Pre-Bid Security Letter of Credit that you are providing in support of this Part 2 Application.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Table 1. Indicative Offer at Minimum Starting Prices (prices in \$/MWh)

FP Auction	Met-Ed		Penelec		Penn Power		West Penn	
	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)
Product								
Residential X-months								
Commercial X-months								

Enter Your Indicative Offer for the FP Auction at the Minimum Starting Prices:

<-- Does not need to be the sum of the tranches above at the Minimum Starting Prices. This can be less than the sum of the tranches at the Minimum Starting Prices across the products.

HP Auction	Met-Ed		Penelec		Penn Power		West Penn	
	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)	Min Starting Price	Possible Interest (# tranches)
Product								
Industrial X-months								

Enter Your Indicative Offer for the HP Auction at the Minimum Starting Prices:

<-- Does not need to be the sum of the tranches above at the Minimum Starting Prices. This can be less than the sum of the tranches at the Minimum Starting Prices across the products.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Table 2. Indicative Offer at Maximum Starting Prices (prices in \$/MWh)

FP Auction	Met-Ed		Penelec		Penn Power		West Penn	
	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)
Residential X-months								
Commercial X-months								

In Box [A] Enter Your Indicative Offer for the FP Auction at the Maximum Starting Prices:

[A] <-- Does not need to be the sum of the tranches above at the Maximum Starting Prices. This can be less than the sum of the tranches at the Maximum Starting Prices across the products.

HP Auction	Met-Ed		Penelec		Penn Power		West Penn	
	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)	Max Starting Price	Possible Interest (# tranches)
Industrial X-months								

In Box [B] Enter Your Indicative Offer for the HP Auction at the Maximum Starting Prices:

[B] <-- Does not need to be the sum of the tranches above at the Maximum Starting Prices. This can be less than the sum of the tranches at the Maximum Starting Prices across the products.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

 Name of Applicant

In the following table, indicate the amount of cash deposit or the amount of the Pre-Bid Security Letter of Credit that you are using as your Pre-Bid Security. This amount must be equal to ~~\$250,000~~\$500,000 multiplied by your Indicative Offer in box [A], plus ~~\$250,000~~\$500,000 multiplied by your Indicative Offer in box [B] in Table 2 above.

Table 3. Pre-Bid Security Amount

\$	Cash
<hr/>	
\$	Pre-Bid Security Letter of Credit
<hr/>	

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

If you are submitting a Pre-Bid Security Letter of Credit, in the space below please provide instructions for returning the Pre-Bid Security Letter of Credit once it can be cancelled.

|

|

If you are submitting a cash deposit, you must attach a copy of your W9 (for tax ID) and a copy of your banking information on your company's letterhead, signed and dated. Furthermore, in the space below, please provide wiring instructions for returning your cash deposit.

|

Name of Applicant

Certifications by Authorized Representative

Please consult the list of Qualified Bidders for the FP Auction and/or the list of Qualified Bidders for the HP Auction provided to you upon qualification. The following certifications are those contained in the “Association and Confidential Information Rules” of the Bidding Rules. Please consult the criteria for associations and the definition of Confidential Information in the Bidding Rules.

Please make the following certifications. All Qualified Bidders, including each party to a Bidding Consortium, Bidding Agreement or Joint Venture for the purpose of bidding in the FP Auction and/or the HP Auction, must make these certifications. The following certifications (1) to (8) will apply from the time of qualification until the results of the Default Service Auctions, are finalized. Completion of the following certifications also signifies your acknowledgement that you do not know of or cannot reasonably anticipate, at the time of this Part 2 Application, any events that might cause these certifications to become untrue during the period to which each certification applies. If you cannot make one or more of these certifications, please disclose the necessary information to explain why you cannot make these certifications.

- (1) Please certify that you are not associated with another Qualified Bidder according to the criteria as defined in the Bidding Rules.

Signature of Authorized Representative

Date

If unable to make certification (1) requested above, please identify the Qualified Bidder(s) in the FP Auction and/or the HP Auction, with whom you are associated along with the nature of the association.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

- (2) Please certify that, other than parties explicitly named in Section 1.11 of your Part 1 Application as parties with whom you have entered into a Bidding Agreement, Joint Venture, Bidding Consortium, or other arrangement pertaining to bidding in the FP Auction and/or the HP Auction, you have not entered into any agreement with another Qualified Bidder, directly or indirectly, regarding bids in the FP Auction and/or the HP Auction, including, but not limited to, the amount to bid at certain prices, and when or at what prices bids are to be withdrawn.

Signature of Authorized Representative

Date

- (3) Please certify that any person who will be advising or assisting you with bidding strategy in the FP Auction and/or the HP Auction, with estimation of the value of tranches, or with the estimation of the risks associated with serving Default Service Load (an **advisor**), will either (i) not provide any similar advice or assistance to any other Qualified Bidder; or (ii) if such person will provide similar advice or assistance to another Qualified Bidder, or if such person will be privy to Confidential Information relative to any other Qualified Bidder's bidding strategy, that appropriate protections have been put into place to ensure that the advisor does not serve as a conduit of information among, or as a coordinator of the bidding strategies of, multiple bidders, and please describe such appropriate protections in the space below.

Signature of Authorized Representative

Date

If unable to make certification (3) requested above, please name the advisor(s) and the Qualified Bidder(s) concerned.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

- (4) Please certify that you are not a party to any contract for the purchase of power that might be used as a source of supply for Default Service, and that (i) would require the disclosure of any Confidential Information (Confidential Information relative to the bidding strategy or Confidential Information regarding the FP Auction and/or the HP Auction) to the counterparty under such a contract; or (ii) that would require the disclosure of any Confidential Information (Confidential Information relative to the bidding strategy or Confidential Information regarding the FP Auction and/or the HP Auction) to any other party; or (iii) that would provide instructions, direct financial incentives, or other inducements for the Bidder to act in a way determined by the counterparty in the agreement and/or in concert with any other Bidder in the FP Auction and/or the HP Auction. Notwithstanding the above, you may, during negotiations prior to the FP Auction and/or the HP Auction for contractual arrangements for power to serve Default Service Load were you to be a winner at the FP Auction and/or the HP Auction, discuss with the counterparty to such arrangements the nature of the standard products to be purchased, the volume, and the price at which you are willing to buy these products, so long as such arrangements do not result in violation of (i), (ii) or (iii) above.

Signature of Authorized Representative

Date

If unable to make certification (4) requested above please disclose the contractual terms that prevent you from making the certification. Please identify the counterparty and if applicable, the party to whom information disclosure must be made under the terms of the contract.

- (5) Please certify that you do not have any knowledge of Confidential Information that is relevant to the bidding strategy of any other Qualified Bidder.

Signature of Authorized Representative

Date

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

If unable to make certification (5) requested above please name the other Qualified Bidder(s) and the nature of the Confidential Information

- (6) Please certify that you will not disclose Confidential Information relative to your bidding strategy except to bidders that were explicitly named in your Part 1 Application as parties with whom you have entered into a Bidding Agreement, Joint Venture, or Bidding Consortium, or other arrangement pertaining to bidding in the FP Auction and/or the HP Auction, Bidders with which you are associated as disclosed through certification (1), to your advisors, and to your financial institution.

Signature of Authorized Representative

Date

If unable to make certification (6) requested above, please explain.

- (7) Please certify that, other than entities with which you are affiliated and other than bidders with which you have entered a Bidding Agreement, or Joint Venture, or Bidding Consortium, or other arrangement pertaining to the FP Auction and/or the HP Auction, no party has agreed to defray any of the costs of participating in the FP Auction and/or the HP Auction, including the cost of preparing the bid, the cost of any financial guarantees, the cost to be paid upon winning a tranche, and any other participation cost.

Signature of Authorized Representative

Date

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

If unable to make certification (7) requested above, please explain.

- (8) Please certify your agreement that the submission of any bid in the FP Auction and/or the HP Auction creates a binding and irrevocable offer to provide service under the terms set forth in the SMA and that a binding and enforceable contract to provide service with respect to the number of tranches for which you were a winner in the FP Auction and/or the HP Auction shall arise under the SMA. Please note that failure to execute the SMA within three (3) Business Days following the date of the Commission’s approval of the auction results may result in the forfeiture of the Pre-Bid Security Letter of Credit.

Signature of Authorized Representative

Date

If unable to make certification (8) requested above, please explain.

The following certifications (9), (10) and (11) will apply from the date on which you make the certifications.

- (9) Please certify that if you are registered to participate in the FP Auction and/or the HP Auction, you will not disclose at any time information regarding the Initial Eligibility in the FP Auction and/or the HP Auction or the list of Registered Bidders, including the number of Registered Bidders, the identity of any one or all entities that have been registered, or the fact that an entity has not been registered for participation in the FP Auction and/or the HP Auction.

Signature of Authorized Representative

Date

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

- (10) Please certify that you will not disclose any Confidential Information regarding the FP Auction and/or the HP Auction to any party except your advisors and Bidders with which you are associated as disclosed in certification (1).

Signature of Authorized Representative

Date

If unable to make certification (10) requested above, please explain.

- (11) Please certify that you will continue to abide by your prior confidentiality certifications. You will not disclose any Confidential Information regarding the FP Auction and/or the HP Auction to any party except to your advisor and Bidders with which you are associated. Please certify that you will destroy all documents, written or electronic, provided by the Independent Evaluator that contain Confidential Information regarding the FP Auction and/or the HP Auction within five (5) days of the close of the bidding, or earlier if so instructed by the Independent Evaluator

Signature of Authorized Representative

Date

If unable to make certification (11) requested above, please explain.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Ongoing Obligations

Please note that all obligations, terms and conditions set forth in the Bidding Rules and SMA remain in effect and apply to the certifications made herein, including but not limited to the following:

- Section 4.2.3 of the Bidding Rules - Sanctions may be imposed on a Bidder for failing to abide by any of the certifications that it will have made in its Part 1 and Part 2 Applications. Such sanctions can include, but are not limited to, termination of the SMA, loss of all rights to provide supply for the Companies to serve any load won by such bidder, forfeiture of financial guarantees and other fees posted or paid, prosecution under applicable state and federal laws, debarment from participation in future solicitations, and other sanctions that may be appropriate.

Justification of Omissions

If you are unable to provide all documents or all information requested in this Part 2 Application, please justify fully any omissions in the space provided below.

Part 2 Application: FEPA Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products

Name of Applicant

Appendix A – Enclosures to the Part 2 Application

This is a checklist of documents to be enclosed with this Part 2 Application.

- One copy of completed Part 2 Application forms (with original signatures)
- One copy of W9 Form (for Tax ID) and one copy of banking information on your company's letterhead (signed and dated) (if submitting cash deposit as Pre-Bid Security) [Section 2.2]
- Pre-Bid Security Letter of Credit (if applicable) [Section 2.2]

End of Part 2 Application

AEPS Requirements by Reporting Year

Reporting Year	Time Period	Base Tier I*	Solar PV*	Tier II*
1	2/28/07 - 5/31/07	1.50%	0.00%	4.20%
2	6/1/07 - 5/31/08	1.50%	0.00%	4.20%
3	6/1/08 - 5/31/09	2.00%	0.01%	4.20%
4	6/1/09 - 5/31/10	2.50%	0.01%	4.20%
5	6/1/10 - 5/31/11	3.00%	0.02%	6.20%
6	6/1/11 - 5/31/12	3.50%	0.03%	6.20%
7	6/1/12 - 5/31/13	4.00%	0.05%	6.20%
8	6/1/13 - 5/31/14	4.50%	0.08%	6.20%
9	6/1/14 - 5/31/15	5.00%	0.14%	6.20%
10	6/1/15 - 5/31/16	5.50%	0.25%	8.20%
11	6/1/16 - 5/31/17	6.00%	0.29%	8.20%
12	6/1/17 - 5/31/18	6.50%	0.34%	8.20%
13	6/1/18 - 5/31/19	7.00%	0.39%	8.20%
14	6/1/19 - 5/31/20	7.50%	0.44%	8.20%
15	6/1/20 - 5/31/21	8.00%	0.50%	10.00%
16	6/1/21 - 5/31/22	8.00%	0.50%	10.00%
17	6/1/22 - 5/31/23	8.00%	0.50%	10.00%
18	6/1/23 - 5/31/24	8.00%	0.50%	10.00%
19	6/1/24 - 5/31/25	8.00%	0.50%	10.00%
20	6/1/25 - 5/31/26	8.00%	0.50%	10.00%
21	6/1/26 - 5/31/27	8.00%	0.50%	10.00%

Notes:

* Percent of Total Electric Sales

Base Tier 1 includes Solar PV

**METROPOLITAN EDISON COMPANY, PENNSYLVANIA ELECTRIC COMPANY
PENNSYLVANIA POWER COMPANY, AND WEST PENN POWER COMPANY**

SOLAR POWER PURCHASE AGREEMENT

REQUEST FOR PROPOSALS

Issued MONTH DAY, YEAR

Bids Due:

MONTH DAY, YEAR 12:00 p.m. Eastern Prevailing Time

Web Address: TBD

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DEFINITIONS

EPC contract	The engineering, procurement, and construction contract for the Facility under development.
Evaluation Period	The period of time between the Proposal due date [to be specified] and the selection of the Winning Proposal(s).
Facility	A new or in-development Tier I solar Alternative Energy Systems under Pennsylvania's Alternative Energy Portfolio Standards Act, 73 P.S. §§ 1648.1 et seq. ("AEPS" or "AEPS Act"). A proposed Facility will be considered to be a new Facility if it has not come online and its construction has not been completed as of the Proposal due date as specified in Section III.5 of this RFP.
Independent Evaluator ("IE")	The Brattle Group.
PA PUC	Pennsylvania Public Utility Commission (also "Commission").
PPA	A Power Purchase Agreement for the purchase of the solar energy output and the associated solar photovoltaic alternative energy credits that comply with Pennsylvania's Alternative Energy Portfolio Standards Act.
Proposal	A response to this RFP, associated with a qualifying Utility-Scale Solar Facility located in the Commonwealth of Pennsylvania, containing a bid price and all other required information as specified in Section V of this solicitation document.
Respondent	A party submitting a Proposal.
RFP	Request for Proposal process, consisting of a single round of sealed bids.
Total Notional Value	The value of the PPA, as specified in Exhibit G of the Form of Power Purchase Agreement (Appendix 1).
Utility-Scale Solar Facility	A solar facility that is connected to the PJM grid (i.e., not behind the meter) and that has ICAP capacity of at least 5 MW. Aggregations of smaller solar facilities do not satisfy this definition.
Winning Proposal	A Proposal that has been selected by the Companies and the IE, and that has resulted in the successful execution of a PPA.

I. INTRODUCTION

I.1 With this Request for Proposals (“RFP”), Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”), and West Penn Power Company (“West Penn”) (individually referred to as “Company” and in any combination as the “Companies”) are soliciting proposals for long-term renewable energy and associated solar photovoltaic alternative energy credits (“SPAECs”) from new and in-development Tier I solar Alternative Energy Systems under Pennsylvania’s Alternative Energy Portfolio Standards Act, 73 P.S. §§ 1648.1 et seq. (“AEPS” or “AEPS Act”) (each, a “Facility”).¹ The Companies intend to use the procured energy and SPAECs to satisfy their obligations under the Electricity Generation Customer Choice and Competition Act² and AEPS Act and seek to enter into fixed-price agreements with successful bidders. This document describes the process by which bidders may qualify and participate in the RFP.

I.2 The general schedule for the RFP process is shown below (see also Subsection III.5):

- Issue RFP xxxxxx
- Bidder Information Session xxxxxx
- Pre-Qualification Application Deadline xxxxxx
- Notification of Pre-Qualification xxxxxx
- Proposal Due Date xxxxxx

I.3 The Companies are electric distribution companies (“EDCs”) under Pennsylvania law and provide electric delivery service to over two million retail customers across the Commonwealth of Pennsylvania. The Companies’ electric delivery service territories fall entirely within the area served by PJM Interconnection, LLC (“PJM”).

¹ All capitalized terms not expressly defined herein are defined in the fForm Power Purchase Agreement attached as Appendix A.

² 66 Pa. C.S. § 2801 et seq.

- I.4** The Pennsylvania Public Utility Commission (“PA PUC”) has approved the procedures described in this RFP and the terms of the Power Purchase Agreement (“PPA”) by order dated _____, 2022 at PA PUC Docket Nos. P-2021-_____ et seq (“PUC Order”). Potential bidders are strongly urged to review both the RFP and the PPA (Appendix 1) and to consult with counsel with respect to requirements and obligations under this RFP and the PPA.
- I.5** You are invited to submit a written proposal in accordance with the requirements described in this RFP. The Companies have retained The Brattle Group (“Brattle”) to manage the RFP process on their behalf for the purpose of soliciting bids to enter into a PPA with each of the Companies. All proposals must meet the general requirements set forth in Section IV (“RFP General Requirements”). All Bidders with in development Facilities that will meet the qualification requirements are invited to submit a bid or bids pursuant to the RFP process.
- I.6** Brattle will serve as an Independent Evaluator to monitor and oversee the evaluation of all bids. Brattle will administer this process through its website (see Subsection III.2) on the Companies’ behalf in accordance with this RFP. Responses to this RFP will be accepted via email at firstenergysolar-RFP@brattle.com.

II. PURPOSE, DESIRED PRODUCT, AND GENERAL PRICING GUIDELINES

II.1 Purpose

The purpose of this RFP is to solicit offers from developmental solar generating facilities located within Pennsylvania. The Companies have a strong preference for resources that will be in service on or before May 31, 2024 (the day before the 2024/25 PJM planning year begins) but will consider bids from Facilities with later planned in-service dates as described in Section II.2.

Each Company intends to enter into a PPA with the winning Respondent(s) in this RFP with a term of more than 4, but not more than 10, years.

The Companies anticipate contracting for between 7 and 20 MW of total capacity across all PPA proposals designated as winners of this RFP. To qualify, the physical Facility must be located in the Commonwealth of Pennsylvania and qualify as a PJM capacity resource.

II.2 Desired Product

The Companies will consider Proposals to enter into a 4- to 10-year PPA contract with physical solar facilities that are not yet in service as of the date of the release of this RFP ([Month] [Day], [Year]). The Companies have a strong preference for facilities that will achieve commercial operation within PJM's 2024/2025 Planning Year or earlier. The Companies will consider bids from facilities with planned in-service dates later than the 2024/2025 Planning Year, but no projects with planned in-service dates after 2025/2026 Planning Year will be considered.

The Companies are seeking to enter into PPAs for between 7 and 20 MW (AC ICAP). To reach this target, each Company may enter into more than one PPA with multiple counterparties.

All bid proposals (each, a "Proposal") must be consistent with the general and content requirements specified in Sections IV and V. The Companies have a preference for resources located within one of the Companies' service territories. A map with the approximate boundaries of the Companies' service territories is provided at the end of this primary solicitation document.

However, the Companies will consider Proposals supported by Facilities not located in any of the Companies' service territories as long as the physical location of those Facilities is in the Commonwealth of Pennsylvania. Any Proposal supported by a Facility not located within Pennsylvania will be disqualified from consideration.

Projects must be Utility-Scale Solar Facilities that can offer energy into the PJM market and accrue AEPS-compliant SPAECs. All Proposals must be supported by a new physical Facility. The Companies will not accept "virtual" bids.

While the Companies may designate multiple Proposals and projects as winners of this RFP, each individual proposal submitted must be supported by a single, new, physical

resource that meets the location requirements of this RFP. The Companies will accept Proposals for a share of larger Facilities. Any Proposal supported by a Facility not meeting the basic qualification requirements may be disqualified from consideration.

Through the PPA, the Companies will purchase the specified portion of the Facility's SPAECs and renewable energy output (MWh). In reviewing Proposals, the Companies will not assign value to any attributes other than SPAECs and energy. The inclusion of other attributes may detract from the Proposal's score during evaluation.

Project developers or owners will retain rights to all other Facility output, including capacity and ancillary services. Developers will be free to market such output or consume such output for their own internal needs. The Companies expect and anticipate that Proposal pricing will reflect the ability of the developer to market such attributes outside of any PPA.

II.3 General Pricing Guidelines

Proposal pricing should be based on a specified combined price for each MWh of energy and the associated AEPs-compliant SPAEC. The specified price may change from year to year or stay fixed over the duration of the contract. No index- or formula-based pricing Proposals will be accepted.

At this time, the Companies will not consider solar tolling arrangements or pricing structures other than those that specify \$/MWh for the energy and the associated solar AECs. Any Proposal not denominated in this fashion may be disqualified from consideration, or Brattle may request an update to the Proposal pricing structure.

III. INFORMATION, SCHEDULE, AND GUIDELINES FOR SUBMITTING THE PRE-QUALIFICATION APPLICATION AND PROPOSAL

III.1 Information Provided to Potential Respondents

This RFP and all of its appendices and forms, are posted on Brattle's website (xxxxxxx). Interested parties can download the RFP with its required forms and complete the forms in Microsoft Word, Adobe Acrobat, and/or Excel format.

III.2 Information on the RFP Website

The information on the RFP website maintained by Brattle will contain the following:

- (a) This RFP
- (b) Pre-Qualification Document(s)
- (c) Form of PPA
- (d) Standard RFP Response Form
- (e) Frequently Asked Questions ("FAQ") about this RFP
- (f) Updates on this RFP process and other relevant information

III.3 General Guidelines for Submitting the Pre-Qualification Application and Proposal

By the specified deadline, a Respondent shall submit properly completed forms by email to the RFP Submission Email Address (firstenergysolar-RFP@brattle.com).

Respondents with Proposals over 30 MB in size should contact Brattle for instructions on how to submit a Proposal via Brattle's secure FTP platform. Proposals that are nonconforming, incomplete, or that are mailed or hand delivered may be deemed ineligible and may not be considered for further evaluation.

Parties that are interested in bidding shall submit pre-qualification applications by the pre-qualification deadline. Any Proposals received from a Respondent who has not been pre-qualified will be deemed ineligible and not considered for further evaluation.

Please note that the Independent Evaluator (i.e., Brattle) will always confirm receipt of a Proposal. Bidders that do not receive a bid confirmation should notify the Independent Evaluator.

Brattle anticipates sending an electronic mail notice to parties that it considers likely participants in this RFP. The preparation of a Proposal may be initiated at any time

provided that such preparations are completed in accordance with the instructions found in this RFP.

By submitting a Proposal in response to this RFP, a Respondent certifies that it has not divulged, discussed, or compared any commercial terms of its Proposal with any other actual or prospective Respondent and has not colluded whatsoever with any other party believed to be an actual or prospective Respondent.

III.4 Clarification of Proposals

While evaluating Proposals, Brattle may request additional information about any item in the Proposal. All requests will be made in writing, and the Respondent will be required to respond to the request within five (5) business days of receipt of such request or Brattle may choose to stop evaluating the Respondent’s Proposal.

III.5 Schedule

The following schedule and deadlines apply to this RFP. The Companies reserve the right to extend or otherwise modify any portion of this schedule at any time or terminate the RFP process at its sole discretion.

EPT or Eastern Prevailing Time means Eastern Standard Time or Eastern Daylight Savings Time, whichever is in effect in Reading, Pennsylvania on any date specified.

All Proposals are due by 12:00 p.m. EPT on the proposal due date (below). Proposals received after the specified date and time may be disqualified from further evaluation.

TABLE 1: PROVISIONAL SCHEDULE

Event	Date
Respondent Pre- Qualification Application Deadline	12:00 p.m. EPT, xxxxxx
Respondents Notified of Results of Pre- Qualification Application Review	12:00 p.m. EPT, xxxxxx
Proposal Due Date	12:00 p.m. EPT, xxxxxx
Regulatory Approval of RFP Results and PPA Execution (expected)	xxxxxx

III.6 Questions

All questions regarding this RFP should be submitted to firstenergysolar-RFP@brattle.com (the "RFP Submission Email Address"). All relevant questions and answers will be posted to the RFP website and made available to all registered process participants. Other than questions and answers submitted through the RFP Submission Email Address and posted on the RFP website, no other individual or bidder-specific explanations or interpretations of this RFP will be given. Written questions will be accepted by Brattle until five (5) days before the date on which Proposals are due. The Respondent should check the website periodically for updates and postings.

In the event that a given Respondent has a question or seeks clarification or explanation of any data or information provided in this RFP, such Respondent is responsible for obtaining the desired information by submitting a written question to Brattle through the RFP Email Address by no later than five (5) days before the date on which Proposals are due.

Any and all communications regarding this RFP will be submitted through the RFP Submission Email Address, posted on the RFP website, or communicated through a public bidder information session. **Under no circumstance should Respondents attempt to contact employees of the Companies directly with any matters related to this RFP.**

IV. RFP GENERAL REQUIREMENTS

Proposals that do not meet the following criteria may be deemed ineligible and not considered for further evaluation.

IV.1 Pre-Qualification

To be eligible to submit a Proposal in response to this RFP, Respondents must be pre-qualified.

To pre-qualify, Respondents must:

- (a) Submit a completed Pre- Qualification Application (Appendix 2) to the RFP Submission Email Address (firstenergysolar-RFP@brattle.com); and
- (b) Receive confirmation from Brattle that Respondent is pre-qualified to submit a Proposal.

Any Proposals received from a Respondent who has not been pre-qualified will be deemed ineligible and not considered for further evaluation.

IV.2 Facility Parameters

All Proposals must be supported by a new physical Facility. Each Facility supporting a PPA with the Companies under a Proposal must:

- (a) be located within the Commonwealth of Pennsylvania;
- (b) be a solar-powered resource;
- (c) be Utility Scale and grid-connected; and
- (d) qualify for SPAECs under the AEPS Act and be able to sell its power into the PJM energy market.

IV.3 Proposal Quantities

Through this RFP, the Companies seek between 7 and 20 MW of AC ICAP solar capacity. The Companies will accept partial shares of larger Facilities.

IV.4 Valid Proposal Duration

Proposal pricing must remain valid for six (6) months following the Proposal due date, upon which time Proposals shall expire unless the Respondent has been notified that its Proposal has been selected.

V. PROPOSAL CONTENT REQUIREMENTS

This section describes the Companies' expectations and requirements for the content of Proposals. Proposals that do not meet the following criteria will be deemed ineligible and

not considered for further evaluation. The Companies expect Respondents to provide any information that could impact the Respondent's ability to enter into a PPA with each of the Companies. If it appears that certain information is inadvertently omitted from a Proposal, Brattle may contact the Respondent to obtain the information.

All Proposals must include a table of contents and provide concise and complete information on all of the following topics:

V.1 Standard RFP Response Form

Respondents shall provide a completed Appendix 3 (RFP Response Form). Please note that Appendix 3 does not capture all of the information required to be provided in response to this RFP.

V.2 Executive Summary

Proposals must include an executive summary of the Proposal's characteristics, including any unique aspects and benefits.

V.3 Name and Location

Respondents shall state the name of the Facility, the county and EDC service territory where the generating facility is located, the owner of the Facility, the PJM commercial pricing node associated with the Facility, and the expected commercial in-service date for the facility. The location must be in the Commonwealth of Pennsylvania and serviced by PJM.

V.4 Net Capability of Generating Facility

Respondents shall state the net capability of the Facility that would be applicable for each month of a calendar year as well as the nameplate capacity of the Facility.

V.5 PPA Initial Delivery Date

In preparing their Proposals, Respondents shall assume that the deliveries under the PPA would commence on or about June 1, 2024. However, Brattle will accept

alternative timelines to the extent that such timelines may allow for more competitive pricing.

V.6 Generation Technology

Respondents shall describe the generation technology of the Facility, including the make of the key equipment.

V.7 PJM Capacity

Respondent shall provide the projected ICAP (or nameplate) and the projected UCAP for the next three (3) years.

V.8 Anticipated Facility Output

The estimated monthly output in MWh for each of the next five (5) years. Respondents shall also provide expected (p50 and p90) capacity factors, including hourly shapes (based on weather data).

V.9 Counterparty Financial Information

Respondents shall submit audited or unaudited financial statements, including balance sheets, income statements, and cash flow statements for the proposed PPA counterparty. Respondents should provide this information for the past three years.

V.10 Other Contractual Commitments

Respondents shall state whether there are other contractual commitments limiting or affecting the operation of the Facility. Respondents shall state whether there are any other agreements in place for or claims on output from the Facility. Such information should include any obligations that may restrict or compromise the Companies' rights to Facility output.

V.11 Project Development Plan

All Proposals must have a well-defined and credible development plan for Respondent to complete the development, construction, and commissioning of the Facility on their

proposed development timeline. Respondents should review the "Development Risk" evaluation metric and be sure to discuss key development milestones in their Proposal.

If available, Respondents shall submit a copy of:

- (1) An executed pro-forma PJM Service Agreement and Interconnection Construction Services Agreement;
- (2) A completed PJM Facilities Study; and
- (3) A completed PJM System Impact Study.

If Respondent cannot provide this information, Respondent must indicate why it cannot be provided and must provide a timeline showing its ability to complete key development milestone requirements prior to June 1, 2024, including the above-referenced items for the PJM generator interconnection queue.

Respondent shall also detail its PJM generator interconnection queue position, if any, and the types and amounts of transmission service requested. Respondents submitting Proposals should also submit a copy of a fully executed engineering, procurement, and construction ("EPC") contract if available.

Respondents should also provide the following:

1. The roles and responsibilities of the companies involved in the design, development, procurement, and construction of the Facility. Information about key contributors shall extend to the status of the contractual relationship with each key contributor; key contractual assurances; guarantees; warranties, or commitments supporting the Proposal, including an executed EPC contract; and any past experience of Respondent working with each key contributor;
2. A description of the status of major equipment procurement, as well as processes for engineering, procurement, and construction bids and awards;
3. A description of the Facility site and Respondent's rights (i.e., whether owned, leased, or under option) to such site. Please indicate whether additional land

rights are necessary for the development, construction, and/or operation of the Facility;

4. A discussion of the development schedule and associated risks and risk-mitigation plans for that schedule, including whether there are contract commitments from contractors supporting the proposed schedule. The Respondent should be prepared to document and commit to a proposed development schedule, which should include a commercial operation date;
5. A discussion of the financing arrangements secured by the Respondent, including an overview of the sources of funds, and level of commitment from debt, equity, or other investors;
6. A discussion of permitting, including a list of all required permits, permitting status of each, and key risks to securing necessary future permit approvals;
7. A description of Respondent's status in PJM's queue process and presentation of documents described above; and
8. Financial information regarding guarantors and sources of equity funding along with either the Respondent's or guarantors' senior unsecured debt and/or corporate issuer ratings documentation from Moody's and Standard & Poor's ("S&P") showing the name of the rating agency, the type of rating, and the rating of the Respondent or guarantor.

The Companies will not assume any responsibility for the successful development, construction, interconnection, and/or completion of a proposed Facility. Accordingly, development schedule, budget, permits, and approval risk will be the sole responsibility of the Respondent.

V.12 Power Purchase Agreement

Successful bidders must be able to meet all requirements of the PPA provided in Appendix 1 of this RFP. Respondents will be required to demonstrate in their Proposals that they can meet all specified terms of the PPA and that they take no exception to the

PPA terms. Failure to do so will result in exclusion of the Respondent's Proposal(s) from further consideration.

V.13 Asset Performance

For all contractual structures, bidders should specify the "guarantees" associated with their Proposal. For example, mechanical availability, anticipated production under given conditions, etc.

Respondents shall clearly articulate expected performance metrics which may include performance guarantees and metrics, among others.

V.14 Permits

Facilities must have all relevant environmental and other permits necessary for their operation and maintenance. Respondents shall provide a description of all permits required for the operation and maintenance of the Facility. Respondents should also indicate the status of each permit, including, but not limited to, whether the permit has been obtained, when it will be obtained if it has not yet, and the eventual need to renew such permits, as well as the likelihood of renewal.

Respondents shall also provide a description of any identified environmental liabilities (e.g., potential site remediation requirements, pending future regulatory requirements, etc.) for the Facility.

V.15 PPA Pricing

Respondents shall submit a PPA price associated with their bid. The Companies will accept a fixed pricing structure (or one with specified annual changes) denominated in \$/MWh for energy and associated AEPS-compliant SPAECs. The evaluation of the bids will be based on the anticipated cost and inherent uncertainty associated with the proposed PPA pricing structure.

V.16 Land Use and Other Environmental Considerations

Respondents should highlight any environmental or sustainability attributes associated with their project, including any third-party sustainability certifications.

The Companies are particularly interested in receiving information about the land use of the Facility prior to development, (i.e., brownfield redevelopment of industrial land, conversion of farmland, conversion of forest land).

V.17 Community and Other Considerations

Respondents are encouraged to highlight their impact on the community and, in particular, communities served by the Companies.

- Respondents may identify if their project is located within one of Pennsylvania's HUBZones, which the Small Business Administration defines as historically underutilized business zones where at least 35% of employees reside within the Hubzone.³
- To the extent that a bidder qualifies as a minority business enterprise ("MBE"), a veteran-owned business ("VET"), a business owned by a service-disabled veteran ("SDV"), a small business that meets the small size standards matched in the North American Industry Classification System ("NAICS") codes, or women owned business("WBE"), such qualification may be highlighted in the proposal.

VI. MINIMUM BID ELIGIBILITY REQUIREMENTS

This section outlines the minimum requirements that all Proposals must meet to be eligible to participate in this RFP. Proposals unable to meet the following criteria will be deemed ineligible and will not be considered for further evaluation.

- Respondents must meet the general requirements in accordance with Section IV of this RFP.

³ See <https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program> for details.

- Proposals must include all content requirements described in Section V of this RFP, including all requested information and completed forms.

VII. BID EVALUATION AND POST-EVALUATION PROCESS

VII.1 Initial Proposal Review

After the Proposal due date, Brattle will review all responses for completeness, responsiveness, and compliance with the minimum bid eligibility requirements specified in Section VI of this RFP. Brattle will not accept updated pricing from Respondents during the Evaluation Period unless such information is requested by Brattle.

Preliminary due diligence will also be conducted at this stage to identify any flaws associated with the Proposal that would make it unacceptable. As a result of this screening, Brattle may either eliminate Proposal(s) from further consideration or contact Respondent(s) to clarify their Proposal or request additional information. Brattle will make such requests in writing via email, and Respondents will be required to respond to the request within five (5) business days of receipt of such request, or Brattle may choose to stop evaluating a Respondent's Proposal (see Section III).

VII.2 Proposal Evaluation Criteria and Evaluation Process

Proposals that meet the requirements in Section VI of this RFP will be evaluated consistent with the evaluation criteria set forth in this RFP. Points will be awarded and deducted based on:

1. The Cost of Energy and SPAECs;
2. Development Status;
3. Development Risk, Nodal Risk, and Other Risk Factors;
4. Facility Location;
5. Contract Duration; and
6. Other Asset or Proposal Specific Benefits and Risk Factors.

Prior to the evaluation of results, the Companies, with input from Brattle, may set a confidential reservation price in order to protect against the risk of getting locked into a high-priced, long-term contract. That reservation price will be based on Brattle's analysis of expected prices in the relevant energy and SPAEC markets.

The Companies anticipate contracting with the asset or assets that, in total, best meet the Companies' needs and those of its customers. Bids will be ranked based on the stated evaluation criteria, and assets will be selected based on the Companies' needs. Consistent with that objective, each Company may need to contract with multiple generating assets. In order to secure the overall portfolio of assets that best meets the Companies' needs, there is no assurance that the individual, highest-scoring qualified proposal(s) will be selected due to the fixed MW associated with each individual bid.

During the evaluation process, the Companies and/or Brattle may choose to initiate discussions with one or more Respondents. In that event, Brattle will be the sole conduit of information between Respondent and the Companies. Discussions with a Respondent shall in no way be construed as the commencement of contract negotiations.

VII.3 Selection of Winning Bidders and PA PUC Approval

Upon completion of the evaluation of Proposals, Brattle shall prepare a report of the RFP results in consultation with the Companies, summarizing Respondent's qualification process and the Proposals and identifying the successful and unsuccessful Respondents and Proposals. The report shall then be submitted to the PA PUC for approval. The PA PUC will have ten (10) calendar days to review the Brattle report and approve the report and bid prices submitted by successful bidders. Bids from at least three bidders, who are not affiliated with each other, must be received in response to the RFP as a condition for PA PUC approval of any successful bids. If the results are approved, the Companies shall notify all Respondents of the PA PUC's decision and the results of the RFP. If the results are not approved, the Companies will not sign any PPAs with winning bidders.

VII.4 Execution of PPA

Upon approval of the results by the PA PUC and subject to all provisions of this RFP (including Section IX), each Company shall prepare two copies of a PPA with information from the successful bidder's proposal inserted and transmit those copies to the applicable Respondent within five (5) business days of notification by the Companies. Respondent shall execute and return each PPA to the appropriate Company with any collateral as required under the PPA within ten (10) business days.

VIII. CREDIT QUALIFICATION AND COLLATERAL

Bidders submitting Winning Proposals may be required to post collateral at the time of execution of a PPA. The Companies and Brattle will evaluate the credit quality and related collateral posting requirements for each Respondent submitting a Proposal(s) in accordance with a uniform and consistent application of the Companies' risk management practices and standards. This evaluation will occur as part of Brattle's evaluation of a Respondent's pre-qualification application.

Credit Requirements are as follows:

Respondent counterparties that have a minimum investment grade credit rating shall be deemed to have met the creditworthiness standard and shall not be required to post Performance Assurance. Performance Assurance may be in the form of cash, a letter of credit, or other security in a form acceptable to the Companies. A minimum investment grade credit rating is defined as the most recently published unsecured senior long-term debt rating (or corporate issuer rating if unsecured long-term debt rating is not available) of **BBB-** from Standard & Poor's (S&P), **BBB-** from Fitch Ratings (Fitch), or **Baa3** from Moody's Investor Service (Moody's), respectively. If the Respondent is rated by more than one agency and the ratings differ, the lowest rating will be used.

- If a Respondent counterparty is either not rated by the aforementioned public rating agencies or has ratings below investment grade (as defined above), the creditworthiness standard may be met with cash, a Letter of Credit, or by issuing a corporate guaranty from an acceptable credit support provider that satisfies the above minimum investment grade standard.

- The Companies' acceptance of a corporate guaranty shall be subject to a satisfactory review of the credit support provider that is issuing the guaranty. In addition, the guaranty shall be in a form acceptable to the Companies.

Any Respondent that does not meet the above creditworthiness requirements or provide an acceptable guaranty shall have the corresponding obligation to provide Performance Assurance. Performance Assurance will be equal to 15% of the Total Notional Value of the PPA, as specified in Exhibit G of the PPA (Appendix 1). The amount of required Performance Assurance will decline annually during commercial operation.

Any Letter of Credit must be issued by a U.S. commercial bank or a foreign bank with a U.S. branch, with such bank having a credit rating of at least A- from S&P, or the equivalent credit rating from Moody's or Fitch, and a minimum of \$10 billion in assets. The Letter of Credit must be in a form acceptable to the applicable Company, in whose favor the Letter of Credit is issued.

IX. RESERVATION OF RIGHTS

The Companies reserve the right, without qualification, to reject any or all Proposals and to waive any irregularity in submitted information. There is no assurance, expressed or implied, that any agreement will be executed pursuant to this RFP. The Companies may terminate negotiations with any Respondent at any time without liability.

Respondents are advised that any PPA executed by the Companies and any selected Respondent may not be an exclusive contract. In submitting a Proposal, Respondents will be deemed to have acknowledged that the Companies may contract with others for the same or similar deliverables or may otherwise obtain the same or similar deliverables by other means and on different terms.

The Companies also reserve the right to evaluate all Proposals received in any manner they elect to employ, to solicit additional Proposals if deemed necessary to do so, and to submit additional information requests to Respondents during the Proposal evaluation process.

This RFP shall not, by itself, give any right to any party for any claim against the Companies. Furthermore, by submitting a Proposal, the Respondent shall be deemed to have acknowledged that the Companies assume no liability in any fashion with respect to this RFP or any matters related thereto. By submission of a Proposal, the Respondent, for itself as well as for its successors and assignees (if any), agrees that, as between Respondent and the Companies, Respondent is solely responsible for all claims; demands; accounts; damages; costs; losses; and expenses in law or equity, known or unknown, foreseen or unforeseeable; arising from or out of this RFP.

The Companies shall not reimburse Respondent and Respondent is responsible for any cost(s) incurred in the preparation or submission of a Proposal, in negotiations for an agreement, and/or any other activity contemplated by the Proposal submitted in connection with this RFP.

X. CONFIDENTIALITY OF INFORMATION

All Proposals submitted in response to this RFP become the property of the Companies upon submittal. The Companies will take reasonable precautions and use reasonable efforts to protect any proprietary or confidential information contained in a Proposal, provided that the Respondent has clearly identified such information as proprietary and/or confidential on the page on which it appears. However, Respondent acknowledges that the Companies may be required to make such proprietary and/or confidential information available to Brattle, the PA PUC, court or other governmental agencies having jurisdiction over the services and products related to this RFP. In making such disclosure, the Companies will use reasonable efforts by, among other things, limiting disclosure to generic information (number of responsive Proposals and range of prices, contract lengths, and energy and SPAEC quantities) and refraining from disclosing the identity of any Respondent or providing any Respondent-specific information so long as such information otherwise continues to be confidential. The Companies will not be required to appeal or challenge any determination by the PA PUC, a court, or other governmental entity on the confidentiality or proprietary status of any information provided pursuant to this RFP.

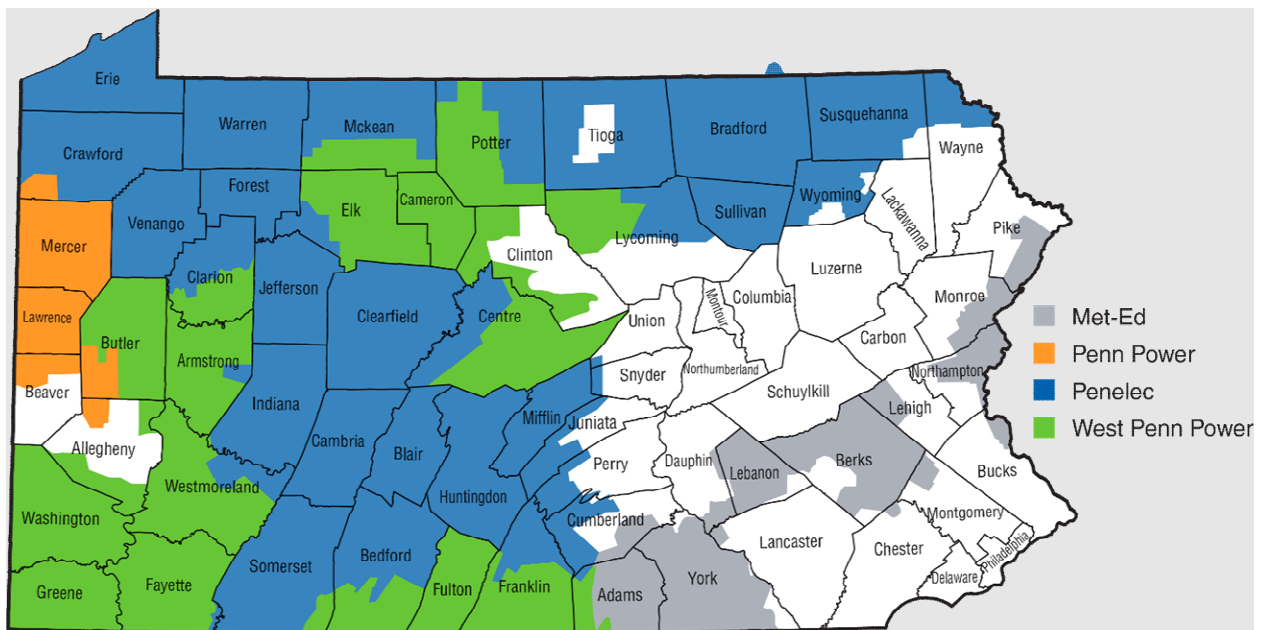
XI. REGULATORY APPROVALS

Respondent agrees to cooperate, to the fullest extent necessary, to obtain any and all state, federal, or other regulatory approvals the Companies deem to be required for the effectiveness of the PPA.

XII. ADDITIONAL INFORMATION

The map below indicates the approximate boundaries of the Companies' respective footprints.

Figure 1: FirstEnergy Pennsylvania Utilities Service Territories



Appendix 1

Form of Power Purchase Agreement

POWER PURCHASE AGREEMENT

for

[Metropolitan Edison Company]

[Pennsylvania Electric Company]

[Pennsylvania Power Company]

[West Penn Power Company]

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Exhibit H.....	Notice Information

POWER PURCHASE AGREEMENT

THIS POWER PURCHASE AGREEMENT (“Agreement”), made and entered into as of _____ (“Effective Date”), by and between _____ (“Buyer”), a Pennsylvania public utility company organized and existing under the laws of the Commonwealth of Pennsylvania, and _____, a _____ corporation (“Seller”). Buyer and Seller hereinafter are also sometimes referred to collectively as the “Parties”, or individually as a “Party”.

WITNESSETH:

WHEREAS, under the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. § 2801 et seq. (the “Competition Act” as amended from time to time), and under the Alternative Energy Portfolio Standards Act, 73 P.S. §§ 1648.1 et seq. (the “AEPS Act” as amended from time to time), Buyer is an electric distribution company engaged, *inter alia*, in providing retail electric service within its service territory located within the Commonwealth of Pennsylvania; and

WHEREAS, Buyer has conducted and completed a successful competitive bidding process for the procurement of Energy and Solar Photovoltaic Alternative Energy Credits (“SPAECs”) in which Seller was a successful bidder; and

WHEREAS, Seller plans to own and operate a solar energy generating Facility with an aggregate total nameplate capacity rating of [__] MW (the “Facility Nameplate Rating”) located in [_____], Pennsylvania; and

WHEREAS, Seller desires to sell and deliver to Buyer, and Buyer desires to purchase and receive, Energy and SPAECs generated by the Facility (collectively, the “Products”) in order to satisfy Buyer’s obligations under the Competition Act and AEPS Act, subject to the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, hereby covenant, promise and agree as follows:

ARTICLE 1
DEFINITIONS AND INTERPRETATION

1.1 Definitions. As used in this Agreement, the following terms have the respective meanings set forth below. Other capitalized terms not set forth in this section are defined elsewhere in this Agreement or have the meaning ascribed to them by the Act.

AEPS Act or **Alternative Energy Portfolio Standards Act** has the meaning set forth in the Recitals, and, among other things, requires Buyer to obtain alternative energy credits corresponding to electricity generated from Solar Photovoltaic Alternative Energy Sources equal to a stipulated percentage of the total electric energy sold by Buyer, as measured by Alternative Energy Credits.

Affiliate means, with respect to any Person, any other Person that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such Person. For this purpose, “control” means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

Affiliate Agreement means an agreement substantially in the form of this Agreement between Seller and any affiliate of the Company for the purchase and sale of Energy and SPAECs.

Agreement means all of the provisions, the exhibits incorporated as part of this Agreement, and any other documents incorporated by reference.

Alternative Energy Credit or “AEC” has the meaning ascribed to such term in the AEPS Act.

Alternative Energy Portfolio Standards or “AEPS” means those standards established by the Act requiring that a certain amount of electric energy sold from alternative energy sources is to be included as part of the sources of electric generation by electric utilities within the Commonwealth of Pennsylvania in accordance with the AEPS Act as it may be amended from time to time.

Alternative Energy Source has the meaning ascribed to such term in the AEPS Act, and includes sources for the production of solar photovoltaic or other solar electric energy.

Annual Notional Value has the meaning set forth in Exhibit G.

Bankruptcy Code means those laws of the United States of America related to bankruptcy, codified and enacted as Title 11 of the United States Code, entitled “Bankruptcy” and found at 11 U.S.C. § 1101 et seq.

Business Day means a day on which Federal Reserve member banks in New York City are open for business. For purposes of this Agreement, a Business Day shall open or begin at 8:00 a.m. and shall close or end at 5:00 p.m. Eastern Prevailing Time (“EPT”).

Buyer means Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company or West Penn Power Company as designated in the preamble hereto.

Buyer's Percentage means [____] percent [()] of the Facility Nameplate Rating, which shall not be less than [____] MW.

Change in Control means any circumstance in which Ultimate Parent ceases to own, directly or indirectly through one or more intermediate entities, at least fifty percent (50%) of the outstanding equity or voting interests in Seller. Notwithstanding the foregoing, the following shall not constitute a Change in Control: (a) any time in which the Seller retains a Qualified Operator to operate the Facility, (b) any transaction after which the Seller's Ultimate Parent, or their Affiliate, is a Qualified Operator, (c) the sale of any equity interest, directly or indirectly, in the Ultimate Parent, or the sale of any equity interest in any entity that owns, directly or indirectly, legally or beneficially an equity interest in Ultimate Parent, or (d) the sale of any indirect equity interest in Seller in connection with a tax equity or cash equity financing of the Facility; *provided*, that Seller or its Affiliate maintains day-to-day operational management rights to the Facility.

Change in Law means (i) the enactment, adoption, promulgation, modification or repeal after the Effective Date of any applicable Law; (ii) the imposition of any material conditions on the issuance or renewal of any applicable Permit after the Effective Date (notwithstanding the general requirements contained in any applicable permit at the time of application or issue to comply with future laws, ordinances, codes, rules, regulations or similar legislation), (iii) a change in any utility rate schedule or tariff approved by any Governmental Authority, or (iv) revocation of any tax credit, which establishes requirements or revokes beneficial laws or rules affecting owning, supplying, constructing, installing, operating, or maintaining the Facility, or other performance of Seller's obligations hereunder or which has a material adverse effect on the cost to Seller of maintaining such obligations.

Commission means the Pennsylvania Public Utility Commission.

Commodities Exchange Act means the Commodities Exchange Act as amended and codified at 7 U.S.C. § 1 et seq.

Competition Act has the meaning set forth in the Recitals, and, among other things, requires Buyer to obtain, through competitive procurement processes, a prudent mix of default service generation supply contracts designed to ensure adequate and reliable service at the least cost to customers over time.

Confidential Information means all oral and written information exchanged between the Parties which is not otherwise available to the public with respect to the subject matter of this Agreement except (a) information that is or becomes available to the public other than as a result of a disclosure by either Party on a non-confidential basis prior to this Agreement; (b) information that was already known by either Party on a non-confidential basis prior to this Agreement; and (c) information that becomes available to either Party on a non-confidential basis from a source

other than the other Party if such source was not subject to any prohibition against disclosing the information to such Party.

Contract Price means the price per MWh of Energy delivered to the Delivery Point for Buyer's account and SPAECs delivered to Buyer, as set forth on Exhibit D.

Contract Term has the meaning set forth in Section 2.1.

Contract Year shall mean the twelve (12) month period commencing on the Initial Delivery Date and each anniversary thereafter during the Services Term.

COVID-19 means the global pandemic associated with the outbreak of the disease designated as COVID-19 as declared by the World Health Organization on March 11, 2020, and any mutations thereof, and the actions of any Governmental Authority directly related thereto.

Credit Rating means, with respect to any Person, the rating then assigned to such Person's senior unsecured long-term debt obligations (not supported by third-party credit enhancements) by a Rating Agency or, if such Person does not have a rating for its senior unsecured long-term debt, then the "Issuer Credit Rating" for such Person established by S&P.

Delay Damages has the meaning set forth in Section 14.4.

Delivery Point means the PJM hub identified in Exhibit A.

Effective Date has the meaning set forth in the preamble hereto.

Electrical Interconnection Facilities means the equipment and facilities required to safely and reliably interconnect the Facility to the PJM Transmission System or the transmission system of another Transmitting Utility in whose territory the Facility is located, as applicable, including transformers and all switching, metering, communications, control and safety equipment, including the facilities described in Exhibit A.

Emergency means: (a) an abnormal system condition requiring manual or automatic action to maintain system frequency or voltage or to prevent loss of firm load, equipment damage or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; (b) system recovery from an abnormal condition that resulted in loss of firm load or equipment damage; or (c) a condition that requires implementation of "emergency procedures" (as defined by PJM or any Transmitting Utility).

Energy means three-phase, 60-cycle alternating current electric energy.

Event of Default has the meaning set forth in Sections 14.1 and 14.2.

Facility means the solar-energy generating facility, including the Electrical Interconnection Facilities and any other ancillary facilities and equipment, as more particularly described in Exhibit A.

Facility Commercial Operation means the condition of the Facility once it has achieved the following:

- (a) ninety percent (90%) of the Facility Nameplate Rating shall have been fully commissioned and shall be operational;
- (b) all performance testing of the Electrical Interconnection Facilities shall have been successfully completed in accordance with the PJM Agreements;
- (c) the Facility shall be operating and able to produce and deliver Energy to the Interconnection Point: (i) pursuant to the terms of this Agreement, the Interconnection Agreement, and all applicable Laws; and (ii) in accordance with Good Utility Practice; and
- (d) the SCADA system for the Facility shall have been installed and tested and shall be fully operational.

Facility Commercial Operation Date means the first date as of which: (a) Facility Commercial Operation has occurred; and (b) Seller shall have delivered to Buyer written certification of an authorized officer of Seller certifying that the Facility has achieved Facility Commercial Operation, which shall incorporate a certification of Facility Commercial Operation by a third party independent engineer experienced with such certifications for projects similar to the Facility and made as of the Facility Commercial Operation Date.

Facility Lender means any Person(s), other than Affiliates of Seller, that provide construction, working capital, or term debt financing for the Facility (including any agent(s) thereof).

Facility Meter means the revenue quality electricity generation meter, to be located at the metering point shown on Exhibit A, which shall register all Energy produced by the Facility and delivered to the Interconnection Point.

Facility Nameplate Rating has the meaning set forth in the Recitals hereto.

Facility Site means the property on which the Facility is located, as more particularly described in Exhibit A.

Fitch means Fitch Investor Service, Inc.

FERC means the Federal Energy Regulatory Commission.

Financing Assignment shall mean the consent to collateral assignment between Buyer, Seller, and Facility Lender, in a form reasonably satisfactory to Buyer, Seller, and Facility Lender.

Force Majeure means an event not anticipated as of the Effective Date, which is not within the reasonable control of the Party affected thereby or attributable to such Party's fault or negligence, and which by the exercise of due diligence the affected Party is unable to overcome or obtain or cause to be obtained a commercially reasonable substitute therefore. Force Majeure

includes, but is not limited to: acts of God, civil disturbance, sabotage, epidemic or pandemic (including COVID-19, but only as to future impacts that were not foreseeable as of the Effective Date), action or restraint by court order or public or government authority, so long as the affected Party has not applied for, or assisted in, the application for, and has opposed, where and to the extent reasonable, such government action. Notwithstanding the foregoing, under no circumstance shall a Force Majeure Event be based on: (i) a Change in Law that alters either Party's costs in connection with this Agreement, operation of the Facility, or the value of the Products delivered under this Agreement or affects in any other material way the purpose or economics of this Agreement; (ii) Seller's ability to sell a Product at a price greater than that received under the terms of this Agreement; (iii) Buyer's ability to purchase a Product at a price lower than paid under the terms of this Agreement; (iv) delays or nonperformance by suppliers, vendors or other third parties with whom a Party has contracted, unless such delay or nonperformance is itself caused by a Force Majeure Event; and (v) any other economic hardship or changes in market conditions affecting the economics of one of the Parties but not the other.

Forward Contract has the meaning ascribed to such term in Section 101(25) of the Bankruptcy Code.

Forward Contract Merchant has the meaning ascribed to such term in Section 101(26) of the Bankruptcy Code.

GATS Operating Rules means the operating rules for the GATS (including successor versions), as published by PJM Environmental Information Services, Inc.

Generator Attribute Tracking System or **GATS** means the system (or its successor) operated by PJM Environmental Information Services, Inc. in accordance with the GATS Operating Rules to provide environmental and emissions attributes reporting and tracking services to its subscribers.

Good Utility Practice means the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry (in the case of Buyer) or the solar industry (in the case of Seller) during the relevant time period, and any of the practices, methods, and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision is made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, and acts generally accepted in the region.

Governmental Authority means the federal government, any state or local government or other political subdivision thereof (whether federal, state, or local), any court and any administrative agency or other regulatory body, instrumentality, authority, or entity exercising executive, legislative, judicial, regulatory, or administrative functions of or pertaining to government.

Guaranteed Initial Delivery Date means [_____]; *provided, however*, that the Guaranteed Initial Delivery Date shall be extended on a day-for-day basis for up to six (6) months to the extent that the Initial Delivery Date is delayed as a result of a Force Majeure Event.

Guaranteed Availability Percentage has the meaning set forth in Exhibit C.

Guarantor means any Person that: (a) guarantees Seller’s financial obligations under this Agreement pursuant to a Guaranty; (b) is an Affiliate of Seller; (c) has a Credit Rating from at least two (2) of the Rating Agencies; (d) has no Credit Rating from any Rating Agency less than the Minimum Acceptable Credit Rating; and (e) is incorporated or organized in a jurisdiction of the United States and is in good standing in such jurisdiction.

Guaranty means a Guaranty Agreement in favor of Buyer, delivered by a Guarantor to Buyer, in the form of Exhibit E.

Initial Delivery Date means the date on which the conditions set forth in Section 3.1 have been satisfied or waived in writing by Buyer.

Interconnection Agreement means an agreement between Seller and the Transmitting Utility (which may be Buyer or an Affiliate of Buyer) in whose territory the Facility is located regarding interconnection of the Facility to the transmission system of the Transmitting Utility.

Interconnection Point means the physical point of interconnection between the Electrical Interconnection Facilities and the electrical transmission system of the Transmitting Utility.

Instructed Operation means a mandatory direction by a Transmitting Utility to meet an Emergency or a transmission system reliability need, including voltage support.

Interest Rate means a per annum rate of interest equal to two (2%) percent over the prime lending rate as published from time to time in the Wall Street Journal under “Money Rates” on the date on which any payment or delivery obligation is due (or if not published on such day on the most recent preceding day on which it is published), but in no event to exceed the maximum lawful rate.

Internal Bilateral Transfer has the meaning given to such term in the PJM Agreements.

Investment Grade shall mean at least two of the following three Credit Ratings: “BBB-” or better from S&P, “BBB-” or better from Fitch, or “Baa3” or better from Moody’s.

kW means kilowatt.

Law means any statute, law, treaty, convention, rule, regulation, ordinance, code, Permit, enactment, injunction, order, writ, decision, authorization, judgment, decree, or other legal or regulatory determination or restriction issued, adopted, administered, or implemented by a court or Governmental Authority, including any of the foregoing that are enacted, amended, or issued after the Effective Date, and any binding interpretations of any of the foregoing.

Letter of Credit means an irrevocable standby letter of credit in favor of Buyer issued by a Qualified Institution, in the form of Exhibit F or such other form as may reasonably be agreed by the Parties.

Lien means any encumbrance of any nature, including (but not limited to) any mortgage, deed of trust, lien, pledge, charge, claim, security interest, easement, covenant, right-of-way, restriction, equity interest, and conditional sales agreement.

Market Participant has the meaning set forth in the PJM Operating Agreement.

Market Price means the market price determined based on the average of prices quoted by three (3) reputable, independent third-party leading market dealers, which are regularly engaged in the buying and selling of AECs and SPAECs.

Milestone Schedule has the meaning set forth in Section 6.1.

Minimum Acceptable Credit Rating means a Credit Rating equal to or better than (a) “BBB-” by S&P; (b) “BBB-” by Moody’s; and (c) “Baa3” by Fitch

Moody’s means Moody’s Investor Services, Inc.

MW means megawatt.

MWh means megawatt-hour.

NERC means the North American Electric Reliability Council, or any other Person designated by FERC to perform its functions.

Performance Assurance means collateral in the form of cash, Letter(s) of Credit, or other security acceptable to Buyer, in each case in accordance with Article 10 unless otherwise approved by Buyer.

Performance Assurance Amount has the meaning set forth in Exhibit G.

Permit means any permit, authorization, license, order, consent, waiver, exception, exemption, variance, or other approval by or from, and any filing, report, certification, declaration, notice, or submission to or with, any Governmental Authority required to authorize action, including any of the foregoing relating to the ownership, siting, construction, operation, use, or maintenance of the Facility under any applicable Law.

Person means an individual, partnership, joint venture, corporation, limited liability company, trust, association, unincorporated organization, or Governmental Authority.

PJM means PJM Interconnection, L.L.C., a regional transmission organization that coordinates and directs the operation and ensures reliability of the high-voltage electric power system service for all or parts of the territory consisting of the states of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

PJM Agreements means the PJM Tariff, the PJM Operating Agreement, and any other applicable PJM bylaws, procedures, manuals or documents.

PJM Member means any entity satisfying the requirements of PJM to conduct business with PJM.

PJM Operating Agreement means the Operating Agreement of PJM.

PJM Tariff means the Open Access Transmission Tariff of PJM.

PJM Transmission System means the system of transmission lines and associated facilities that have been placed under PJM’s operational control.

Products has the meaning set forth in the Recitals hereto; provided, however, that the Products do not include: Project Benefits or any item that would otherwise be an environmental benefit or attribute under this definition that is not required for use of the SPAEC for compliance with the AEPS Act.

Project Benefits means production tax credits, investment tax credits, or other direct, third-party federal, state, or local subsidies, incentives, grants, credits, rebates, or funding for the purchase, ownership, construction, or operation of a Facility, or the generation of electricity or production of Alternative Energy Credits by a Facility.

Qualified Institution means a U.S. commercial bank (or a foreign bank with a U.S. branch) having total assets of at least \$10 billion dollars (\$10,000,000,000.00) and a Credit Rating equal to or better than “A-” by S&P and an equivalent Credit Rating by Moody’s or Fitch.

Qualified Operator means an entity that, together with its Affiliates, owns or operates renewable electricity generating assets that have a nameplate capacity of not less than 500 MW in the aggregate in the United States (excluding the Facility).

Rating Agency or **Rating Agencies** shall mean, individually or collectively, S&P, Moody’s, and Fitch.

Regional Reliability Entity means the organization designated by NERC responsible for establishing and implementing reliability criteria and protocols for the Facility.

S&P means Standard & Poor’s Ratings Group, a division of McGraw Hill, Inc.

Services Term means the period commencing on the Initial Delivery Date and ending [__ (__)] years thereafter.

Solar Photovoltaic Alternative Energy Credit or “**SPAEC**” means an Alternative Energy Credit corresponding to the production of solar photovoltaic electricity as set forth in the AEPS Act.

Solar Photovoltaic Alternative Energy Source means a source for the production of solar photovoltaic electricity as set forth in the AEPS Act.

Taxes means, but is not limited to, any or all ad valorem, property, occupation, severance, first use, conservation, gross receipts, privilege, sales, use, consumption, excise, lease, transaction, and other taxes, governmental charges, licenses, fees, permits, and assessments, or increases therein, other than taxes based on net income or net worth. A tax is not a penalty or a fine.

Total Notional Value has the meaning set forth in Exhibit G.

Transmitting Utility means any utility (including its control area operator) that transmits Energy from the Interconnection Point to the Delivery Point.

Ultimate Parent means [_____] or its successor.

1.2 Interpretation. Unless otherwise indicated (a) defined terms include the plural as well as the singular; (b) any agreement defined or referred to herein includes each amendment, modification and supplement thereto and waiver, approval and consent in respect thereof as may become effective from time to time and includes references to all appendices, exhibits, schedules and other attachments thereto and instruments, agreements, or other documents incorporated therein; (c) any term defined by reference to any instrument, agreement, or other document has such meaning set forth in such document as of the date hereof and such meaning shall remain in effect whether or not such document is subsequently amended, modified, or terminated; (d) a reference to any law or regulations includes any amendment, modification, or successor thereto; (e) a reference to any Person includes its permitted successors and assigns; (f) all references to appendices, sections, schedules, and exhibits shall mean and refer to the respective appendices, sections, schedules, and exhibits in or attached to the agreement or document in which such reference appears; (g) the words “include,” “includes” and “including” are not limiting and shall be deemed to be followed by the words “without limitation” whether or not in fact followed by such words or words of like import; (h) the terms “hereof,” “herein,” “hereunder” and comparable terms refer to this entire Agreement with respect to which such terms are used and not to any particular article, Section, or subdivision hereof; and (i) references to “termination of this Agreement,” “this Agreement is terminated,” “this Agreement may be terminated,” and similar expressions used in this Agreement refer to the termination of deliveries under this Agreement and related on-going rights and obligations, and does not imply or mean a termination of rights, remedies, obligations and provisions, which by their nature, or as provided elsewhere in this Agreement, survive termination.

ARTICLE 2 TERM OF AGREEMENT

2.1 Term. The term of this Agreement (“Contract Term”) will commence upon the Effective Date and, unless earlier terminated pursuant to the express provisions of this Agreement, will continue until the end of the Services Term; provided, however, that all provisions of this Agreement which must, in order to give full force and effect to the rights and obligations of the Parties, survive termination or expiration of this Agreement, shall so survive, including Articles 14, 15, 16 and 17.

2.2 Early Termination. This Agreement may be terminated prior to the end of the Services Term as follows:

- (a) At any time by the mutual consent of the Parties;
- (b) As provided in, and which such notice as required by, Article 14, by the Non-Defaulting Party if an Event of Default occurs;
- (c) By either Party if any delay or failure of performance caused by a Force Majeure Event continues for an uninterrupted period of one hundred eighty (180) days or longer and upon not less than thirty (30) days' advance written notice from the non-claiming Party.

2.3 Impact of Termination on Accrued Obligations. Termination of this Agreement for any reason shall not relieve the Parties of any obligation accrued or accruing prior to such termination.

ARTICLE 3 CONDITIONS PRECEDENT

3.1 Initial Delivery Date. The Initial Delivery Date shall occur upon the satisfaction or waiver in writing by Buyer of the following conditions precedent:

- (a) the Facility Commercial Operation Date shall have occurred or will occur simultaneously with the Initial Delivery Date;
- (b) Seller shall have obtained (and demonstrated possession of) all Permits required to commence delivery of Energy from the Facility and satisfy the conditions of Facility Commercial Operation, other than those that would not have a material adverse effect on Seller's ability to perform its obligations under this Agreement;
- (c) no Seller default or Event of Default shall be occurring;
- (d) Seller shall be a PJM Member and shall have entered into all required PJM Agreements required for the performance of Seller's obligations in connection with the Facility and this Agreement, which agreements shall be in full force and effect or Seller shall have entered into an agreement with a Market Participant that will perform all of Seller's PJM-related obligations in connection with the Facility and this Agreement;
- (e) the Facility shall have been qualified and certified by the Commission as a Solar Photovoltaic Alternative Energy Source;
- (f) Seller shall have made all filings and applications required for accreditation of the Facility in GATS and for the registration, origination, and transfer of SPAECs from the Facility that are eligible for origination, registration, and transfer under GATS;
- (g) Seller shall have entered into all agreements and made all filings and other arrangements necessary for the transmission and delivery of the Energy

associated with Buyer's Percentage of the Facility from the Facility to the Delivery Point;

- (h) Seller shall have obtained all necessary authorizations from FERC to sell Energy at market-based rates as contemplated by this Agreement and shall be in compliance with such authorization;
- (i) Seller shall have delivered a Guaranty or other required Performance Assurance, as required pursuant to Article 10;
- (j) Seller shall have obtained all rights to the Facility Site necessary for performance of its obligations under the Agreement for the Services Term;
- (k) Seller shall have provided Buyer with written evidence that all of the preceding conditions have been satisfied.

ARTICLE 4 PURCHASE AND SALE OF PRODUCTS

4.1 Purchase and Sale Obligation. Subject to Seller's rights pursuant to Section 4.3, during the Services Term Seller shall: (a) deliver and sell Buyer's Percentage of all Products produced by, or associated with, the Facility to Buyer; and (b) not offer, deliver, sell, or make available to any Person other than Buyer, Buyer's Percentage of all Products produced by, or associated with, the Facility. Subject to the rights of the Parties pursuant to Sections 4.3 and 4.4, during the Services Term Buyer shall: (i) have the exclusive right to purchase and receive Buyer's Percentage of all Products produced by, or associated with, the Facility; and (ii) accept and purchase Buyer's Percentage of all Products produced by, or associated with, the Facility and delivered to Buyer in accordance with the terms and conditions of this Agreement.

4.2 Quantity. The quantity of Energy required to be delivered by Seller to Buyer shall be equal to Buyer's Percentage of the Energy produced by the Facility, as recognized by PJM at the Interconnection Point. The quantity of SPAECs required to be delivered by Seller to Buyer shall be equal to Buyer's Percentage of the Energy produced by the Facility. For the avoidance of doubt, Energy that may be stored by Seller in any device capable of storing Energy will not be part of the Products until the Energy is delivered to Buyer at the Delivery Point.

4.3 Limitations on Seller's Obligation to Sell. Notwithstanding anything to the contrary set forth herein, Seller may sell any or all Energy produced by the Facility to Persons other than Buyer to the extent it is unable to deliver Buyer's Percentage of such Energy to the Delivery Point due to a Force Majeure Event or an Instructed Operation; provided, however, that during any such period, Seller shall remain obligated to deliver and sell Buyer's Percentage of SPAECs produced by or associated with the Facility to Buyer. For purposes of this provision, Buyer shall purchase the SPAECs at a price determined by taking the average of two price quotes for comparable SPAECs with the same vintage generated by a similar solar energy generating facility in Pennsylvania, with each such price quote to be obtained from a nationally recognized broker (with one broker selected by Seller and the other broker selected by Buyer).

4.4 Limitations on Buyer’s Obligation to Buy. Notwithstanding anything to the contrary set forth in this Agreement: (a) Buyer shall not be obligated to accept delivery of any Energy from Seller under this Agreement to the extent it is unable to do so due to a Force Majeure Event or an Instructed Operation; (b) Buyer shall have no obligation to purchase any Energy or SPAECs generated by the Facility prior to the Initial Delivery Date; (c) Buyer is purchasing only Energy and SPAECs from the Facility, and is not purchasing capacity, ancillary services, or any other product of the Facility, which shall remain the property of Seller; and (d) Buyer’s obligation to make purchases of Energy pursuant to this Agreement is expressly conditioned on the delivery and sale by Seller, in accordance with the terms of this Agreement, of SPAECs in an amount corresponding to the Energy from the Facility delivered by Seller.

4.5 Origination of SPAECs. SPAECs provided by Seller to Buyer hereunder shall be required to originate from Energy produced by the Facility.

ARTICLE 5 SCHEDULING AND DELIVERY OF PRODUCTS

5.1 Delivery of Energy. Seller shall be solely responsible for arranging, scheduling with PJM and other Transmitting Utilities, and delivering Energy from the Facility to be delivered hereunder to the Delivery Point. As between the Parties, Seller shall be solely responsible for any and all costs and charges (including penalties) incurred in connection therewith, whether imposed pursuant to standards or provisions established by FERC, any other Governmental Authority or any Transmitting Utility, including transmission costs, scheduling costs, imbalance costs, congestion costs, operating reserve charges (day-ahead and balancing), any losses between the Interconnection Point and the Delivery Point, and the cost of firm transmission rights. Buyer shall arrange, schedule with PJM and be responsible for transmission of Energy from the Delivery Point and shall, as between the Parties, be solely responsible for any and all costs and charges (including penalties) incurred in connection therewith, whether imposed pursuant to standards or provisions established by FERC, any other Governmental Authority or PJM, including transmission costs, scheduling costs, imbalance costs, congestion costs, and the cost of firm transmission rights.

5.2 Delivery of SPAECs. Seller shall: (a) take all actions necessary to register, certify, and transfer SPAECs from Seller to Buyer in accordance with GATS and applicable Law; and (b) bear all costs associated therewith, including program fees and registration fees. Seller shall comply with the AEPS Act in connection with Seller’s transfer of SPAECs to Buyer hereunder.

5.3 Risk of Loss, Title and Ownership.

5.3.1 Title to, and risk of loss (including risks and costs associated with any transmission outages or curtailment up to and at the Delivery Point) related to Energy sold by Seller to Buyer pursuant to this Agreement shall pass and transfer from Seller to Buyer upon delivery thereof for Buyer’s account at the Delivery Point. Seller covenants that it shall have good and marketable title to all Energy delivered to Buyer at the Delivery Point and that it has

the right to, and will, sell and deliver such Energy to Buyer free and clear of all Liens.

- 5.3.2 Title to, and risk of loss related to, SPAECs sold by Seller to Buyer pursuant to this Agreement shall pass and transfer from Seller to Buyer upon the completion of the recordation of transfer and physical or electronic delivery of such SPAECs to Buyer in definitive form in accordance with GATS Operating Rules or other applicable Law. Seller shall transfer certificates into Buyer's GATS account(s) as necessary to transfer SPAECs to Buyer under GATS. Seller covenants that it shall have good and marketable title to all SPAECs delivered to Buyer and that it has the right to, and will, sell and deliver such SPAECs to Buyer free and clear of all Liens. Buyer shall have sole, exclusive and perpetual ownership of all SPAECs delivered to Buyer by Seller under this Agreement, including all rights to sell, assign, transfer, apply, or retire any SPAEC delivered to Buyer by Seller.

5.4 PJM E-Accounts. Each of Buyer and Seller shall establish and maintain for the duration of the Services Term, separate PJM E-Accounts for Seller to provide and Buyer to receive Products. PJM's Internal Bilateral Transfer mechanism, or successor, will settle the physical delivery of energy between the Seller and Buyer.

ARTICLE 6 SELLER COVENANTS

6.1 Construction, Progress Reports, and Facility Commercial Operation. Seller shall construct the Facility in accordance with the specifications set forth in Exhibit A. The non-binding milestone schedule for development, construction, and completion of the Facility anticipated as of the Effective Date is set forth in Exhibit B (the "Milestone Schedule"). Seller shall prepare and submit to Buyer written progress reports, in a form reasonably satisfactory to Buyer, describing the status of development and construction of the Facility and all milestones, including the status of each of the conditions precedent to the Initial Delivery Date set forth in Section 3.1. Such progress reports shall be submitted: (a) on a monthly basis commencing no later than two (2) years prior to Seller's anticipated Initial Delivery Date; and (b) on a weekly basis commencing forty-five (45) days prior to Seller's anticipated Initial Delivery Date. In addition to such progress reports, Seller shall promptly provide to Buyer any written reports regarding the status of development of the Facility that are delivered to Facility Lenders or their representatives.

6.2 Compliance with Law and Utility Requirements. Seller shall comply with, and cause the Facility to comply with: (a) Good Utility Practice; (b) all applicable requirements of Law; and (c) all applicable rules, procedures, operating policies, criteria, guidelines, and requirements imposed by the Commission, any other Governmental Authority, any Transmitting Utility, NERC and/or any Regional Reliability Entity, including, in each case, all practices, requirements, rules, procedures, and standards related to Seller's construction, ownership, operation, and maintenance of the Facility and its performance of its obligations under this Agreement (including obligations related to the generation, scheduling, and transmission of Energy), whether such requirements were imposed prior to or after the Effective Date. Seller

shall be solely responsible for registering as the “Generator Operator” of the Facility with NERC and any applicable Regional Reliability Entity.

6.3 Permits. Seller shall maintain in full force and effect all Permits necessary for it to perform its obligations under this Agreement, including all Permits necessary to operate and maintain the Facility.

6.4 Maintenance of Facility. To the extent required to achieve the Initial Delivery Date, and at all times during the Services Term, Seller shall maintain the Facility in accordance with Good Utility Practice.

6.5 Interconnection Agreement. Seller shall comply with the terms and conditions of the Interconnection Agreement.

6.6 Planned Outages. Seller shall not schedule a planned outage of the Facility or any portion thereof between June 15 and September 15 during any Contract Year. No later than thirty (30) days prior to Seller’s anticipated Initial Delivery Date, Seller shall deliver to Buyer a schedule of planned maintenance for the Facility for the following twelve (12) month period, which schedule shall: (a) be updated by Seller by each March 31 and September 30 to cover the twelve (12) month period following such update; (b) be consistent with the requirements of Good Utility Practice and the Interconnection Agreement; (c) indicate the planned commencement and completion dates for each planned maintenance during the period covered thereby, as well as the affected portion(s) of the Facility; and (d) be in form and substance reasonably acceptable to Buyer. To the extent Seller is required by any Transmitting Utility to provide information regarding maintenance, outages, or availability of the Facility, Seller shall, simultaneous with the submission thereof to such Transmitting Utility, deliver a copy thereof to Buyer.

6.7 PJM Membership. Seller shall, at all times during the Services Term, either: (a) be a member in good standing of PJM and be qualified as a PJM “Market Seller” pursuant to the PJM Agreements; or (b) have entered into an agreement with a Market Participant that will perform all of Seller’s PJM-related obligations in connection with the Facility and this Agreement.

6.8 Forecasts. Commencing thirty (30) days prior to the anticipated Initial Delivery Date, and throughout the Services Term, Seller shall prepare and deliver to Buyer on a monthly basis and in a form reasonably acceptable to Buyer, twelve (12) month rolling forecasts of Energy production by the Facility, which forecasts shall be prepared in good faith and in accordance with Good Utility Practice based on historical performance, maintenance schedules, Seller’s generation projections, and other relevant data and considerations.

6.9 Solar Photovoltaic Alternative Energy Source. Seller shall be solely responsible for certifying the Facility as a Solar Photovoltaic Alternative Energy Source under the AEPS Act and maintaining such certification during the Services Term.

6.10 Compliance Reporting. To the extent Buyer is subject to any certification or compliance reporting requirement with respect to the Products produced by Seller and delivered to Buyer hereunder, Seller shall use commercially reasonable efforts to provide any information

in its possession (or, if not in Seller's possession, available to it and not reasonably available to Buyer) reasonably necessary to permit Buyer to comply with any such reporting requirement.

6.11 Initial Delivery Date. Subject to Section 14.4, Seller shall achieve the Initial Delivery Date no later than the Guaranteed Initial Delivery Date. Seller shall provide Buyer with notice of (i) the expected occurrence of the Initial Delivery Date no later than thirty (30) days prior thereto; and (ii) the actual Initial Delivery Date no later than five (5) Business Days prior thereto.

6.12 Facility Guarantees. Seller guarantees that the Facility shall maintain the Availability Percentage required under Exhibit C, and shall pay Availability Damages, if any are due pursuant to Exhibit C.

6.13 Facility Design and Costs. As between Buyer and Seller, Seller (including its contractors and subcontractors) is solely responsible for all Facility design and all costs of installing, developing, financing, operating, maintaining and, to the extent applicable, removing the Facility from the Facility Site. Nothing in this Agreement or the Buyer's review of Seller's reports, nor its monitoring of the development and construction of the Facility, shall be construed as endorsement by Buyer of the design, engineering, construction, or testing of the Facility nor as any express or implied warranty as to the performance, safety, durability, or reliability of the Facility.

6.14 No Interference with Buyer's Products. Unless Buyer has agreed in writing, Seller shall not monetize or otherwise secure the benefits of the Energy and SPAECs of the Facility on behalf of any other Person if such action interferes with the qualification, scheduling, or transfer of the Products to Buyer as provided in this Agreement.

6.15 Insurance. Seller shall maintain at its sole expense, commencing with the Effective Date and continuing through the Contract Term, insurance for the Facility (including commercial general liability insurance) customarily maintained for facilities of similar type and size in Pennsylvania, but no less than a commercially reasonable business would obtain for a facility of similar value and operation. Seller shall provide certificates of insurance or other reasonable evidence of such insurance coverage acceptable to Buyer upon request. Failure to obtain and maintain the required insurance shall constitute a breach of the Agreement and Seller will be liable for any and all costs, liabilities, damages, and penalties (including attorneys' fees, court, and settlement expenses) resulting to Buyer from such breach, unless a written waiver of the specific insurance requirement is provided to Seller by Buyer and such failure may constitute an Event of Default in accordance with Section 14.2. Failure of Seller to provide insurance as herein required or failure of Buyer to require evidence of insurance or to notify Seller of any breach by Seller of the requirements of this Section shall not be deemed to be a waiver by Buyer of any of the terms and conditions of this Agreement, nor shall they be deemed to be a waiver of the obligation of Seller to defend, indemnify, and hold harmless Buyer as required herein. The obligation to procure and maintain any insurance required is a separate responsibility of Seller and independent of the duty to furnish a copy or certificate of such insurance policies. Notwithstanding any provision of this Agreement, none of the requirements contained herein as to insurance coverage to be maintained by Seller are intended to and shall not in any manner

limit, qualify, or quantify the liabilities and obligations assumed by Seller under this Agreement, any other agreement with Buyer or its Affiliates, or otherwise provided by Law.

6.16 Facility Site Visits; Publicity. During the Contract Term, Buyer may request permission from Seller to visit the Facility site during normal business hours to monitor the construction, start-up, testing, and operation of the Facility at the Site and to verify compliance with this Agreement. Seller shall accommodate Buyer's reasonable requests for such visits, provided that Buyer shall comply with Seller's safety policies and instructions during any such visit to the Facility. Upon request by Buyer, Seller shall use reasonable efforts to permit Buyer to take photographs of the Facility, which photographs, if approved by Seller, may be used by Buyer for publicity purposes and internal communications. No Party shall issue any press release or make any public announcement relating to the subject matter of this Agreement without the prior written approval of the other Party, which approval shall not be unreasonably withheld. The preceding sentence shall not apply to communications or other filings with Governmental Authorities by Buyer, including any filings with the Commission or FERC.

ARTICLE 7 METERING

7.1 Metering. All electric metering associated with the Facility, including the Facility Meter and any other real-time meters, billing meters and back-up meters, shall be installed, operated, maintained, and tested in accordance with Good Utility Practice and any applicable requirements and standards issued by NERC, the Transmitting Utility in whose territory the Interconnection Point is located, and any applicable Regional Reliability Entity. The Facility Meter shall be used for the registration, recording, and transmission of information regarding the Energy output of the Facility. As between the Parties, Seller, shall be responsible for the operation, maintenance, and calibration of the Facility Meter and any other real-time meters, billing meters, and back-up meters at the Facility in accordance with the Interconnection Agreement, Good Utility Practice, and any applicable requirements and standards issued by NERC, the Transmitting Utility in whose territory the Interconnection Point is located and any applicable Regional Reliability Entity. Seller shall provide Buyer with a copy of all metering, testing and calibration information and documents regarding the Facility Meter and any other real-time meters, billing meters, and back-up meters at the Facility promptly following receipt thereof by Seller.

7.2 Measurements. Readings of the Facility Meter and any other real-time meters, billing meters, and back-up meters at the Facility by the Transmitting Utility in whose territory the Facility is located (or an independent Person mutually acceptable to the Parties) shall be conclusive as to the amount of Energy generated by the Facility; *provided, however*, that Seller, at the direction of Buyer and at Buyer's expense, shall cause the Facility Meter to be tested by the Transmitting Utility in whose territory the Facility is located, and if the Facility Meter is out of service or is determined to be registering inaccurately by more than two percent (2%): (a) measurement of Energy produced by the Facility shall be adjusted in accordance with the filed tariff of such Transmitting Utility; and (b) Seller shall reimburse Buyer for the cost of such test of the Facility Meter.

7.3 Testing and Calibration. Buyer shall have the right to have a representative(s) present during any testing or calibration of the Facility Meter and any other real-time meters, billing meters, and back-up meters at the Facility.

7.4 Audit of Facility Meter. Buyer shall have access to the Facility Meter and any other real-time meters, billing meters, and back-up meters at the Facility and the right to audit all information and test data related to such meters.

7.5 Notice of Malfunction. Seller shall provide Buyer with prompt notice upon becoming aware of any material malfunction or other failure of the Facility Meter or other telemetry equipment necessary to accurately report the quantity of Energy being produced by the Facility.

7.6 Telemetry. The Facility Meter shall be capable of sending meter telemetry into the PJM Power Meter system and Seller shall provide Buyer with access to such Power Meter data. Seller shall transmit to Buyer, via virtual private network, all telemetry data measured by the Facility Meter, including MW, MVAR, MWh, MVARh, isolation breaker open/closed status, interconnection bus voltage and amp flow. Without limiting the foregoing, all such telemetry equipment shall comply with PJM requirements for PJM transmission owners.

ARTICLE 8 BILLING AND PAYMENT

8.1 Price for Energy and SPAECs. Buyer shall pay the Contract Price for all Energy delivered to the Delivery Point for Buyer's account and SPAECs delivered to Buyer in accordance with Sections 5.1 and 5.2. Buyer shall not be obligated to make any other payments to Seller for any Energy or SPAECs delivered or required to be delivered by Seller to Buyer pursuant to this Agreement.

8.2 Billing. Unless otherwise agreed to by the Parties, on or before the fifteenth (15th) day of each month (or the first Business Day thereafter), Seller shall deliver to Buyer, via electronic transmission or other means agreed to by the Parties, an invoice ("Invoice") that sets forth: (a) the net amount due from one Party to the other for all Products delivered by Seller to Buyer pursuant to the terms of this Agreement as of the end of the immediately preceding calendar month; and (b) any other credits, charges, and liabilities due pursuant to the terms of this Agreement, including any adjustments and outstanding amounts due pursuant to prior Invoices. All Invoices to Buyer shall include the supporting documentation reasonably necessary to demonstrate how the Invoice amounts were calculated, including information from PJM to substantiate all calculations of the Energy delivered by Seller to the Delivery Point and GATS documentation of SPAEC transfers to Buyer, and any additional information reasonably requested by Buyer. All Invoices will be accumulated by Buyer over a sixty (60) day period (the "Accumulation Period"). Buyer shall pay to Seller or Seller shall pay to Buyer, as the case may be, the total amount due on the first(1st) Business Day of the month following the end of the Accumulation Period (such day, the "Settlement Date").

8.3 Payment. All payments shall be made by "Electronic Funds Transfer" (EFT) via "Automated Clearing House" (ACH), to a bank designated in writing by the Party to which

payment is owed, by 11:59:59 pm EPT on the Settlement Date. Payment of an Invoice shall not be deemed an admission or waiver with respect to any matter related to such Invoice or the charges reflected therein.

8.4 Interest. Interest on delinquent amounts (including amounts determined to be owed as a result of the resolution of a billing dispute) shall be calculated at the Interest Rate (a) from the original due date (or, for amounts not properly invoiced, the date that would have been the due date if such amounts were properly invoiced) to the date of payment; or (b) in the case of reimbursement obligations, from the date an overpayment was received until the date of reimbursement.

8.5 Set-Off. Each of Buyer and Seller shall have the right to set-off any undisputed amounts owed by the other Party pursuant to this Agreement against any undisputed amounts that it owes to such Party pursuant to this Agreement.

8.6 Billing Disputes. Either Party may, in good faith, dispute any amount charged or paid pursuant to an Invoice within twelve (12) months of the date of such Invoice by providing a written statement setting forth the basis of such dispute. Each Party shall remain obligated to pay any undisputed amounts pending resolution of a billing dispute. Failure by a Party to deliver notice of a billing dispute within the time period set forth herein shall be deemed a waiver of such Party's right to dispute such Invoice. The Parties shall continue to perform under this Agreement during the period of any billing dispute but shall not be precluded from exercising any other remedy available under this Agreement. A billing dispute shall be subject to the provisions of Article 17. Any amount determined to be owed as a result of the resolution of a billing dispute shall be paid within fifteen (15) days of such resolution, along with accrued interest in accordance with Section 8.4.

8.7 PJM Accounting Procedures. Each of Buyer and Seller shall comply with all applicable PJM accounting procedures in connection with invoicing and settlement for amounts due under this Agreement.

ARTICLE 9 TAXES AND FEES

9.1 Taxes, Fees, and Expenses.

9.1.1 Seller shall pay any and all Taxes, costs, fees, and expenses, including any and all Taxes and transaction costs, fees, and expenses attributable to or arising from the sale of the Products under this Agreement, including ad valorem taxes, taxes related to the operation or maintenance of the Facility, and other taxes attributable to the Facility or interests in land associated with the Facility.

9.1.2 Buyer shall pay any and all Taxes, costs, fees, and expenses on or with respect to the Products being delivered to Buyer hereunder after delivery thereof in accordance with this Agreement (other than ad valorem,

franchise, or income taxes related to the sale of the Products, which shall be the responsibility of Seller).

- 9.1.3 If Buyer is required by law or regulation to remit or pay Taxes, which are Seller's responsibility hereunder, Buyer may deduct the amount of any such Taxes from the sums due to Seller under this Agreement.
- 9.1.4 Nothing herein shall obligate or cause a Party to pay or be liable to pay any Taxes for which it is exempt under the law and for which it timely asserts and diligently pursues such exemption, until final determination thereof.

ARTICLE 10 CREDIT AND SECURITY

10.1 Credit Support. If Seller (or Seller's Guarantor, if any) is rated at or above Investment Grade and provides a Guaranty, Seller shall have no requirement to provide Performance Assurance. If during the Contract Term, Seller (or Seller's Guarantor, if any) is no longer rated at or above Investment Grade, Seller must post, within five (5) Business Days, Performance Assurance equal to the Performance Assurance Amount.

10.2 Grant of Security Interest. To secure its obligations under this Agreement, Seller hereby grants to Buyer a present and continuing security interest in, and lien on (and right of set-off against), and assignment of, all cash collateral and cash-equivalent collateral and any and all proceeds resulting therefrom or the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of, Buyer; provided, however, that such interest may be junior to an interest granted by Seller in such collateral or proceeds for purposes of financing the development, construction, or operation of the Facility. Seller agrees to take such action as reasonably required to perfect in favor of Buyer such security interest in, and lien on (and right of set-off against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof.

10.3 Remedies. Upon or any time after the occurrence of an Event of Default caused by Seller, Buyer may do any one or more of the following: (i) exercise any of the rights and remedies of Buyer with respect to all collateral, including any such rights and remedies under Law then in effect; (ii) exercise its rights of set-off against any and all property of Seller in the possession of Buyer, whether held in connection with this Agreement or any other agreement(s) between Buyer and Seller for the provision of Energy or SPAECs; (iii) draw on any outstanding Performance Assurance or Guaranty issued for Buyer's benefit; and (iv) liquidate all collateral security held by or for the benefit of Buyer free from any claim or right of any nature whatsoever of Seller, including any equity or right of purchase or redemption by Seller. Buyer shall apply the proceeds of the collateral security realized upon the exercise of such rights or remedies to reduce Seller's obligation under this Agreement or any other agreement(s) between Buyer and Seller for the provision of Energy or SPAECs (Seller remaining liable for any amounts owing to Buyer after such application), subject to Buyer's obligation to return any surplus proceeds remaining after such obligations are satisfied in full.

10.4 Forms of Performance Assurance. At Seller's choice, the following are deemed to be acceptable methods for posting Performance Assurance, if required:

- (a) Cash. Buyer shall not be entitled to hold Performance Assurance in the form of cash; rather, Performance Assurance in the form of cash shall be held in any Qualified Institution. Buyer will pay to Seller on the first Business Day of each calendar quarter the amount of interest it receives based upon the applicable overnight repurchase interest rate from the Qualified Institution on any Performance Assurance in the form of cash posted by Seller.
- (b) Letter of Credit. A Letter of Credit shall state that it shall renew automatically for successive one-year periods unless Buyer receives written notice from the issuing financial institution at least ninety (90) days prior to the expiration date stated in the Letter of Credit that the issuing financial institution elects not to extend the Letter of Credit. If Buyer receives notice from the issuing financial institution that the Letter of Credit will not be extended, Seller will be required to provide a substitute Letter of Credit from an alternative bank or financial institution. The receipt of the substitute Letter of Credit must be effective on or before the expiration date of the expiring Letter of Credit and delivered to Buyer at least ten (10) Business Days before the expiration date of the original Letter of Credit. If Seller fails to supply a substitute Letter of Credit as required herein, then Buyer will have the right to draw on the expiring Letter of Credit and to hold the amount as collateral. Seller shall have the right to amend its Letter of Credit to reflect any reduction of Performance Assurance under this Agreement.

10.5 Calling on Security. Buyer may call upon any Guaranty or the Performance Assurance posted by Seller if Seller fails to pay amounts due to Buyer pursuant to this Agreement, including any damages that may be due hereunder, or any other agreement(s) between Buyer and Seller for the provision of Energy and SPAECs after written notice of default is provided to Seller and any applicable cure period set forth in this Agreement ends. Within thirty (30) days of the Facility Commercial Operation Date, Seller shall replenish the Performance Assurance to the extent reduced by the amount of any draws prior to the Facility Commercial Operation Date and thereafter shall have no obligation to replenish the Performance Assurance.

10.6 Release of Security. Promptly following the end of the Contract Term or the earlier termination of this Agreement and the satisfaction of all of Seller's obligations hereunder, Buyer shall promptly release any Performance Assurance held by it to Seller.

10.7 No Limit of Liability. Except to the extent expressly stated in this Agreement, the required amounts of any cash or Letters of Credit shall not be deemed to be a limitation of Seller's liability.

ARTICLE 11
REPRESENTATIONS AND WARRANTIES

11.1 Representations and Warranties of Both Parties. As of the Effective Date, each Party hereby represents and warrants to the other Party that:

- (a) it is duly organized or formed, validly existing, and in good standing under the Laws of the jurisdiction of its organization or formation, and is qualified to conduct its business in all jurisdictions necessary to perform its obligations hereunder;
- (b) the execution, delivery, and performance of this Agreement are within its powers, have been duly authorized by all necessary action, and do not violate any of the terms or conditions in its governing documents, any agreement to which it is a party or by which it or any of its property is bound, or provisions of law applicable to it;
- (c) the execution, delivery and performance of this Agreement will not result in the creation or imposition of any Lien upon its properties (except as expressly contemplated in favor of Buyer pursuant to this Agreement), the creation or imposition of which could reasonably be expected to have a material adverse effect on its ability to perform its obligations under this Agreement;
- (d) except as set forth in and as required by this Agreement, no consent, approval, order or authorization of, or registration, declaration, or filing with, any Governmental Authority is required by such Party in connection with the execution, delivery or performance of this Agreement;
- (e) this Agreement constitutes its legal, valid, and binding obligation, enforceable against it in accordance with its terms, subject to bankruptcy, insolvency, reorganization, and other Laws affecting creditors' rights generally, and with regard to equitable remedies, to the discretion of the court before which proceedings to obtain same may be pending;
- (f) no Event of Default has occurred and there are no bankruptcy, insolvency, reorganization, receivership or other arrangement proceedings pending or being contemplated by it, or to its knowledge threatened against it;
- (g) to such Party's knowledge, there are no actions, proceedings, judgments, rulings or orders, issued by or pending before any Governmental Authority, that would materially adversely affect its ability to perform its obligations under this Agreement; and
- (h) it is acting for its own account, has made its own independent decision to enter into this Agreement and as to whether this Agreement is appropriate

or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Party in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions, and risks of this Agreement.

- (i) it has all Permits necessary for it to legally perform its obligations under this Agreement, or with respect to Seller, such Permits will be obtained by Seller in the ordinary course of its development and construction of the Facility; and
- (j) it is, and will continue to be for the Term, a Forward Contract Merchant both generally and with respect to the Product delivered and purchased under this Agreement.

11.2 Forward Contract. The Parties acknowledge that this Agreement is a Forward Contract and the Parties are Forward Contract Merchants, both generally and with respect to the deliveries of the Product pursuant to this Agreement, that each party is an “eligible contract participant” as set forth in the Commodities Exchange Act; and, accordingly, the Parties are entitled to the protections of the provisions of the Bankruptcy Code with respect to the rights or remedies afforded to non-bankrupt Forward Contract Merchants under Forward Contracts with bankrupt counter-parties. The Parties therefore agree that this Agreement may be terminated and the remedies hereunder exercised by either Party in accordance with Article 2 and Article 14 hereof upon the commencement of a proceeding by the other Party under any chapter of the Bankruptcy Code, and that the automatic stay of Section 362(a) of the Bankruptcy Code shall not apply to such termination.

11.3 Disclaimer of Implied Warranties. EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT, THERE ARE NO WARRANTIES OF ANY KIND, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY AND ALL IMPLIED WARRANTIES ARE DISCLAIMED:

ARTICLE 12 ASSIGNMENT

12.1 Assignment; Change in Control. Neither Party shall assign this Agreement or delegate its rights or obligations hereunder without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned, or delayed; otherwise any such assignment or delegation shall be voidable at the option of the other Party. Notwithstanding the foregoing, either Party may, without the prior consent of the other Party, (i) transfer, sell, pledge, encumber, or assign this Agreement or the accounts, revenues or proceeds hereof in connection with any financing or other financial arrangements (and without relieving itself from liability hereunder), (ii) transfer or assign this Agreement to an Affiliate of such Party which Affiliate’s creditworthiness is equal to or higher than that of such Party, or (iii) transfer or assign this Agreement to any person or entity succeeding to all or substantially all of the assets of such Party; provided, however, that in each such case, any such assignee shall agree in writing to be bound by the terms and conditions hereof, including the requirements for creditworthiness and security under Article 10 hereof, and that the transferring Party delivers such tax and enforceability assurance as

the non-transferring Party may reasonably request. A Change in Control of Seller will be subject to the prior written consent of Buyer, such consent not to be unreasonably withheld.

ARTICLE 13 FORCE MAJEURE

13.1 Force Majeure. If either Party is rendered unable by a Force Majeure event to carry out, in whole or in part, its obligations under this Agreement, then, during the pendency of such event of Force Majeure, but for no longer period, the obligations of the affected Party (other than the obligation to make payments hereunder when due) shall be suspended, subject to Section 2.2(c) hereof to the extent required.

13.2 Notice. The affected Party shall (i) give the other Party written notice within 48 hours of the commencement of the Force Majeure event, with details to be supplied within three (3) Business Days after the commencement of the Force Majeure event further describing the particulars of the occurrence of the Force Majeure event, and (ii) take all reasonable steps to remedy the cause of the Force Majeure event with all reasonable dispatch.

13.3 No Extension of Term. Whenever either Party is required to commence or complete any action within a specified period, such period shall be extended by an amount equal to the duration of any event of Force Majeure occurring or continuing during such period; provided, however, that, subject to Section 2.2(c) hereof, in no event will any Force Majeure event extend this Agreement beyond the Services Term.

ARTICLE 14 EVENTS OF DEFAULT; REMEDIES

14.1 Events of Default. An “Event of Default” by a Party (the “Defaulting Party”) shall mean the occurrence of any of the following:

- (a) the failure to make, when due, any undisputed payment required to be made pursuant to this Agreement if such failure is not remedied within three (3) Business Days after written notice thereof is received;
- (b) any representation, warranty, or covenant made by such Party herein shall be false or misleading in any material respect and shall remain uncured for a period of thirty (30) days after written notice thereof is received;
- (c) such Party’s unexcused failure to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default) if such failure is not remedied within thirty (30) days after written notice thereof is received;
- (d) such Party transfers or assigns or otherwise conveys any of its rights or obligations under this Agreement to another entity without the other Party’s prior written consent, to the extent such consent is required under this Agreement, or if at the time of such transfer, assignment, or conveyance, the resulting, surviving or transferee entity fails to assume all

the obligations of such Party under this Agreement by operation of law or pursuant to an agreement reasonably satisfactory to the other Party;

- (e) such Party is the subject of a voluntary bankruptcy, insolvency, or similar proceeding;
- (f) such Party applies for, seeks consent to, or acquiesces in the appointment of a receiver, custodian, trustee, liquidator, or similar official to manage all or a substantial portion of its assets; and
- (g) any Permit or government approval necessary for a Party to be able to perform as contemplated by this Agreement is not received, expires or is revoked, or suspended and is not renewed or reinstated within a reasonable period following the expiration, revocation, or suspension thereof, by reason of the action or inaction of such Party and such expiration, revocation, or suspension creates a material adverse impact to the other Party.

14.2 Additional Seller Events of Default. Any of the following events shall constitute an Event of Default of Seller.

- (a) The failure by Seller to achieve the Initial Delivery Date no later than one hundred eighty (180) days after the Guaranteed Initial Delivery Date, including any extensions for Force Majeure Events;
- (b) The failure by Seller to deliver to Buyer in accordance with this Agreement any Products required to be delivered hereunder or delivery or sale of any such Products to any Person other than Buyer if not expressly permitted under this Agreement and such failure is not remedied within five (5) Business Days after written notice thereof is received;
- (c) PJM shall have declared Seller to be in default of any provision of the PJM Agreements (after the applicable cure periods therein) if such default is not remedied within thirty (30) days after the declaration is made;
- (d) The failure by Seller to provide a Guaranty or other Performance Assurance as Required by Article 10;
- (e) The failure by Seller to comply with Section 6.7 if such failure is not remedied as soon as practicable (and no more than thirty (30) days) after Seller becomes aware of such failure;
- (f) The failure by Seller to obtain and maintain insurance as required under Section 6.16 if such failure is not remedied within ten (10) Business Days after written notice thereof is received; and
- (g) The failure by Seller to maintain the Availability Requirement, as required under Section 6.12.

14.3 General Remedies. If an Event of Default has occurred and is continuing with respect to a Defaulting Party, the other Party (the “Non-Defaulting Party”) shall have the right to (a) suspend performance under this Agreement, and/or (b) exercise any remedies available at law or in equity, including termination of this Agreement. Without limiting the generality of the foregoing, upon an Event of Default, the Non-Defaulting Party shall have the right to exercise its remedies under any Performance Assurance.

14.4 Delay Damages. In the event the Initial Delivery Date does not occur on or prior to the Guaranteed Initial Delivery Date, for each day beginning with the day after the Guaranteed Initial Delivery Date through and including the date on which the Initial Delivery Date occurs, Seller shall pay liquidated damages in the amount of \$0.20 per kW of Buyer’s Percentage of the Facility Nameplate Rating per day (“Delay Damages”). Delay Damages shall be paid by Seller within thirty (30) days after the end of the month in which the Delay Damages accrue. The Parties acknowledge and agree that (a) calculation of actual damages that Buyer would suffer as a result of a delay in the Initial Delivery Date would be difficult or impossible to ascertain; (b) obtaining an adequate remedy may be difficult; and (c) the amount of Delay Damages constitutes a fair and reasonable approximation of the damages Buyer will incur as a result of delay in the Initial Delivery Date and is not intended as, nor shall it be deemed, a penalty. Subject to Section 10.5 and excluding Buyer’s right to terminate as a result of a Seller Event of Default under Section 14.2.1, the rights set forth pursuant to this Section 14.4 shall be Buyer’s exclusive remedy for Seller’s delay in achieving the Guaranteed Initial Delivery Date. Buyer acknowledges and agrees that Seller’s liability for Delay Damages and any damages upon termination prior to the Initial Delivery Date shall in no event exceed, in the agreement, the applicable Performance Assurance Amount.

14.5 Damages on Termination.

- 14.5.1 Upon a termination of this Agreement by Buyer based on a Seller Event of Default other than an Event of Default under Section 14.2(a), Buyer shall be entitled to recover the net present value of (a) the replacement cost of Energy and SPAECs supplied from a solar energy generating resource less (b) the cost of Energy and SPAECs that Buyer would have incurred at the Contract Price, with all Energy delivered to the Delivery Point, during all hours of the Services Term (or the remainder thereof).
- 14.5.2 Upon a termination of this Agreement by Seller based on a Buyer Event of Default, Seller shall be entitled to recover the net present value of (a) the price of Energy and SPAECs at the Contract Price less (b) the market price of Energy at the Delivery Point and SPAECs supplied from a solar energy generating resource during all hours of the Services Term (or the remainder thereof) under a long-term contract for the Services Term (or the remainder thereof).
- 14.5.3 All calculations under this Section 14.5 shall be determined in a commercially reasonable manner, and may include reference to one or more third parties, which shall exclude Affiliates of the Non-Defaulting Party, including quotations (either firm or indicative) of relevant rates,

prices, yields, yield curves, volatilities, spreads, or other relevant market data in the relevant markets, comparable transactions, forward price curves based on economic analysis of the relevant markets, settlement prices for comparable transactions at liquid trading hubs, all of which should be calculated for the remaining Services Term and include the value of SPAECs. For the avoidance of doubt, the Non-Defaulting Party shall not be required to enter into a replacement transaction in order to establish the amounts owed under this Agreement.

- 14.5.4 The Parties acknowledge and agree that: (i) the inherent value of Energy supplied from a solar energy generating resource is a primary reason Buyer is entering into this Agreement; (ii) in the event of termination of this Agreement based on a Seller Event of Default, Buyer will likely be required to replace the Energy that would have been provided hereunder with Energy supplied from another solar energy generating resource; and (iii) in the event of termination of this Agreement by Seller based on a Buyer Event of Default, Seller will likely sell the Energy that would have been sold hereunder to a Party seeking Energy supplied from a solar energy generating resource.

14.6 Right of First Offer. If Seller or any Seller Affiliate seeks to enter into an agreement to sell any of the Products generated by a solar energy generating project on the approximate location of the Facility at any time after the Agreement has been terminated by Buyer due to a Seller Event of Default, or pursuant to Section 2.2(c), but prior to one hundred eighty (180) days after such termination, Buyer shall have a right of first offer for any proposed sale of the Products by Seller or Seller Affiliate. Buyer shall have thirty (30) days to submit a purchase offer after its receipt of written notice from Seller of the intention of Seller (or an Affiliate of Seller) to seek to enter into an agreement for the Products and Seller and its Affiliates shall negotiate a purchase agreement with Buyer in good faith. If no agreement is executed within forty-five (45) days following Buyer's delivery to Seller of such purchase offer, Seller and its Affiliates may negotiate with third parties for the sale of the Products; *provided, however*, such agreement may not be on terms more favorable to the new buyer than the terms set forth in Buyer's proposed purchase offer.

14.7 Facility Lender's Right to Cure. In connection with any financing or refinancing of the Facility by Seller, Buyer shall use good faith efforts to work with Seller and the Facility Lender to (1) agree upon a Financing Assignment of this Agreement, including with respect to: (i) Buyer's notice of any Seller Event of Default to such Facility Lender; and (ii) Buyer's acceptance of a cure of any Seller Event of Default by the Facility Lender, so long as the cure is accomplished within the applicable cure periods set forth in this Agreement or the Financing Assignment; and (2) execute and deliver any estoppels or other documents that may be reasonably required for Seller to finance or refinance the Facility. Seller shall promptly reimburse Buyer for its reasonable fees, including attorneys' fees, to review and prepare documents in connection with Seller's financing or refinancing of the Facility.

14.8 Exclusion of Consequential Damages. NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE,

EXEMPLARY, OR INDIRECT DAMAGES; LOST PROFITS; OR OTHER BUSINESS INTERRUPTION DAMAGES, BY STATUTE, IN TORT, CONTRACT, OR OTHERWISE; PROVIDED THAT THE FOREGOING EXCLUSION SHALL NOT PRECLUDE RECOVERY BY A PARTY OF ANY LIQUIDATED DAMAGES EXPRESSLY PROVIDED HEREIN, NOR SHALL IT BE CONSTRUED TO LIMIT RECOVERY BY AN INDEMNIFIED PERSON UNDER ANY INDEMNITY PROVISION IN RESPECT OF A THIRD-PARTY CLAIM OR WITH RESPECT TO THE GROSS NEGLIGENCE, FRAUD, OR WILLFUL MISCONDUCT OF A PARTY.

14.9 Liquidated Damages. The Parties acknowledge and agree that: (a) Buyer shall be damaged by Seller's failure to meet its obligations as specified in Sections 6.12 and 14.4; (b) it would be impracticable or extremely difficult to fix the actual damages resulting therefrom; (c) any sums that would be creditable or payable under those sections are in the nature of liquidated damages, and not a penalty, and are fair and reasonable; and (d) each payment represents a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from each such failure.

ARTICLE 15 INDEMNIFICATION

15.1 Indemnification Obligation. Each Party, to the extent permitted by law, shall indemnify, defend, and hold harmless the other Party, its affiliated companies, and all of their directors, officers, employees, agents, and representatives from and against all claims, liabilities, damages, losses, or expenses to the extent arising out of any negligence, willful misconduct, breach of contract, or violation of law of, or by, the indemnifying Party, its employees, agents, subcontractors, or assigns in the performance of this Agreement. In the event the Parties are jointly at fault, each Party shall indemnify the other in proportion to its relative fault.

15.2 Scope of Indemnification. The claims, liabilities, damages, losses, or expenses covered for which indemnification may be sought under this Article 15 include, but are not limited to, settlements, judgments, court costs, attorneys' fees and other litigation expenses, fines, and penalties arising out of actual or alleged (a) injury to or death of any person, including employees of Buyer or Seller; (b) loss of or damage to property, including property of Buyer or Seller; (c) breach of contract; or (d) damage to the environment.

15.3 Notice. A Party seeking indemnification under this Article 15, shall give written notice to the indemnifying Party as soon as reasonably practicable after becoming aware of the facts and circumstances which may give rise to any claims, liabilities, damages, losses, or expenses for which indemnification may be sought under this Article 15.

ARTICLE 16 CONFIDENTIALITY

16.1 Confidentiality. Except as provided in this Article 16, neither Party shall publish, disclose, or otherwise divulge Confidential Information to any person at any time during or after the Term of this Agreement, without the other Party's prior express written consent. Each Party shall permit knowledge of and access to Confidential Information only to those of its Affiliates

and to persons investing in, providing funding to, or acquiring it or its affiliates, and to its and the foregoing persons' respective attorneys, accountants, representatives, agents, and employees who have a need to know such Confidential Information related to this Agreement.

16.2 Required Disclosure. If required by any law, statute, ordinance, decision, order, or regulation passed, adopted, issued, or promulgated by a Governmental Authority having jurisdiction over a Party, that Party may release Confidential Information, or a portion thereof, to the Governmental Authority, as required by the applicable law, statute, ordinance, decision, order or regulation, and a Party may disclose Confidential Information to accountants in connection with audits; provided that such Party has notified the other Party of the required disclosure, such that the other Party may attempt (if such Party so chooses) to cause that Governmental Authority or accountant to treat such information in a confidential manner and to prevent such information from being disclosed or otherwise becoming part of the public domain.

16.3 Tax Treatment Exception. Notwithstanding any provision of this Agreement to the contrary, the legal obligations of confidentiality hereunder do not extend to the U.S. federal or state tax structure or the U.S. federal or state tax treatment of any transaction hereunder. If any U.S. federal or state tax analyses or materials are provided to a Party, such Party is free to disclose any such analyses or materials without limitation.

16.4 Survival. The Parties obligations under this Article 16 shall survive for a period of one (1) year following the expiration or termination of this Agreement.

ARTICLE 17 DISPUTE RESOLUTION

17.1 Informal Dispute Resolution. Before initiating legal action pursuant to Section 17.2, a Party aggrieved by a dispute hereunder shall provide written notice to the other Party setting forth the nature of the dispute, the amount involved, if any, and the remedies sought. The Parties shall use good faith and reasonable commercial efforts to informally resolve such dispute. Such efforts shall last for a period of at least thirty (30) days from the date that the notice of the dispute is first delivered from one Party to the other Party. Any amounts determined to be owed as a result of informal dispute resolution pursuant to this Section 17.1 shall be paid within fifteen (15) days of such resolution.

17.2 Formal Dispute Resolution. After the requirements of Section 17.1 have been satisfied, either Party may initiate legal action in accordance with Sections 18.5 and 18.6.

ARTICLE 18 MISCELLANEOUS

18.1 Entire Agreement. This Agreement, together with any attachments or exhibits specifically referenced herein, constitutes the entire agreement and understanding of the Parties with respect to the subject matter hereof, supersedes all prior oral or written representations and contracts, and may be modified only by a written amendment signed by the Parties.

18.2 Severability. In the event that any provision of the Agreement shall be found to be void or unenforceable, such findings shall not be construed to render any other provision of the

Agreement either void or unenforceable, and all other provisions shall remain in full force and effect unless the provisions which are void or unenforceable shall substantially affect the rights or obligations granted to or undertaken by either Party.

18.3 Waiver. No delay or omission by a Party in the exercise of any right under this Agreement shall be taken, construed or considered as a waiver or relinquishment thereof, and any such right may be exercised from time to time and as often as may be deemed expedient. If any of the terms and conditions hereof is breached and thereafter waived by a Party, such waiver shall be limited to the particular breach so waived and is not deemed to waive any other breach hereunder.

18.4 Notices. All notices, payments, and other formal communications which either Party may give to the other under or in connection with this Agreement shall be in writing and shall be sent by any of the following methods: hand delivery; reputable overnight courier; certified mail, return receipt requested; or, with respect to communications other than payments, by facsimile transmission, if the original communication is delivered by reputable overnight courier. Communications to the Buyer and Seller shall be sent using the contact information set forth in Exhibit H or to such other person at such other address as a Party may designate by like notice to the other Party. Communication shall be effective when received. Notice received after the close of the Business Day shall be deemed received on the next Business Day.

18.5 Governing Law. This Agreement shall be construed, enforced, and performed in accordance with the laws of the Commonwealth of Pennsylvania, without recourse to principles governing conflicts of law.

18.6 Jurisdiction and Venue. Except for matters subject to the exclusive or primary jurisdiction of FERC, the Commission, or the appellate courts having jurisdiction over the Commission or FERC matters, all disputes hereunder shall be resolved in the federal or state courts of the Commonwealth of Pennsylvania. Each Party hereby irrevocably submits to the *in personam* jurisdiction of such courts for such purpose. Each Party hereby waives its respective rights to any jury trial with respect to any litigation arising under or in connection with this Agreement.

18.7 Netting and Set-Off. If Buyer or Seller are required to pay any amount under this Agreement on the same day or in the same month, then such amounts with respect to each Party may be aggregated and the Parties may discharge their obligations to pay through netting, in which case the Party, if any, owing the greater aggregate amount shall pay to the Party owed the difference between the amounts owed. Each Party reserves to itself all rights, set-offs, counterclaims, combination of accounts, Liens, and other remedies and defenses which such Party has or may be entitled to (whether by operation of law or otherwise). The obligations to make payments under this Agreement and/or any other contract between the Buyer and Seller, if any, may be offset against each other, set-off, or recouped therefrom. Any set-off shall not be subject to the automatic stay by virtue of Section 362(b) (6) of the Bankruptcy Code.

18.8 Compliance with Laws. Except as otherwise expressly provided in this Agreement, each Party shall comply, at its own expense, with the provisions of all laws and any applicable order and/or regulations, or any amendments or supplements thereto, which have been, or may at any time be, issued by a Governmental Authority relating to this Agreement and the transactions hereunder.

18.9 Remedies Cumulative. No right or remedy herein conferred upon or reserved to either Party is intended to be exclusive of any other right or remedy, and each and every right and remedy shall be cumulative and in addition to any other right or remedy under this Agreement, or under applicable law, whether now or hereafter existing.

18.10 Binding Effect; Limitation of Benefits. This Agreement shall be binding upon and shall inure to the benefit of the Parties hereto and, subject to the provisions of Article 12 hereof, their successors and permitted assigns. Nothing in this Agreement is intended to confer benefits, rights, or remedies unto any Person other than the Parties and their permitted successors and assigns, and no third party shall have the right to enforce the provisions of this Agreement. Buyer does not, nor should it be construed to, extend its credit or financial support for the benefit of any third parties lending money to or having other transactions with Seller.

18.11 No Partnership or Joint Venture. This Agreement is not intended to create nor shall it be construed to create any partnership or joint venture relationship between Buyer and Seller, and neither Party hereto shall have the power to bind or obligate the other Party. Neither Party hereto shall be liable for the payment or performance of any debts, obligations, or liabilities of the other Party, unless expressly assumed in writing herein or otherwise.

18.12 Audit. Each Party shall have the right, upon at least three (3) Business Days' prior written notice, at its sole expense and during normal working hours, to examine the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge, or computation made pursuant to this Agreement, including records necessary to verify that Buyer has received and is receiving Buyer's Percentage of Products produced by the Facility. If any such examination reveals any inaccuracy in any Invoice, the necessary adjustments in such Invoice and the payments thereof will be made in accordance with Sections 8.1 and 8.6.

18.13 Records. Each Party shall keep and maintain all books and records as may be necessary or useful in performing or verifying any calculations made pursuant to this Agreement or in verifying such Party's performance hereunder, including operating logs, Facility output data, meter readings and financial records, all in accordance with Good Utility Practice. Each Party shall provide such books and records to the other Party within fifteen (15) Business Days of a written request for such information. All records shall be retained by each Party for at least three (3) years following the year in which such records were created.

18.14 Survival. Except as otherwise expressly provided in this Agreement, obligations, limitations, exclusions, and duties which by their nature extend beyond the expiration or termination of this Agreement, as well as any other provisions necessary to interpret the respective rights and obligations of the Parties hereunder, shall survive the expiration or earlier termination of this Agreement.

18.15 Counterparts. This Agreement may be executed in any number of counterparts, each of which will be deemed an original, but all of which taken together shall constitute one single agreement between the Parties.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the date indicated below.

ATTEST:

Buyer

By: _____

By: _____

Name: [Insert Name]

Name: [Insert Name]

Title: [Insert Title]

Title: [Insert Title]

Date: _____

Date: _____

ATTEST:

Seller

By: _____

By: _____

Name: [Insert Name]

Name: [Insert Name]

Title: [Insert Title]

Title: [Insert Title]

Date: _____

Date: _____

EXHIBIT A
FACILITY DESCRIPTION

Facility Name:

Facility Address:

Type of AEPS Alternative Energy Source: [solar photovoltaic]

Energy Delivery Point:

Description of Facility Generating Units and related facilities (including number, manufacturer, and model of Facility Generating Units, and layout):

Description of Interconnection Facilities:

Nameplate Capacity Rating (MW):

Estimated Capacity Factor (%):

The attached site map indicates the location and layout of the Facility equipment and other site details.

The attached diagram shows the Energy Delivery Point, metering devices, and other equipment installed at the Facility.

EXHIBIT B
MILESTONE SCHEDULE

Major Permits Milestone date:

Major Permits [list here]:

- 1.
- 2.
- 3.

Financing Milestone date:

Notice to Proceed Date to Major Generation Equipment Supplier(s):

Notice to Proceed Date to Balance of Plant Contractor:

Construction Milestone Dates:

Facility Commercial Operation Date Milestone:

EXHIBIT C

AVAILABILITY CALCULATIONS

1. Availability Damages. For any Period in which Seller does not maintain the Guaranteed Availability Percentage, Seller shall pay to Buyer liquidated damages (“Availability Damages”) in an amount equal to (a) the Contract Price multiplied by (b) the resulting difference of the Guaranteed Availability Percentage minus the Availability Percentage for such Period, then multiplied by (c) 15% times Available Hours as defined below; *provided however*, that the first determination of the Availability Percentage of the Facility shall be calculated twenty-four (24) months after the Initial Delivery Date (the “First Availability Calculation Date”). Commencing on the First Availability Calculation Date (or the first Business Day thereafter) and continuing on or before the fifteenth (15th) day of each Period (or the first Business Day thereafter) thereafter during the Services Term, Seller shall provide Buyer with the Availability Percentage calculated for the preceding Period along with any supporting documentation reasonably required for Buyer to independently confirm Seller’s Availability Percentage calculation.
2. Availability Requirement. Seller shall maintain an Availability Percentage equal to or greater than 90% each Period (as defined below) (the “Availability Requirement”).
3. Definitions. Capitalized terms not defined herein shall have the meaning ascribed to them in the Agreement. For purposes of this Exhibit C, the following capitalized terms shall be defined as follows.

The Availability Percentage of the Facility shall be calculated as follows:

$$AP = 100 * \sum (\text{of all Units}) [(AH - TOH) / AH]$$

Where:

AH = Available Hours

AP = Availability Percentage

TOH = Total Outage Hours

“Availability Damages” shall have the meaning set forth in Section 1 of this Exhibit C.

“Available Hours” means the result of the Total Period Hours less the Force Majeure Event Hours.

“Equivalent Forced Outage Hours” means the total number of equivalent hours in a Period that (a) represents an immediate reduction in output or capacity or removal from service, in whole or in part, of a Unit by reason of an emergency or threatened emergency, unanticipated failure, or other cause beyond the control of Seller, (b) Instructed Operation, or (c) a reduction in output of the Facility caused by the action or inaction of Buyer; *provided, however,* that any Force Majeure Event Hours shall not be counted as Equivalent Forced Outage Hours. A reduction in output or removal from service of a Unit or the Facility in response to changes in market conditions shall not constitute Equivalent Forced Outage Hours.

“Equivalent Maintenance Outage Hours” means the total number of equivalent hours during daylight periods in a Period that represents the scheduled removal from service, in whole or in part, of a Unit in order to perform necessary repairs on specific components of the Unit, except to the extent such hour is an Equivalent Forced Outage Hour or a Force Majeure Event Hour.

“Equivalent Planned Outage Hours” means the total number of equivalent hours during daylight periods in a Period that represents the scheduled removal from service, in whole or in part, of a Unit for inspection, maintenance or repair, except to the extent such hour is an Equivalent Forced Outage Hour or a Force Majeure Event Hour.

“First Availability Calculation Date” shall have the meaning set forth above in Section 1 of this Exhibit C.

“Force Majeure Event Hours” means the total number of hours in a Period during which either Seller or Buyer has declared a Force Majeure Event for one or more Units.

“Guaranteed Availability Percentage” shall mean ninety percent (90%).

“Period” means, beginning at the end of the third Contract Year, the immediately preceding period of two (2) Contract Year non-rolling block periods for which the Availability Percentage is being calculated.

“Total Outage Hours” means the sum of Equivalent Forced Outage Hours, Equivalent Maintenance Outage Hours and Equivalent Planned Outage Hours for a Period.

“Total Period Hours” means the total number of hours in a Period.

“Unit” means each solar generation unit forming a part of the Facility, as described in Exhibit A.

EXHIBIT D
CONTRACT TERMS

Buyer's Percentage (MW):

Estimated Annual Total Facility Energy Production (MWh/Contract Year):

Type of AEC: AEPS Tier I solar photovoltaic

Contract Price (\$/MWh as bid by Seller):

EXHIBIT E

FORM OF GUARANTY AGREEMENT

GUARANTY (this “Guaranty”), dated as of [Insert Date], made by _____ (the “Guarantor”), a corporation organized and existing under the laws of [Insert Law References] in favor of [Insert Company Name] (the “Guaranteed Party”), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania.

Terms not defined herein take on the meaning given to them in the POWER PURCHASE AGREEMENT. Guarantor enters into this Guaranty in consideration of, and as an inducement for Guaranteed Party having entered into or entering into the “Agreement(s)” with [Insert Name] (Name), a [Insert State] (State) corporation (the “Seller”), which may involve the extension of credit by the Guaranteed Party. Guarantor, subject to the terms and conditions hereof, hereby unconditionally and absolutely guarantees to the Guaranteed Party the full and prompt payment when due, subject to an applicable grace period and upon demand in writing from the Guaranteed Party to the Guarantor’s attention at the address for Guarantor set forth in Section 11 hereof of any and all amounts payable by the Seller to the Guaranteed Party arising out of the Agreement(s), and,

1. The Guarantor, as primary obligor and not merely as surety, hereby irrevocably and unconditionally guarantees the full and prompt payment when due (whether by acceleration or otherwise) of the principal and interest on any sums due and payable by the Seller as a result of an Event of Default under the Agreement(s) (including, without limitation, indemnities, damages, fees and interest thereon, pursuant to the terms of the Agreement(s)). Notwithstanding anything to the contrary herein, the maximum aggregate liability of the Guarantor under this Guaranty shall Option 1 (in no event exceed [Insert Limit Amount].) Option 2 (in no event exceed the lesser of [Insert Limit Amount] or the sum of the Credit Exposures Amounts under the Agreement(s).) All such principal, interest, obligations, and liabilities, collectively, are the “Guaranteed Obligations”. This Guaranty is a guarantee of payment and not of collection.
2. The Guarantor hereby waives diligence, acceleration, notice of acceptance of this Guaranty and notice of any liability to which it may apply, and waives presentment and all demands whatsoever except as noted herein, notice of protest, notice of dishonor or nonpayment of any such liability, suit or taking of other action by any Guaranteed Party against, and any other notice to, any party liable thereon (including the Guarantor or any other guarantor), filing of claims with a court in the event of the insolvency or bankruptcy of the Seller, and any right to require a proceeding first against the Seller.
3. The Guaranteed Party may, at any time and from time to time, without notice to or consent of the Guarantor, without incurring responsibility to the Guarantor and without impairing or releasing the obligations of the Guarantor hereunder, upon or without any terms or conditions: (i) take or refrain from taking any and all actions with respect to the Guaranteed Obligations, any Document or any person (including the Seller) that the Guaranteed Party determines in its sole discretion to be necessary or appropriate; (ii) take or refrain from

taking any action of any kind in respect of any security for any Guaranteed Obligation(s) or liability of the Seller to the Guaranteed Party; or (iii) compromise or subordinate any Guaranteed Obligation(s) or liability of the Seller to the Guaranteed Party including any security therefore.

4. Subject to the terms and conditions hereof, the obligations of the Guarantor under this Guaranty are absolute and unconditional and, without limiting the generality of the foregoing, shall not be released, discharged or otherwise affected by: (i) any extension, renewal, settlement, compromise, waiver, consent, discharge, or release by the Seller concerning any provision of the Agreement(s) in respect of any Guaranteed Obligations of the Seller; (ii) the rendering of any judgment against the Seller or any action to enforce the same; (iii) the existence, or extent of, any release, exchange, surrender, non-perfection, or invalidity of any direct or indirect security for any of the Guaranteed Obligations; (iv) any modification, amendment, waiver, extension of, or supplement to any of the Agreement(s) or the Guaranteed Obligations agreed to from time to time by the Seller and the Guaranteed Party; (v) any change in the corporate existence (including its constitution, laws, rules, regulations, or powers), structure or ownership of the Seller or the Guarantor, or any insolvency, bankruptcy, reorganization, or other similar proceedings affecting the Seller or its assets, the Guarantor or any other guarantor of any of the Guaranteed Obligations; (vi) the existence of any claim, set-off, or other rights which the Guarantor may have at any time against the Seller, the Guaranteed Party or any other corporation or person, whether in connection herewith or in connection with any unrelated transaction; provided that nothing herein shall prevent the assertion of any such claim by separate suit or compulsory counterclaim; (vii) the invalidity, irregularity, or unenforceability in whole or in part of the Agreement(s) or any Guaranteed Obligations or any instrument evidencing any Guaranteed Obligations or the absence of any action to enforce the same, or any provision of applicable law or regulation purporting to prohibit payment by the Seller of amounts to be paid by it under the Agreement(s) or any of the Guaranteed Obligations; and (viii) except for a failure to comply with any applicable statute of limitations, any other act or omission to act or delay of any kind of the Seller, any other guarantor, the Guaranteed Party or any other corporation or person or any other event, occurrence, or circumstance whatsoever which might, but for the provisions of this paragraph, constitute a legal or equitable discharge of the Guarantor's obligations hereunder.
5. The Guarantor hereby irrevocably waives (a) any right of reimbursement or contribution, and (b) any right of salvage against the Seller or any collateral security or guaranty or right of offset held by the Guaranteed Party therefore.
6. The Guarantor will not exercise any rights, which it may acquire by way of subrogation until all Guaranteed Obligations to the Guaranteed Party pursuant to the Agreement(s) have been paid in full.
7. Subject to the terms and conditions hereof, this Guaranty is a continuing one, and all liabilities to which it applies or may apply under the terms here of shall be conclusively presumed to have been created in reliance hereon. Except for a failure to comply with any applicable statute of limitations, no failure or delay on the part of the Guaranteed Party in

exercising any right, power, or privilege hereunder, and no course of dealing between the Guarantor and the Guaranteed Party, shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power, or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power, or privilege. The rights, powers, and remedies herein expressly provided are cumulative and not exclusive of any rights, powers or remedies, which the Guaranteed Party would otherwise have. No notice to or demand on the Guarantor in any case shall entitle the Guarantor to any other or further notice of demand in similar or other circumstances or constitute a waiver of the rights of the Guaranteed Party to any other or further action in any circumstances without notice or demand.

8. This Guaranty shall be binding upon the Guarantor and upon its successors and assigns and shall inure to the benefit of and be enforceable by the Guaranteed Party and its successors and assigns; provided, however, that the Guarantor may not assign or transfer any of its rights or obligations hereunder without the prior written consent of the Guaranteed Party. The assignment rights of the Guaranteed Party will be in accordance with the terms of the underlying Agreement(s).
9. Neither this Guaranty nor any provision hereof may be changed, waived, discharged, or terminated except upon written agreement of the Guaranteed Party and the Guarantor.
10. The Guarantor agrees that its liability as guarantor shall continue and remain in full force and effect in the event that all or any part of any payment made hereunder or any obligation or liability guaranteed hereunder is recovered (as a fraudulent conveyance, preference, or otherwise) rescinded or must otherwise be reinstated or returned due to bankruptcy or insolvency laws or otherwise.
11. All notices and other communications hereunder shall be made at the addresses by hand delivery, by the next day delivery service effective upon receipt, or by certified mail return receipt requested (effective upon scheduled weekday delivery day) or telefacsimile (effective upon receipt of evidence, including telefacsimile evidence, that telefacsimile was received)

If to the Guarantor:

[Insert Guarantor]

If to the Guaranteed Party:

[Insert Company Name] c/o FirstEnergy Corp.
Attn: Credit Risk Management & Risk Control
341 White Pond Drive
Akron, OH 44320
Telephone: (330) 315-6894
Facsimile: (330) 436-1901

12. If claim is ever made upon the Guaranteed Party for repayment or recovery of any amount or amounts received in payment or on account of any of the Guaranteed Obligations and the Guaranteed Party repays all or part of such amount by reason of (a) any judgment, decree or order of any court or administrative body having jurisdiction over such payee or any of its property, or (b) any settlement or compromise of any such claim effected by such payee with any such claimant (including the Guarantor), then and in such event the Guarantor agrees that any such judgment, decree, order, settlement, or compromise shall be binding upon it, notwithstanding any revocation hereof or the cancellation of the Agreement(s) or other instrument evidencing any liability of the Guarantor, and the Guarantor shall be and remain liable to the Guaranteed Party hereunder for the amount so repaid or recovered to the same extent as if such amount had never originally been received by any such payee.
13. The Guarantor hereby certifies that it satisfies the Minimum Rating as defined in the Agreement(s).
14. This Guaranty shall remain in full force and effect until all Guaranteed Obligations have been fully and finally performed, at which point it will expire. The Guarantor may terminate this Guaranty upon thirty (30) days prior written notice to the Guaranteed Party which termination shall be effective only upon receipt by the Guaranteed Party of alternative means of security or credit support, as specified in the Agreement(s) and in a form reasonably acceptable to the Guaranteed Party. Upon the effectiveness of any such expiration or termination, the Guarantor shall have no further liability under this Guaranty, except with respect to the Guaranteed Obligations entered into prior to the time the expiration or termination is effective, which Guaranteed Obligations shall remain guaranteed pursuant to the terms of this Guaranty until finally and fully performed.
15. The Guarantor represents and warrants that: (i) it is duly organized and validly existing under the laws of the jurisdiction in which it was organized and has the power and authority to execute, deliver, and perform this Guaranty; (ii) no authorization, approval, consent, or order of, or registration or filing with, any court or other governmental body having jurisdiction over the Guarantor is required on the part of the Guarantor for the execution, delivery and performance of this Guaranty except for those already made or obtained; (iii) this Guaranty constitutes a valid and legally binding agreement of the Guarantor, and is enforceable against the Guarantor, except as the enforceability of this Guaranty may be limited by the effect of any applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws affecting creditor's rights generally and by general principles of equity; and (iv) the execution, delivery, and performance of this Guaranty by the Guarantor have been and remain duly authorized by all necessary corporate or comparable action and do not contravene any provision of its [insert appropriate corporate organizational document, such as Declaration of Trust, Limited Liability Agreement, Articles of Incorporation or by-laws] or any law, regulation, or contractual restriction binding on it or its assets.
16. This Guaranty and the rights and obligations of the Seller and the Guarantor hereunder shall be construed in accordance with and governed by the laws of the Commonwealth of

Pennsylvania. The Guarantor and Guaranteed Party jointly and severally agree to the exclusive jurisdiction of State and federal courts located in the Commonwealth of Pennsylvania over any disputes arising or relating to this Guaranty and waive any objections to venue or inconvenient forum. The Guarantor and Guaranteed Party each hereby irrevocably waive any and all rights to trial by jury with respect to any legal proceeding arising out of or relating to this Guaranty.

17. This writing is the complete and exclusive statement of the terms of this Guaranty and supersedes all prior oral or written representations, understandings, and agreements between the Guaranteed Party and the Guarantor with respect to subject matter hereof. The Guaranteed Party and the Guarantor agree that there are no conditions to the full effectiveness of this Guaranty.
18. Every provision of this Guaranty is intended to be severable. If any term or provision hereof is declared to be illegal or invalid for any reason whatsoever by a court of competent jurisdiction, such illegality or invalidity shall not affect the balance of the terms and provisions hereof, which terms and provisions shall remain binding and enforceable. This Guaranty may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.
19. No Trustee or shareholder of Guarantor shall be held to any liability whatsoever for any obligation under this Guaranty, and such Guaranty shall not be enforceable against any such Trustee in their or his or her individual capacities or capacity. This Guaranty shall be enforceable against the Trustees of Guarantor only as such, and every person, firm, association, trust, or corporation having any claim or demand arising under this Guaranty and relating to Guarantor, its shareholders or Trustee shall look solely to the trust estate of Guarantor for the payment or satisfaction thereof.

IN WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed and delivered as of the date first above written to be effective as of the earliest effective date of any of the Agreement(s).

(GUARANTOR)
[Insert Guarantor]

Accepted and Agreed to:
[Insert Name]

By:

By: [Insert Company Name]

Name: [Insert Name]

Name: [Insert Name]

Title: [Insert Title]

Title: [Insert Title]

EXHIBIT F

LETTER OF CREDIT DOCUMENTATION

Sample Letter of Credit

[Insert Date]

Letter of Credit No. [Insert Credit No]

To: Beneficiary Name (“Beneficiary”)

1. We hereby establish in your favor this irrevocable transferable Letter of Credit (this “Letter of Credit”) for the account of [Insert Applicant Name] (the “Applicant”), in the aggregate amount of \$[Insert Amount], effective immediately and available to you at sight upon demand at our counters at [Insert Location] and expiring 364 days from date of issuance , unless terminated earlier or automatically extended, in accordance with the provisions hereof.
2. This Letter of Credit is issued at the request of the Applicant, and we hereby irrevocably authorize you to draw on us, in accordance with the terms and conditions hereof, up to the maximum amount of this Letter of Credit, subject to reduction as provided in paragraph 10 hereof. This Letter of Credit may be drawn upon an Event of Default under the Agreement(s) between the Applicant and you, dated [Insert Date]
3. A partial or full drawing hereunder may be made by you on any Business Day on or prior to the expiration of this Letter of Credit by delivering, by no later than 11:00 A.M. (New York, NY time¹) on such Business Day to [Insert Bank] , [Insert Address] (i) a notice executed by you in the form of Annex 1 hereto, appropriately completed and duly signed by an Authorized Officer of the Beneficiary and (ii) your draft in the form of Annex 2 hereto, appropriately completed and duly signed by an Authorized Officer of the Beneficiary. Authorized Officer shall mean President, Treasurer, any Vice President, or any Assistant Treasurer.
4. We hereby agree to honor a drawing hereunder made in compliance with the terms and provisions of this Letter of Credit by transferring in immediately available funds the amount specified in the draft delivered to us in connection with such drawing to such account at such bank in the United States as you may specify in your draft delivered to us pursuant to Paragraph 3 hereof, by 3:00 P.M. (New York, NY time) on the date of such drawing, if delivery of this requisite document is made prior to 11:00 AM (New York, NY time) on a Business Day pursuant to Paragraph 3 herein above, but at the opening of business on the first Business Day next succeeding the date of such drawing if delivery of the requisite document is made on or after 11:00 AM (New York, NY time) on any Business Day pursuant to Paragraph 3 herein above.

¹ If the issuer of the Letter of Credit is located in an area that is not in the Eastern time zone, this time and all other times in this Letter of Credit, and the definition of a business day should be adjusted accordingly

5. If a demand for payment made by you hereunder does not, in any instance, conform to the terms and conditions of this Letter of Credit, we shall give you prompt notice (not exceeding three (3) Business Days following the date of receipt of the documents) that the demand for payment was not effected in accordance with the terms and conditions of this Letter of Credit, stating the reasons therefore and that we will upon your instructions hold any documents at your disposal or return the same to you. Upon being notified that the demand for payment was not effected in conformity with this Letter of Credit, you may attempt to correct any such non-conforming demand for payment to the extent that you are entitled to do so, provided, however, in such event a conforming demand for payment must be timely made in accordance with the terms of this Letter of Credit.
6. This Letter of Credit will automatically terminate and be delivered to us for cancellation on the earliest of (i) the making by you of the drawings in an amount equal to the maximum amount available to be made hereunder, (ii) the date we receive from you a Certificate of Expiration in the form of Annex 3 hereto, or (iii) will be automatically extended without written amendment for successive additional one (1) year periods from the current or any future extended expiry date, unless at least ninety (90) days prior to such date of expiration, we give written notice to the Beneficiary by registered or certified mail, return receipt requested, or by overnight courier, at the address set forth above, or at such other address of which prior written notice has been provided to us, that we elect not to renew this irrevocable standby Letter of Credit for such additional one (1) year period.
7. As used herein:

“Business Day” shall mean any day on which commercial banks are not authorized or required to close in New York, New York and any day on which payments can be effected on the Fed wire system.

8. This Letter of Credit is assignable and transferable, in accordance with Annex 4, to an entity who you certify to us in the form of Annex 4, and we hereby consent to such assignment or transfer, provided that this Letter of Credit may not otherwise be amended or modified without consent from us, you and the Applicant, and except as otherwise expressly stated herein, is subject to the Uniform Customs and Practice for Documentary Credits – 2007 Revision, ICC Publication No. 600, or any successor publication thereto (the “UCP”). Any and all transfer fees, expenses, and costs shall be borne by the Applicant. This Letter of Credit shall, as to matters not governed by the UCP, be governed and construed in accordance with New York law, without regard to principles of conflicts of law. Transfers fees shall be borne by the Applicant.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, changed, amplified, or limited by reference to any document, instrument, or agreement referred to herein, except for Annexes 1 through 4 hereto and the notices referred to herein; and any such reference shall not be deemed to

incorporate herein by reference any document, instrument, or agreement except as set forth above.

9. We certify that as of [Insert Date] we [Insert Bank] satisfy the senior unsecured debt rating of “A” from Standard & Poor’s Rating Service or “A2” from Moody’s Investor Service Inc.
10. The amount which may be drawn by you under this Letter of Credit shall be automatically reduced by the amount of any drawings paid through us referencing this Letter of Credit No. [Insert Credit No]. Partial drawings are permitted hereunder.
11. Faxed document(s) are acceptable. Presentation by fax must be made to fax number [Insert Fax] confirmed by telephone to [Insert Phone].
12. In the event of act of God, riot, civil commotion, insurrection, war, terrorism or by any strikes or lock outs, or any cause beyond our control, that interrupts our business, and causes the place for presentation of this Letter of Credit to be closed for business on the last day of presentation, the expiration date of this Letter of Credit shall be automatically extended without amendment to a date thirty (30) calendar days after the place for presentation reopens for business.
134. This original Letter of Credit has been sent to the Company located at [Insert Address] above (as per Applicant’s instructions). The aggregate amount paid to the Company during the validity of this Letter of Credit will not exceed the amount of this Letter of Credit. Any demands or communications in the form of the attached Annexes or other communications directed to us under this Letter of Credit must be signed by an Authorized Officer of the Company. Acceptance or rejection of any amendments to this Letter of Credit must be signed by an Authorized Officer of the Company.

Very truly yours,

(Bank)

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 1 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

To: [Insert Bank]
[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned is making a drawing under the above-referenced Letter of Credit in the amount specified below and hereby certifies to you as follows:

1. Capitalized terms used herein that are defined herein shall have the meanings ascribed thereto in the Letter of Credit.
2. "Pursuant to Paragraph 2 of the Letter of Credit No. [Insert Credit No.], dated [Insert Date], the undersigned is entitled to make a drawing under the Letter of Credit in the aggregate amount of \$[Insert Dollars], inasmuch as there is an Event of Default under any Agreement between the Applicant and us.
3. We acknowledge that, upon your honoring the drawing herein requested, the amount of the Letter of Credit available for drawing shall be automatically decreased by an amount equal to this drawing.

Very truly yours,

[Insert Beneficiary Name]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 2 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

ON [Business Day immediately succeeding date of presentation]

PAY TO: [Insert Beneficiary Name]

\$ [Insert Dollars]

FOR VALUE RECEIVED AND CHARGE TO ACCOUNT OF LETTER OF CREDIT NO.
[Insert Credit No.]

OF

[Insert Bank]

[Insert Address]

The [Insert Company]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 3 to Letter of Credit

CERTIFICATE OF EXPIRATION
OF LETTER OF CREDIT NO. [Insert Credit No.]
[Insert Date]

To: [Insert Bank]
[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned hereby certifies to you that the above referenced Letter of Credit may be cancelled without payment. Attached hereto is said Letter of Credit, marked cancelled.

[Insert Beneficiary Name]

By: _____
Name: [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

cc: [Insert Applicant Name]

Annex 4 to Letter of Credit

NOTICE OF TRANSFER
OF LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

To: [Insert Bank]
[Insert Address]

To Whom it may concern:
Re: Credit [Insert Credit No.]
Issued by: [Insert Name]
Advice No.: [Insert Advise No.]

For the value received, the undersigned Beneficiary hereby irrevocably transfers to:

[Insert Transferee Name]
(Name of Transferee)

[Insert Address]
(Address)

all rights of the undersigned Beneficiary to draw under the above Letter of Credit in its entirety.

By this transfer, all rights of the undersigned Beneficiary in such Letter of Credit are transferred to the transferee and the transferee shall have the sole rights as Beneficiary thereof, including sole rights relating to any amendments whether increases or extensions or other amendments and whether now existing or hereafter made. All amendments are to be directed solely to the transferee without necessity of any consent of or notice to the undersigned Beneficiary.

The advice of such Letter of Credit is returned herewith, and we ask you to endorse the transfer on the reverse thereof, and forward it directly to the transferee with your customary notice of transfer.

Enclosed is a certified check in the amount of \$ [Insert Amount] in payment of your transfer commission and in addition we agree to pay to you on demand any expenses that may be incurred by you in conjunction with this transfer.

Very truly yours,

[Insert Signature of Company]
(Signature of the Company)

The above signature with title as stated conforms to that on file with us and is authorized for the execution of said instruments.

(Name of authenticating party)

[Insert Signature of Authenticating Party]

(Authorized signature of authenticating party)

Name: [Insert Name]

Title: [Insert Title]

EXHIBIT G**PERFORMANCE ASSURANCE AMOUNT**

The Performance Assurance Amount will be based on 15% of the Total Notional Value of the Agreement. If, however, the Total Notional Value of the Agreement is below \$500,000, no Performance Assurance will be required even if the Seller is not rated at or above Investment Grade. Additional details on the Performance Assurance Amounts are provided below.

The Annual Notional Value means the dollar amount resulting by calculating the product of (a) the Contract Price, (b) the Buyer's Percentage, (c) the Facility Nameplate Rating, (d) 8,760, and (e) 15% (an approximate expected capacity factor). The Total Notional Value is the sum of the Annual Notional Value over the remaining Contract Years. As an example, assume that the Contract Price is fixed at \$30/MWh for a 10-year contract term, the Facility Nameplate Rating is 10 MW, and the Buyer's Percentage is 100%. Then, the Annual Notional Value is

$$\$30.00/\text{MWh} \times 100\% \times 10 \text{ MW} \times 8,760 \text{ hours} \times 15\% = \$394,200$$

and, as of the beginning of the first Contract Year, the Total Notional Value is $10 \times \$394,200 = \$3,942,000$. The amount of required Performance Assurance will decline annually during commercial operation.

In this example, the amount of Performance Assurance during the Contract Term shall be equal to the dollar amount specified in the following table.

Performance Assurance Amount Example				
	Standard & Poor's	Fitch Ratings	Moody's Investor Service	Performance Assurance Amount
Minimum Credit Rating ⁽¹⁾	BBB- or above	BBB- or above	Baa3 or above	\$0
Minimum Credit Rating ⁽¹⁾	Below BBB-	Below BBB-	Below Baa3	15% of total notional value
	Performance Value		Assurance Amount	
Total Notional Value	> \$500,000		\$0	
Total Notional Value	< \$500,000		15% of total notional value	
Example:	Annual Notional Value	Remaining Agreement Term	Total Value	Performance Assurance Amount
	\$394,200	10 years	\$3,942,000	\$591,300

⁽¹⁾ Credit rating is defined as the most recently published unsecured senior long term debt rating (or corporate issuer rating if unsecured long term debt rating is not available)

EXHIBIT H

NOTICE INFORMATION

Any notices required under this Agreement shall be made as follows (as updated by the Parties from time to time):

If to Seller:

Insert Company Name]
[Insert Name]
[Insert Address]
Telephone: [Insert Phone]
Facsimile: [Insert Fax]
Email: [Insert Email]

If to Buyer:

FirstEnergy Corp.
Dean Stathis – Director Regulated Commodity Sourcing
P.O. Box 16001
Reading, PA 19612-6001
Telephone: (610) 921-6766
Facsimile: (610) 939-8542
Email: dstathis@firstenergycorp.com

Copy to:

FirstEnergy Corp.
Tori L. Giesler
P.O. Box 16001
Reading, PA 19612-6001
Telephone: (610) 921-6658
Facsimile: (610) 939-8655
Email: tgiesler@firstenergycorp.com

Appendix 2

Pre-Qualification Application

**METROPOLITAN EDISON COMPANY, PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY, AND WEST PENN POWER COMPANY
SOLAR POWER PURCHASE AGREEMENT
REQUEST FOR PROPOSALS (RFP)**

Appendix 2: Pre-Qualification Application - Respondent’s Credit-Related Information

Please provide the following data in order to enable the Companies and The Brattle Group to assess the financial viability of the Respondent as well as the entity providing the credit support on behalf of the Respondent (if applicable). Include any additional sheets and materials with this Appendix as necessary. To the degree that it is necessary, please specify whether the information provided is for the Respondent, its parent, or the entity providing the credit support on behalf of the Respondent. We also request that Respondents provide basic information about the potential proposed facility (or facilities).

E-mail completed forms to firstenergysolar-RFP@brattle.com by 12:00 p.m. EPT on [day of week], [Month Day], 202X.

Contact Information:

Contact Name: _____
Contact Title: _____
Address: _____
City: _____
State: _____
Zip: _____
Phone Number: _____
Fax Number: _____
Email address: _____

Legal and Financial Information:

Full Legal Name of the Respondent: _____

Dun & Bradstreet No. of Respondent: _____

Type of Organization: (Corporation, Partnership, etc.) _____

Description of Corporate Structure (use separate sheet if necessary): _____

State (Location) of Organization: _____

Respondent's Percent Ownership in Proposed Project:¹ _____

Full Legal Name(s) of Parent Company(ies): _____

Entity Providing Credit Support on Behalf of Respondent (if applicable): _____

Dun & Bradstreet No. of Entity Providing Credit Support: _____

Address for each entity referenced (provide additional sheets, if necessary): _____

Type of Relationship: _____

Current Senior Unsecured Debt Rating from each of S&P, Fitch, and Moody's Rating Agencies for Respondent and each Entity Providing Credit Support (specify the entity these ratings are for):

OR, if Respondent does not have a current Senior Unsecured Debt Rating, then in addition to proposing an Entity to Provide Credit Support, please provide the Respondent's Tangible Net Worth (total assets minus intangible assets (e.g., goodwill) minus total liabilities):

Bank References & Name of Institution: _____

¹ If less than 100% ownership, detail the ownership interest of other owners and explain how 100% ownership will be achieved by Respondent before the transaction closes

Bank Contact: Name, Title, Address and Phone Number: _____

Pending Legal Disputes involving any of the facilities that Respondent may propose in response to the Companies' request for proposals, if any (describe):

Financial Statements (Income Statement, Balance Sheet, and Statement of Cash Flows including all accompanying notes):

Please provide copies of the two most recent quarterly reports containing unaudited consolidated financial statements, signed and verified by an authorized officer of Respondent attesting to their accuracy.

Please provide copies of Respondent's two most recent Annual Reports containing audited consolidated financial statements. (If available electronically, please provide link.)

If Respondent does not have any of the above information for itself and Respondent has a parent company that will guaranty the obligations of Respondent, the Respondent shall provide the specified information for its parent company.

Proposed Facility Information

Please provide the following information for each proposed facility:

I. Facility #1

Facility Name:

Facility Description:

Facility Location:

Planned Capability (MW):

II. Facility #2

Facility Name:

Facility Description:

Facility Location:

Planned Capability (MW):

Respondent Name: _____

FirstEnergy
The Brattle Group

III. Facility #3

Facility Name:

Facility Description:

Facility Location:

Planned Capability (MW):

IV. Facility #4

Facility Name:

Facility Description:

Facility Location:

Planned Capability (MW):

Appendix 3

Standard RFP Response Form – Operating Data

**Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-6 - Appendix 3
Solar Power Purchase Agreement Request for Proposals**

Appendix 3: RFP Response Form

General	
Project Name	[Open Response]
Nameplate Capacity	0.00
Share of the Facility Offered	0.00
Location	
Is this project in the state of Pennsylvania?	[Yes / No]
What county is the project located in?	[Open Response]
Is this project within the Companies' Territory?	[Select from Drop-down Menu]
Is this project located within a HUBZone?	[Yes / No]
If project is located within a HUBZone, please provide additional information.	[Open Response]
Project Qualifications*	
Does the proposal qualify for AEPS solar credits under Pennsylvania's Alternative Energy Portfolio Standard's Act?	[Yes / No]
Does your enterprise qualify as an Minority Business Enterprise?	[Yes / No]
Does your enterprise qualify as an veteran owned business?	[Yes / No]
Does your enterprise qualify as a Women's Business Enterprise?	[Yes / No]
Does your enterprise qualify as a Service Disabled Veteran owned business?	[Yes / No]
Does your enterprise qualify as a small business (meeting the small size categories defined in NAICS codes)?	[Yes / No]
Please provide information on any environmental or sustainability attributes associated with their project, including any third-party sustainability certifications. The Companies are particularly interested in receiving information about the land use of the facility prior to development, (i.e., brownfield redevelopment of industrial land, conversion of farmland, conversion of forest land).	[Open Response]
Other*	
Are there other applicable factors that need to be considered?	[Open Response]

MW
MW

* Please provide any supporting documentation regarding the required questions under "Project Qualifications" or "Other", as attachments to your submission, in .pdf format.

Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-6 - Appendix 3

General	
PJM Commercial Pricing Node	[Open Response]
Planned Commercial In-Service Date	[MM/DD/YYYY]
Briefly describe the current state of construction. List the milestones to be achieved between now and proposed PPA start date. If additional space is needed, please supplement your response with additional description or documentation in .pdf format.	[Open Response]

Capacity and Anticipated Facility Output*	2023 / 24 Planning Year (if applicable)	2024 / 25 Planning Year	2025 / 26 Planning Year	2026 / 27 Planning Year	2027 / 28 Planning Year	2028 / 29 Planning Year	2029 / 30 Planning Year	2030 / 31 Planning Year	2031 / 32 Planning Year	2032 / 33 Planning Year	2033 / 34 Planning Year
Projected ICAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Projected UCAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Projected p50 Capacity Factor (annualized)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projected p90 Capacity Factor (annualized)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Pricing Option 1	
Offer Price for 2023 / 24 Planning Year (or the 2024 / 25 Planning Year if the planned commercial in-service date specified above falls after May 31, 2024)	\$0.00
Offer Price Annual Escalation Rate	0.0%

\$/MWh
%/Year Escalation to take effect on June 1 of each year unless otherwise specified.

Pricing Option 2	2023 / 24 Planning Year (if applicable)	2024 / 25 Planning Year	2025 / 26 Planning Year	2026 / 27 Planning Year	2027 / 28 Planning Year	2028 / 29 Planning Year	2029 / 30 Planning Year	2030 / 31 Planning Year	2031 / 32 Planning Year	2032 / 33 Planning Year	2033 / 34 Planning Year
Offer Price by Contract Year	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

\$/MWh

* Please provide any supporting documentation regarding the projected capacity and capacity factor, including average hourly shape information based on weather data, in .pdf, .xlsx, or other electronic format.

Schedule for ICRT - DSP VI [illustrative purposes only]

- * ICRT is a financial security requirement which requires suppliers to provide collateral based on the number of tranches they win
- * ICRT required for both Residential and Commercial tranches (not required for Industrial)
- * ICRT **not** required for 6-month tranches
- * ICRT netted with prior ICRT requirements

Month	24-Month Product (\$/tranche)	12-Month Product (\$/tranche)
Month 1	1,500,000	1,500,000
Month 2	1,500,000	1,500,000
Month 3	1,500,000	1,200,000
Month 4	1,500,000	1,200,000
Month 5	1,500,000	1,000,000
Month 6	1,500,000	1,000,000
Month 7	1,200,000	800,000
Month 8	1,200,000	800,000
Month 9	1,200,000	600,000
Month 10	1,200,000	600,000
Month 11	1,000,000	400,000
Month 12	1,000,000	400,000
Month 13	1,000,000	
Month 14	1,000,000	
Month 15	800,000	
Month 16	800,000	
Month 17	800,000	
Month 18	800,000	
Month 19	600,000	
Month 20	600,000	
Month 21	600,000	
Month 22	400,000	
Month 23	400,000	
Month 24	400,000	

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

DEFAULT SERVICE PROGRAMS

**For the Period
June 1, 2023 to May 31, 2027**

**REBUTTAL TESTIMONY
OF
JAMES H. CATANACH**

List of Topics Addressed

**Credit Enhancements
Long-Term Solar Procurement
Default Service Products, Procurement and Schedule
Generic Proceeding Addressing Certain Procurement Issues**

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1 **II. CREDIT ENHANCEMENTS**

2 **Q. What concerns were raised by Constellation witness Campbell regarding the**
3 **Companies' proposed credit enhancements?**

4 A. Mr. Campbell expressed concern that the Companies' proposals would significantly reduce
5 unsecured credit for default service suppliers which, in turn, could increase supplier
6 collateral costs and decrease auction competitiveness and ultimately lead to higher costs to
7 customers. He recommended that the reduced unsecured credit line be applied on an
8 individual Company (not aggregate) basis and further recommended that the Independent
9 Credit Requirement per Tranche ("ICRT") be modified so that: (1) the unsecured credit
10 limit can cover ICRT exposure if the supplier is investment grade; (2) the per-tranche
11 posting requirement is reduced; and (3) the ICRT posting requirement is based on volume.

12 **Q. Do you believe that unsecured credit should be applied on an individual Company**
13 **basis as Mr. Campbell recommends?**

14 A. No. Applying the credit by individual Company exposes the Companies and their
15 customers to additional risks should a supplier default. The Companies are providing \$50
16 million in unsecured credit to suppliers with investment grade credit to be used among the
17 Companies as they choose. Reducing the overall unsecured credit limits to suppliers allows
18 the Companies to procure additional collateral (Letter of Credit or cash) from the suppliers
19 to reduce the potential risk of losses to customers should a supplier default.

20 **Q. Do you agree with Mr. Campbell that the ICRT be modified so that the unsecured**
21 **credit limit can cover ICRT exposure if the supplier is investment grade?**

22 A. Yes.

1 **Q. Will the Companies be providing unsecured credit for the proposed ICRT?**

2 A. Yes. The unsecured credit limit was inadvertently excluded from the proposed Default
3 Service Plan VI (“DSP VI”). This led to an incomplete response to CONSTELLATION
4 Interrogatory Set I, No. 1(j) where the Companies responded that there would be no
5 unsecured credit available to default service suppliers.

6 **Q. Are the Companies proposing to update the Default Service Supplier Master**
7 **Agreement (“SMA”) to include unsecured credit for the ICRT?**

8 A. Yes. As shown in Met-Ed/Penelec/Penn Power/West Penn Exhibit WZ-1R,¹ the
9 Companies have updated ARTICLE 6: CREDITWORTHINESS of the SMA. The ICRT
10 section 6.13 has been moved to section 6.3. Section 6.4 is now the Independent Credit
11 Threshold (“ICT”). The remaining section numbers in Article 6 were renumbered to reflect
12 the changes. Per the updated section 6.4 of the SMA, the Companies propose an ICT for
13 the Default Service Suppliers (“DS Suppliers”), or its Guarantor, with at least a minimum
14 senior unsecured debt rating of “BB” from S&P, “Ba2” from Moody’s, or “BB” from Fitch
15 (a “Minimum Rating”). Per the table reflected in section 6.4, the maximum ICT Cap will
16 be determined by calculating the lesser of the percentage of Tangible Net Worth (“TNW”) of
17 the DS Supplier, or its Guarantor, as determined by its current senior unsecured debt
18 rating. For example, a DS Supplier, or its Guarantor, with at least a minimum senior
19 unsecured debt rating of BBB- from S&P, Baa3 from Moody’s, or BBB- from Fitch will
20 have its ICT Cap determined solely on the percentage of their TNW. A DS Supplier, or its
21 Guarantor, with a rating of BB+ from S&P, Ba1 from Moody’s, or BB+ from Fitch will
22 have an ICT Cap of the lesser of 4% of their TNW or \$3,000,000 and a DS Supplier, or its

¹ The exhibit continues to show all proposed changes to the Commission-approved SMA in redline. The newest changes have been highlighted in yellow for ease of review.

1 Guarantor, with a rating of BB from S&P, Ba2 from Moody's, or BB from Fitch will have
2 an ICT Cap of the lesser of 3% of their TNW or \$1,500,000. No ICT will be provided for
3 a DS Supplier, or its Guarantor, with ratings of BB- and below from S&P, Ba3 and below
4 from Moody's, or BB- and below from Fitch. In sum, unsecured credit is provided to
5 suppliers with good credit, reflecting the lower probability of supplier default. As credit
6 ratings decrease, the probability of default increases; therefore, lower unsecured credit is
7 granted to suppliers to account for the higher potential of default.

8 **Q. Do you agree with Mr. Campbell's recommendation that the per-tranche posting**
9 **requirement should be reduced (he provides an example of \$50,000-\$100,000 per**
10 **tranche)?**

11 A. No. The Companies are not aware of any other utilities with ICRTs of \$50,000 to \$100,000
12 per tranche. The Companies are aware of other utilities where the ICRT for comparable
13 products starts at \$2,400,000 per tranche and decreases throughout the delivery period.
14 The Companies are proposing to start at \$1,500,000 per tranche, which will also decrease
15 over the delivery period.

16 **Q. Has Mr. Campbell identified utilities that utilize an ICRT with a lower per-tranche**
17 **posting requirement than the Companies?**

18 A. Yes, but the lower requirements are not associated with comparable products. For
19 example, as shown in Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-8, Mr.
20 Campbell provides posting information for the New Jersey BGS-CIEP product, which is
21 an hourly priced product similar to the Companies' Industrial products. However, the
22 Companies are not proposing an ICRT for our Industrial products. The ICRT amount Mr.
23 Campbell should have referenced is \$2,400,000 per tranche for the BGS-RSCP product,

1 which aligns with the Companies' Residential and Commercial products, which is greater
2 than the \$1,500,000 per tranche the Companies are proposing.

3 **Q. Do you agree with Mr. Campbell's recommendation that the ICRT posting**
4 **requirement be based on volume?**

5 A. No. The Companies' proposal is based on tranches as defined in section 2.3 of the Bidding
6 Rules, Exhibit JHC-2R. I note that Mr. Campbell is unaware of any utility that has the
7 volume-based posting requirement he proposes. See Met-Ed/Penelec/Penn Power/West
8 Penn Exhibit JHC-9. The Companies are also not aware of other utilities that base the
9 ICRT posting on volume.

10 **Q. In OCA Witness Ogur's direct testimony on page 30, line 14 through page 31, line 2,**
11 **he states there is inconsistency in "...the direct testimony of Mr. Catanach and the**
12 **proposed Bidding Rules..." regarding the parameters of the credit-based tranche caps**
13 **proposed by the Companies. Do you agree?**

14 A. Yes, Mr. Ogur is correct that there is an inconsistency between my direct testimony and
15 the Companies' Bidding Rules. My direct testimony correctly states the parameters of the
16 Companies' proposed credit-based tranche caps while "Table 1 Credit-Based Tranche
17 Cap" in the Bidding Rules is incorrect.

1 **Q. Do the Companies have an exhibit that reflects what the table should be?**

2 A. Yes. See Table 1, Credit-Based Tranche Cap, in Section 4.2.2, Part 2 Application:
3 Certifications, Indicative Offer, and Pre-Bid Security, in Met-Ed/Penelec/Penn
4 Power/West Penn Exhibit JHC-2R (Revised Bidding Rules).²

5 **III. LONG-TERM SOLAR PROCUREMENT**

6 **Q. What concerns were raised by other parties regarding the proposed long-term solar**
7 **procurement?**

8 A. RESA/NRG generally opposed the procurement of solar photovoltaic alternative energy
9 credits (“SPAECs”) for non-shopping load by the Companies, contending that it creates an
10 “unlevel playing field” for retail suppliers. RESA/NRG specifically opposed the long-term
11 solar procurement because it has a term that is greater than the term of DSP VI and because
12 RESA/NRG believes it will “hamper” the ability of electric generation suppliers and others
13 to undertake solar projects and thereby create a risk of inadequate solar supplies in the
14 Commonwealth to meet SPAEC requirements. OCA generally supported the long-term
15 solar procurement but recommended that the Companies allow bids of up to 20 years.
16 Constellation expressed concern that default service suppliers would not have sufficient
17 information about SPAEC allocations resulting from the long-term solar procurement.
18 Finally, Shipley stated further clarity was needed about recovery of costs for previously
19 approved solar contracts and the proposed long-term solar procurement.

² The exhibit continues to show all proposed changes to the Commission-approved bidding rules in redline. The newest changes have been highlighted in yellow for ease of review.

1 **Q. Why is it appropriate for the Companies to procure a portion of the necessary**
2 **SPAECs for default service suppliers but not procure any SPAECs for retail**
3 **suppliers?**

4 A. As I explained in my direct testimony, after completing the allocations from certain
5 existing long-term contracts which end on May 31, 2024, Met-Ed, Penelec, and Penn
6 Power will no longer be procuring SPAECs on behalf of retail suppliers. Since those long-
7 term contracts were approved, the solar energy market has become increasingly mature.
8 According to the Pennsylvania alternative energy portfolio standards (“AEPS”) website,
9 solar installed capacity in the state has grown from approximately 40 megawatts (“MW”)
10 in 2010 to over 580 MW in 2022. It is therefore reasonable for retail suppliers to procure
11 their own SPAECs because the credits are readily available and retail suppliers have the
12 ability to hedge their positions.

13 **Q. Do you agree with RESA/NRG that the Companies’ long-term solar proposal will**
14 **hamper solar development or lead to an inadequate supply of SPAECs generated in**
15 **the Commonwealth?**

16 A. No. RESA/NRG has not provided any evidence to show how the Companies’ procurement
17 will harm solar development in Pennsylvania. Further, contrary to Mr. Kavulla’s position
18 that there is not enough solar to meet Pennsylvania mandated procurement requirements,
19 the Companies see the solar market maturing and forward pricing for Pennsylvania
20 SPAECs decreasing over the next two years. SPAEC pricing is expected to fall from
21 \$41.00-43.00/SPAEC in 2022 to \$33-36/SPAEC in 2024, which indicates more SPAECs
22 are entering the market.

1 **Q. Why are the Companies proposing to procure energy and SPAEC contracts with**
2 **terms that are greater than four and no more than ten years?**

3 A. As stated in my direct testimony, the long-term solar project(s) will serve as a long-term
4 component of each Company's prudent mix of default service contracts that are to be
5 greater than four years but not to exceed ten years, with the SPAECs procured through the
6 long-term solar projects used to satisfy a portion of the Companies' AEPS requirements.
7 I note that RESA/NRG witness Mr. Kavulla proposes no long-term contracts at all, which
8 would introduce volatility as prices would be completely dependent on the spot market.
9 On the other hand, OCA witness Mr. Ogur argues that the long-term contracts should be
10 up to 20 years to provide solar developers a more secure income stream. Given these two
11 drastically opposed positions, the Companies have taken an approach which considers the
12 concerns raised by both entities and then aptly strikes a balance between the solar
13 developers and customer's interest. Contracts of up to ten years will be consistent with
14 solar project development and avoid the risks of contracts longer than ten years that could
15 become unfavorably priced due to advances in technologies.

16 **Q. Do you share Mr. Kavulla's concern that a long-term solar contract term exceeding**
17 **the DSP VI term will impede the ability of the Commission to approve an alternate**
18 **default service provider?**

19 A. No, I do not share that concern because if the default service provider changes, the
20 remaining solar contract term years will be addressed in accordance with Commission
21 guidance and directives at that time. I do not believe that the solar contract term would in
22 any way hinder reform, as Mr. Kavulla suggests. Should this circumstance arise, the
23 Commission can take action to appropriately protect customers and project developers and
24 ensure that the transition of default service providers is smooth.

1 **Q. How do you respond to Constellation’s concern that uncertainty in the SPAEC**
2 **allocations will result in unnecessary bid premiums or reduced participation in**
3 **auctions?**

4 A. I believe Mr. Campbell’s concerns are overstated. The total AEPS requirements are a small
5 portion, approximately 5%, of the default service supplier’s bid. The SPAEC allocation
6 associated with the solar projects is approximately 32% of expected residential SPAEC
7 obligations, which is an even smaller percentage of the supplier’s bid. Energy, capacity,
8 and Network Integration Transmission Service charges make up the majority of costs in a
9 supplier’s bid. Finally, the Companies will provide suppliers with the estimated amount
10 of SPAECs that are expected to be generated after the long-term solar procurement is
11 approved by the Commission.

12 **Q. Please explain how the cost of existing Commission-approved solar contracts are**
13 **recovered and how the proposed long-term solar procurement costs will be recovered.**

14 A. As explained by Ms. Larkin in Met-Ed/Penelec/Penn Power/West Penn Statement No. 5,
15 each Solar Photovoltaic Requirements Charge (“SPVRC”) Rider for Met-Ed, Penelec and
16 Penn Power will remain in place in DSP VI to recover costs associated with the legacy
17 contracts for SPAECs, because the SPAECs are assigned to retail and wholesale customers
18 on a non-bypassable basis. After the legacy contracts expire, the SPVRC Riders will only
19 be used if SPAECs are purchased for retail and wholesale customers on a non-bypassable
20 manner. Costs associated with SPAECs from the long-term solar project(s), or from the
21 contingency plan, will be collected in the Companies’ Price to Compare (“PTC”) Riders,
22 because the SPAECs will only be allocated to residential default service suppliers.

1 **IV. DEFAULT SERVICE PRODUCTS, PROCUREMENT AND SCHEDULE**

2 **Q. OCA recommended that the Companies eliminate the 5% spot component of the**
3 **residential default service product. Do you agree with this recommendation?**

4 A. No. The 5% spot component of the residential default service product is part of the
5 Companies' prudent mix of short-term, long-term and spot-market purchases. The spot
6 component has been part of the Companies' Commission-approved prudent mix since DSP
7 III³ and provides residential default service customers with a portion of their supply at
8 market rates.

9 **Q. OSBA agreed with the Companies' proposal to eliminate the 3-month commercial**
10 **default service product but recommended that commercial products be a mix of 12-**
11 **and 24-month terms. How do you respond?**

12 A. I disagree with OSBA's recommendation. The mix of 6-, 12- and 24-month products
13 provides the default service commercial customers with rates that are more reflective of
14 current market conditions than if we eliminated the 6-month product.

15 **Q. The OCA recommended that the default service procurement load cap remain at 75%**
16 **because the Companies' proposal to lower the cap to 40% could, among other things,**
17 **result in higher clearing prices. Please respond.**

18 A. Based on historical auction results, the Companies believe the number of times a supplier
19 would be impacted by the 40% load cap would be minimal. During DSP V, the 40% load
20 cap would not have impacted any supplier in five auctions. Only one supplier would have
21 been impacted in six other auctions and two suppliers would have been impacted in the

³ The term of DSP III was from June 1, 2015 through May 31, 2017.

1 remaining three auctions. Based on our analysis, the Companies do not believe the change
2 will result in higher clearing prices.

3 **Q. Both the OCA and OSBA recommended procurement schedule changes to**
4 **accommodate default service contracts whose terms extend into the next default**
5 **service plan period. Do you agree with the inclusion of such “overhanging” contracts**
6 **in the Companies’ programs?**

7 A. No. The Companies’ Commission-approved procurement plans have not incorporated a
8 “overhang” since DSP II⁴. The Companies’ proposed procurement schedule is intended to
9 mitigate regulatory risk by conducting auctions prior to the start of the next DSP.

10 **Q. Do you have any specific response to Mr. Knecht’s procurement schedule as shown**
11 **in Exhibit RDK-2?**

12 A. Yes. The schedule is Mr. Knecht’s attempt to ladder the procurement and to eliminate the
13 “dead stop.” In contrast, the Companies’ plans provide laddering and price diversification
14 through the purchase of products at varying intervals prior to the start of delivery. For
15 instance, the Companies’ schedule provides for two auctions prior to the start of any new
16 delivery term. The auctions occur eight (except for the first procurement that is six months
17 prior) and two months prior to each delivery term, which allows for the Companies to
18 capture pricing movements across a longer time horizon. This procurement strategy is
19 similar to what is known as dollar cost averaging (“DCA”) in the securities world. DCA
20 attempts to take the ups and downs of the market and smooth them out, instead of trying to
21 time the highs and lows of a market, by investing the same amount of money at regular
22 intervals. By applying the same principles and averaging to the Companies’ DSP supply

⁴ The DSP II term was from June 1, 2013 through May 31, 2015.

1 over several auctions, with 6 -, 12-, and 24-month procurement terms, the Companies
2 achieve smoothing extraordinary market event impact on product pricing and with an eye
3 towards the statutory standard of least cost to customers over time.

4 **V. GENERIC PROCEEDING ADDRESSING CREDIT ISSUES AND CLEAN**
5 **PROCUREMENT**

6 **Q. What is your view on Constellation’s recommendation that the PUC should initiate a**
7 **generic proceeding to, among other things, address credit requirement consistency**
8 **among default service providers and explore the merits of incorporating clean energy**
9 **carveouts such as a “24/7 Clean Tranche” ?**

10 A. A generic proceeding on credit requirements is unnecessary as such issues can be
11 appropriately addressed in the context of individual default service plans. Similarly,
12 individual proceedings provide the opportunity for different default service providers to
13 incorporate different strategies to meet solar AEPS requirements and take steps to support
14 alternative energy sources. The Companies’ long-term solar procurement proposal, if
15 approved, will allow the Companies to gain valuable experience and knowledge on
16 structuring clean power into its future default service plans. The lessons learned from this
17 experience will be useful in understanding what other possible clean power alternatives –
18 like Constellation’s 24/7 Clean Tranche – should be included in default service to meet
19 AEPS requirements.

1 **VI. CONCLUSION**

2 **Q. Does this conclude your rebuttal testimony?**

3 A. Yes.

4 DB1/ 128478993.2

5

Exhibit JHC-2R

Bidding Rules

For Fixed-Price and Hourly-Priced Auctions

To Procure Default Service Products

Under Default Service Program DSP-VI for

Metropolitan Edison Company (“Met-Ed”)

Pennsylvania Electric Company (“Penelec”)

Pennsylvania Power Company (“Penn Power”)

West Penn Power Company (“West Penn”)

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Bidding Rules to Procure Default Service Products

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Bidding Rules to Procure Default Service Products

1. INTRODUCTION

These Bidding Rules apply to the auctions to procure Default Service products for Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”) (each of which may be referred to as a “Company”, and/or in combinations as “Companies”) for all of their retail customers that take retail generation service from the Companies.

Default Service products for residential and commercial customers will be procured in a separate auction (“Residential/Commercial Auction” or “Fixed-Price Auction” or “FP Auction”) from the auction for industrial customers (“Industrial Auction” or “Hourly-Priced Auction” or “HP Auction”). Unless otherwise noted, these Bidding Rules apply to each auction.

Bidders need to be familiar with the Supplier Master Agreement (“SMA”), the Bidding Rules, and all other documents for the auctions, including the Part 1 Application and the Part 2 Application which apply to both auctions. Bidders should visit the Information Website regularly for up-to-date information, including information specific to each auction. The Information Website contains relevant data, the schedule and key dates for participating in the auction process, frequently asked questions, and other information.

The following documents are appended to, and shall be considered integral parts of, these Bidding Rules:

- Appendix 1 Part 1 Application for Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products
- Appendix 2 Part 2 Application for Fixed-Price and Hourly-Priced Auctions to Procure Default Service Products
- Appendix 3 Sample Pre-Bid Letter of Credit

Unless noted otherwise, “days” refer to business days and times refer to prevailing Eastern Time. Capitalized terms in this document, which are not defined explicitly herein, are defined in the SMA. In accordance with the SMA, “Default Service” and “DS” are equivalent (e.g., “Default Service Load” in these Bidding Rules corresponds to “DS Load” in the SMA).

Examples in these Bidding Rules are illustrative only.

These Bidding Rules may be modified from time to time by the Independent Evaluator in order to: (i) facilitate a more competitive auction process, (ii) make any necessary corrections and/or clarifications, (iii) account for any change in auction products, (iv) conform to any change in state or federal law or rule, and (v) apply any change deemed necessary at the discretion of the Independent Evaluator. All modifications will be posted to the Information Website and carried out in consultation with the Companies.

Bidding Rules to Procure Default Service Products

1.1 Independent Evaluator

The Independent Evaluator is CRA International, Inc. d/b/a Charles River Associates (“CRA”). The Independent Evaluator (also referred to as the Auction Manager) can be contacted by sending an email to fepaauction@crai.com. The full contact information for the Independent Evaluator is as follows:

Independent Evaluator
c/o Brad Miller, Vice President
CRA International, Inc.
~~John Hancock Tower, T-9~~
200 Clarendon Street, ~~T-9~~
Boston, MA 02116-5092
Phone: 617.425.3384
fepaauction@crai.com

2. THE PRODUCTS BEING PROCURED

This section summarizes the common elements of the products to be procured in the auctions. The Information Website provides details about the products to be procured in a specific auction, including the delivery periods, the number of tranches, and the nominal MW size of the tranches.

2.1 Default Service Load

Default Service Load is each Company’s aggregate requirement to serve its Default Service customers. For purposes of these Bidding Rules, a “Default Service Customer” is a retail customer of a Company taking Default Service.

2.2 Full Requirements Service

The auctions are designed to procure full requirements, load-following energy and energy-related services for Default Service Customers of the Companies.

Obligations of Default Service Suppliers include the following:

- Assume all responsibilities of a PJM Load Serving Entity (“LSE”), including all PJM administrative expenses and any other services or fees as required by PJM of an LSE.
- Provide for energy.
- Provide for capacity.
- Provide for ancillary services.
- Provide for transmission service, including Network Integration Transmission Service (“NITS”).

Bidding Rules to Procure Default Service Products

Obligations of Default Service Suppliers exclude the following:

- Regional Transmission Expansion Plan charges (“RTEP”);
- PJM Expansion Cost Recovery charges (“ECRC”);
- Reliability Must Run / Generation Deactivation charges (“RMR”) associated with generating plants for which specific RMR charges begin after the approval of the Companies’ current Default Service Plans (“DSP-IV”) by the Pennsylvania Public Utility Commission (“Commission”). All Suppliers will continue to be responsible for RMR charges associated with generating plants that began before the approval of DSP-III by the Commission, as those charges may change over time;
- Unaccounted for Energy;
- Historical out of market tie line, generation and retail customer meter adjustments; or
- Any Federal Energy Regulatory Commission (“FERC”)-approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009.

Alternative Energy Portfolio Standards Act (“AEPS Act” or “AEPS”) credits needed to meet the requirements of the Companies’ Default Service Load

~~The It is the responsibility obligations of Default Service Suppliers to provide all Alternative Energy Credits (“AECs”) necessary to meet the RPSAEPS obligations under the SMA vary among the Companies.~~

- ~~• Default Service Suppliers in the Met-Ed, Penelec, and Penn Power service territories will be responsible for meeting 100 percent of the non-solar Tier I and Tier II AEPS Act requirements. Met-Ed, Penelec, and Penn Power will procure all necessary solar photovoltaic requirements on behalf of Default Service Suppliers and EGSs that serve load in their respective service areas.~~
- ~~• In the West Penn service territory, Default Service Suppliers will be responsible for all Tier I and Tier II AEPS Act requirements (including solar photovoltaic requirements) less any Tier I AECs or solar photovoltaic AECs (“SPAECs”) that are allocated to the suppliers from existing long-term purchases made by West Penn.~~

The requirements of Default Service Suppliers are described more specifically in the SMA.

2.3 Tranches

Default Service Load will be divided into identical units called tranches, each representing a defined percentage of Default Service Load. For example, if there are 25 tranches for a given customer class, then each tranche equals one divided by twenty-five, or four percent of that class’s load. This includes four percent (4%) of the actual hourly energy required for Default Service Load for the applicable delivery period as well as four percent (4%) of the PJM capacity requirement for the applicable delivery period.

The number of tranches intended to be procured in the auction for a product is referred to as the “tranche target” for that product. The Independent Evaluator may reduce the tranche targets if indications of interest in the auction are such that doing so is required to promote more competitive bidding.

Bidding Rules to Procure Default Service Products

3. PRICES PAID TO DEFAULT SERVICE SUPPLIERS

This section summarizes the components of the prices to be paid to Default Service Suppliers. The SMA takes precedent over the summary provided here.

3.1 Prices Paid to Winning Suppliers in the Fixed-Price Auction

In accordance with the SMA, the Default Service Suppliers from the Fixed-Price Auction for residential customer load will be paid a price comprising a fixed-price component and a variable price component while the Default Service Suppliers from the Fixed-Price Auction for commercial customer load will be paid a price comprising a fixed-price component only. ~~An additional line item (payment or credit) is added for the 2022/2023 Energy Year; See Appendix H, "Supplement," of the SMA.~~

- The residential fixed-price component will be equal to 95 percent (95%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process. The residential variable price component will be equal to 5 percent (5%) of the delivered supply each hour multiplied by a "spot price." The "spot price" will be equal to the sum of:
 - (a) The real time hourly total locational marginal price ("LMP") established by PJM Interconnection L.L.C. ("PJM"), the Companies' regional transmission organization, for the PJM delivery point of the applicable Company (i.e., the PJM designated METED, PENELEC, Penn Power Aggregate, or APS Zone), plus
 - (b) An adder of \$20/MWh. This adder is designed to capture an estimate of costs of other supply components associated with meeting the full-requirements obligation, including capacity, ancillary services, NITS, AEPS compliance, and other costs.
- The commercial fixed-price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process.

3.2 Prices Paid to Winning Suppliers in the Hourly-Priced Auction

In accordance with the SMA, the Default Service Suppliers from the Hourly-Priced Auction will be paid a price comprising a fixed-price component and a variable price component. ~~An additional line item (payment or credit) is added for the 2022/2023 Energy Year; See Appendix H, "Supplement," of the SMA.~~

- The fixed-price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by the price established through the Companies' competitive procurement process.
- The variable price component will be equal to 100 percent (100%) of the delivered supply each hour multiplied by a "spot price." The "spot price" will be equal to the sum of:
 - (a) The real time hourly total LMP established by PJM for the PJM delivery point of the applicable Company, plus
 - (b) An adder of \$4/MWh. This adder is designed to capture an estimate of costs of other supply components associated with meeting the full-requirements obligation, including capacity, ancillary services, NITS, AEPS compliance, and other costs.

4. PRIOR TO THE START OF BIDDING

4.1 Information Provided to Bidders

The Companies will make available certain information to suppliers in advance of qualification. This information will be posted on the Information Website.

4.1.1 Data

Load and other data that are posted to the Information Website are described in a data description document on the Information Website.

4.1.2 Minimum and Maximum Starting Prices

The Independent Evaluator will announce a minimum starting price and a maximum starting price for each product in the auction. The minimum and maximum starting prices establish the range for the possible round 1 prices for the auction.

4.1.3 Tranche Size, Tranche Targets

No later than eight (8) days prior to the Part 1 Application Due Date, the Independent Evaluator will announce for each product in the auction:

- The tranche targets or the number of tranches being procured for each product.
- The size (%) and MW-measure of the tranches in the auction.

No later than four (4) days prior to the Part 2 Application Due Date, the Independent Evaluator will announce:

- Any update to the MW-measure of the tranches in the auction.

4.2 Qualification Process

There are two parts to the bidder application and qualification process. In Part 1, prospective bidders apply to become Qualified Bidders. In Part 2, each Qualified Bidder provides certifications and its indicative offer and pre-bid security in order to become a Registered Bidder.

A prospective bidder is required to submit a new Part 1 Application before the first auction in a calendar year in which it would like to participate.

If a prospective bidder submits a successful Part 1 Application for an upcoming auction, in general the Qualified Bidder will not need to submit a new Part 1 Application for any subsequent auction that is held in the same calendar year as the upcoming auction. For example, if the prospective bidder submits a successful Part 1 Application and becomes a Qualified Bidder for an auction held in January, the Qualified Bidder generally would not need to submit a Part 1 Application prior to any other auctions held in the same calendar year. However, the Qualified Bidder will need to submit a new Part 1 Application if the information in the prior successful Part 1 Application has changed. Also, the Qualified Bidder is required to submit its most recent (e.g., quarterly) financial statements before each auction.

A Qualified Bidder is required to submit a new Part 2 Application before each auction it would like to participate in.

4.2.1 Part 1 Application: Certifications and Other Qualified Bidder Requirements

In the Part 1 Application process, prospective bidders will be required to:

- Submit an application from a person with the power to bind the bidder.
- Agree to comply with all rules of the auction.
- Agree that if they become winning bidders, they will execute the applicable SMA with the Companies within 3 business days following the date of the Commission's approval of the auction results.
- Show either that they are a PJM Market Participant and Load Serving Entity in PJM, or that there exist no impediments to them becoming a PJM Market Participant and Load Serving Entity in PJM by the start of the applicable delivery period.
- Agree that if they become winning bidders, they will comply with the creditworthiness requirements set forth in the SMA.
- Certify that if they qualify to participate, they will not disclose information regarding the list of Qualified Bidders or confidential information that may be obtained during the bidding process about Qualified Bidders.
- Certify that if they qualify to participate, they will not substitute another entity in their place, transfer their rights to another entity, or otherwise assign their status as Qualified Bidders to another entity.

Bidding Rules to Procure Default Service Products

Part 1 Applications must be submitted to the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 1 Application Due Date. Prospective bidders will be notified by the Independent Evaluator no later than three (3) days after the Part 1 Application Due Date whether they succeeded in becoming Qualified Bidders.

A prospective bidder that has qualified during the Part 1 Application process becomes a Qualified Bidder. The Independent Evaluator will send a list of all Qualified Bidders to relevant parties that have undertaken to maintain the confidentiality of the list of Qualified Bidders. The relevant parties that will receive this list of Qualified Bidders are as follows:

- Each Qualified Bidder.
- Other parties as necessary to oversee the proper conduct of the auction, including representatives from the Companies and Commission Staff.

All parties receiving a list of Qualified Bidders will be subject to the confidentiality requirements as specified below and in the section, "Communications Protocols," in these Bidding Rules.

4.2.2 Part 2 Application: Certifications, Indicative Offer, and Pre-Bid Security

For each auction, a Qualified Bidder must successfully complete the Part 2 Application process in order to become a Registered Bidder that can bid in the auction. Only Qualified Bidders may submit a Part 2 Application.

Part 2 Applications must be submitted to the Independent Evaluator no later than 12:00 p.m. noon prevailing Eastern Time on the Part 2 Application Due Date. Qualified Bidders will be notified by the Independent Evaluator whether they succeeded in the Part 2 Application process no later than three (3) days after the Part 2 Application Due Date.

Certifications

In the Part 2 Application, each Qualified Bidder will make a number of certifications to ensure the confidentiality of information regarding the auction, and in regards to associations with other Qualified Bidders, to ensure that they are participating independently of other Qualified Bidders. More details on the certifications can be found in the section, "Confidential Information, Certifications, and Sanctions," later in this document.

The competitiveness of the auction and the ability of the auction to produce competitive prices may be harmed by the coordinated or collusive behavior that associations among bidders may facilitate. As the Independent Evaluator relies on a number of factors to assess and promote competitive bidding, including the number of independent competitors, providing inaccurate information or insufficient disclosure of associations in the Part 2 Application is prohibited. More details on rules and protocols for participation by associated bidders can be found in the section, "Bidder Associations," later in this document.

Bidding Rules to Procure Default Service Products

Indicative Offers

With its Part 2 Application, a Qualified Bidder will be required to submit indicative offers and to post pre-bid security sufficient for their indicative offers. A Qualified Bidder provides two indicative offers for each auction that the Qualified Bidder is applying to participate in: one indicative offer at the minimum starting prices for the products in the auction, and one indicative offer at the maximum starting prices for the products in the auction. An indicative offer specifies for each product in the auction the number of tranches that the Qualified Bidder is willing to serve for that product. Thus, the indicative offer at the minimum starting prices in the auction specifies the number of tranches that the Qualified Bidder is willing to serve for each product in the auction at the minimum starting price for the product. The indicative offer at the maximum starting prices in the auction specifies the number of tranches that the Qualified Bidder is willing to serve for each product in the auction at the maximum starting price for the product. For each product in the auction, the number of tranches specified in the indicative offer at the minimum starting price cannot exceed the number of tranches specified in the indicative offer at the maximum starting price.

Indicative offers are important in two respects. First, the Independent Evaluator may use the indicative offers to inform the setting of the starting price for each product (i.e., round 1 announced price). Second, the total number of tranches in the Qualified Bidder's indicative offer at the maximum starting prices is used to determine the Qualified Bidder's initial eligibility (i.e., the maximum total number of tranches the Qualified Bidder can bid across all products in round 1 of the auction): the Qualified Bidder's initial eligibility is set to the total number of tranches across all products in the Qualified Bidder's indicative offer at the maximum starting prices. During the auction, bidders are free to switch their tranches among products in response to changes in announced prices (subject to any bidding restrictions). However, a bidder will never be able to bid a total number of tranches across products that exceeds the bidder's initial eligibility. Thus, the number of tranches for each product in the Qualified Bidder's indicative offer at the maximum starting prices does not limit the number of tranches the Qualified Bidder can bid on a particular product, but the total number of tranches across all products in the indicative offer at the maximum starting prices must be equal to the Qualified Bidder's desired initial eligibility across all products in the auction.

Restrictions on the Indicative Offer: ~~Load Cap and Credit-Based Tranche Cap~~

Each Qualified Bidder will be subject to a load cap that limits the number of tranches the bidder can bid on and win. Thus, the Qualified Bidder's indicative offer at the maximum starting prices across all products in the auction is not allowed to exceed the load cap. The load cap will be ~~40~~75 percent for fixed-price products and 75 percent for hourly-price products on an aggregated load basis across all products in each auction such that no bidder may bid on and win more tranches than the load cap. The load cap will be implemented by ensuring that each bidder's initial eligibility does not exceed the load cap in an auction.

Bidding Rules to Procure Default Service Products

Restrictions on the Indicative Offer: Credit-Based Tranche Cap

A Qualified Bidder may have a credit-based tranche cap that limits the Qualified Bidder's initial eligibility. The Qualified Bidder's indicative offer at the maximum starting prices across all products in the auction is not allowed to exceed the Qualified Bidder's credit-based tranche cap. This credit-based tranche cap is based on the credit rating of the Qualified Bidder or its Guarantor. A Qualified Bidder's credit-based tranche cap is determined as shown in Table -1.

Table 1. Credit-Based Tranche Cap

Credit Rating of Qualified Bidder or Guarantor			Credit-Based Tranche Cap
S&P	Moody's	Fitch	
<u>BB- and above BBB- & up</u>	<u>Ba2 and above Baa3 & up</u>	<u>BB and above BBB- & up</u>	<u>Unlimited up to auction's tranche target</u>
<u>BB- BB+/BB</u>	<u>Ba3 Ba1/Ba2</u>	<u>BB- BB+/BB</u>	<u>8 tranches</u>
<u>Below BB- BB- & below</u>	<u>Below Ba3 Ba3 & below</u>	<u>Below BB- BB- & below</u>	<u>4 tranches</u>
<u>If not rated by any of those rating agencies</u>			<u>4 tranches</u>

Note that the parameters in the table above may vary by auction and over time, at the sole discretion of the Companies.

To be assigned a credit-based tranche cap greater than the minimum credit-based tranche cap, the Qualified Bidder or its Guarantor must:

- Be rated by at least one of the following rating agencies: Standard & Poor's Rating Services ("S&P"), Moody's Investors Service, Inc. ("Moody's"), or Fitch, Inc. ("Fitch"), and
- Have a senior unsecured debt rating (or, if unavailable, corporate or issuer rating).

If the Qualified Bidder or Guarantor is rated by only one rating agency, that rating will be used. If the Qualified Bidder or Guarantor is rated by only two rating agencies, and the ratings differ, the lowest rating will be used. If the Qualified Bidder or Guarantor is rated by the three rating agencies, and the ratings differ, the lower of the two highest ratings will be used; provided that, in the event that the two highest ratings are common, such common rating will be used.

Bidding Rules to Procure Default Service Products

If a Qualified Bidder is not rated by any of the rating agencies, the Qualified Bidder's credit-based tranche cap will be the minimum credit-based tranche cap as shown in Table- 1.

The credit-based tranche cap is in effect only during the bidding process. After the SMA has been executed by a winning bidder, the credit-based tranche cap no longer will be in effect and the Default Service Supplier will be required to meet the credit terms in accordance with the SMA.

Pre-Bid Security

Each Qualified Bidder must post pre-bid security sufficient for its indicative offer at the maximum starting prices. Each Qualified Bidder must post pre-bid security in an amount specified in the Part 2 Application for all products included in the bidder's indicative offer at the maximum starting prices. Either cash or a pre-bid letter of credit will be accepted as pre-bid security. Letters of Credit can be submitted as a hard copy or in electronic form. Interest will not be paid on cash posted as pre-bid security. The standard form of the pre-bid letter of credit that is acceptable to the Companies will be posted to the Information Website.

If a draft pre-bid letter of credit submitted by the prospective bidder with the Part 1 Application does not conform to the standard form, the prospective bidder shall indicate clearly any and all modifications in electronic, redlined format from the standard form. The Companies will assess, in their sole and exclusive discretion, whether such modifications are acceptable. Modifications that are accepted by the Companies will be posted on the Website. Subsequently in its Part 2 Application, a Qualified Bidder must provide the required executed pre-bid letter of credit that either is the standard form or is the version that incorporates only those modifications to the standard form accepted by the Companies upon review of the bidder's Part 1 Application.

The following is an example calculation of the pre-bid security.

Example 1. Pre-Bid Security

A Qualified Bidder submits an indicative offer of 5 tranches for the Met-Ed 24-month residential product at the minimum starting price and 10 tranches for the Met-Ed 24-month residential product at the maximum starting price, 3 tranches for the Penelec 12-month residential product at the minimum starting price and 6 tranches for the Penelec 12-month residential product at the maximum starting price, and 2 tranches for the Penn Power 3-month commercial product at the minimum starting price and 4 tranches for the Penn Power 12-month commercial product at the maximum starting price. The Qualified Bidder must submit with this indicative offer of 20 tranches at the maximum starting prices cash or a pre-bid letter of credit of \$250,000 per tranche (as specified in the Part 2 Application). The Qualified Bidder thus posts cash or a pre-bid letter of credit of \$5 million (20 tranches X \$250,000 per tranche).

For a Part 2 Application to be accepted, it must be complete and include the Qualified Bidder's indicative offers and pre-bid security (either a pre-bid letter of credit or cash). After its Part 2 Application is accepted, a Qualified Bidder becomes a Registered Bidder. The Independent Evaluator will send each

Bidding Rules to Procure Default Service Products

Registered Bidder a summary of its indicative offers, pre-bid security amount, and the Registered Bidder's initial eligibility.

The Independent Evaluator also will send simultaneously to each Registered Bidder, and to those other parties as necessary to oversee the proper conduct of the auction, a list of Registered Bidders, and the total initial eligibility aggregated across all Registered Bidders. The list of Registered Bidders and the total initial eligibility will not be released publicly. Qualified Bidders, in their Part 2 Applications, will have undertaken to maintain the confidentiality of the list of Registered Bidders and the total initial eligibility, and to destroy documents including electronic files with this information provided by the Independent Evaluator within five (5) days following the conclusion of the auction, as explained further in the Part 2 Application.

Pre-bid security will remain in full force, at a minimum, until the fifth calendar day after the conclusion of the auction. Subsequently, a bidder's pre-bid security will be cancelled and returned:

- For non-winning bidders: As soon as practicable once PA-PUC approves the results of the auction after the Commission issues its post-auction Secretarial Letter if the bidder has won no tranches.
- For winning bidders: After the bidder has signed the SMA and has complied with all creditworthiness requirements of the SMA for the tranches that it-the bidder has won.

The Companies can collect on the pre-bid security of bidders that win tranches but that fail to sign the SMA or fail to comply with the creditworthiness requirements immediately following the close of the auction.

4.2.3 Sanctions for Failing to Comply with the Part 1 and Part 2 Applications

Sanctions can be imposed on a bidder for failing to disclose information relevant to determining associations, for coordinating with another bidder, or for failing to abide by any of the certifications that it will have made in its Part 1 and Part 2 Applications. Such sanctions can include, but are not limited to, termination of the SMA, loss of all rights to provide supply for the Companies to serve any load won by such bidder, forfeiture of financial guarantees and other fees posted or paid, prosecution under applicable state and federal laws, debarment from participation in future solicitations, and other sanctions that may be appropriate. For any failure to disclose information or for any violation of the certifications, the Independent Evaluator will make a recommendation on a possible sanction.

4.3 Starting Prices (Round 1 Prices)

No later than three (3) days before bidding starts for an auction, the Independent Evaluator will inform all Registered Bidders of the starting price for each product in the auction, which is the announced price that will be in effect for round 1. For each product, the starting price will be no higher than the maximum starting price and no lower than the minimum starting price for the product. The Independent Evaluator will set the starting prices.

4.4 Extraordinary Events

The Independent Evaluator, in consultation with the Companies, may determine that, due to extraordinary events, the minimum starting prices and the maximum starting prices require revision. In this event, the schedule for the auction process also may be revised. If the indicative offers have already been received, the Independent Evaluator will request that the Registered Bidders (or the Qualified Bidders if the Part 2 Application process had not been completed) revise their indicative offers on the basis of the revised minimum starting prices and the revised maximum starting prices.

For such a revision to be necessary, an extraordinary event must occur between the time at which the minimum starting prices and the maximum starting prices are announced and the day on which bidding starts. An extraordinary event must be agreed to by the Companies and the Independent Evaluator. Such events could include, but are not limited to, the advent of war, the disruption of a major supply source for potentially extended periods, or other events that could affect significantly the cost of supply.

If an extraordinary event occurs during that time, the Independent Evaluator in consultation with the Companies will determine revised minimum starting prices and revised maximum starting prices. New indicative offers based on these prices will be required from bidders. To the extent practicable, the determination of new minimum and maximum starting prices, the submission of new indicative offers, and if necessary the announcement of new starting prices, will be carried out so as to afford bidders sufficient time. If an extraordinary event occurs during that time that causes a possible change in the schedule, the Independent Evaluator in consultation with the Companies and Commission Staff, will determine a revised schedule.

5. BIDDING FORMAT

In order to participate in the auction, bidders must have been successful in the Part 1 Application process and the Part 2 Application process. Only Registered Bidders are permitted to participate in the auction. Registered Bidders will bid in the auction by accessing the Independent Evaluator's secure Bidding Website.

5.1 Descending-Price Clock Format

The auction format is a simultaneous, multiple-round, descending-price clock format for "N" rounds. The number of rounds "N" for the auction is not pre-determined. Instead, it is determined by the closing rule for the auction (described below). All products are available to bid on simultaneously in the auction. Bids are submitted during bidding rounds. Prices are announced for the products prior to each bidding round, and during a bidding round, a bidder submits for each product the number of tranches it would supply at the product's announced price. If the total number of tranches bid on a product exceeds the product's tranche target — i.e., the product is over-subscribed — the announced price for the product will be reduced for the next round. Announced prices will tend to decline round by round until the number of tranches bid falls sufficiently so that no product is over-subscribed and the auction closes.

An important rule is that a bidder cannot reduce the number of tranches it bids on a product if the product's announced price does not fall from one round to the next; in this case, the bidder can only maintain or increase the number of tranches it bids on the product (subject to other rules).

Bidding Rules to Procure Default Service Products

5.1.1 Rounds

Each bidding round has a specified start time and a specified end time. These start and end times are enforced by the Bidding Website. Prior to the start of the auction, the initial schedule of rounds will be available on the Bidding Website. As the auction progresses, the Independent Evaluator will keep bidders informed of the start and end times of subsequent rounds through the Bidding Website. The Independent Evaluator retains the option of pausing a round, delaying the start or end of a round, or otherwise adjusting the round times. The Independent Evaluator will inform bidders through the Bidding Website if it exercises this discretion to change the start time or end time of a round.

Bidders submit bids only during a round. When a round ends, the bids submitted during that round are processed and results of that round are reported to all bidders as explained in the section “Reporting Round Results” below. Each bidder then prepares to submit a bid for the next round if the auction remains open.

5.1.2 The Announced Prices and a Bid

Prior to the start of each round, the Independent Evaluator announces the price that will be in effect for each product for the round. The announced prices are specified in dollars per MWh or \$/MWh. The price announced by the Independent Evaluator for a product applies to all of the product’s tranches. Each bidder decides how many tranches it is willing and able to supply for each product at the product’s announced price. A bid by a bidder is, for each product, the number of tranches that the bidder is willing to supply at that announced price for the product. All bids are irrevocable and binding upon the bidders.

At sufficiently high announced prices there will be excess supply for a product causing it to be over-subscribed; that is, the number of tranches bid on the product will exceed the product’s tranche target. Excess supply for a product is measured as the total number of tranches bid across all bidders on the product in the round minus the product’s tranche target.

5.1.3 Reservation Prices and Starting Prices

There are reservation prices for the auction. The reservation price for a product is the price above which tranches for the product will not be purchased. If, at the conclusion of the auction, the reservation price for a product has not been met, no tranches for that product will be awarded. At the conclusion of the auction, the Independent Evaluator will inform bidders through the Bidding Website if the reservation price for a product has not been met.

Starting prices for the auction are determined after reservation prices are determined. The starting price for a product will be no lower than the reservation price for the product. The starting price may be the same as or higher than the reservation price for the product. The Independent Evaluator will not announce the reservation prices to bidders in advance of an auction.

Bidding Rules to Procure Default Service Products

5.1.4 Restrictions on What a Bidder Can Bid

The total number of tranches a bidder bids across all products in a round cannot exceed the bidder's eligibility for that round. That is, a bidder's eligibility to bid in a round is the maximum number of tranches it is allowed to bid across all products in that round. A bidder's eligibility for a round simply is the number of tranches the bidder bid across all products in the preceding round. Thus, a bidder cannot increase its eligibility from round to round; its eligibility can only stay the same or decrease from round to round.

A bidder is not allowed to bid more tranches on a product in a round than the product's tranche target.

A bidder is not allowed to bid a number of tranches that would violate any applicable load cap.

If the announced price for a product has been reduced from one round to the next round, the bidder can reduce the number of tranches it bid on that product.

If the announced price for a product has not been reduced from one round to the next round, the bidder cannot reduce the number of tranches it bid on that product.

Subject to the rules above, in each round a bidder is free to bid its tranches of eligibility across products however it would like to. Thus, subject to the rules above, bidders are free to reduce the tranches they bid and/or to switch tranches across products from round to round in response to changes in the announced prices for the products.

As discussed above, a bidder's initial eligibility is its eligibility for round 1 of the auction and is determined by the total number of tranches across products at the maximum starting prices in the bidder's indicative offer. During the course of the auction, the bidder's eligibility will decline or remain unchanged depending on the total number of tranches bid by the bidder across all products in each round of the auction.

If a bidder's eligibility falls to zero tranches, it will not be allowed to bid in any more rounds of the auction.

5.1.5 Multiple Bids by a Bidder

Because a bidder may decide to change a bid it submitted previously within the current open round, a bidder is allowed to make multiple bid submissions in a round as long as the round remains open for bidding, with each new confirmed bid fully replacing any prior bids it submitted in the round. If a bidder submits multiple bids in a round, the only bid considered in the round for that bidder is the last confirmed bid it submitted in the round.

Bidding Rules to Procure Default Service Products

5.1.6 Default Bid

After the end of a round, a default bid is submitted automatically on behalf of a bidder if the bidder:

- Entered the round with positive eligibility, and
- Did not submit a confirmed bid in the round.

If the announced price for a product declined from the prior round, then zero tranches will be the default bid for that product.

If the announced price for a product did not decline from the prior round, then the number of tranches that the bidder bid on the product in the prior round as determined by the end-of-round (“EOR”) procedure following the prior round will be the default bid for the product.

Each bidder is solely responsible for ensuring it submits a confirmed bid prior to the end of the round in order to avoid a default bid of being submitted on the bidder’s behalf.

Bidding Rules to Procure Default Service Products

5.1.7 The EOR Procedure

At the end of each round, the EOR procedure is used to process the confirmed bids submitted during the round. The EOR procedure includes the following steps.

- (a) The supply for each product is measured by summing up — across the confirmed bids for all bidders — the number of tranches bid for each product.
- (b) The subscription level for each product is measured by comparing the supply for the product to the tranche target for the product. A product is over-subscribed, subscribed, or under-subscribed if supply (i.e., the number of tranches bid) is greater than, equal to, or less than the product's tranche target, respectively.
- (c) If a product has become under-subscribed in a round after being over-subscribed or subscribed in the preceding round, then tranches will be rolled back to the point that the product is subscribed. That is, at least some of the tranches that were bid on the product in the preceding round but that were not bid on the product this round will be deemed to still be bid on the product. The price at which a rolled-back tranche is deemed to have been bid simply is the announced price at which the bidder had bid the tranche. There is a priority for selecting tranches to roll back: tranches that otherwise would no longer be bid on any product in the auction and therefore would be reductions in bidders' eligibilities are rolled back first (referred to as "eligibility reduction tranches"), and then if needed, tranches that were switched from being bid on the product to being bid on another product are selected next for rollbacks (referred to as "switched tranches"). Eligibility reduction tranches are selected for rollback proportionally tranche by tranche, not bidder by bidder. Likewise, switched tranches are selected for rollback proportionally tranche by tranche, not bidder by bidder. More precisely, because integer tranches are needed, the actual selection mechanism uses a random number generator to select rollbacks tranche by tranche (first for eligibility reduction tranches and then for switched tranches), but on average the selection process results in proportional rollbacks (with priority given to rolling back eligibility reduction tranches first and then switched tranches second). All tranches that are rolled back maintain their eligibility for the bidder. Any bidder subjected to a rollback will be notified through the Bidding Website that a rollback has taken place and will be informed about the number of tranches deemed bid on each product and the price at which those tranches have been deemed bid.

For example, suppose a bidder bids five tranches on a product and no tranches on other products in round 8, and the price for that product is reduced for round 9 and the bidder bids only 1 tranche on the product and no tranches on other products for round 9. Absent any EOR rollbacks following round 9, the bidder's eligibility would fall from 5 tranches to 1 tranche. But during the EOR procedure, suppose two of the bidder's 4 "eligibility reduction tranches" are rolled back on the product, so after the EOR procedure the bidder is deemed to have bid 3 tranches on the product — one at the announced price of the round just ended and two at the announced price of the preceding round — and therefore the bidder is deemed to have 3 tranches of eligibility for round 10.

Bidding Rules to Procure Default Service Products

- (d) “Free eligibility tranches” are determined as follows. A product’s “bid stack” is a list of the tranches currently deemed bid on the product and the price at which each tranche was bid for the product. Because of rollbacks, a product’s bid stack could have tranches bid at two different prices: some tranches bid at the earlier, higher announced price and some tranches bid at the current, lower announced price. Any new tranche bid on such a product necessarily will be bid at the current, lower announced price. This new tranche will displace a tranche in the product’s bid stack at the earlier, higher announced price. The displaced tranche becomes a “free eligibility tranche”. The free eligibility tranche counts as eligibility for the bidder and the bidder can bid the tranche on any product next round, or the bidder can choose not to bid the tranche at all. But if the bidder does not bid the free eligibility tranche next round, the tranche will be withdrawn from the auction permanently and will reduce the bidder’s eligibility by one tranche after the next round.
- (e) In some cases, the Independent Evaluator may reduce the tranche targets. The criteria that could lead to such a reduction will be determined prior to the auction but will not be announced to bidders. Once certain pre-specified criteria related to excess supply and related to the reservation price have been met, the discretion to reduce a product’s tranche target because of insufficient supply will be eliminated. Thus, any tranche target reduction would more likely occur in the earlier rounds of the auction. If the Independent Evaluator reduces the tranche target for a product, bidders will be informed of the revised tranche target. Any bidder that otherwise would have eligibility exceeding the new tranche targets will have its eligibility reduced so as not to exceed the new tranche targets.
- (f) The closing rule determines whether the auction has concluded. The closing rules is that the auction concludes if either case (1) or case (2) holds as follows:
- (1) If no product is over-subscribed and no bidder has free eligibility tranches, then the auction has concluded. Note that it is possible for the auction to continue with no reductions in announced prices: if no product is over-subscribed there will be no reductions in announced prices but if there are free eligibility tranches (which “expire” after one round), the auction will remain open for one more round (subject to case (2) described next), allowing bidders with free eligibility to bid those tranches.
 - (2) If this is the Nth consecutive round in which no product is over-subscribed, and the number of tranches of free eligibility across all bidders as a percentage of the sum of the tranche targets across all products is less than or equal to X percent, then the auction has concluded. The parameter values for N and X will be determined before the auction. The likelihood that this case (2) would occur in a particular auction is expected to be low.
- (g) If the auction has concluded, the winning tranches, winning bidders, and winning prices are determined as described below.
- (h) If the auction has not concluded, then each bidder’s eligibility is determined for the next round and the price decrement (if any) is determined for each product for the next round.

Bidding Rules to Procure Default Service Products

5.1.8 Price Decrements

The announced prices will decrease round by round by a price decrement for over-subscribed products. Pre-specified price guidelines are used to determine the price decrements. Generally the price decrement for a product will be larger for the earlier rounds in the auction and when the excess supply for the product is greater. The price decrement is expected to be between 0.5 percent and 5 percent of the announced price for the most recently completed round.

The Independent Evaluator reserves the right to override the price decrement guidelines. The exercise of that right is expected to occur rarely and only if doing so is believed to facilitate timely progression of the bidding process.

5.2 Determination of Winning Tranches, Winning Bidders, and Winning Prices

At the close of the auction, the winning tranches, winning bidders, and winning prices will be determined as follows.

As a result of the EOR procedure as described above, there are two possible scenarios for a product at the close of the auction.

5.2.1 Bid Stack for a Product has All Tranches at the Same Price

In this scenario, there are no rolled-back tranches in the product's bid stack: all tranches in the bid stack were bid at the last announced price, including any tranches bid on the product in the last round of the auction as determined by the EOR procedure. That announced price is the product's clearing price, and all tranches in the product's bid stack are winning tranches if the clearing price satisfies the product's reservation price. Bidders who bid those tranches are winning bidders for those tranches, and all bidders with winning tranches on a product are paid the same price — i.e., the clearing price — for each winning tranche on the product. Note that this scenario includes the case in which a product was over-subscribed at some point in the auction and later became subscribed, as well as the case in which a product was always under-subscribed in the auction (i.e., it was never subscribed or over-subscribed in the auction).

5.2.2 Bid Stack for a Product has Tranches at Two Different Prices

In this scenario, there are rolled-back tranches in the product's bid stack: some tranches in the bid stack were bid at the last announced price (including any tranches bid on the product in the last round of the auction as determined by the EOR procedure), and some tranches in the bid stack were bid at the next most recent announced price. In this case, the product's clearing price is the next most recent announced price — which necessarily is higher than the last announced price for the product. All tranches in the product's bid stack are winning tranches if the clearing price satisfies the product's reservation price. Bidders who bid those tranches are winning bidders for those tranches, and all bidders with winning tranches on a product are paid the same price — i.e., the clearing price — for each winning tranche on the product.

5.3 Example of Round-by-Round Bidding

Appendix A provides an illustrative example of round-by-round bidding.

5.4 Reporting Round Results

During a round, a bidder can see the current status of the auction and the status of the current round including the announced price for each product as well as the bidder's own bidding status. A bidder will not see information about other bidders.

Between rounds the Bidding Website will report the results for the most recently completed round. Results for all prior rounds also will be accessible. The round results for each completed round in the auction will show:

- The announced price for each product and a range of total supply across all bidders and all products (that is, a range that includes the total number of tranches bid). The range of total supply will be defined by two different integers. Actual total supply will not be reported but will be at least as high as the lower of the two integers and no higher than the higher of the two integers. There is an exception to reporting total supply as a range of two integers: if and when total supply has declined below a pre-determined level, total supply will be reported simply as being below that level. The reporting ranges will be made available to bidders in advance of each auction.
- For each bidder, that bidder's bid for the round — i.e., the number of tranches bid on each product — and the bidder's eligibility for the next round. (Each bidder does not see information about other bidders.)
- The announced price for each product for the next round if the auction will continue with the next round.

5.5 Frequency of Rounds

The early rounds of bidding may be longer in duration than later rounds. The duration of a bidding round will be at least five (5) minutes.

The time between early rounds of bidding may be longer in duration than for later rounds. The time between bidding rounds will be at least five (5) minutes.

The schedule of rounds and any changes to the schedule will be made available to bidders through the Bidding Website.

5.6 Auction Pause Declared by Independent Evaluator

At any time during the auction, the Independent Evaluator may decide to pause the auction. This is not expected to happen often if at all. If the Independent Evaluator pauses the auction or changes the round schedule in any way, bidders will be notified.

6. AFTER THE AUCTION CLOSES

6.1 Notification of Results

At the close of the auction, the Independent Evaluator will notify the Companies, the Commission, and the bidders as follows.

- The Independent Evaluator will notify the Companies and the Commission of the identities of the winning bidders, the number of tranches won by each winning bidder, the prices for the tranches won, and other aggregated information on the bidding process.
- The Independent Evaluator will notify each winning bidder of how many tranches the bidder has won and at what prices. The Independent Evaluator also will notify the unsuccessful bidders that they have not won any tranches.

The names of the winning bidders, the number of tranches won by each bidder, and the winning prices will remain confidential until released publicly by the Commission or as required by law.

The auction results are tentative subject to Commission approval.

After the conclusion of the auction and provision of the auction results to the Commission by the Independent Evaluator, the Commission is expected to make a decision within two ~~will have one~~ business days to approve or reject the auction results.

6.2 Execution of SMA

The winning bidders and the Companies will execute the SMA within three (3) business days following the Commission's approval of the auction results. If the supplier has already executed a SMA with the Company they have won tranches for, they will only need to execute the Transaction Confirmation. Each winning bidder must demonstrate compliance with the creditworthiness requirements set forth in the SMA.

6.3 Sanctions for Failure to Execute the SMA

A winning bidder's pre-bid security posted with its Part 2 Application may be forfeited if the winning bidder does not execute the SMA within three (3) business days following the Commission's approval of the auction result, if it fails to demonstrate compliance with the creditworthiness requirements set forth in the SMA, or if it fails to agree to any of the terms of the SMA. In addition, the winning bidder will be liable for damages incurred by the Companies, which will be determined in accordance with the terms of the SMA as though the winning bidder were a defaulting party to the SMA.

7. USE OF THE BIDDING WEBSITE

Bidders will bid in the auction by accessing the Independent Evaluator's secure Bidding Website. A bidder will access the Bidding Website using their own Web browser. The URL address for the Bidding Website, as well as usernames and passwords, will be provided to Registered Bidders prior to the start of the auction.

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The Bidding Website allows a Registered Bidder to submit and confirm bids, to verify its status, to view results from prior rounds, to view the schedule of rounds, and to view messages from the Independent Evaluator.

7.1 Importance of Confirmed Bids

Submitting a bid on the Bidding Website involves three steps:

- (1) Web page for entry and submission of the bid quantities. The bidder enters its desired bid and then submits the bid in order to proceed to the next step.
- (2) Web page for validation of the bid. The bidder is asked to review the bid it submitted in the first step before proceeding to the confirmation step.
- (3) Web page showing confirmation of the bid. The bidder receives a unique confirmation ID for the bid and the time-stamp at which the bid was recorded by the Bidding Website server.

It is important to note that a bid is not accepted and recorded as an accepted bid until and unless the bidder reaches the third step in which the bid confirmation Web page displays the unique confirmation ID and time-stamp for the bid.

7.2 Requirements for Using the Bidding Website

Access to the Bidding Website requires all of the following:

- Username and password provided by the Independent Evaluator.
- Access to the Internet.
- Use of one of the more recent versions of a standard Web browser.
- Status as a Registered Bidder.

A bidder loses access to the Bidding Website after it no longer is possible for the bidder to win tranches in the auction.

7.3 Messaging

The Bidding Website displays messages from the Independent Evaluator. These messages from the Independent Evaluator are displayed for all bidders with access to the Bidding Website.

Bidding Rules to Procure Default Service Products

8. BACKUP BIDDING PROCEDURES

In case a bidder has technical difficulties, and as a result is not able to submit a bid via the Bidding Website in a round, backup bidding procedures will be provided as follows described below. ~~Note that the Authorized Representative and the Delegate automatically are designated as authorized bidders. Requests to designate additional authorized bidders must be sent to the Independent Evaluator in writing prior to the start of round 1 of the auction.~~

- ~~(1) Option 1. The bidder should use the Backup Bidding Fax Number to submit its bid via facsimile. It is recommended that the bidder call the Independent Evaluator's Help Desk and inform the Help Desk operator that it has submitted a bid via facsimile. Reasonable efforts will be made to contact the bidder if the backup bid is not received via facsimile in the time expected. Once the backup bid is received via facsimile, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with the Backup Bidding Fax Number and with forms to use for faxing a bid using the faxed-based backup bidding procedure.~~
- ~~(1) Option 12. Upon encountering a technical difficulty, in case a bidder is unable to submit its bid via facsimile, it is recommended that the bidder call the Independent Evaluator's Help Desk and inform the Help Desk operator that it would like to submit a bid over the phone. The Help Desk operator will verify the identity of the caller, for example by asking for the bidder's company name, and the first and last name of the caller, along with the username and password of the bidder. Then a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Please note that the Independent Evaluator can accept bids over the phone only from callers that have been identified as authorized bidders by the bidder company. The Authorized Representative and Delegate automatically are designated as authorized bidders. Requests to designate additional authorized bidders must be sent to the Independent Evaluator in writing prior to the start of round 1 of the auction.~~
- ~~(2) Option 2. In case the bidder is unable to place a call to the Independent Evaluator's Help Desk, it is recommended that the bidder submit its bid via email to the Independent Evaluator. If possible, the email should be sent using encrypted email. Once the backup bid is received via email, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with one or more forms to use for submitting a bid using this email-based backup bidding procedure.~~
- ~~(3) Option 34. In case the bidder is unable to place a call to the Independent Evaluator's Help Desk or to submit a bid over via e-mail, the bidder should use the Backup Bidding Fax Number to submit its bid via facsimile. It is recommended that the bidder call the Independent Evaluator's Help Desk and inform the Help Desk operator that it has submitted a bid via facsimile. Reasonable efforts will be made to contact the bidder if the backup bid is not received via facsimile in the time expected. Once the backup bid is received via facsimile, a member of the Independent Evaluator team will attempt to enter the bid on the Bidding Website on behalf of the bidder. Note that prior to the auction, bidders will be provided with the Backup Bidding Fax Number and with one or more forms to use for faxing a bid using the faxed-based backup bidding procedure.~~

~~(2)~~

Bidding Rules to Procure Default Service Products

Bidders must be aware and understand that there is no guarantee or other assurance that if it submits a bid using a backup bidding procedure that its bid will be submitted and confirmed on its behalf by the Independent Evaluator team consistent with the intentions of the bidder and in time before the round ends.

If a backup bid submitted by a bidder is not accepted and confirmed by the Bidding Website because the round has ended, a default bid will be entered for the bidder as described above in the sections on default bids.

If a backup bid submitted by a bidder is not accepted and confirmed by the Bidding Website for other reasons (e.g., the number of tranches bid is greater than a bidder's eligibility or violates the bidder's credit-based tranche limit or applicable load cap), the Independent Evaluator team will use reasonable efforts to inform the bidder that a new bid must be submitted.

If a backup bid submitted by a bidder is confirmed by the Bidding Website, the Independent Evaluator team will contact the bidder and provide the confirmation of the accepted bid to the bidder.

Bidders use the backup bidding procedures at their own risk. In all cases involving backup bids, the Independent Evaluator team does not accept any responsibility, obligation, or liability for errors, omissions, timeliness, or otherwise, related to whether a backup bid is entered into and confirmed by the Bidding Website on behalf of the bidder or as intended by the bidder.

9. WHO TO CONTACT IN CASE OF PROBLEMS DURING THE AUCTION

A bidder should contact the Help Desk if it has questions or problems. The phone number for the Help Desk will be provided to bidders prior to the start of the auction.

10. CONTINGENCY PLAN

There is a contingency plan to cover two scenarios:

- At least one of the products in an auction is not fully subscribed.
- At least one of the winning suppliers defaults prior to the start of the delivery period or at any time during the delivery period.
- ~~A Capacity Proxy Price is utilized.~~
- A Capacity Proxy Price is utilized.

Bidding Rules to Procure Default Service Products

10.1 If an Auction is Not Fully Subscribed

In the event that an auction is not fully subscribed, the Companies will re-bid the unfilled tranches from that auction provided the start of the delivery period for the tranches is more than 30 calendar days away. If the delivery period is more than 30 calendar days away:

- The unfilled tranches will be re-bid in the next scheduled auction — if there is sufficient calendar time to include the unfilled tranches — where supply is sought with the same delivery start date as the unfilled tranches.
- If there is no such scheduled auction, then the unfilled tranches will be re-bid in a separate solicitation no later than 30 calendar days before the original delivery start date.

For any remaining unfilled tranches, the Companies will purchase the necessary physical supply through PJM administered markets and meet any AEPS compliance requirements through purchases at market prices.

10.2 If a Winning Bidder Defaults

If a winning bidder defaults prior to the start of or during the delivery period, the Companies will offer the unfilled tranches to the other Registered Bidders who participated in the most recent solicitation. The Companies will enter into an agreement with the Registered Bidder or Bidders offering the best terms for the unfilled tranches resulting from the default, provided the prices offered by such bidder or bidders are consistent with the original prices under which the unfilled tranches were procured and changes in market conditions from the time when the original tranches were procured. If the Companies are not able to enter into such agreement and a minimum of 30 calendar days exists prior to the start of the delivery period, the Companies will seek to bid the defaulted tranches in the next scheduled solicitation for supply with the same start date as the unfilled tranches or in a separate supplemental competitive solicitation. As with other unfilled tranches described above, if insufficient time exists to conduct an additional competitive solicitation, or if the supplemental solicitation is unsuccessful, the Companies will supply the tranches using PJM-administered markets. In addition to damages to which the Companies may be entitled, costs incurred by the Companies in implementing this contingency plan for supply and AEPS requirements will be assessed against the defaulting supplier's credit security, to the extent available.

10.3 If a Capacity Proxy Price ("CPP") is Used

A Capacity Proxy Price is used for Default Service auctions to establish a capacity cost when PJM does not conduct their Base Residual Auction ("BRA") in time for Default Service Suppliers to incorporate into their bids. The CPP for each Company will be the average of the capacity prices from the last auction of the previous two capacity auctions conducted by PJM. The Companies will calculate reconciliations for those Default Service Suppliers impacted by utilizing their daily Unforced Capacity ("UCAP") obligation by class, tranches served by class, and the differential between the CPP and the final capacity price. Once the BRA results are known, the Companies will commence true ups in the next billing month.

11. COMMUNICATIONS PROTOCOLS

The communications protocols described here are intended to promote a fair, open, transparent, objective, and non-discriminatory auction. These protocols also are intended to protect proprietary information of participants and information that, should it be released, would be detrimental to the outcome of the auction process or future solicitations.

11.1 The Companies and Affiliates

11.1.1 Internal Communications

The Companies will designate individuals to work on the auction process. These individuals directly or indirectly will not have communication with, or exchange information with, any individuals of an affiliate of the Companies that may bid in the auction process where such communication or information is related directly or indirectly to this auction process.

11.1.2 Communications with Bidders

The Companies will not communicate with bidders prior to the selection of winning bids. When the Independent Evaluator informs the Companies about the prices and tranches of the winning bids and the identity of winning bidders in accordance with Section 6.1 of the Bidding Rules, representatives from the Companies then will communicate with the winning bidders in order to execute the necessary documents.

If a bidder attempts to contact the Companies regarding the auction process by phone call, email, fax, or other means, the Companies will direct the bidder to the Information Website and/or to the Independent Evaluator.

11.1.3 Part 1 Application Process

For the Part 1 Application process, the Independent Evaluator will need to provide the names of applicants to the Companies' credit department for purposes of confirming the applicants' credit requirements.

11.1.4 Part 2 Application Process

For the Part 2 Application process, the Independent Evaluator will need to provide the aggregate eligibility and other information from the Part 2 Applications to the Companies with the names of applicants redacted.

11.2 General Public and Media

While bidding is in progress, there is to be no communication with the media or the public. After the auction process is completed, results are determined, and bidders have been notified, all media inquiries will be forwarded to the Companies.

11.2.1 The Information Website

The central source of information made available publicly and to bidders is the Information Website. The Independent Evaluator will manage the information flow on the Information Website and will be designated on the Website as the contact for any questions or inquiries from parties. Any party will have access to the public sections of the Information Website.

11.2.2 Frequently Asked Questions

Among other information and resources on the Information Website, there will be an FAQ (frequently asked questions) section with posted questions and answers. As inquiries are received, they will be converted into an FAQ and posted on the Information Website without revealing the identity of the party posing the inquiry.

Inquiries to be answered by the Companies will be forwarded by the Independent Evaluator to the Companies. Inquiries to be answered by the Independent Evaluator will be forwarded to the Companies with a draft response. Any inquiry or draft response forwarded by the Independent Evaluator to the Companies will not identify the party posing the inquiry. Both the Companies and the Independent Evaluator will review any inquiry and response before the FAQ is posted to the Information Website.

11.2.3 Registered Users

If a party wishes to receive notices and updates regarding public information and new postings to the Information Website, then the party can register through the Information Website to become a Registered User.

Any information the Independent Evaluator has concerning the auction process that is relevant and that can be disclosed publicly will be made available equally to all Registered Users in a timely manner. The method of such communication likely will be via the Information Website and/or emails to Registered Users using the BCC email field so identification of Registered Users is not disclosed to other Registered Users.

11.2.4 Press Releases

The Companies and/or the Independent Evaluator may issue one or more press releases or may place news items in the trade press with the intent to disseminate information about the auction process in an efficient, fair, and timely manner.

11.2.5 Answering Inquiries from the General Public or Media

Inquiries from the general public or the media to the Independent Evaluator will be directed to the Information Website.

11.3 Bidders

11.3.1 Communications Among Bidders

Bidders are prohibited from communicating with each other in ways that would compromise the integrity and competitiveness of the auction process. Sanctions will be applied if these rules are violated.

11.3.2 Communications between the Independent Evaluator and Bidders

The central source of information made available to bidders is the Information Website. The Website facilitates making information available equally to bidders in a timely manner.

Bidders are encouraged to become Registered Users of the Information Website to receive ongoing information about the auction process. As discussed above, once registered through the Information Website, Registered Users will receive notifications from the Independent Evaluator about updates to the auction process and to the Information Website.

If the Independent Evaluator receives an inquiry from a party and prepares a response that would be relevant for other parties, the Independent Evaluator will ensure the information will be made available equally to all Registered Users in a timely manner and will post the information on the Information Website and/or will email the Registered Users without revealing the identity of parties.

In addition to posting information to the Information Website, the Independent Evaluator may contact bidders directly in order to seek or provide information about the auction process in a way that does not advantage any bidder.

Any communications from the Independent Evaluator to a bidder will not reveal the identity of other bidders.

11.3.3 Bidding Process

During the auction, the Independent Evaluator, the Commission, and Companies' personnel may monitor the bidding process.

The Independent Evaluator will ensure the bids submitted by bidders conform to the rules of the auction process.

The Bidding Rules and pre-determined bid selection criteria will be applied to determine which bids, if any, are winning bids.

11.3.4 Limitations on Disclosures by Bidders

Bidders are not allowed to disclose they are participating in the Fixed-Price Auction or the Hourly-Priced Auction, and winning bidders are not allowed to disclose that they have won any tranches in the Fixed-Price Auction or the Hourly-Priced Auction until the Commission publicly reports the results of the auction. Such limitation on public disclosure by bidders is waived if disclosure is required by law.

11.4 The Commission

11.4.1 Communications with the Independent Evaluator

During the bidding process, the identity of bidders, prices, and the number of tranches bid will be kept confidential. This information may be released to the Commission after the auction results are finalized.

11.4.2 Communications with the Companies

The Commission may communicate with the Companies regarding the auction process. However, the Companies will not disclose any proprietary information until after the final round of the auction is completed and bidders are informed of the results of the auction.

11.4.3 Communications with Bidders

The Commission will not communicate with bidders about the auction process prior to the determination of winning bids. If a bidder attempts to contact the Commission by phone call, email, fax, or other means, the Commission will direct the bidder to the Information Website and/or to the Independent Evaluator.

11.4.4 Information on Auction Participation

In order to maintain confidential and proprietary information provided by bidders as part of the auction process, the identity of all bidders that submitted Part 1 and/or Part 2 Applications in the auction and the indicative offers will be kept confidential until released publicly by the Commission. The Commission may elect to keep these data confidential at its sole discretion.

11.4.5 Round-by-Round Bids

Round-by-round bids by bidders will be kept confidential pursuant to the confidentiality provisions of the Bidding Rules and the SMA for as long as the Companies continue to procure Default Service.

12. CONFIDENTIAL INFORMATION, CERTIFICATIONS, AND SANCTIONS

12.1 Confidential Information

Confidential Information relative to bidding strategy means information relating to a bidder's bid(s) in the auction, whether transmitted in writing or verbally, which if it were to be made public likely would have an effect on any of the bids that another bidder would be willing to submit. Confidential Information relative to bidding strategy includes (but is not limited to): a bidder's strategy; a bidder's indicative offer; the quantities that a bidder wishes to supply; the bidder's estimation of the value of a tranche; the bidder's estimation of the risks associated with serving the load for the auction; and a bidder's contractual arrangements for purchasing power to serve such load were the bidder to win tranches in the auction.

Bidding Rules to Procure Default Service Products

Confidential Information regarding the auction means information that is not released publicly by the Commission, the Companies or the Independent Evaluator and that a bidder acquires as a result of participating in the auction, whether transmitted in writing or verbally, which if it were to be made public could impair the integrity of current or future solicitations, impair the ability of the Companies to hold future solicitations, or harm consumers, bidders or applicants. Confidential Information regarding the auction includes (but is not limited to): the list of Qualified Bidders, the list of Registered Bidders, the initial eligibility, the status of a bidder's participation, and all non-public reports of results and announcements made by the Independent Evaluator to any or all bidders in this auction.

Confidential Information may not receive continued confidential or protected treatment should: (a) a bidder publicly disclose Confidential Information relating solely to that bidder; or (b) public disclosure is required or compelled by the Commission, a court or otherwise by law. The Independent Evaluator, the Commission, and the Companies shall not be liable for such public disclosures or, so long as reasonable measures have been taken to keep such information confidential, any other public disclosure of Confidential Information. By participating in this auction process, each bidder acknowledges and agrees to the confidentiality provisions set forth herein, as well as any limitations thereto.

In addition, the bidder agrees the bidder's data and information submitted in this auction process will be disclosed if required by any federal, state or local agency (including, without limitation, the Commission) or by a court of competent jurisdiction. However, the Companies will endeavor to notify the bidder in advance of such disclosure. In any event, neither the Companies nor the Independent Evaluator, nor any of their employees or agents, will be responsible to the bidders or any other party, or liable for any disclosure of such designated materials before, during or subsequent to this auction. Notwithstanding the above, the Companies and the Independent Evaluator reserve the right to use and communicate publicly and/or to third parties any and all information/data submitted as part of this auction process in any proceedings before FERC, the Commission, and any other regulatory body and the courts, if necessary, without the prior consent/approval of, or notice to, any such bidder. The bidder expressly agrees that the Companies may provide bidder information on a confidential basis to the Commission, the Pennsylvania Office of the Consumer Advocate, and the Office of Small Business Advocate as necessary for compliance with any default service procurement reporting obligations.

12.2 Certifications and Disclosures to Be Made

A prospective bidder will be required in its Part 1 Application to disclose any bidding agreement or any other arrangement in which the prospective bidder may have entered and that is related to its participation in the auction. A prospective bidder that has entered into such an agreement or arrangement must name the entities with which the prospective bidder has entered into a bidding agreement, or a joint venture for the purpose of participating in the auction, or a bidding consortium, or any other arrangement pertaining to participating in the auction. A bidding consortium is a group of separate businesses or business people joining together to submit joint bids in the auction.

Bidding Rules to Procure Default Service Products

In addition, a prospective bidder will be required to make the certifications listed in the Part 1 and Part 2 Applications.

The Commission may publicly release the winning prices and the names of the winning bidders from the auction. The Commission may choose to release additional information. After the auction, a winning bidder itself may release information regarding the number of tranches it has won, and a non-winning bidder itself may release information only regarding the fact that it participated in the auction. The winning bidders and the non-winning bidders otherwise continue to be bound by their certifications as described previously. In particular, no winning bidder and no non-winning bidder itself can reveal the winning prices of the auction prior to these being publicly released by the Commission.

12.3 Actions to Be Taken if Certifications Cannot Be Made

If a bidder cannot make all the certifications above, the Independent Evaluator will decide within five (5) days following the deadline to submit the Part 2 Application on a course of action on a case-by-case basis. To decide on this course of action, the Independent Evaluator may make additional inquiries and information requests to understand the reason for the inability of the bidder to make the certification.

If Qualified Bidders do not comply with additional information requests by the Independent Evaluator regarding certifications required in the Part 2 Application, the Independent Evaluator may reject the application.

12.4 Sanctions for Failure to Comply

Sanctions may be imposed on a bidder for failing to properly disclose information relevant to determining associations, for coordinating with another bidder, for failure to abide by any of the certifications made in its Part 1 Application or Part 2 Application, for releasing Confidential Information or disclosing information during the auction (aside from only specific exceptions provided with respect to entities explicitly named in the Part 1 Application as entities that are part of a bidding agreement or other arrangement), and in general for failing to abide by any of the communications protocols in the section, "Communications Protocols," of these Bidding Rules. Such sanctions can include, but are not limited to, any one or more of the following:

- Termination of the SMA.
- The loss of all rights to provide tranches won by such bidder.
- The forfeiture of letters of credit and other fees posted or paid.
- Action (including prosecution) under applicable state and/or federal laws.
- Attorneys' fees and court costs incurred in any litigation that arises out of the bidder's improper disclosure.
- Debarment from participation in future solicitations.
- And/or other sanctions that may be appropriate.

Should such an event occur, the Independent Evaluator will make a recommendation to the Companies regarding sanctions. The imposition of such sanctions will be at the discretion of the Companies.

13. BIDDER ASSOCIATIONS

A Qualified Bidder is associated with another Qualified Bidder if the two bidders have ties that could allow them to act in concert or that could prevent them from competing actively against each other.

The competitiveness of the auction and the ability of the auction to produce competitive prices may be harmed by the coordinated or collusive behavior that associations among bidders may facilitate. As a result, the Independent Evaluator has developed standards that apply when associated parties apply to participate in FP and/or HP auctions. The following sections outline the specific protocols that will be followed when associated entities submit Part 1 and/or Part 2 Applications to participate in an auction for the Companies.

13.1 Procedure Followed by the Independent Evaluator

Potential associations among participants may come to the attention of the Independent Evaluator at different points in the bidder qualification application process. In order to improve the process efficiency and minimize the risk of disclosure of potentially confidential information, the Independent Evaluator will approach each case as described below.

13.1.1 Following the Receipt of the Part 1 Applications

Potential associations among applicants may become apparent after the Part 1 Applications are submitted but before Qualified Bidders are required to disclose such associations as part of their Part 2 Applications. The Independent Evaluator will take no action related to potential associations until each party submits their completed Part 1 Application. In cases where there is an apparent relationship among applicants, the Independent Evaluator will initiate a request for additional information regarding the relationship among the potentially associated parties, the structure of their organization, and the independence of the respective bidding teams.

In such cases, the Independent Evaluator will notify representatives of the Companies and Commission Staff that there is a potential association among applicants.

Bidding Rules to Procure Default Service Products

In addition, as outlined in the Part 2 Application, the Independent Evaluator reserves the right to request additional information from each party including, but not necessarily limited to:

- (a) Information on how the entity maintains its independence from the associated party including any available supporting documentation such as a Corporate Separation Agreements, Codes of Conduct, and/or organization charts.
- (b) A list of individuals within the organization who have played or will play a material role in the auction(s).
- (c) Information regarding the nature of any work done in conjunction with or on behalf of the associated party.
- (d) Information describing the organizational structure of the associate(s), identifying common management and oversight among the associated entities as well as the management involved in or responsible for bid approval.
- (e) The internal process or protocol related to determining indicative offers submitted as part of the Part 2 Application.
- (f) Disclosure of whether the entity is bidding on behalf of itself or acting as an agent for other entities.

Any responses to the above will be treated as confidential if labeled as such.

13.1.2 Following the Receipt of the Part 2 Applications

In some cases, the potential relationship among Qualified Bidders will not be known to the Independent Evaluator until the Qualified Bidders submit final certifications along with their Part 2 Applications. In such cases, the Independent Evaluator will initiate the steps outlined above, upon receipt of the completed Part 2 Applications.

After the Independent Evaluator has requested and received additional information from each associated bidder, the Independent Evaluator will work with representatives of the Companies and Commission Staff to determine:

- (a) Whether each of the associated bidders will be allowed to participate independently in the auction(s); and
- (b) Any restrictions that may be applied as a result of the participation by associated bidders.

Any restrictions will be based on the information provided by the associated bidders as part of the Part 1 Application, the Part 2 Application, and the additional information that was provided at the request of the Independent Evaluator.

13.2 Remedies and Actions Related to Participation by Associated Bidders

This section summarizes the potential restrictions that will be considered by the Independent Evaluator, the Companies, and Commission Staff in relationship to associated participation. Restrictions on participation may include, but may not be limited to, the following:

- (a) Indicative offers may be restricted such that any applicable load cap may apply across the associated bidders;
- (b) Pre-bid security or collateral requirements may be altered for the associated bidders to ensure that associated bidders do not gain a competitive advantage over other bidders; and,
- (c) In some cases, one or more associated bidders may not be allowed to participate in the auction(s).

13.3 Handling of Confidential Information

In order to execute the process of gathering information on associated entities and executing the remedies outlined above, there may be situations that require the Independent Evaluator to share, directly, certain confidential information among the associated parties, the Companies, and the Commission and its Staff.

In addition, as part of the remedies outlined in above, an associated party may gain access to or be able to ascertain certain confidential information of the other associated entities. While access to such information otherwise may be counter to certifications in the Part 2 Application, access to such information acquired through the data gathering and remedies related to associated bidders will not be considered a violation of the auction rules.

Confidential information includes but may not be limited to the initial eligibility for each associated bidder based on indicative bids submitted with the Part 2 Application. The Independent Evaluator will make reasonable efforts to minimize the disclosure of any such confidential information.

14. MISCELLANEOUS

14.1 Warranty on Information

The information provided for the auction, including but not limited to information provided on the Information Website, has been prepared to assist bidders in evaluating the auction process. It does not purport to contain all the information that may be relevant to a bidder in satisfying its due diligence efforts. Neither the Companies nor the Independent Evaluator make any representation or warranty, expressed or implied, as to the accuracy or completeness of the information, and shall not, either individually or as a corporation, be liable for any representation expressed or implied in the auction process or any omissions from the auction process, or any information provided to a bidder by any other source. A bidder should check the Information Website frequently to ensure it has the latest documentation and information. Neither the Companies, nor the Independent Evaluator, nor any of their representatives, shall be liable to a bidder or any of its representatives for any consequences relating to or arising from the bidder's use of information.

14.2 Hold Harmless

Bidder shall hold the Companies and the Independent Evaluator harmless of and from all damages and costs, including but not limited to legal costs, in connection with all claims, expenses, losses, proceedings or investigations that arise in connection with the auction process or the award of a bid pursuant to the auction process.

14.3 Bid Submissions Become the Companies' Property

All bids submitted by bidders participating in the auction will become the exclusive property of the Companies upon conclusion of the auction process.

14.4 Bidder's Acceptance

Through its participation in the auction process, a bidder acknowledges and accepts all the terms, conditions and requirements of the auction process and the SMA.

14.5 Permits, Licenses, Compliance with the Law and Regulatory Approvals

Bidders shall obtain all licenses, permits and status that may be required by any governmental body, agency or organization necessary to conduct business or to perform hereunder. Bidders' subcontractors, employees, agents and representatives of each in performance hereunder shall comply with all applicable governmental laws, ordinances, rules, regulations, orders and all other governmental requirements.

14.6 Auction Intellectual Property

All title, interests and other intellectual property rights in and to the auction design, the auction format and methodology, the auction software, the source code (including all modifications, enhancements, customization, adaptations and derivative works made by the Independent Evaluator) and associated documentation, including but not limited to these Bidding Rules, and the screen formats and forms designed by the Independent Evaluator (the "Auction Software"), are proprietary to the Independent Evaluator and all rights, title, and interest to the Auction Software remain with the Independent Evaluator. The Independent Evaluator grants Qualified Bidders a non-exclusive, non-transferable, limited license to use the Auction Software, solely for use in connection with the auction, subject to the terms and conditions set forth herein, and not for copying, relicensing, sublicensing, distribution or marketing by the Qualified Bidder. No other interest is conveyed to the Qualified Bidder other than the license expressly granted herein. The foregoing use license shall immediately terminate upon disqualification of the Qualified Bidder or upon termination or completion of the auction process. If at any time it is determined in the Independent Evaluator's sole discretion that the Qualified Bidder is in breach of this Section 13.6, the Independent Evaluator shall be entitled to terminate the Qualified Bidder's access rights to the Auction Software.

Bidding Rules to Procure Default Service Products

Notwithstanding anything herein to the contrary, and without limiting the Qualified Bidder's other obligations herein, the Qualified Bidder shall not, nor shall it permit any third party to: (i) modify, translate or otherwise create derivative works of the Auction Software; (ii) reverse engineer, decompile, decode, disassemble or translate any Auction Software, or output thereof, or otherwise attempt to reduce to human readable form or derive the source code, protocols or architecture of any Auction Software; (iii) use or study any Auction Software, or output thereof, for the purpose of developing any software that is intended to replace, or that has functions, structure or architecture similar to, such Auction Software, or any part thereof; (iv) publish, or otherwise make available to any third party, any benchmark or other testing information or results concerning the Auction Software; (v) permit any other person who is not authorized to access or use all or any part of the Auction Software or (vi) copy the Auction Software, distribute the Auction Software, remove or obscure any proprietary labeling on or in the Auction Software, create any derivative works based on the Auction Software, or modify the Auction Software, in each case, except to the extent expressly permitted by the Independent Evaluator in writing.

In using the Auction Software, a Qualified Bidder shall take steps to prevent any virus, worm, built-in or use-driven destruction mechanism, algorithm, or any other similar disabling code, mechanism, software, equipment, or component designated to disable, destroy or adversely affect the Auction Software from being introduced into the systems.

APPENDIX A — EXAMPLE OF ROUND-BY-ROUND BIDDING

The illustrative example below shows for two bidders (BidderA and BidderB) and two products (Product-1 and Product-2) the confirmed bids (pre-EOR) and the post-EOR results for each round. In the example, the auction closes after round 4.

Round 1

For round 1, the announced prices are \$75.00 and \$82.00 for Product-1 and Product-2, respectively. At those announced prices, BidderA bids 55 tranches and 85 tranches on Product-1 and Product-2, respectively. BidderB bids 80 tranches and 27 tranches on Product-1 and Product-2, respectively.

When the round closes the EOR procedure is executed. Each product is over-subscribed: 135 tranches were bid on Product-1 which has a tranche target of 100, and 112 tranches were bid on Product-2 which has a tranche target of 100.

The announced price for Product-1 will be reduced from \$75.00 to \$72.50 for round 2. The announced price for Product-2 will be reduced from \$82.00 to \$78.60 for round 2.

BidderA will have eligibility of $55+85 = 140$ tranches for round 2, and BidderB will have eligibility of $80+27 = 107$ tranches for round 2.

Round 2

At the announced prices for round 2, BidderA bids 40 tranches and 85 tranches on Product-1 and Product-2, respectively. Thus, BidderA reduced its tranches bid on Product-1 from 55 to 40 tranches. BidderB bids 50 tranches and 57 tranches on Product-1 and Product-2, respectively. Thus, BidderB switched 30 tranches from Product-1 to Product-2.

When the round closes the EOR procedure is executed. Product-1 is under-subscribed by 10 tranches: only 90 tranches bid against the tranche target of 100 tranches: BidderA's bid represents a reduction in its eligibility by 15 tranches, while BidderB's bid maintained its eligibility. Thus, 10 of the 15 eligibility reduction tranches of BidderA are rolled back on Product-1. Those 10 tranches are priced at the announced price for Product-1 at which they were bid in round 1: \$75.00. The announced price for Product-1 will remain at \$72.50 for round 3.

Product-2 is over-subscribed by 42 tranches. The announced price for Product-2 will be reduced from \$78.60 to \$76.10 for round 3.

BidderA will have eligibility of $50+85 = 135$ tranches for round 3 (including the 10 tranches rolled back on Product-1), and BidderB will have eligibility of $50+57 = 107$ tranches for round 3.

Bidding Rules to Procure Default Service Products

Round 3

At the announced prices for round 3, BidderA bids 99 tranches and 36 tranches on Product-1 and Product-2, respectively. Thus, BidderA is switching 49 of the tranches bid from Product-2 to Product-1. BidderB bids 50 tranches and 35 tranches on Product-1 and Product-2, respectively. Thus, BidderB is reducing its tranches bid on Product-2 from 57 to 35 tranches.

When the round closes the EOR procedure is executed. Product-1 is over-subscribed by 49 tranches. Product-2 is under-subscribed by 29 tranches: only 71 tranches bid against the tranche target of 100 tranches: BidderA's bid maintained its eligibility while BidderB's bid represents a reduction in its eligibility by 22 tranches. Thus, all 22 of the eligibility reduction tranches of BidderB are rolled back on Product-2. Those 22 tranches are priced at the announced price for Product-2 at which they were bid in round 2: \$78.60. Even after rolling back those 22 eligibility reduction tranches of BidderB, Product-2 still is under-subscribed — by 7 tranches. So 7 tranches that BidderA had switched from Product-2 to Product-1 are rolled back to Product-2. Those 7 tranches are priced at the announced price for Product-2 at which they were bid in round 2: \$78.60.

After rolling back 7 tranches from Product-1 to Product-2 for BidderA, BidderA still has increased the number of tranches it is bidding on Product-1: from 50 tranches bid in round 2 (10 tranches at \$75.00 and 40 tranches at \$72.50) to 92 tranches bid in round 3 (10 tranches at \$75.00 and 82 tranches at \$72.50). Product-1 is over-subscribed as a result, so higher-priced tranches in Product-1's bid stack can be removed. All 10 of BidderA's higher-priced tranches are removed from Product-1's bid stack, and these 10 tranches become BidderA's free eligibility for round 4. In round 4, BidderA can bid any of the 10 tranches on any product, but to the extent those 10 tranches are not bid on a product in round 4, those free eligibility tranches and their associated eligibility for BidderA will be permanently removed from the auction after round 4.

Because Product-1 is over-subscribed, the announced price for Product-1 will be reduced from \$72.50 to \$70.15 for round 4. Because Product-2 is not over-subscribed, the announced price for Product-2 will remain at \$76.10 for round 4.

BidderA will have eligibility of $82+43+10 = 135$ tranches for round 4, and BidderB will have eligibility of $50+57 = 107$ tranches for round 4 (including the 22 tranches rolled back on Product-2).

Round 4

At the announced prices for round 4, BidderA bids 46 tranches and 43 tranches on Product-1 and Product-2, respectively. Thus, BidderA reduced its tranches bid on Product-1 from 82 to 46 tranches. BidderB bids 32 tranches and 57 tranches on Product-1 and Product-2, respectively. Thus, BidderB reduced its tranches bid on Product-1 from 50 to 32 tranches.

Bidding Rules to Procure Default Service Products

When the round closes the EOR procedure is executed. Product-1 is under-subscribed by 22 tranches: only 78 tranches bid against the tranche target of 100 tranches: BidderA's bid represents a reduction in its eligibility by 36 tranches, while BidderB's bid represents a reduction in its eligibility by 18 tranches. Of the 54 fewer tranches bid on Product-1, 36 were eligibility reductions from BidderA and 18 were eligibility reductions from BidderB. Of those 54 fewer tranches bid, $100-78 = 22$ tranches need to be rolled back on Product-1. The selection of which tranches are rolled back is done by assigning random numbers tranche by tranche (not bidder by bidder) to each of the 54 fewer tranches bid on Product-1. On average, the selection of the rolled back tranches will be proportional based on the number of tranches by which each bidder reduced its bid on the product. Thus, if the assignment of random numbers and selection of rolled back tranches were repeated many times, the number of rolled back tranches for BidderA on Product-1 would be expected to be 15 on average or $(82-46)/(132-78)*(100-78) = 36/54*22$, rounded, and the number of rolled back tranches for BidderB on Product-1 would be expected to be 7 on average: $(50-32)/(132-78)*(100-78) = 18/54*22$, rounded.

Auction Close

After the rollback is done for Product-1, it is determined that no product is over-subscribed and no bidder has free eligibility tranches. Thus, the criteria are met for closing the auction.

Product-1's bid stack has tranches bid at \$72.50 and tranches bid at \$70.15. So Product-1's clearing price is the higher of the two, or \$72.50. BidderA wins 61 tranches and BidderB wins 39 tranches for Product-1. All 100 tranches procured for Product-1 are paid the price of \$72.50.

Product-2's bid stack has tranches bid at \$78.60 and tranches bid at \$76.10. So Product-2's clearing price is the higher of the two, or \$78.60. BidderA wins 43 tranches and BidderB wins 57 tranches for Product-2. All 100 tranches procured for Product-2 are paid the price of \$78.60.

Bidding Rules to Procure Default Service Products

Example 2. Round-by-Round Bidding with Pre-EOR and Post-EOR Results

Round	Product-1					Product-2					Next-Round Eligibility	
	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Free	Total
1	\$75.00					\$82.00						
Pre-EOR		100	135		35		100	112		12		
BidderA			55	@ \$75.00				85	@ \$82.00		—	140
BidderB			80	@ \$75.00				27	@ \$82.00		—	107
Post-EOR		100	135		35		100	112		12		
BidderA			55	@ \$75.00				85	@ \$82.00		—	140
BidderB			80	@ \$75.00				27	@ \$82.00		—	107
2	\$72.50					\$78.60						
Pre-EOR		100	90		(10)		100	142		42		
BidderA			40	@ \$72.50				85	@ \$78.60		—	125
BidderB			50	@ \$72.50				57	@ \$78.60		—	107
Post-EOR		100	100		0		100	142		42		
BidderA			50	10 @ \$75.00 40 @ \$72.50				85	@ \$78.60		—	135
BidderB			50	@ \$72.50				57	@ \$78.60		—	107

Bidding Rules to Procure Default Service Products

Round	Product-1					Product-2					Next-Round Eligibility	
	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Announced Price	Tranche Target	Tranches Bid	@ Price	Excess Supply	Free	Total
3	\$72.50					\$76.10						
Pre-EOR		100	149		49		100	71		(29)		
BidderA			99	10 @ \$75.00 89 @ \$72.50				36	@ \$76.10		—	135
BidderB			50	50 @ \$72.50				35	@ \$76.10		—	85
Post-EOR		100	132		32		100	100		0		
BidderA			82	@ \$72.50				43	7 @ \$78.60 36 @ \$76.10		10	135
BidderB			50	@ \$72.50				57	22 @ \$78.60 35 @ \$76.10		—	107
4	\$70.15					\$76.10						
Pre-EOR		100	78		(22)		100	100		0		
BidderA			46	@ \$70.15				43	7 @ \$78.60 36 @ \$76.10		—	89
BidderB			32	@ \$70.15				57	22 @ \$78.60 35 @ \$76.10		—	89
Post-EOR		100	100		0		100	100		0		
BidderA			61	15 @ \$72.50 46 @ \$70.15				43	7 @ \$78.60 36 @ \$76.10		—	104
BidderB			39	7 @ \$72.50 32 @ \$70.15				57	22 @ \$78.60 35 @ \$76.10		—	96

Bidding Rules to Procure Default Service Products

	Product-1				Product-2				Tranches Won
	Clearing Price	Tranche Target	Tranches Won		Clearing Price	Tranche Target	Tranches Won		
Results	\$72.50	100	100		\$78.60	100	100		100
BidderA			61				43		104
BidderB			39				57		96

DB1/ 128495486.1

Exhibit JHC-8

*Constellation Response to Metropolitan Edison Company,
Pennsylvania Electric Company, Pennsylvania Power
Company, and West Penn Power Company
Interrogatory Set I*

**JOINT PETITION OF METROPOLITAN EDISON COMPANY PENNSYLVANIA
ELECTRIC COMPANY, PENNSYLVANIA POWER COMPANY AND WEST PENN
POWER COMPANY FOR APPROVAL OF THEIR DEFAULT SERVICE PROGRAMS
Docket Nos. P-2021-3030012, P-2021-3030013, P-2021-3030014, and P-2021-3030021**

**Interrogatories of Metropolitan Edison Company, Pennsylvania Electric Company,
Pennsylvania Power Company, and West Penn Power Company to Constellation
Set I**

ME/PE/PP/WP (Constellation)-I-2.

Reference Constellation Statement No. 1, p. 7.
Please identify the other utilities in Mr. Campbell's
"experience" where the per tranche posting for an
Independent credit requirement per tranche is
"typically around \$50,000 - \$100,000."

Response:

As an example, Duke Energy Ohio requires an Independent Credit Requirement per Tranche (ICRT) that starts at \$150,000 per tranche and then is reduced over the course of the term to \$100,000 and finally to \$50,000.¹ In New Jersey, the "BGS-CIEP" Supplier Master Agreement contains a flat \$70,000 per tranche credit exposure.²

While the ICRT amounts differ from utility to utility, and some are certainly higher than the examples cited above, it is my understanding that a Supplier Master Agreement containing an ICRT in the amount proposed by the Companies would include an additional unsecured credit limit to cover the ICRT for investment grade suppliers. The additional unsecured credit threshold is often calculated based on a percentage of the supplier's tangible net worth.

Person(s) supplying this response: Lael Campbell

¹ Duke Energy Ohio Master Supply Agreement, Attachment C-1, available at https://www.duke-energyohiocbp.com/Portals/0/Documents/DEO_Master_SSO_Supply_Agreement_Feb_2022_Auction_1-25-22.pdf

² BGS-CIEP Supplier Master Agreement, available at https://www.bgs-auction.com/documents/Final_2022_BGS-CIEP_Supplier_Master_Agreement_13_DEC_2021.pdf.

Exhibit JHC-9

**JOINT PETITION OF METROPOLITAN EDISON COMPANY PENNSYLVANIA
ELECTRIC COMPANY, PENNSYLVANIA POWER COMPANY AND WEST PENN
POWER COMPANY FOR APPROVAL OF THEIR DEFAULT SERVICE PROGRAMS
Docket Nos. P-2021-3030012, P-2021-3030013, P-2021-3030014, and P-2021-3030021**

**Interrogatories of Metropolitan Edison Company, Pennsylvania Electric Company,
Pennsylvania Power Company, and West Penn Power Company to Constellation
Set I**

ME/PE/PP/WP (Constellation)-I-3.

Reference Constellation Statement No. 1, p. 7.
Please identify any other utilities where the
Amount of the independent credit requirement per
tranche is “based on volume,” as Mr. Campbell
recommends.

Response:

I am not aware of other utilities that base the Independent Credit Requirement per Tranche (ICRT) posting on volume. But, it is my understanding that ICRT postings tend to be lower than what the Companies propose here and/or the utility provides additional unsecured credit, making any per-tranche ICRT less of an issue in those cases. Regardless of whether the ICRT is volume-based or tranche-based, I recommend that the Companies provide unsecured credit for investment grade suppliers to cover the ICRT.

Person(s) supplying this response: Lael Campbell

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-_____**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-_____**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-_____**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-_____**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 – May 31, 2027**

**Direct Testimony
Of
Wanyun Zhong**

List of Topics Addressed

**Default Service Supplier Master Agreement
Contingency Plans**

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**DIRECT TESTIMONY
OF
WANYUN ZHONG**

4 **I. INTRODUCTION AND PURPOSE**

5 **Q. Please state your name and business address.**

6 A. My name is Wanyun Zhong. My business address is 341 White Pond Drive, Akron, Ohio
7 44320.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as a Business Analyst for the Regulated
10 Commodity Sourcing Department (“RCS”). RCS is primarily responsible for procuring
11 power and power-related products for all of FirstEnergy Corp.’s (“FirstEnergy’s”)
12 regulated utilities. RCS’s activities include, but are not limited to, supporting the
13 procurement plans of the FirstEnergy utilities in regulatory proceedings; developing both
14 solicitation and contract materials; interacting with independent evaluators; executing
15 contracts; and handling many of the operational aspects of default service supply that
16 require interfacing with PJM Interconnection, L.L.C. (“PJM”). I am primarily responsible
17 for the procurement and management of the regulated energy supply and renewable-energy
18 portfolio that FirstEnergy’s electric distribution utilities are required to maintain as load
19 serving entities (“LSEs”) to serve their Pennsylvania retail electric customers who receive
20 default service. I have participated in eight competitive power procurements utilizing
21 auction formats and one solar photovoltaic alternative energy credit (“SPAECs”)
22 procurement in Pennsylvania utilizing a request for proposal (“RFP”) format. As a result,
23 I am very familiar with the attributes of these procurement processes, which are tailored
24 for the specific markets in which the solicitations are conducted.

1 **Q. Please describe your educational background and professional experience.**

2 A. I received a Bachelor of Engineering degree from Harbin Institute of Technology, a Master
3 of Science degree from the University of Toledo, and a Ph.D. in Systems and Control
4 Engineering from Case Western Reserve University. I also received the PJM Markets
5 Certification in 2020. I have over ten years of experience in the electric energy field in
6 both academia and industry. My experience is related to power plant design and
7 engineering, energy storage, smart grids, and electricity markets.

8 **Q. On whose behalf are you testifying in this proceeding?**

9 A. I am testifying on behalf of Metropolitan Edison Company (“Met-Ed), Pennsylvania
10 Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”), and West
11 Penn Power Company (“West Penn”) (each of which may be referred to as a “Company”
12 and, in any combination, as the “Companies”).

13 **Q. Please describe the purpose of your testimony.**

14 A. The purpose of my testimony is to describe: (i) the proposed Supplier Master Agreement
15 (“SMA”) for execution between each Company and each winning default service supplier;
16 and (ii) the Companies’ contingency plans in the event of wholesale supplier default,
17 unfilled solicitations for full requirement or long-term solar RFP due to a lack of supplier
18 bids or the Commission’s rejection of bids, or PJM’s failure to timely conduct a base
19 residual auction (“BRA”).

20 **Q. Have you prepared any exhibits to accompany your testimony?**

21 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibit WZ-1, the Default Service Supplier
22 Master Agreement, was prepared by me or under my supervision.

1 This exhibit is described in detail in my testimony and also discussed in the direct testimony
2 of James H. Catanach (Met-Ed/Penelec/Penn Power/West Penn Statement No. 2). The
3 exhibit includes a redline version of the SMA which shows all changes proposed to the
4 document utilized currently in DSP V.

5 **II. DEFAULT SERVICE SMA**

6 **Q. What is the SMA?**

7 A. The SMA is the agreement executed by each Company and each successful bidder that
8 governs specific duties, rights, and obligations in connection with the sale and purchase of
9 default service supply to serve the Companies' retail electric customers receiving default
10 service.

11 **Q. How was the Companies' proposed form SMA developed?**

12 A. In its Order entered on February 15, 2013 in *Investigation of Pennsylvania's Retail*
13 *Electricity Market: End State of Default Service* at Docket No. I-2011-2237952, the
14 Pennsylvania Public Utility Commission ("Commission") directed its Office of
15 Competitive Market Oversight ("OCMO") to create a procurement collaboration working
16 group, which was tasked with formulating, among other things, a uniform SMA. The
17 Companies participated actively in the working group's development of a uniform SMA,
18 which was to be used on a statewide basis. The resulting SMA, with minor modifications,
19 was adopted by the Companies and is currently in use under the Companies' current default
20 service programs ("DSPs"). The Companies are proposing a similar form SMA for use
21 under the proposed DSPs, subject to minor modifications as discussed below. The
22 proposed form SMA is attached hereto as Met-Ed/Penelec/Penn Power/West Penn Exhibit
23 WZ-1.

1 **Q. Does each Company propose to have a unique SMA?**

2 A. No. All the Companies will use the uniform SMA template. However, they will adjust the
3 SMA Appendices to their individual needs based on the product mix, pricing, and other
4 terms specific to each Company and each customer class. The SMA is an umbrella
5 document; a supplier can execute only one during the course of a DSP.

6 **Q. How are suppliers to be paid under the proposed form SMA?**

7 A. It depends largely upon the class being served. For residential customer products, default
8 service suppliers will be paid a 95% fixed and 5% variable price. The fixed price, in dollars
9 per megawatt hour (“MWh”), will be for 95% of the delivered supply each hour and will
10 be established through the Companies’ competitive procurement process. This fixed price
11 will be included in Exhibit 1 of the SMAs once known. The fixed price will be a supplier’s
12 compensation for all cost components associated with meeting the full-requirements
13 default service supply, including capacity, ancillary services, Alternative Energy Portfolio
14 Standards (“AEPS”) Act compliance, and all PJM administrative expenses and any other
15 services or fees as required by PJM of an LSE, with some limited exceptions.¹ The variable
16 price, in dollars per MWh, will be for 5% of the delivery supply each hour and will be the
17 real-time hourly total LMP for the delivery point, plus a fixed adder of \$20.00/MWh, which is
18 the same fixed adder as used in DSP V. The applicable delivery point will be provided to
19 bidders and included in Exhibit 1 of the executed SMAs.

¹ Specifically, winning bidders will not be responsible for the following charges: Regional Transmission Expansion Plan charges (“RTEP”); Expansion Cost Recovery Charges; Reliability Must Run/generation deactivation charges associated with generating plants for which specific RMR charges that began after July 24, 2014; historical out-of-market tie line, generation, and retail customer meter adjustments; unaccounted for energy; and any FERC-approved reallocation of PJM RTEP charges related to Docket No. EL05-121-009 (collectively referred to as “non-market based charges,” or “NMB charges”).

1 For commercial customer products, default service suppliers will be paid a fixed price. The
2 fixed price, in dollars per MWh, will be for 100% of the delivered supply each hour, which
3 will be established through the Companies' competitive procurement process and included
4 in Exhibit 1 of the SMAs once known. The fixed price will be a supplier's compensation
5 for all cost components associated with meeting the full-requirements default service
6 supply, including capacity, ancillary services, AEPS compliance, and all PJM
7 administrative expenses and any other services or fees as required by PJM of an LSE;
8 however, it will exclude the NMB as previously discussed.

9 As with the Companies' prior and current DSPs, for industrial customer products, default
10 service suppliers will be paid a variable price for each hour during the applicable period.
11 The price paid is equal to the delivered supply multiplied by the sum of the real-time hourly
12 LMP for the applicable PJM delivery point, plus the winning price for the winning default
13 service suppliers in the hourly-priced auction. This price also includes an additional
14 \$4/MWh to capture an estimate of costs of other supply components associated with
15 meeting this full-requirements obligation, including capacity, ancillary services, AEPS
16 compliance, and all PJM administrative expenses and any other services or fees as required
17 by PJM of an LSE, but excluding the NMB charges.

18 **Q. Please explain how the credit requirements work in the uniform SMA.**

19 A. An unsecured credit matrix was developed by the Companies to allow each Pennsylvania
20 utility to have a tailored unsecured credit table based on its own credit policy. A supplier's
21 credit exposure ("Total Exposure Amount") is based upon a fixed amount corresponding
22 to the total default service load the supplier is obligated to serve. The maximum unsecured
23 credit will be based on Appendix A of the uniform SMA. The credit matrix will define the

1 maximum amounts to be used for these metrics based on the default service supplier's
2 average credit ratings by Standard & Poor's Rating Service, Moody's Investor Service,
3 Inc., Fitch Investor Service, Inc., or any combination thereof.

4 If a default service supplier's Total Exposure Amount exceeds the default service
5 supplier's maximum unsecured credit limit, the default service supplier will have to furnish
6 either cash or an acceptable letter of credit equal to the excess amount. The standard form
7 for the letter of credit is provided in Appendix F of the uniform SMA.

8 **Q. Are the Companies proposing any modifications to the SMA?**

9 A. Yes. The Companies are proposing to make substantive modifications to reflect changes
10 in the areas of AEPS Act obligations, protections against default service supplier default,
11 and contingency planning. The first two topics are discussed in detail in the direct
12 testimony of James H. Catanach (Met-Ed/Penelec/Penn Power/West Penn Statement No.
13 2); my testimony addresses the adoption of a standard supplier assignment agreement and
14 contingency planning.

15 **Q. Please describe the proposed changes to the SMA.**

16 A. Regarding AEPS Act obligations, the proposed SMA provides that default service
17 suppliers will be responsible for satisfying all AEPS Act requirements associated with their
18 supply (solar Tier I, non-solar Tier I, and Tier II), less any SPAEC allocations from the
19 Companies. Met-Ed, Penelec, and Penn Power's default service suppliers will be allocated
20 SPAECs from the existing long-term contracts in the first year of DSP VI. In addition, all
21 the Companies' residential default service suppliers will be allocated SPAECs from the

1 proposed long-term solar power purchase agreements (“PPAs”), which are described by
2 Mr. Catanach.

3 Finally, the proposed SMA includes a number of changes related to protection against
4 supplier default, including a modified Credit Exposure Methodology, the addition of an
5 Independent Credit Requirement per Tranche (“ICRT”), and the adoption of a standard
6 supplier assignment agreement.

7 The Companies are also proposing the following changes to the appendices of the SMA:

8 In Appendix A, Maximum Unsecured Credit, the existing table was updated to reflect a
9 new proposed Credit Limit Cap. The Credit Rating Determination Methodology reflects
10 the Companies’ proposal to use the lower of the credit agencies’ ratings and to provide an
11 aggregate, rather than per-Company, credit amount. In addition, an ICRT schedule has
12 been added.

13 In Appendix C, DS Supply Specifications, the DS Customer Groups were updated to reflect
14 the applicable rate schedules for residential West Penn customers and commercial Penn
15 Power customers.

16 In Appendix E, DS Supplier’s Obligations for AEPS Compliance, the default service
17 suppliers will be responsible for all AEPS requirements (less any SPAEC allocations),
18 including any revisions to those requirements due to changes in Federal or state laws or
19 regulations, or both.

20 Appendix H was added to introduce the Capacity Proxy Price (“CPP”) into the contingency
21 plan. A Capacity proxy price will be used for default service auctions to establish a

1 capacity cost when PJM does not conduct their BRA in time for default service suppliers
2 to incorporate the auction results into their bids.

3 The proposed Appendix I is a standard supplier assignment agreement.

4 **Q. Why are the Companies proposing to adopt a supplier assignment agreement in DSP**
5 **VI?**

6 A. Although none of the Companies have experienced a default service supplier default to
7 date, a default service supplier recently sought to assign all of its tranches to another entity
8 in the wake of increasing energy prices. Because the Companies' current SMA lacks a
9 standard supplier-assignment agreement, the parties had to dedicate significant time and
10 effort toward developing a mutually-agreeable contract. To prevent similar inefficiencies
11 with future default service supplier assignments, the Companies propose to augment their
12 contingency plan with a standard default service supplier assignment agreement (i.e.,
13 Appendix I to the SMA).

14 **Q. Does the current SMA allow for supplier assignments?**

15 A. Yes. The express provisions of Section 16.3 authorize suppliers and the counter-signing
16 company to assign their respective rights, duties, and obligations under the SMA to another
17 party. However, as stated previously, the Companies currently lack the requisite
18 standardized agreement for facilitating assignments—hence, this proposed supplier
19 assignment agreement.

1 **Q. Will bidders be permitted to propose additional modifications to the SMA once**
2 **approved?**

3 A. No. The Companies intend to treat all bidders uniformly, which requires that each bidder
4 have the same rights and obligations under the SMA. Moreover, a standardized contract
5 permits bidders to be selected on the sole criterion of price. The uniform SMA proposed
6 by the Companies contains provisions that were developed as part of the working group
7 process and are already well-understood by bidders. Additionally, the OCMO working
8 group that developed the uniform SMA provided ample opportunity for input from the
9 wholesale supplier community during the development process. The Companies have,
10 over time, identified various updates based on practical experience with historical auctions
11 or through input from parties to past DSP proceedings, and those updates are already
12 reflected in the SMAs. As a result, the Companies do not believe any additional
13 modifications to the SMAs, other than those I have described, are appropriate.

14 **III. CONTINGENCY PLANS**

15 **Q. What default service supply contingencies do the Companies propose to address in**
16 **their DSPs?**

17 A. While not every contingency can be anticipated, the Companies have identified the
18 following possible scenarios for which contingency plans have been developed:

- 19 (1) The Companies' competitive solicitations for full requirements, load-following
20 tranche products are not fully subscribed due to a lack of bids or the rejection of
21 bids by the Commission, or in the case of the long-term solar procurement, a lack
22 of bids or the rejection of bids by the Commission;
- 23 (2) A default by any of the winning suppliers prior to the start of the delivery period
24 or at any time during the delivery period; or
- 25 (3) PJM does not conduct its BRA in time for default service suppliers to incorporate
26 the capacity price into their bids.

1 **Q. What is the contingency plan if the Companies' competitive solicitation for full**
2 **requirements, load-following products is not fully subscribed due to a lack of bids or**
3 **rejection of bids by the Commission?**

4 A. In the event that a scheduled solicitation is not fully subscribed following the initial
5 proposed procurement due to a lack of bids or due to rejection of bids by the Commission,
6 the Companies will rebid the unfilled tranches from that solicitation in the next scheduled
7 procurement for which there is sufficient calendar time to include the tranches. For any
8 unfilled tranches still remaining, the Companies, acting as the LSE, will purchase the
9 necessary physical supply through PJM-administered markets. The Companies'
10 procurements will be made at real-time zonal variable market prices, plus other supply
11 costs, including capacity, ancillary services, and AEPS Act compliance. The Companies
12 will not enter into hedging transactions to attempt to mitigate the associated price or
13 volume risks to serve these tranches. The Companies will also propose to satisfy AEPS
14 compliance requirements for unfilled tranches at market prices. At the next semi-annual
15 rate adjustment, the Companies will include an estimate of these costs in the weighted cost
16 of the default service supply calculation and utilize the reconciliation process to recover
17 from default service customers the difference between the estimated and actual costs that
18 the Companies incur as a result of purchasing the necessary supply and AEPS
19 requirements.

20 **Q. What is the contingency plan if the Companies' long-term solar PPA is not successful?**

21 A. In the event that there are no bidders for the long-term solar procurement or the bids are
22 rejected by the Commission, the Companies will develop an RFP to procure a five-year
23 block of SPAECs to satisfy up to an estimated 32% of residential default service suppliers'

1 projected SPAEC requirements. If the RFP is undersubscribed, the Companies will go to
2 the spot market to procure the SPAEC shortfall.

3 **Q. When would the RFP for the five-year block of SPAECs be conducted?**

4 A. The RFP would be conducted within six months after an unsuccessful long-term PPA
5 solicitation.

6 **Q. How will the RFP for the five-year block of SPAECs be conducted?**

7 A. The Brattle Group, our independent evaluator, will manage the RFP process. They will
8 produce the necessary documents for the RFP, conduct a bidder information session for the
9 potential bidders, and produce the final results for the Commission approval. The
10 documents used for this process will be based on the prior SPAEC RFP documents
11 approved by the Commission.

12 **Q. What is the contingency plan if a winning bidder of a full service load-following**
13 **tranche product were to default prior to the start of or during the Companies'**
14 **delivery periods?**

15 A. If a winning bidder defaults prior to the start of or during the delivery period, the
16 Companies will offer the unfilled tranches to the other registered bidders who participated
17 in the most recent solicitation, subject to applicable load caps. The Companies may enter
18 into an agreement with the registered bidder or bidders offering the best terms for the
19 unfilled tranches resulting from the default, provided the prices offered by such bidder or
20 bidders are consistent with the original prices under which the unfilled tranches were
21 procured adjusted for changes in market conditions from the time when the original
22 tranches were procured. If the Companies are not able to enter into such an agreement and

1 more than thirty calendar days exists prior to the start of the delivery period, the Companies
2 will seek to bid the defaulted tranches in the next available or a separate supplemental
3 competitive solicitation. As with other unfilled tranches described above, if insufficient
4 time exists to conduct an additional competitive solicitation, or if the supplemental
5 solicitation is unsuccessful, the Companies will supply the tranches using PJM-
6 administered markets with recovery and reconciliation of estimated and actual costs as
7 described previously.

8 **Q. What is the contingency plan if PJM does not conduct its BRA in time for default**
9 **service suppliers to incorporate capacity costs into their bids?**

10 A. A capacity proxy price will be used for default service auctions to establish a capacity cost
11 when PJM does not conduct their BRA in time for default service suppliers to incorporate
12 the auction results into their bids. The CPP for each Company will be the average of the
13 capacity prices from the previous two known delivery year capacity market auctions
14 conducted by PJM. The Companies will calculate reconciliations for those default service
15 suppliers impacted by utilizing their daily Unforced Capacity (“UCAP”) obligation by
16 class, tranches served by class, and the differential between the CPP and the final capacity
17 price. Once the BRA is known, the Companies will commence true-ups in the next billing
18 month, which initially may include a “catch up” reconciliation for any months where the
19 BRA was not known.

20 **IV. CONCLUSION**

21 **Q. Does this conclude your direct testimony?**

22 A. Yes, it does.

METROPOLITAN EDISON COMPANY
PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY,
AND
WEST PENN POWER COMPANY

DEFAULT SERVICE
SUPPLIER MASTER AGREEMENT

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PENNSYLVANIA DEFAULT SERVICE SUPPLIER MASTER AGREEMENT

THIS DEFAULT SERVICE SUPPLIER MASTER AGREEMENT, made and entered into this ____ day of _____ (“Effective Date”), by and between [**Applicable EDC listed here - Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company or West Penn Power Company**] (the “Company” and “Buyer”), a corporation and a public utility organized and existing under the laws of the Commonwealth of Pennsylvania [**INSERT NAME OF SUPPLIER**] (“DS Supplier”), the Company and the DS Supplier hereinafter sometimes referred to collectively as the “Parties”, or individually as a “Party”,

WITNESSETH:

WHEREAS, the Company is an electric public utility engaged, *inter alia*, in providing retail electric service within its service territory located in the Commonwealth of Pennsylvania; and

WHEREAS, the Pennsylvania Public Utility Commission (“PaPUC” or “Commission”) Orders issued pursuant to the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2801-2812, direct Buyer to supply electric service to Default Service Load within Buyer’s Pennsylvania franchise service territory; and

WHEREAS, the PaPUC has found that, for periods further identified in Appendix C it would serve the public interest for the Company to secure Default Service Supply (“DS Supply”) through a competitive procurement process (“DS Solicitation”) and the PaPUC has approved such a process; and

WHEREAS, the Company has conducted and completed a successful DS

Solicitation for the provision of DS Supply, and the DS Supplier was one of the winning bidders in the DS Solicitation; and

WHEREAS, pursuant to the competitive bidding procedures of the DS Solicitation, the Company and the DS Supplier desire to enter into this Agreement setting forth their respective rights and obligations concerning the provision of DS Supply.

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, hereby covenant, promise and agree as follows:

ARTICLE 1: DEFINITIONS

Any capitalized or abbreviated term not elsewhere defined in this Agreement shall have the definition set forth in this Article.

AEPS Act – The Pennsylvania Alternative Energy Portfolio Standards Act, 73 P.S. §§ 1648.1-1648.8.

Affiliate - means, with respect to any entity, any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity. For this purpose, “control” means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

Allocated AECs – Shall mean the types and amounts of AECs specified on Appendix E, if any.

Alternative Energy Credit or “AEC” – Shall have the meaning ascribed thereto in the AEPS Act.

Alternative Energy Portfolio Standards or “AEPS” – Standards requiring that a certain amount of electric energy sold to retail electric customers in the Commonwealth of Pennsylvania be comprised of electricity generated from alternative energy sources, as measured by AECs, in accordance with the requirements of the AEPS Act and provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2812-

14, in effect on the Effective Date including, without limitation, any subsequent increases in Tier I requirements under 66 Pa.C.S. § 2814.

Ancillary Services – Shall have the meaning ascribed thereto in the PJM Agreements.

Applicable Legal Authorities – Those ~~f~~Federal and Pennsylvania statutes and administrative rules and regulations that govern the electric utility industry in Pennsylvania, as they may be amended from time to time.

Auction Revenue Rights or “ARR” – The current or any successor congestion management mechanisms as may be employed by PJM (whether set forth in the PJM Agreements or elsewhere) for the purpose of allocating financial congestion hedges or financial transmission auction revenue rights. As currently defined by PJM, ARRs are entitlements allocated annually by PJM which entitle the holder to receive an allocation of the revenues from the annual auction of financial transmission rights conducted by PJM pursuant to the PJM Agreements.

Bankruptcy Code – Those laws of the United States of America related to bankruptcy, codified and enacted as Title 11 of the United States Code, entitled “Bankruptcy” and found at 11 U.S.C. § 101 et seq., as such laws may be amended, modified, replaced or superseded from time to time.

Billing Line Item Transfers - “Billing Line Item Transfers” shall have the meaning ascribed to it in Section 2.4 (PJM Services).

Billing Month – Each calendar month during the term of this Agreement.

Business Day – Any day on which the Company’s and PJM’s corporate offices are open for business and commercial banks are not authorized or required to close in New York, New York.

Capacity – “Unforced Capacity” as set forth in the PJM Agreements, or any successor, measurement of the capacity obligation of a Load Serving Entity as may be employed in PJM (whether set forth in the PJM Agreements or elsewhere).

Capacity Market Auction – The auctions conducted by PJM in the accordance with PJM’s Reliability Pricing Model (“RPM”).

Capacity Proxy Price or “CPP” - The capacity price DS Suppliers account for in their bid if the PJM capacity price is not known for a given year.

Charge – Any fee, charge or other amount that is billable by the Company to the DS Supplier under this Agreement.

Commercial Class – Group of Rate Schedules that comprise the Commercial Class for DS Supply and itemized in Appendix C.

Costs – With respect to the Non-Defaulting Party, brokerage fees, commissions and other similar transaction costs and expenses reasonably incurred by such Party either in terminating any arrangement pursuant to which it has hedged its obligations or entering into new arrangements which replace this Agreement; and all reasonable attorneys’ fees and expenses incurred by the Non-Defaulting Party in connection with the termination of this Agreement.

Customer – Any person or entity who enters a contractual agreement with the Company to receive retail electric service including, without limitation, all persons or entities taking service under a retail tariff, eligible to receive competitive electricity supply from an EGS or DS, respectively, in accordance with the Applicable Legal Authorities.

Damages – Financial compensation from the Defaulting Party to the Non-Defaulting Party associated with the occurrence of an Event of Default or an Early Termination of this Agreement. This compensation shall be assessed pursuant to Article 5 of this Agreement.

Default Allocation Assessment – shall have the meaning ascribed to it under the PJM Agreements.

Defaulting Party – A Party to this Agreement that has caused or precipitated an Event of Default or an Early Termination of this Agreement.

Default Service or “DS” – Electric generation service that is provided at retail pursuant to the Applicable Legal Authorities under the Company’s retail electric tariffs and under any other agreements or arrangements between the Company and Customers, to any Customer that is not being served by an EGS.

Default Service Supply or “DS Supply” – All necessary Energy, Capacity, AECs for AEPS Act compliance, Ancillary Services, and transmission services, all transmission and distribution losses and congestion and imbalance costs associated with the provision of such services, and such other services or products that the DS Supplier may be required, by PJM or any governmental body having jurisdiction, to provide in order to meet the DS Supplier Responsibility Share for serving DS Load under this Agreement and as detailed in Appendix C. For the avoidance of doubt, any reference in this Agreement to any other agreement for DS Supply shall include any agreement between the Parties for the provision of Energy to serve DS Load, even if such other agreement does not require delivery of additional products (e.g., Capacity).

Delivery Period – The delivery period specified in Appendix C.

Delivery Point – Means the applicable zone of the Company as designated by PJM.

DS Customer(s) – Retail customers who are provided Default Service pursuant to the terms of this Agreement, the Applicable Legal Authorities and the Company’s retail tariffs.

DS Fixed Percentage – The percentage of DS Supply provided at a fixed price, as set forth in Exhibit 1.

DS Fixed Price – The price in dollars per MWh, as set forth in Exhibit 1 hereto, as determined pursuant to the DS Solicitation.

DS Load – The aggregate load of DS Customers being provided DS Supply.

DS Solicitation – The competitive bidding processes, procedures and rules employed by the Company to competitively procure DS Supply for purposes of this Agreement.

DS Supplier – An entity that (i) has been selected through the DS Solicitation and has accepted the obligations and associated rights to provide DS Supply to the Company for retail customers in accordance with the Applicable Legal Authorities, (ii) has entered into this Agreement with the Company as a Party, and (iii) is a PJM Member and registered with PJM as a LSE.

DS Supplier Representative – Any officer, director, employee, consultant, contractor, or other agent or representative of the DS Supplier in connection with the DS Supplier's activity under this Agreement. To the extent the DS Supplier is a division or group of a company, the term DS Supplier Representative does not include any person in that company who is not part of the DS Supplier division or group.

DS Supplier Responsibility Share – The fixed percentage share of the Company's DS Load for which the DS Supplier is responsible as set forth in Appendix C.

DS Tariff – The Company's existing schedules of rates and services provided to retail customers as currently on file with the Commission and on the Company's website at https://www.firstenergycorp.com/content/customer/customer_choice/pennsylvania/pennsylvania_tariffs.html, as they may be amended from time to time.

DS Variable Percentage – The percentage of DS Supply provided at a variable price, as set forth in Exhibit 1 hereto.

DS Variable Price – The price in dollars per MWh, as set forth in Exhibit 1 hereto.

Early Termination – Termination of this Agreement prior to the end of the term due to the occurrence of an Event of Default as specified in Article 5.2 of this Agreement and the declaration of Early Termination.

Early Termination Date – The date upon which an Early Termination becomes effective as specified in Article 5.2 of this Agreement.

Electric Distribution Company or "EDC" – A public utility providing facilities for the transmission and distribution of electricity to retail customers in Pennsylvania.

Electric Generation Supplier or “EGS” – A person or entity that is duly certified by the Commission to offer and provide competitive electric supply to retail customers located in the Commonwealth of Pennsylvania.

Emergency – (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a condition that requires implementation of Emergency Operations Procedures as defined in the PJM Agreements or PJM manuals; or (iv) any other condition or situation that the Company or PJM deems imminently likely to endanger life or property or to affect or impair the Company’s electrical system or the electrical system(s) of other(s) to which the Company’s electrical system is directly or indirectly connected (a “Connected Entity”). Such a condition or situation may include, but shall not be limited to, potential overloading of the Company’s transmission and/or distribution circuits, PJM minimum generation (“light load”) conditions, or unusual operating conditions on either the Company’s or a Connected Entity’s electrical system, or conditions such that the Company is unable to accept Energy from the DS Supplier without jeopardizing the Company’s electrical system or a Connected Entity’s electrical system. Other additional emergencies can only be declared by PJM, FERC, or the PaPUC.

Energy – Three-phase, 60-cycle alternating current electric energy, expressed in units of kilowatt-hours or megawatt-hours.

Event of Default – A Party’s breach of obligations under this Agreement as set forth in Article 5 of this Agreement.

FERC – The Federal Energy Regulatory Commission.

Final Monthly Energy Allocation or “FMEA” – A quantity of Energy which, for any Billing Month, is the PMEA adjusted for any billing or metering data received subsequent to the calculation of PMEA of which PJM is notified within 60 days.

Force Majeure - Means an event or circumstance which prevents one Party from performing its obligations under one or more transactions, such as riots or revolutions, demands or embargoes of the United States Government, fire, flood, drought, insurrection, acts of God which are not within the reasonable control of, or the results of the negligence of the affected Party and which, by the exercise of due diligence, the Party is unable to mitigate or avoid or cause to be avoided. Notwithstanding the foregoing, under no circumstance shall an event of Force Majeure be based on: (i) the loss or failure of DS Supplier’s supply; (ii) DS Supplier’s ability to sell the DS Supply at a price greater than that received under any Transaction; (iii) curtailment by a utility transmitting DS Supply; (iv) the Company’s ability to purchase the DS Supply at a price lower than paid under any Transaction; (v) any change in requirements of any governmental authority; or (vi) labor stoppage or lockout.

Forward Market Price – The price for On-peak Energy Forward Price and Off-peak Energy Forward Price as determined by averaging concurrent broker quotes obtained by the Company for the Market Price Hub as available.

Gains – With respect to any Party, an amount equal to the present value of the economic benefit to it, if any (exclusive of Costs), resulting from an Early Termination of this Agreement, determined in a commercially reasonable manner.

Generator Attribute Tracking System or “GATS” - the system owned and operated by PJM Environmental Services, Inc. to provide reporting and tracking services to its subscribers in support of the AEPS Act, or any successor credit registry selected by the PaPUC. (As specified in Appendix E)

Guarantor – Any party having the authority and agreeing to guarantee the DS Supplier’s financial obligations under this Agreement, recognizing that such party shall be obligated to meet the Company’s creditworthiness requirements specified in this Agreement for such DS Supplier.

Guaranty – A guaranty, suretyship, hypothecation agreement, margins or security agreement or any other document in the form attached to this DS Supplier Master Agreement or other form approved by the Company.

Independent Credit Requirement per Tranche or “ICRT” - A financial security requirement that requires suppliers to provide collateral based on the number of tranches a supplier won.

Industrial Class - Group of Rate Schedules that comprise the Industrial Class for the DS Supply and itemized in Appendix C.

Interest Index – The average Federal Funds Effective Rate for the period of time the funds are on deposit. The Federal Funds Effective Rate is published daily on the Federal Reserve website (<http://www.federalreserve.gov/releases/h15/update/>).

Kilowatt or “kW” – Unit of measurement of useful power equivalent to 1000 watts.

Kilowatt-hour or “kWh” – One kilowatt of electric power used over a period of one hour.

Load Serving Entity or “LSE” – An entity that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electricity to retail customers located within the PJM Control Area as that term is defined in the PJM Agreements or in successor, superseding or amended versions of the PJM Agreements that may take effect from time to time over the term of this Agreement.

Losses – With respect to any Party, an amount equal to the present value of the economic loss to it, if any (exclusive of Costs), resulting from an Early Termination of this Agreement, determined in a commercially reasonable manner.

Margin – The amount by which the Total Exposure Amount exceeds the DS Supplier’s, or Guarantor’s, credit limit as defined in Section 6.4.

Mark-to-Market (“MtM”) Exposure Amount – An amount calculated daily for each DS Supplier reflecting the total MtM credit exposure to the Company due to fluctuations in market prices for Energy minus amounts due pursuant to this Agreement to such DS Supplier for the delivery of DS Supply. The methodology for calculation of the MtM credit exposure is illustrated in Appendix B.

Market Price Hub - A liquid pricing point located within PJM’s geographic footprint, as specified in Appendix B.

Maximum Credit Limit – The lesser of the applicable percentage of TNW or the applicable credit limit cap as specified in Section 6.4 of this Agreement.

Megawatt or MW – One thousand kilowatts.

Megawatt-hour or MWh – One megawatt of electric power used over a period of one hour.

Merger Event – When a DS Supplier consolidates or amalgamates with, or merges into or with, or transfers all or substantially all of its assets to another entity and either (i) the resulting entity fails to assume all of the obligations of such DS Supplier hereunder in the sole discretion of the Company or (ii) the benefits of any credit support provided pursuant to Article 6 of this Agreement fail to extend to the performance by such resulting, surviving or transferee entity of the DS Supplier’s obligations hereunder, and the resulting entity or its guarantor fails to meet the creditworthiness requirements of this Agreement in the sole discretion of the Company.

Minimum Rating – A minimum senior unsecured debt rating as defined in Appendix A of this Agreement.

Minimum Transfer Amount - \$100,000.

NERC – The North American Electric Reliability Council or its successor.

Network Integration Transmission Service or “NITS” – “Network Integration Transmission Service” under the PJM Agreements in effect as of the date of this Agreement, or its successor, superseding or amended versions of the PJM Agreements that may take effect from time to time over the term of this Agreement. In the event the PJM Agreements are modified such that “Network Integration Transmission Service” is no longer offered, Network Integration Transmission Service shall mean the type of transmission service offered under the PJM Agreements that is accorded the highest level of priority for scheduling and curtailment purposes.

Non-Defaulting Party - A Party to this Agreement who, at the time an Event of Default occurs, is not itself in default of this Agreement and has not otherwise caused or precipitated an Event of Default or Early Termination of this Agreement.

Off-Peak Energy Forward Price - Means the price for Off-Peak Hours for each billing month of the delivery period stated in terms of \$/MWh as based on the most recent publicly available information and/or quotes from reference market makers on forward energy transactions occurring at the Market Price Hub. In the event that the Market Price Hub is no longer available or no longer representative of a transparent trading hub, the Parties will negotiate in good faith to agree upon an alternate liquid price.

On-Peak Energy Forward Price – Means the price for On-Peak Hours for each billing month of the delivery period stated in terms of \$/MWh as based on the most recent publicly available information and/or quotes from reference market makers on forward energy transactions occurring at the Market Price Hub. In the event that the Market Price Hub is no longer representative of a transparent trading hub, the Parties will negotiate in good faith to agree upon an alternate liquid price.

PaPUC or Commission – The Pennsylvania Public Utility Commission or its successor.

PJM – PJM Interconnection L.L.C. or its successor.

PJM Agreements – The PJM OATT, PJM RAA, PJM OA and all other PJM agreements, procedures, manuals and documents applicable to the Transactions covered by or relating to this Agreement.

PJM Control Area – That certain Control Area encompassing electric systems in parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia, as may be modified from time to time, and which is recognized by the North American Electric Reliability Council as the "PJM Control Area".

PJM Member – A member in good standing of PJM that satisfies the requirements to conduct business with PJM.

PJM OA – The PJM Operating Agreement or the successor, superseding or amended version of the PJM Operating Agreement that may take effect from time to time.

PJM OATT – The PJM Open Access Transmission Tariff or the successor, superseding or amended version of the PJM Open Access Transmission Tariff that may take effect from time to time.

PJM OI – The PJM Office of Interconnection, the system operator for the PJM Control Area.

PJM RAA – The PJM Reliability Assurance Agreement or the successor, superseding or amended version of the PJM Reliability Assurance Agreement that may take effect from time to time.

PMEA/FMEA Adjustment Amount – For any Billing Month, the monetary amount due to the DS Supplier or the Company, as the case may be, in order to reconcile any difference between the PMEA used for the purpose of calculating estimated payments made to DS Supplier for a given month and the FMEA used for calculating the final payments due to the DS Supplier for such month as more fully described in Article 9 hereof.

Preliminary Monthly Energy Allocation or “PMEA” – A quantity of Energy which, for any Billing Month, is the preliminary calculation of the DS Supplier’s DS Supplier Responsibility Share.

Rate Schedule(s) – Shall mean the specified existing, and modified or successor customer rate schedule(s) in the electric service tariff of the Company filed with the Commission.

Reliability First Corporation or “RFC” – The approved regional NERC entity with responsibility for the Commonwealth of Pennsylvania.

Residential Class – Group of Rate Schedules that comprise the Residential Class for the DS Supply and itemized in Appendix C

Rounding Amount - \$100,000

Settlement Amount – With respect to a Non-Defaulting Party, the net amount of the Losses or Gains, and Costs, expressed in U.S. Dollars, which such Party incurs as a result of Early Termination, as set forth in Section 5.4(a) of this Agreement. For the purposes of calculating the Termination Payment, the Settlement Amount shall be considered an amount due to the Non-Defaulting Party under this Agreement if the total of the Losses and Costs exceeds the Gains and shall be considered an amount due to the Defaulting Party under this Agreement if the Gains exceed the total of the Losses and Costs.

Statement – A monthly report prepared by the Company for the DS Supplier indicating the amount due to the DS Supplier by the Company as compensation for DS Supply supplied to DS Customers by the DS Supplier during the current Billing Month, in accordance with DS Supplier’s obligations under this Agreement.

Supply Day – Any calendar day during the term of this Agreement on which the DS Supplier is providing, or is obligated by this Agreement to provide, DS Supply to the Company’s DS Customers.

Tangible Net Worth or “TNW” – Total assets less intangible assets and total liabilities. Intangible assets include benefits such as goodwill, patents, copyrights and trademarks.

Termination Payment – An amount paid by the Defaulting Party due to Early Termination.

Tier I AEC – Shall mean an AEC generated by a non-solar photovoltaic energy source that will satisfy the non-solar Tier I requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Tier I (Solar) AEC – Shall mean an AEC generated by a solar photovoltaic energy source that will satisfy the Tier I solar photovoltaic requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Tier II AEC - Shall mean an AEC generated by a non-solar photovoltaic energy source that will satisfy the non-solar Tier II requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Total Exposure Amount – An amount calculated daily for the DS Supplier reflecting the total credit exposure to the Company and consisting of the sum of (i) the Mark-to-Market Exposure Amount arising under this Agreement; (ii) any amount(s) designated as the “Mark-to-Market Exposure Amount” arising under any other DS Supply agreements providing for “DS Supply” or similar default service; and (iii) the amount designated as the “credit exposure” under any other DS Supply agreements providing for DS Supply or similar default service; provided that in the event the amount calculated for any day is a negative number, it shall be deemed to be zero for such day.

Tranche – A fixed percentage share of the Company’s DS Load, as specified in Appendix C.

Transaction – Means a particulate agreement by which the Company purchases and the DS Supplier sells DS Supply pursuant to this Agreement, the details of which are more fully set forth in Exhibit 1 – Transaction Confirmation.

Transaction Confirmation – Shall have the meaning ascribed to it in Appendix C and Exhibit 1 of this Agreement.

ARTICLE 2: GENERAL TERMS AND CONDITIONS

2.1 Capacity In Which Company Is Entering Into This Agreement

The DS Supplier agrees and acknowledges that the Company is contracting for the provision of DS Supply from such DS Supplier for Customers receiving Default Service on the Company's electric system pursuant to the authorizations provided to the Company. The DS Supplier further agrees and acknowledges that the Company will administer and monitor the DS Supplier's performance in providing DS Supply under this Agreement and that the Company shall be entitled to enforce the DS Supplier's obligations related to the provision of DS Supply. The DS Supplier hereby permanently, expressly and irrevocably waives any claim that Company is not entitled to seek enforcement of this Agreement on behalf of Customers. It is the specific intention of the Parties hereto that Customers and Customer groups are not third party beneficiaries of this Agreement and that no Customer or Customer group shall seek enforcement of this Agreement against the DS Supplier on their own behalf, either independently or by joining in any legal proceeding brought by the Company.

The Parties acknowledge that the Agreement is a forward contract and, accordingly, the Parties hereto are entitled to the protections of Section 556 of the Bankruptcy Code. The Parties therefore agree that the Agreement may be terminated by either Party upon the commencement of a proceeding by the other Party under any chapter of the Bankruptcy Code in accordance with Article 5.2 of this Agreement.

2.2 Parties' Obligations

(a) Obligations of DS Supplier

The DS Supplier hereby agrees as follows:

- (i) DS Supplier shall provide service on a firm and continuous basis such that the supply delivered for the term of the Agreement meets the terms and conditions set forth in Appendix C;
- (ii) To provide sufficient quantities of DS Supply on an instantaneous basis at all times and supplied to the Delivery Point to meet the DS Supplier Responsibility Share;
- (iii) To procure those services provided by the PJM OI and to perform such functions as may be required by the PJM OI that are necessary for the delivery of DS Supply required hereunder;
- (iv) To cooperate with the Company in any regulatory compliance efforts that may be required to maintain the ongoing legitimacy and enforceability of the terms of this Agreement and to fulfill any regulatory reporting requirement associated with the provision of DS Supply, before the PaPUC, FERC or any other regulatory body asserting jurisdiction;
- (v) To become the Load Serving Entity (“LSE”) with respect to the provision of DS Supply for the DS Supplier Responsibility Share and to comply with all requirements of a LSE with respect to such DS Supplier Responsibility Share;
- (vi) To pay to the Company the PMEA/FMEA Adjustment Amount for any Billing Month in which the PMEA exceeds the FMEA, as more fully described in Article 9 of this Agreement;
- (vii) To accept assignment of and to fulfill all obligations of a LSE that are assigned to it by this Agreement;

- (viii) To comply in a timely manner with all obligations under this Agreement imposed upon the DS Supplier; and
- (ix) To comply with the AEPS requirements of the Company's Default Service Plan, as detailed in Appendix E.

(b) Obligations of the Company

The Company hereby agrees as follows:

(i) To pay to each DS Supplier every month an amount due, resulting from the calculations, as detailed in Article 9 of this Agreement, subject to the adjustments as expressed therein;

(ii) Pay to the DS Supplier the PMEA/FMEA Adjustment Amount for any Billing Month in which the FMEA exceeds the PMEA, as more fully described in Article 9 of this Agreement;

(iii) To provide to the DS Supplier its estimated aggregate load obligation (capacity MW value) for each Supply Day no less than five (5) calendar days prior to the day of delivery. Further, this information will be posted in the DS Supplier's specific PJM eMTR account, or successor system or process;

(iv) To comply in a timely manner with all obligations under this Agreement imposed upon the Company;

(v) Accept the delivery of DS Supply necessary to meet the DS Load;
and

(vi) Be responsible (as between the Company and the DS Supplier) for the provision of the Allocated AECs, if any, to satisfy a portion of AEPS requirements.

2.3 Congestion and Congestion Management

The DS Supplier is responsible for any congestion costs incurred to meet the DS Supplier Responsibility Share. The Company shall transfer or assign to the DS Supplier the Company's rights to Auction Revenue Rights (ARRs) to which the Company is entitled as an LSE pursuant to the PJM Agreements, including the rights to ARRs, provided that such rights are related to the service being provided to meet the DS Supplier Responsibility Share and such rights are for the Delivery Period. All rights, liabilities and obligations associated with such ARRs will accrue and be assumed by the DS Supplier through the transfer or assignment from the Company to the DS Supplier including the responsibility and ability of the DS Supplier to request or nominate such ARRs when applicable and feasible. Should the conditions above not be met, the entity recognized by PJM as having the right to make the nominations will nominate such ARRs for the upcoming PJM planning period and such ARRs will be allocated to the DS Supplier in accordance with the PJM Agreements based upon its DS Supplier Responsibility Share.

2.4 PJM Services

The DS Supplier shall make all necessary arrangements for the delivery of DS Supply through the PJM OI. The Company will advise the PJM OI of the magnitude and location of each DS Supplier's actual DS Supplier Responsibility Share, as required by the PJM OI, for the purpose of calculating such DS Supplier's appropriate DS Supply requirements related to the provision of service under this Agreement by DS Supplier arising under the PJM Agreements. The DS Supplier shall remain responsible to PJM for the performance of its LSE obligations associated with the provision of DS Supply under this Agreement until the effective date of the transfer of such LSE obligations.

The Company shall generate and provide to DS Supplier PJM shortname(s) associated with supplier's unique contract type(s), as necessary. Unique shortname(s) may be generated for each differing contract type. DS Supplier shall complete all required forms and processing to PJM to create shortname(s) within the PJM system.

For the period of time that this Agreement is in effect, both Buyer and DS Supplier agree that PJM Settlement, Inc, shall transfer the applicable billing line item charges and/or credits as designated between the Buyer and DS Supplier in EXHIBIT D. Buyer will be responsible for initiating and/or maintaining Billing Line Item Transfers utilizing the PJM Billing Line Item Tool. DS Supplier agrees to confirm/approve Billing Line Item Transfers by the last business day of the month prior to the Delivery Period of the first Transaction under the Agreement.

2.5 PJM Agreement Modifications

(a) If the PJM Agreements are amended or modified so that any schedule or section references herein to such agreements is changed, such schedule or section references herein shall be deemed to automatically (and without any further action by the Parties) refer to the new or successive schedule or section in the PJM Agreements which replaces that originally referred to in this Agreement.

(b) If the applicable provisions of the PJM Agreements referenced herein, or any other PJM rules relating to the implementation of this Agreement, are changed materially from those in effect on the Effective Date, both Parties shall cooperate to make conforming changes to this Agreement to fulfill the purposes of this Agreement, including the DS Supplier's responsibility for changes in PJM products and pricing during the Term.

2.6 PJM Member Default Cost Allocation

In the event PJM imposes a Default Allocation Assessment upon the Company relating to a default during the Term, the Company shall invoice DS Supplier and DS Supplier shall pay an amount equal to the product of (i) DS Supplier Responsibility Share, and (ii) the Default Allocation Assessment, less the amounts of any types of charges allocated to the Company under this Agreement that are used by PJM in calculating such Default Allocation Assessment.

2.7 Other Fines and Penalties

If fees, fines, penalties, or costs are claimed or assessed against the Company by any Applicable Legal Authority or PJM due to noncompliance by the DS Supplier with this Agreement, any other requirements of law, or the PJM Agreements, the DS Supplier shall indemnify and hold the Company harmless against any and all losses, liabilities, damages, and claims suffered or incurred by the Company, including claims for indemnity or contribution made by third parties against the Company, except to the extent the Company recovers any such losses, liabilities or damages through other provisions of this Agreement.

2.8 Communications and Data Exchange

The DS Supplier and the Company shall supply to each other in a thorough and timely manner all data, materials or other information that is specified in this Agreement, or that may otherwise reasonably be required by DS Supplier or by the Company in connection with the provision of DS Supply by the DS Supplier to DS Customers, if required.

The DS Supplier shall be equipped with the communications capabilities necessary

to comply with the communications and data exchange standards that are set by and as may, from time to time, be modified by PJM, and shall exclusively bear the costs of installing, maintaining, testing, and operating all required information technology systems that will enable it to send to and receive data from the Company and PJM and to satisfy its obligations under this Agreement, the PJM Agreements and all other relevant agreements.

2.9 Record Retention

The Company shall retain necessary records for the longer of two years or as required under applicable PaPUC requirements so as to permit DS Supplier to confirm the validity of payments due to DS Supplier hereunder; provided that if a DS Supplier has provided notice pursuant to this Agreement that it disputes the validity of any payments, the Company agrees that it shall retain all records related to such dispute until the dispute is finally resolved.

2.10 Verification

In the event of a good faith dispute regarding any invoice issued or payment due under this Agreement, and provided that a mutually acceptable confidentiality agreement is executed by the Parties, each Party will have the right to verify, at its sole expense, the accuracy of the invoice or the calculation of the payment due by obtaining copies of relevant portions of the books and records of the other Party.

2.11 Forward Contract Merchant

The Parties agree that the Agreement is a “forward contract merchant” within the meaning of the United States Bankruptcy Code, all setoffs, netting and liquidations contemplated hereunder constitute “settlement payments” as set forth in Sections 101 and

741 of the United States Bankruptcy Code and each payment or transfer of Performance Assurance is a “margin payment”, “settlement payment” or transfer within the meaning of Section 101 of the United States Bankruptcy Code for the purposes of and as used in such Code.

ARTICLE 3: REPRESENTATIONS AND WARRANTIES

3.1 DS Supplier’s Representations and Warranties

The DS Supplier hereby represents, warrants and covenants to the Company on the Effective Date and throughout the term of this Agreement as follows:

a) It is a corporation, partnership, limited liability company or other legal entity, duly organized, validly existing and in good standing under the laws of the Commonwealth of Pennsylvania or, if another jurisdiction, under the laws of such jurisdiction and, in such case, is duly registered and authorized to do business in such other jurisdiction;

b) It has all requisite power and authority to execute and deliver this Agreement and to carry on the business to be conducted by it under this Agreement and to enter into and perform its obligations hereunder, including satisfaction of all applicable FERC requirements;

c) The execution and delivery of this Agreement and the performance of such DS Supplier’s obligations hereunder have been duly authorized by all necessary action on the part of the DS Supplier and do not and will not conflict with, or constitute a breach of or default under, any of the terms, conditions, or provisions of the DS Supplier’s certificate of incorporation or bylaws or other constituent instruments or any indenture, mortgage, other evidence of indebtedness, or other agreement or instrument or any statute or rule,

regulation, order, judgment, or decree of any judicial or administrative body to which the DS Supplier is a party or by which the DS Supplier or any of its properties is bound or subject;

d) All necessary and appropriate action that is required on the DS Supplier's part to execute this Agreement has been completed;

e) This Agreement is the legal, valid and binding obligation of the DS Supplier, enforceable in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws from time to time in effect that affect creditors' rights in general or by general principles of equity;

f) There are no actions at law, suits in equity, proceedings or claims pending or, to the DS Supplier's knowledge, threatened against the DS Supplier before any ~~F~~Federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the DS Supplier's performance of its obligations hereunder;

g) It has entered into this Agreement with a full understanding of the material terms and risks of the same, and it is capable of assuming those risks;

h) It is in good standing as an LSE in PJM, is a signatory to all applicable PJM Agreements, and is in compliance with, and will continue to comply with, all obligations, rules and regulations, as established and interpreted by the PJM OI, that are applicable to LSEs as defined by the PJM Agreements; provided that the DS Supplier shall not be obligated to become an LSE in PJM until the date it begins providing DS Supply;

i) It has made its trading and investment decisions (including regarding the suitability thereof) based upon its own judgment and any advice from such advisors as it

has deemed necessary and not in reliance upon any view expressed by the Company;

j) It will comply with any and all information and data transfer protocols that may be adopted by the Company or that are set by, and from time to time modified by, the PaPUC; provided that DS Supplier shall be entitled to exercise its reserved right to challenge any such protocols in the appropriate forum.

k) It is not Bankrupt or insolvent and there are no proceedings pending or being contemplated by it or, to its knowledge, threatened against it which would result in it being or becoming Bankrupt or insolvent;

l) There are no pending, or to its knowledge threatened, actions, suits or proceedings against it or any of its Affiliates, or any legal proceedings before any Governmental Authority, that could materially adversely affect its ability to perform its obligations under this Agreement;

m) No Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement;

n) It is not relying upon the advice or recommendations of the other Party in entering into this Agreement, it is capable of understanding, understands and accepts the terms, conditions and risks of this Agreement, and the other Party is not acting as a fiduciary for or advisor to it in respect of this Agreement;

o) It has entered into this Agreement in connection with the conduct of its business and it has the capacity or ability to provide or take delivery of DS Supply as required by this Agreement; and it is an “eligible contract participant” as defined in Section 1a(12) of the Commodity Exchange Act.

3.2 Company's Representations and Warranties

The Company hereby represents, warrants and covenants to the DS Supplier as follows:

a) The Company is an electric utility corporation duly organized, validly existing and in good standing under the laws of the Commonwealth of Pennsylvania;

b) The Company has all requisite power and authority to carry on the business to be conducted by it under this Agreement and to enter into and perform its obligations hereunder;

c) The execution and delivery of this Agreement and the performance of the Company's obligations hereunder have been duly authorized by all necessary action on the part of the Company and do not and will not conflict with, constitute a breach of or default under, any of the terms, conditions, or provisions of the Company's certificate of incorporation or bylaws or any indenture, mortgage, other evidence of indebtedness, or other agreement or instrument or any statute or rule, regulation, order, judgment, or decree of any judicial or administrative body to which the Company is a party or by which the Company or any of its properties is bound or subject;

d) All necessary and appropriate action that is required on the Company's part to execute this Agreement has been completed;

e) This Agreement is the legal, valid and binding obligation of the Company, enforceable in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws from time to time in effect that affect creditors' rights in general or by general principles of equity and the Commission's power under section 508 of the Public Utility Code, 66 Pa.C.S. § 508, to amend or modify the

contracts of public utilities;

f) The ability of the Company to pay any and all amounts due and payable under this Agreement, or upon any potential breach thereof, is not conditioned upon any governmental or administrative appropriation by the Commission, the Commonwealth of Pennsylvania or any other governmental authority;

g) There are no actions at law, suits in equity, proceedings or claims pending or, to the Company's knowledge, threatened against the Company before any ~~F~~Federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the Company's performance of its obligations under this Agreement;

h) It has entered into this Agreement with a full understanding of the material terms and risks of the same, and it is capable of assuming those risks;

i) The Company's performance under this Agreement is not contingent upon the performance of Customers or the ability of Customers to pay rates;

j) The Company shall have sole responsibility for metering and billing with respect to Customers; and

k) The Company shall be responsible for electric distribution services and the DS Supplier shall not be responsible for distribution charges.

3.3 Survival of Obligations

All representations and warranties contained in this Article are of a continuing nature and shall be maintained during the term of this Agreement or until all amounts due hereunder, including all obligations, have been paid or performed in full. If a Party learns that any of the representations, warranties or covenants in this Agreement are no longer

true during the term of this Agreement, the Party shall immediately notify the other Party via facsimile, with a hard copy of the notice delivered by overnight mail.

ARTICLE 4: COMMENCEMENT AND TERMINATION OF AGREEMENT

4.1 Commencement and Termination

The term of this Agreement shall commence upon the Effective Date. Unless otherwise agreed upon by the Company and the DS Supplier, this Agreement shall continue in full force and effect from the Effective Date until the end of all Transaction(s) executed under this Agreement, unless the Agreement is terminated prematurely pursuant to the provisions of this Agreement.

4.2 Termination of Right to Supply

The DS Supplier agrees that termination of this Agreement for reason of an Event of Default shall terminate any right of the DS Supplier to provide DS Supply to the DS Customers and nullify any of the entitlements to which the DS Supplier became entitled as a result of being selected as a winning bidder in the DS Solicitation.

4.3 Survival of Obligations

Termination of this Agreement for any reason shall not relieve the Company or the DS Supplier of any obligation accrued or accruing prior to such termination. Applicable provisions of this Agreement shall continue in effect after termination to the extent necessary to provide for final billings.

4.4 Mutual Termination

The Company and the DS Supplier may agree at any time during the term of this Agreement to terminate their respective rights and obligations hereunder on such terms and

under such conditions that they mutually deem to be appropriate as set forth in a mutual termination agreement acceptable in form and substance to the Company and the DS Supplier (“Mutual Termination Agreement”); provided that Company agrees that it shall enter into such a Mutual Termination Agreement, which will discharge the terminating DS Supplier (the “Terminating DS Supplier”) with respect to liabilities arising after the effective date of the Mutual Termination Agreement if the following conditions precedent are met: (i) the Terminating DS Supplier identifies a replacement DS Supplier willing to assume all obligations of the Terminating DS Supplier hereunder for the remaining term of this Agreement (the “Replacement DS Supplier”); (ii) the Replacement DS Supplier demonstrates its compliance with Article 6 of this Agreement, “Creditworthiness”, as of the effective date of the Mutual Termination Agreement, that determination to be made in the sole discretion of Company; (iii) the Replacement DS Supplier executes a counterpart signature page to this Agreement and thereby becomes a Party under this Agreement, effective immediately following the effective date of the Mutual Termination Agreement; and (iv) the Terminating DS Supplier is not, to the belief or knowledge of the Company, subject to an Event of Default as of the effective date of the Mutual Termination Agreement or, if the Company believes that the Terminating DS Supplier may be subject to an Event of Default, either (a) the Company has determined that, as of the effective date of the Mutual Termination Agreement, it has not incurred any Damages as a result of the Event of Default or (b) if the Company has determined, as of the effective date of the Mutual Termination Agreement, that it may have incurred Damages as a result of the Event of Default, that the Replacement DS Supplier has agreed in writing to be responsible for the

payment of such Damages or to otherwise cure the Event of Default, in either case to the satisfaction of the Company in its sole discretion.

ARTICLE 5: BREACH AND DEFAULT

5.1 Events of Default

An Event of Default under this Agreement shall occur if a Party (the “Defaulting Party”):

- (i) Is the subject of a voluntary bankruptcy, insolvency or similar proceeding;
- (ii) Makes an assignment for the benefit of its creditors;
- (iii) Applies for, seeks consent to, or acquiesces in the appointment of a receiver, custodian, trustee, liquidator or similar official to manage all or a substantial portion of its assets;
- (iv) Is dissolved (other than pursuant to a consolidation, amalgamation or merger) or is the subject of a Merger Event;
- (v) Has a secured party take possession of all or substantially all of its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all of its assets;
- (vi) Has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger);
- (vii) In the case of a DS Supplier, PJM terminates the DS Supplier’s ability to make purchases from PJM markets or PJM holds the Company responsible for the provision of DS Supply under this Agreement and PJM does not rescind such termination or assignment of responsibility within seven (7) Business Days;
- (viii) Fails to comply with the creditworthiness requirements as set forth in

Article 6 of this Agreement, including, without limitation, compliance with the creditworthiness requirements to cover the Margin calculated under Section 6.5 or post any Margin due under Section 6.5 of this Agreement, within the time frames set forth in this Agreement;

(ix) Is declared by PJM to be in default of any provision of any PJM Agreement, which default prevents a Party's performance hereunder if such failure is not remedied within three (3) Business Days after written notice;

(x) Failure to make, when due, any payment required pursuant to this Agreement if such failure is not remedied within two (2) Business Days after written notice;

(xi) Violates any ~~f~~Federal, state or local code, regulation or statute applicable to the supply of Energy and/or AECs in a manner that materially, and adversely, affects the Party's performance under this Agreement, including by way of failure to continually satisfy all applicable FERC requirements, or, in the case of the DS Supplier, by way of failure to maintain any other governmental approvals required for participation in the Pennsylvania retail Energy market, or defaults on any obligation or other failure to comply with PJM requirements under the PJM Agreements;

(xii) Is the subject of an involuntary bankruptcy or similar proceeding;

(xiii) Subject to Section 5.3 (b) of this Agreement, in the case of the Company, fails to accept DS Supply properly tendered by the DS Supplier under this Agreement;

(xiv) Failure to perform any material covenant or obligation set forth in this Agreement, if such failure is not remedied within three (3) Business Days after written notice;

(xv) Makes a materially incorrect or misleading representation or warranty under this Agreement or under any response to the DS Solicitation; or

(xvi) Commits an act or makes an omission that constitutes an “Event of Default” under any other agreement(s) for the provision of DS Supply between the Company and the DS Supplier; and fails to remedy such condition, event or delinquency herein above described such that the other Party (the “Non-Defaulting Party”) is completely made whole with respect to such condition, event or delinquency, within three (3) Business Days of receipt of written notice thereof from such Non-Defaulting Party; provided, however, that an Event of Default shall be deemed to have occurred immediately, without any need for the provision of notice thereof by the Non-Defaulting Party and without any right of cure on the part of the Defaulting Party, in the event of the occurrence of a condition, event or delinquency described in subsections “i”, “ii”, “iii”, “iv”, “v”, “vi”, “vii” or “viii” above. Termination of this Agreement by the PaPUC, other regulatory authority or court of law does not constitute an Event of Default under this Agreement.

(xvii) With respect to the DS Supplier’s Guarantor, if any:

1. any representation or warranty made by the Guarantor in connection with this Agreement is false or misleading in any material respect when made or when deemed made or repeated;
2. Guarantor fails to make, when due, any payment required or to perform any other material covenant or obligation in any guaranty made in connection with this Agreement and such

failure shall not be remedied within two (2) Business Days after written notice;

3. Guarantor's guaranty fails to be in full force and effect for purposes of this Agreement (other than in accordance with its terms) prior to the satisfaction of all obligations of such Party under this Agreement without the written consent of the other Party; or
4. Guarantor repudiates, disaffirms, disclaims, or rejects, in whole or in part, or challenges the validity of any guaranty.

5.2 Rights upon Default

Upon and during the continuation of an Event of Default, the Non-Defaulting Party shall have the right to suspend performance, provided that such suspension shall not continue for longer than ten (10) Business Days. At any time during or subsequent to the temporary suspension of performance, the Non-Defaulting Party may proceed with the steps outlined in Article 5.7. In addition to any other remedies available at law or in equity to the Non-Defaulting Party, if an Event of Default has occurred and is continuing, the Non-Defaulting Party shall have the right to implement all of the following remedies:

- (i) Declare an Early Termination Date of this Agreement with respect to the obligations of the Defaulting Party without any liability or responsibility whatsoever except for obligations arising prior to the date of termination, by providing written notice to the Defaulting Party; provided, however, that this Agreement shall immediately terminate automatically and without notice in the case of any Event of Default in which a DS Supplier

is the Defaulting Party occurring under subsections (i), (ii), (iii), (iv), (v), (vi), (vii) or (viii) of Article 5.1 of this Agreement and such date of automatic termination shall be deemed the Early Termination Date of this Agreement with respect to such DS Supplier; and

- (ii) Receive Damages in accordance with Section 5.3 of this Agreement.

The Non-Defaulting Party shall be entitled to elect or pursue one or more of the above remedies.

5.3 Damages Resulting From an Event of Default

(a) **DS Supplier's Failure to Supply DS Supply or Declaration of Early Termination By Company:** Damages resulting from (i) the DS Supplier's failure to (A) provide DS Supply in conformance with Article 2.2 hereof or (B) pay PJM for purchases of any products or services from PJM, or other failure to comply with PJM requirements, such that PJM holds the Company responsible for the provision of DS Supply to meet the DS Supplier's DS Supplier Responsibility Share under this Agreement or (ii) the occurrence of any Event of Default attributable to the DS Supplier resulting in Early Termination, shall include all Costs incurred by the Company, acting in a commercially reasonable manner consistent with any statutory or regulatory requirements imposed by the Applicable Legal Authorities, in obtaining replacement services or in obtaining a replacement supplier, which Costs exceed the amounts that would have been payable to the defaulting DS Supplier under this Agreement. Costs incurred by the Company for the purpose of calculating Damages hereunder will consist of:

- (i) The cost of DS Supply allocated to the Company by the PJM OI due to the failure of the DS Supplier to meet obligations owing to the PJM OI in connection with its obligations under this Agreement;

(ii) The costs of DS Supply purchased by the Company to replace DS Supply that a DS Supplier was obligated to supply under this Agreement during the term hereof;

(iii) Administrative and legal costs associated with procuring replacement DS Supply; and

(iv) Financial hedging costs incurred by the Company on behalf of DS Customers as a result of having to procure DS Supply not provided by the DS Supplier.

The Parties further recognize and agree that the final calculation of Damages hereunder may not be known for some time since the level of such Damages may be dependent upon the arrangements made by the Company to obtain replacement services or a replacement DS Supplier. The Company and the DS Supplier agree that, until the calculation of Damages under this provision is completed, the amount and payment to the Company of the Settlement Amount on behalf of DS Customers in the event of an Early Termination as set forth in Article 5.4 of this Agreement shall be immediately due and owing as an estimate of all Damages ultimately determined to be due and owing. After Damages have been finally determined under this Article 5.3, the amounts of Damages due and owing will be reconciled with payments already made by the DS Supplier under Section 5.4 of this Agreement.

(b) **Failure By Company on Behalf of Customers To Accept DS Supply Tendered By DS Supplier:** Damages resulting from the failure of the Company on behalf of Customers to accept DS Supply tendered by the DS Supplier necessary to meet the DS Supplier Responsibility Share of DS Load under this Agreement shall consist of the positive difference (if any) between (i) the amounts that would have been payable to the DS Supplier hereunder had the Company accepted the DS Supply tendered by the DS

Supplier necessary to meet the DS Supplier Responsibility Share of DS Load under this Agreement and (ii) the amount realized by the DS Supplier in disposing, in a commercially reasonable manner, of the DS Supply not accepted by the Company; provided, however, that the Company shall not be required to accept on behalf of any Customer, quantities of DS Supply utilized by Customers on an instantaneous basis as a function of electrical load, in excess of such Customer's instantaneous consumption of such component of DS Supply; and further provided that the Company shall not be liable for any Damages if this Agreement is terminated by the PaPUC, other regulatory authority or a court of law.

(c) **Damages Resulting From Early Termination Due To An Event of Default Attributable To the Company:** Damages resulting from Early Termination due to an Event of Default attributable to the Company shall be as set forth in Section 5.4 of this Agreement. Damages calculated in accordance with said Article 5.4 shall be the exclusive remedy available to the DS Supplier in the event of Early Termination resulting from an Event of Default attributable to the Company.

(d) **Damages Resulting from DS Supplier's Failure to Continuously Satisfy its AEPS Obligations:** Damages resulting from the DS Supplier's failure to continuously meet and satisfy all or any portion of its obligations under Section 2.2 (a)(viii) of this Agreement shall include, but not be limited to, the amount of all penalties, costs associated with the procurement of additional AECs, etc. including, without limitation, interest and other charges, if any, levied against the Company related to AEPS regulations, due to such DS Supplier's conduct or inaction.

(e) **Other Damages:** Damages for Events of Default not specified above shall consist of the direct Damages incurred by the Non-Defaulting Party.

(f) **Waiver of Event of Default:** If an Event of Default has occurred and the Non-Defaulting Party is the Company, then unless the Event of Default was a failure by the DS Supplier to meet any or all of its DS Supply obligations, the Company may elect, at its sole discretion, to offer to waive the default on such terms and conditions as the Company, at its sole discretion, may deem appropriate to propose a special remedy. Any such special remedy can only be offered to the DS Supplier if it first is specifically approved by the PaPUC in accordance with Commission Orders.

5.4 Declaration of an Early Termination Date and Calculation of Settlement Amount and Termination Payment

(a) **Settlement Amount.** If an Event of Default with respect to a Defaulting Party shall have occurred and be continuing, the Non-Defaulting Party shall have the right (i) to designate a day, no earlier than the day such notice is effective and no later than twenty (20) days after such notice is effective, as a date for Early Termination (“Early Termination Date”) to accelerate all amounts owing between the Parties and to liquidate and terminate the undertakings set forth in this Agreement, (ii) to withhold any payments due to the Defaulting Party under this Agreement, and (iii) to suspend performance; provided however, that an Early Termination Date shall be deemed to occur automatically and concurrently with the Event of Default, without any requirement for the provision of notice by the Non-Defaulting Party, with respect to an Event of Default under subsections (i), (ii), (iii), (iv), (v), (vi), (vii), and (viii) of Article 5.1 of this Agreement. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Settlement Amount with respect to the obligations under this Agreement.

The DS Supplier may, in its sole discretion, select the notional quantity in the following subsection 5.4(a)(i) by checking the box below. If the DS Supplier does not select subsection 5.4(a)(i) by checking the box, it will be deemed to be excluded from this Agreement.

(i) For the purposes of such determination, the DS Supply provided for under this Agreement for the period following the Early Termination Date through the remainder of the term of this Agreement shall be deemed to be those quantity amounts that would have been delivered on an hourly basis, had this Agreement been in effect during the previous calendar year adjusted for such DS Load changes as may have occurred since the previous calendar year.

(b) **Net Out of Settlement Amounts.** The Non-Defaulting Party shall calculate a Termination Payment by aggregating all Settlement Amounts due under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply into a single amount by netting out (a) all Settlement Amounts that are due or will become due to the Defaulting Party, plus at the option of the Non-Defaulting Party, any cash or other form of security then available to the Non-Defaulting Party and actually received, liquidated and retained by the Non-Defaulting Party, plus any or all other amounts due to the Defaulting Party under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply against (b) all Settlement Amounts that are due or will become due to the Non-Defaulting Party, plus any or all other amounts due to the Non-Defaulting Party under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply, so that all such amounts shall be netted out to a single liquidated amount; provided,

however, that if the DS Supplier is the Defaulting Party and the Termination Payment is due to the DS Supplier, the Company shall be entitled to retain a commercially reasonable portion of the Termination Payment, which may be equal to the entire amount of the Termination Payment, as security for additional amounts that may be determined to be due and owing by the DS Supplier as Damages and further provided that any previously attached security interest of the Company in such retained amounts shall continue. The Termination Payment shall be due to or due from the Non-Defaulting Party as appropriate. If the Termination Payment has been retained by the Company as security for additional amounts that may be determined to be due and owing by the DS Supplier, and if, upon making a final determination of Damages, the Termination Payment, or any portion thereof, is to be made to the DS Supplier, the Company will pay simple interest on the Termination Payment amount being made to the DS Supplier. Simple interest will be calculated at the lower of the Interest Index or six (6) percent per annum.

(c) **Notice of Termination Payment.** As soon as practicable after calculation of a Termination Payment, notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Termination Payment and whether the Termination Payment is due to or due from the Non-Defaulting Party. The notice shall include a written statement explaining in reasonable detail the calculation of such amount. Subject to Article 5.4(b) above, the Termination Payment shall be made by the Party that owes it within three (3) Business Days after such notice is effective.

(d) **Disputes With Respect to Termination Payment.** If the Defaulting Party disputes the Non-Defaulting Party's calculation of the Termination Payment, in whole or in part, the Defaulting Party shall, within three (3) Business Days of

receipt of Non-Defaulting Party's calculation of the Termination Payment, provide to the Non-Defaulting Party a detailed written explanation of the basis for such dispute; provided, however, that if the Termination Payment is due from the Defaulting Party, the Defaulting Party shall first transfer collateral to the Non-Defaulting Party in an amount equal to the Termination Payment, such collateral to be in a form acceptable to the Non-Defaulting Party as specified in the Termination Payment Dispute Notice.

(e) **Multiple DS Supply Agreements.** It is the intention of the Company and the DS Supplier that, in the event the DS Supplier is a party to other agreements with the Company for the provision of DS Supply that existed prior to the Effective Date of this Agreement or are entered into after the Effective Date of this Agreement, the Company will calculate a single Termination Payment applicable to all such agreements as set forth herein.

5.5 Step-up Provision

The Company may ask other DS Suppliers whether they wish to assume all or part of the delivery obligations on the same terms and price contained herein, but any DS Supplier shall not be obligated to assume any such step-up requests. Any agreement to make additional supply available shall be termed a "Step-Up", and is subject to compliance with the creditworthiness provisions of Article 6 of this Agreement and the DS Supplier's load cap as per the Company's approved default service procurement plan. For the avoidance of doubt, in the event that the DS Supplier does not respond to the Company's Step-Up request within the relevant timeframe, then the DS Supplier shall be deemed to have rejected the Company's request in full.

5.6 Setoff of Payment Obligations of the Non-Defaulting Party

Any payment obligations of the Non-Defaulting Party to the Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply shall be set off: (i) first, to satisfy any payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply that are unsecured and not subject to any Guaranty; (ii) second, to satisfy any payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply that are unsecured, but which are subject to a Guaranty; and (iii) third, to satisfy any remaining payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply.

5.7 Preservation of Rights of Non-Defaulting Party

The rights of the Non-Defaulting Party under this Agreement, including without limitation Article 5.4 and 5.7 of this Agreement, shall be supplemental to, and not in lieu of, any right of recoupment, lien, or set-off afforded by applicable law, and all such rights are expressly preserved for the benefit of the Non-Defaulting Party.

- a. Duty to Mitigate. Each Party agrees that it has a duty to mitigate damages and covenants that it will use commercially reasonable efforts to minimize any damages it may incur as a result of the other Party's failure to perform pursuant to this Agreement.

- b. Return of Auction Revenue Rights. When the DS Supplier is the Defaulting Party, the DS Supplier will make best efforts to facilitate the transfer or reassignment to the entity which is the replacement DS Supplier on the Early Termination Date, any and all of the replacement DS Supplier's rights to Auction Revenue Rights (ARRs) to which the replacement DS Supplier is entitled as a LSE pursuant to the PJM Agreements, which were transferred or assigned to the DS Supplier under Section 2.3 (Congestion and Congestion Management).

ARTICLE 6: CREDITWORTHINESS

6.1 Applicability

The DS Supplier agrees that it shall meet the creditworthiness requirements of this Article 6 at all times during the term of this Agreement and shall inform the Company immediately of any changes in its credit rating or financial condition. Without limitation of the foregoing, the DS Supplier shall, upon written request, affirmatively demonstrate to the Company, its compliance with the creditworthiness requirements set forth hereunder. The Company may establish less restrictive creditworthiness requirements under this Article 6 in a non-discriminatory manner.

6.2 Creditworthiness Determination

The DS Supplier may submit and maintain a security deposit in accordance with Section 6.4 of this Agreement in lieu of submitting to or being qualified under a creditworthiness evaluation. The DS Supplier shall have the opportunity to request that the Company re-evaluate its creditworthiness whenever an event occurs that the DS Supplier believes would improve the determination made by the Company of its

creditworthiness. The Company's credit re-evaluation must be completed as soon as possible but no longer than thirty (30) days after receiving a fully documented request. The Company must provide the rationale for its determination of the credit limit and any resulting security requirement. The Company must perform its credit re-evaluation and associated security calculation in a non-discriminatory manner. DS Supplier shall provide the Company and its agent's unrestricted access to audited financial statements; provided that if audited financial statements are not available, the Company, in its sole discretion, may specify other types of financial statements that will be accepted.

6.3 Credit Exposure Methodology

The credit exposure per tranche that will be required of the DS Supplier under this agreement will be determined by the DS Customer Group as stated on the Transaction Confirmation(s).

For the Industrial class, the credit exposure under this Agreement shall be \$140,000 times the number of tranches shown on the Transaction Confirmation(s). If the DS Supplier meets the Minimum Rating in Section 6.4, no security will be required as long as the Total Exposure Amount does not exceed the maximum credit limit of the DS Supplier or its Guarantor.

To calculate the daily exposure for each DS Supplier for the Residential and Commercial classifications as stated on the Transaction Confirmation(s), the MtM credit exposure methodology will be used. The "mark" for each Billing Month will be determined at the time the auction is completed based on the available Forward Market Prices and for the remaining Billing Months will be derived based on historical data. At the time the auction is completed, the MtM credit exposure for each DS Supplier shall be

equal to zero. Subsequently, the differences between the available Forward Market Prices on the valuation date and the “mark” prices for the corresponding Billing Months will be used to calculate the daily credit exposures for each DS Supplier. The total MtM credit exposure will be equal to ~~1.1 times~~ the sum of the MtM credit exposures for each Billing Month. The methodology for calculation of the MtM credit exposure is illustrated in the example (using hypothetical numbers) set forth in Appendix B hereto.

6.4 Credit Limit

The following criteria constitute the Company’s creditworthiness requirements for the DS Supplier to cover the Total Exposure Amount. In all instances, the most current senior unsecured debt rating (or, if unavailable, the most current corporate issuer rating) will be used.

(i) For a DS Supplier to be granted an unsecured line of credit, the DS Supplier must be rated by at least two of the following rating agencies: S&P, Moody’s, or Fitch. The methodology for determining the credit rating to use is set forth in Appendix A of this Agreement. The Maximum Credit Limit to cover the Total Exposure Amount will be determined based on the credit matrix table in Appendix A of this Agreement.

The DS Supplier will be required to post cash or a letter of credit in an acceptable form as defined in Section 6.7 (b) of this Agreement (see standard format in Appendix F) for the Margin due the Company as set forth in Section 6.5 of this Agreement;
or

(ii) For a DS Supplier having a Guarantor, in the case of a Guarantor organized under the laws of the United States, the Guarantor (1) must be rated by at least two of the following rating agencies: S&P, Moody’s, or Fitch, and (2) must have a

minimum senior unsecured debt rating (or, if unavailable, corporate issuer rating) equal to the Minimum Rating. If the Guarantor is rated by only two rating agencies, and the ratings are split, the rating will be established based on the methodology outlined in Appendix A of this Agreement. The Maximum Credit Limit to cover the Total Exposure Amount that could be provided through the Guaranty (see standard format in Appendix G) will be determined based on the credit matrix table for Guarantors on Appendix A. The DS Supplier will be granted a credit limit equal to the lesser of (i) the amount of the Guaranty as provided to the Company at the time this Agreement is executed as such amount may be modified in any amended or substitute Guaranty provided to the Company during the term of this Agreement, or (ii) the Supplier's Maximum Credit Limit. The DS Supplier, however, may not increase or substitute its Guaranty for the purpose of increasing its applicable credit limit during the time period after the Company has made a Margin call but before the DS Supplier has posted the required Margin. Notwithstanding anything herein to the contrary, the DS Supplier may increase the limit of its Guaranty after satisfying a Margin call from the Company and upon the Company's receipt of an amended or substitute Guaranty increasing the limit of the Guaranty, the DS Supplier may request a return of Margin in accordance with Section 6.5 of this Agreement. The DS Supplier will be required to post cash or a letter of credit in an acceptable form as defined in Section 6.7(b) of this Agreement (see standard format in Appendix F) for the Margin due the Company as set forth in Section 6.5 of this Agreement; or

(iii) For a DS Supplier or Guarantor that has not been incorporated or otherwise formed under the laws of the United States and whose financial data is not denominated in United States currency and does not conform to generally accepted

accounting principles (“GAAP”) in the United States, they shall supply the following additional information:

- a. A legal opinion of counsel qualified to practice in the foreign jurisdiction in which the DS Supplier or Guarantor is incorporated or otherwise formed that this Agreement is, or upon completion of execution formalities will become, the binding obligation of the DS Supplier or Guarantor in the jurisdiction in which it has been incorporated or otherwise formed; and
- b. The sworn certificate of the corporate secretary (or similar officer) of such DS Supplier or Guarantor that the person executing this Agreement on behalf of the DS Supplier has the authority to execute the Agreement and that the governing board of the DS Supplier or Guarantor has approved the execution of this Agreement;
- c. The sworn certificate of the corporate secretary (or similar officer) of such DS Supplier or Guarantor that the DS Supplier or Guarantor has been authorized by its governing board to enter into agreements of the same type as this Agreement; and
- d. Such other documents and certificates as may be required by the Company in its sole discretion.

(iv) The posting of cash or a letter of credit as defined in Section 6.7 (b)

below for the entire Total Exposure Amount as set forth in Section 6.5 of this Agreement.

6.5 Posting Margin and Return of Surplus Margin

(a) If at any time and from time to time during the term of this Agreement, the Total Exposure Amount, rounded by the Rounding amount, exceeds the DS Supplier’s

or the Guarantor's credit limit by the Minimum Transfer Amount (MTA), then the Company on any Business Day, may request that the DS Supplier provide cash or a letter of credit in an acceptable form as defined in Article 6.7(b) of this Agreement (see standard format in Appendix F), in an amount equal to the Margin (less any Margin posted by the DS Supplier and held by the Company pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply).

If the DS Supplier receives written notice for Margin from the Company by 1:00 p.m. New York time on a Business Day, then the DS Supplier shall post Margin the next following Business Day, if posting cash, and by the second Business Day following the date of notice, if posting a letter of credit, unless the Company agrees in writing to extend the period to provide Margin. If the DS Supplier receives notice for Margin from the Company after 1:00 p.m. New York time on a Business Day, whether posting cash or a letter of credit, then the DS Supplier must post Margin the second Business Day following the date of notice unless the Company agrees in writing to extend the period to provide Margin. The Company will not unreasonably deny a request for a one-day extension of such period. In the event that the DS Supplier fails to post Margin when due in accordance with this Article 6.5, then an Event of Default under Article 5 of this Agreement will be deemed to have occurred and the Company will be entitled to the remedies set forth in Article 5 of this Agreement.

(b) Surplus Margin being held by the Company that is not needed to satisfy the Total Exposure Amount, as determined above, will be returned to the DS Supplier upon receipt of a written request by the DS Supplier. Surplus Margin means cash or a letter of credit posted by the DS Supplier as a result of a request by the Company pursuant to Article

6.5(a) that exceeds the Total Exposure Amount less the DS Supplier's or the Guarantor's credit limit (rounded by the Rounding Amount). If the resulting Surplus Margin amount is more than the Minimum Transfer Amount, it will be returned to the DS Supplier. If the DS Supplier posted cash and notice is received by 1:00 p.m. New York time on a Business Day, the surplus Margin will be returned by the next following Business Day and if the DS Supplier posted cash and notice is received by the Company after 1:00 p.m. New York time on a Business Day, the surplus Margin shall be returned by the second Business Day following the date of notice, unless the DS Supplier agrees in writing to extend the period to return the surplus Margin. If the DS Supplier posted a letter of credit, the surplus Margin shall be returned on the next Business Day following the Business Day on which the amendment to the letter of credit is received from the issuing bank, unless the DS Supplier agrees in writing to extend the period to return the surplus Margin. The DS Supplier will not unreasonably deny a request for a one-day extension of such period. In the event that the Company fails to return the surplus Margin when due in accordance with this Article, then an Event of Default under Article 5 of this Agreement will be deemed to have occurred and the DS Supplier will be entitled to the remedies set forth in Article 5 of this Agreement.

6.6 Grant of Security Interest/Remedies

To secure its obligations under this Agreement and to the extent that the DS Supplier posted Margin/collateral hereunder, the DS Supplier hereby grants to the Company a present and continuing security interest in, and lien on (and right of setoff against), and assignment of, all cash collateral and cash equivalent collateral and any and all proceeds resulting therefrom or the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of, the Company, and the DS Supplier and the Company

agree to take such action as is reasonably required to perfect the secured Party's first priority security interest in, and lien on (and right of setoff against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof. Upon or any time after the occurrence or deemed occurrence and during the continuation of an Event of Default or an Early Termination Date, the Company may do any one or more of the following: (i) exercise any of the rights and remedies of the Company with respect to all collateral, including any such rights and remedies under law then in effect; (ii) exercise its rights of setoff against any and all property of the DS Supplier in the possession of the Company whether held in connection with this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply; (iii) draw on any outstanding letter of credit issued for its benefit; and (iv) liquidate all security held by or for the benefit of the Company free from any claim or right of any nature whatsoever of the DS Supplier, including any equity or right of purchase or redemption by the DS Supplier. The Company shall apply the proceeds of the collateral realized upon the exercise of such rights or remedies to reduce the DS Supplier's obligation under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply (the DS Supplier remaining liable for any amounts owing to the Company after such application), subject to the Company's obligation to return any surplus proceeds remaining after such obligations are satisfied in full.

All notices, demands or requests regarding credit requirements and credit related security or deposit transfers shall be in writing and shall be personally delivered or sent by overnight express mail, courier service or facsimile transmission (with the original transmitted by any of the other aforementioned delivery methods) addressed as follows:

If to a DS Supplier to:

Copy to:

If to the Company to:

FirstEnergy Corp.
341 White Pond Drive
Akron, OH 44320
Attn: Credit Risk Management
Phone: ~~(330) 315 6984~~(330) 315 7226
Facsimile: ~~(330) 777 6582~~
Email: ~~margin@firstenergycorp.com~~Credit_Risk@firstenergycorp.com

Copy to:
FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001
Attn: Tori Giesler
~~Supervising Counsel~~Associate General Counsel
Phone: (610) 921-6658
Facsimile: (610) 939-8655
Email: tgiesler@firstenergycorp.com

Notice received after the close of the Business Day shall be deemed received on the next Business Day; provided that notice by facsimile transmission shall be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

6.7 Security Instruments

At each DS Supplier's choice, the following are deemed to be acceptable methods for posting security, if required:

- (a) Cash; or
- (b) A standby irrevocable letter of credit acceptable to the Company, in its sole discretion, issued by a bank or other financial institution with a minimum "A"

senior unsecured debt rating (or, if unavailable, corporate issuer rating discounted one notch) from S&P and “A2” from Moody’s (see standard format in Appendix F). The letter of credit shall state that it shall renew automatically for successive one-year or shorter periods, until terminated upon at least ninety (90) days prior written notice from the issuing financial institution. If the Company receives notice from the issuing financial institution that the letter of credit is being cancelled, the DS Supplier will be required to provide a substitute letter of credit from an alternative bank satisfying the minimum requirements. The receipt of the substitute letter of credit must be effective as of the cancellation date and delivered to the Company thirty (30) days before the cancellation date of the original letter of credit. If the DS Supplier fails to supply a substitute letter of credit as required, then the Company will have the right to draw on the existing letter of credit and to hold the amount as Margin.

If the credit rating of a bank or other financial institution from which a DS Supplier has obtained a letter of credit falls below the levels specified in Article 6 of this Agreement, the DS Supplier shall have two (2) Business Days following written notice by the Company to obtain a suitable letter of credit from another bank or other financial institution that meets those standards, unless such period is extended in writing by the Company. The Company shall have no obligation under this Agreement or otherwise to make or grant such extension.

6.8 Maintenance of Creditworthiness

(a) Reporting of Changes.

The DS Supplier shall promptly notify the Company of any change in its credit rating or financial condition or that of its Guarantor. The DS Supplier or Guarantor shall

also furnish evidence of an acceptable credit rating or financial condition upon the request of the Company.

(b) Change in Credit Standing.

The Company will re-evaluate the creditworthiness of a DS Supplier whenever it becomes aware of an adverse change, through the provision of notice by the DS Supplier or otherwise, in the DS Supplier's or Guarantor's credit standing. If the lowest credit rating (whether senior unsecured debt rating or corporate issuer rating) used to determine the DS Supplier's Maximum Credit Limit or its credit limit adversely changes, the Company will require additional security from the DS Supplier in accordance with Sections 6.4 of this Agreement. The additional security must be in a form acceptable to the Company in its sole discretion, as specified in Article 6.7 of this Agreement and must be posted as set forth in Section 6.5 of this Agreement.

6.9 Calling on Security

The Company may call upon the security posted by the DS Supplier if the DS Supplier fails to pay amounts due to the Company pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply after all of the following events occur:

- (a) Written Notice of Default is provided to the DS Supplier; and
- (b) Any applicable cure period associated with the written Notice of Default ends.

The foregoing notwithstanding, the security posted by the DS Supplier shall become due automatically without prior notice or right of cure in the case of any Event of Default arising under subsections (i), (ii), (iii), (iv), (v), (vi), (vii) and (viii) of Section 5.1

of this Agreement.

6.10 Interest on Cash Held by Company

The Company will pay simple interest calculated at the lower of the Interest Index or six (6) percent per annum on all cash held by the Company pursuant to this Agreement. Each Billing Month, the Company will prepare a statement of interest amounts due to the DS Supplier. The statement will be sent to the DS Supplier within three (3) Business Days after the end of the Billing Month via overnight mail or other expeditious means. The Company shall make interest payments on the first Business Day after the 5th day of each calendar month.

6.11 No Endorsement of DS Supplier

The Company's determination that a DS Supplier is creditworthy pursuant to the process set forth above, shall not be deemed to constitute an express or implied warranty or guarantee of any kind with respect to the financial or operational qualifications of the DS Supplier. The Company will treat all DS Suppliers in a non-discriminatory manner and shall provide no preference to any DS Supplier.

6.12 Multiple DS Supply Agreements

It is the intention of the Company and the DS Supplier that, in the event the DS Supplier is a party to other agreements with the Company for the provision of DS Supply that existed prior to the effective date of this Agreement or is entered into after the effective date of this Agreement, the Company will calculate the Margin applicable to all such agreements as set forth herein. Each DS Supplier that is a party to such other agreements with the Company for the provision of DS Supply hereby agrees that such other agreements are deemed amended by this Agreement for the purpose of calculating the Margin as

described herein.

6.13 Independent Credit Requirement per Tranche

The Independent Credit Requirement per Tranche (“ICRT”) that will be required of DS Suppliers under each Agreement shall initially be \$1.5 million per Tranche and shall decline in accordance with the schedule included as part of Appendix A throughout the term hereof. The ICR under each Agreement is the ICRT times the number of Tranches.

ARTICLE 7: PROCEDURES FOR ENERGY SCHEDULING, CAPACITY RESOURCE SUBMISSION AND TRANSMISSION PROCUREMENT

7.1 Load Obligations

The Company and the DS Supplier acknowledge and agree that (1) the Company shall determine the DS Load, (2) the Company shall allocate the DS Supply obligation using the DS Supplier Responsibility Share, (3) the Company shall provide the DS Supplier’s DS Supply obligation to PJM, and (4) the DS Supplier shall be responsible for meeting its DS Supply obligations as a LSE under the PJM Agreements.

7.2 Data Transmission

The procedures for transmitting load obligation data to PJM for DS Supplier’s DS Load shall be as set forth by PJM.

7.3 Energy Scheduling

The Company is not obligated to provide any day ahead scheduling services. If the Company chooses to provide such services, the information provided is not guaranteed by the Company.

ARTICLE 8: THE ENERGY SETTLEMENT/RECONCILIATION PROCESS

8.1 Energy Settlement By PJM

The settlement process occurs at PJM to reflect the DS Supplier's actual Energy obligations in a supply/usage reconciliation process. The Energy obligations for each DS Supplier will be determined based on the DS Supplier Responsibility Share of the DS Load. The reconciled total DS Energy obligation will be based on the final total Energy loads for the Customers receiving DS service, including duration adjustments for marginal losses.

Any adjustments for billing and metering errors reported subsequent to the calculation of FMEA will be proportionally allocated by the Company to the DS Suppliers based on the respective DS Supplier Responsibility Share.

8.2 Energy Settlement by the Company

In the event that actual DS Customer consumption data is not available until after the PJM deadline for conducting the final settlement, the Company will conduct the settlement process with the DS Supplier. In the event PJM imposes penalties against the Company as a result of the DS Supplier's Transactions or failure to meet PJM requirements, such penalties shall be passed through by the Company, to the DS Supplier as part of this settlement process. In addition, all other applicable charges from PJM, including any billing adjustments, will be appropriately allocated to the DS Supplier.

ARTICLE 9: BILLING AND PAYMENT

9.1 The Company Payment of Obligations to the DS Supplier

The Company shall pay all amounts due to the DS Supplier hereunder in accordance with the following provisions:

(a) Each Billing Month, the Company will prepare a Statement of amounts due to the DS Supplier. This Statement will show the aggregate amounts due based on the DS Fixed Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Fixed Percentage as shown on the Transaction Confirmation(s) for each hour of the Billing Month, plus the aggregate amounts due based on the DS Variable Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Variable Percentage, if applicable, as shown on the Transaction Confirmation(s) for each hour of the Billing Month.

(b) The Statement will be sent to the DS Supplier within eight (8) Business Days after the end of the Billing Month via overnight mail or other expeditious means.

(c) The Company shall make payment on the first Business Day after the 19th day of each calendar month.

(d) To the extent that the FMEA differs from the PMEA, the Company shall pay or charge the DS Supplier for the PMEA/FMEA Adjustment Amount within the PJM deadline for conducting the final settlement.

(e) If each Party owes an amount to the other Party pursuant to this Agreement, including any related interest, payments or credits, the Parties may satisfy their respective obligations to each other by netting the aggregate amounts due to one Party against the aggregate amounts due to the other Party, with the Party, if any, owing the greater aggregate amount paying the other Party the difference between the amounts owed.

(f) Payments shall be subject to adjustment for any arithmetic errors, computation errors, meter reading errors, or other errors, provided that the errors become known within one (1) year of the termination of this Agreement.

(g) The Company shall make payments of funds payable to the DS Supplier by electronic transfer to a bank designated by the DS Supplier.

(h) If a good faith dispute arises between the Company and the DS Supplier regarding a Statement, the disputing Party shall be obligated to pay only the undisputed portion of the Statement, if any, and shall present the dispute in writing and submit supporting documentation to the non-disputing Party within one hundred twenty (120) calendar days from the date of the Statement in dispute. Statement disputes shall be addressed promptly, and in accordance with the dispute resolution procedures set forth in Article 11 of this Agreement. Upon resolution of a Statement dispute, any payments made to either Party will include simple interest on the payment at the lower of the Interest Index or six (6) percent per annum payable from the date that notice of a Statement dispute was received by the non-disputing Party.

(i) If payment is made to the DS Supplier after the due date shown on the Statement, a late fee will be added to the unpaid balance until the entire Statement is paid. This late fee shall be the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in The Wall Street Journal under "Money Rates" on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) or (b) the maximum rate permitted by applicable law.

9.2 Billing for DS Supplier's Obligations to Other Parties

The Company shall have no responsibility for billing between the DS Supplier and PJM; the DS Supplier and any Energy or Capacity source; or the DS Supplier and any other third party. The Company will be solely responsible for billing DS Customers for Default Service.

9.3 The DS Supplier Payment of Obligations to the Company

The DS Supplier shall pay all Charges it incurs hereunder in accordance with the following provisions:

(a) Each Billing Month, the Company shall submit an invoice to the DS Supplier for all Charges owed by the DS Supplier under this Agreement. The DS Supplier shall make payment for Charges shown on the invoice. The due date will be on the first Business Day after the 19th day of each calendar month. The invoice will be sent to the DS Supplier within eight (8) Business Days after the end of the Billing Month via overnight mail or other expeditious means.

(b) Invoices shall be subject to adjustment for any arithmetic errors, computation errors, meter reading errors, or other errors, provided that the errors become known within one (1) year of the termination of this Agreement.

(c) The DS Supplier shall make payments of funds payable to the Company by electronic transfer to a bank designated by the Company.

(d) If a good faith dispute arises between the Company and the DS Supplier regarding an invoice, the disputing Party shall pay only the undisputed portion of the invoice, if any, and shall present the dispute in writing and submit supporting documentation to the non-disputing Party within one hundred twenty (120) calendar days

from the due date of the invoice in dispute. Billing disputes shall be addressed promptly, and in accordance with the dispute resolution procedures set forth in Article 11 of this Agreement. Upon resolution of a billing dispute, any payments made to either Party will include simple interest on the payment at the lower of the Interest Index or six (6) percent per annum payable from the date that notice of a bill dispute was received by the non-disputing Party.

(e) If payment is made to the Company after the due date shown on the invoice, a late fee will be added to the unpaid balance until the entire invoice is paid. This late fee shall be the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in The Wall Street Journal under “Money Rates” on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) or (b) the maximum rate permitted by applicable law.

ARTICLE 10: SYSTEM OPERATION

The Parties shall adhere to any applicable operational requirements of PJM necessary to protect the integrity of the transmission system within the PJM Control Area and the transmission systems of interconnected control areas, and shall satisfy any and all PJM, RFC and NERC criteria, when applicable. The DS Supplier shall also adhere to any applicable operational requirements of the Company necessary to protect the integrity of the Company’s local distribution system.

10.1 Disconnection and Curtailment By the Company

The Company shall have the right, without incurring any liability to the DS Suppliers, to disconnect (or otherwise curtail, interrupt or reduce deliveries from) the DS Suppliers or to disconnect (or otherwise curtail, interrupt or reduce deliveries to) any

Customer whenever the Company determines in the exercise of its good faith discretion, or when the Company is directed by PJM, that such a disconnection, curtailment, interruption or reduction is necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of the Company's facilities; or due to any other reason affecting the safe and reliable operation of the Company's or a Customer's facilities, including, without limitation, an Emergency, forced outage or potential overloading of the Company's transmission and/or distribution circuits, potential damage to any Customer's facilities or any risk of injury to persons or property.

10.2 Inadvertent Loss of Service to DS Customers

The Parties agree and acknowledge that service to DS Customers may be inadvertently lost due to storms, weather, accidents, breakage of equipment or other events beyond the reasonable control of the Company affecting the transmission and distribution system of the Company. Neither Party will have any liability to the other Party for the occurrence of such events except for the Company's obligation to pursue steps for the resumption of the disrupted service as set forth in Section 10.3 below. In no event will an inadvertent loss of service affect a Party's obligation to make any payments then due or becoming due with respect to performance rendered prior to such inadvertent loss of service.

10.3 Good Faith Efforts

The Company shall use good faith efforts to: (a) minimize any curtailment, interruption or reduction in service to DS Customers to the extent reasonably practicable under the circumstances; (b) provide the DS Supplier with prior notification of any curtailment, interruption or reduction in service to DS Customers, to the extent reasonably

practicable; and (c) resume service to DS Customers as promptly as reasonably practicable.

10.4 PJM Requirements

The DS Supplier acknowledges and agrees that, as a member of PJM, the Company is bound by all PJM operating instructions, policies and procedures as are currently set forth in the PJM Operating Manual, which are available through the Internet on the PJM Home Page (<http://www.pjm.com>), as may be revised from time to time, which are needed to maintain the integrity of the PJM system. The DS Supplier acknowledges and agrees that it will cooperate with the Company so that the Company will be in compliance with all PJM Emergency Operations Procedures, which include, but are not limited to, those procedures pertaining to minimum and maximum generation Emergencies, and measures requiring involuntary Customer participation, such as supply voltage reduction or full interruption of Customer load by either manual or automatic means.

10.5 Compliance with Governmental Directives

The DS Supplier also acknowledges and agrees that the Company may need to act in response to governmental or civil authority directives which may affect DS Customer load. The DS Supplier agrees to cooperate with the Company in order to comply with said directives.

ARTICLE 11: DISPUTE RESOLUTION

11.1 Informal Resolution of Disputes

Before pursuing resolution of any dispute arising out of this Agreement (other than an Event of Default under Article 5.1(i)-(ix) , (xii), or (xvi)), the disputing Party shall provide written notice to the other Party setting forth the nature of the dispute, the amount involved, if any, and the remedies sought. The Parties shall use good faith and reasonable

commercial efforts to informally resolve such dispute. Such efforts shall last for a period of at least thirty (30) calendar days from the date that the notice of the dispute is first delivered from one Party to the other Party. Any amounts that are owed by one Party to the other Party as a result of resolution of a dispute pursuant to this Article 11.1 (Informal Resolution of Disputes), shall be paid within two (2) Business Days of such resolution and the payment shall include interest calculated at the Interest Index from the original due date through the date of payment.

11.2 Recourse to Agencies or Courts of Competent Jurisdiction

After the requirements of Article 11.1 (Informal Dispute Resolution) have been satisfied, all unresolved disputes, except as noted below, between the Parties shall be submitted to the appropriate authority. Nothing in this Agreement shall restrict the rights of either Party to file a complaint with the FERC under relevant provisions of the Federal Power Act (“FPA”), with the PaPUC under relevant provisions of the Applicable Legal Authorities, with a Pennsylvania State court or a ~~f~~Federal court of competent jurisdiction and within reasonably close proximity to the Company. The Party’s agreement hereunder is without prejudice to any Party’s right to contest the jurisdiction of the agency or court to which a complaint is brought.

The Parties hereby acknowledge and agree that both Parties have negotiated and entered into this Agreement freely and in good faith and that the terms of this Agreement have not been affected in any way, either directly or indirectly, by (A) any fraud, duress, unfairness, or any inequity in the relative bargaining power of the Parties or (B) any manipulation, unlawful activity, disruption, anomaly, dysfunction, or other adverse market conditions of any type or description.

To the extent permitted by law and absent agreement to the contrary, each Party, for itself and its successors and assigns, hereby expressly and irrevocably waives its rights (i) to argue before any governmental authority that any review, modification, or rescission of this Agreement should be considered under any standard of review other than the “public interest” standard set forth in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956), affirmed by *Morgan Stanley Capital Group, Inc. v. Public Utility District No. 1 of Snohomish County, Washington, et al.*, 554 U.S. 527 (2008) (the “Mobile-Sierra Doctrine”), and (ii) to argue before any governmental authority that any terms of this Agreement should be modified or rescinded based on (A) any claim of fraud, duress, unfairness, bad faith, or inequity in the relative bargaining power of the Parties or (B) any claim of market manipulation, unlawful activity, disruption, anomaly, dysfunction, or other adverse market conditions of any type or description.

ARTICLE 12: REGULATORY AUTHORIZATIONS AND JURISDICTION

12.1 Compliance with Applicable Legal Authorities

The Company and the DS Supplier are subject to, and shall comply with, all existing or future applicable ~~f~~Federal, State and local laws, all existing or future duly-promulgated orders or other duly-authorized actions of PJM or of Applicable Legal Authorities.

12.2 FERC Jurisdictional Matters

The inclusion herein of descriptions of procedures or processes utilized by PJM or otherwise subject to the jurisdiction of FERC is intended solely for informational purposes.

If anything stated herein is found by the FERC to conflict with or be inconsistent with any provision of the FPA, or any rule, regulation, order or determination of the FERC under the FPA or if any existing procedures or processes utilized by PJM are duly modified, the applicable FERC rule, regulation, order, determination or modification shall control. To the extent required under any provision of the FPA, or any rule, regulation, order or determination of the FERC under the FPA, the Company and/or the DS Supplier, if applicable, shall use reasonable commercial efforts to secure, from time to time, all appropriate orders, approvals and determinations from the FERC necessary to support this Agreement.

12.3 Energy Efficiency, Conservation, and Retail Market Programs

DS Supplier acknowledges that DS Customers may participate in energy efficiency and conservation programs offered by the Company (required by Applicable Legal Authorities or otherwise offered by the Company whether voluntarily or not), by PJM, or by other third parties and, for the avoidance of doubt, any programs offered or conducted by the Company or other entities relating to or arising from the PaPUC's Investigation of Pennsylvania's Retail Electricity Market, PaPUC Docket No. I-2011-2237952 (including legislation enacted to address the Commission's Final Order in Docket No. I-2011-2237952), and that such participation may reduce or change the amount of DS Supply that DS Supplier is required to provide and the amount of monies it may receive under this Agreement. The Company shall have no obligation whatsoever to DS Supplier with respect to the effect, if any, of such programs. DS Supplier is solely responsible for determining the effect, if any, of such programs on future load requirements.

ARTICLE 13: LIMITATION OF REMEDIES, LIABILITY AND DAMAGES

13.1 Limitations on Liability

Except as set forth in this Agreement, there is no warranty of merchantability or fitness for a particular purpose, and any and all implied warranties are disclaimed. The Parties confirm that the express remedies and measures of Damages provided in this Agreement satisfy the essential purposes hereof. For breach of any provision for which an express remedy or measure of Damages is provided, such express remedy or measure of Damages shall be the sole and exclusive remedy, the obligor's liability shall be limited as set forth in such provision and all other remedies or Damages at law or in equity are waived. If no remedy or measure of Damages is expressly provided herein, the obligor's liability shall be limited to direct actual Damages only, such direct actual Damages shall be the sole and exclusive remedy and all other remedies or Damages at law or in equity are waived. Unless expressly herein provided, neither Party shall be liable for consequential, incidental, punitive, exemplary or indirect Damages, lost profits or other business interruption Damages, by statute, in tort or contract, under any indemnity provision or otherwise. It is the intent of the Parties that the limitations herein imposed on remedies and the measure of Damages be without regard to the cause or causes related thereto, including the negligence or any Party, whether such negligence by sole, joint or concurrent, or active or passive. To the extent any Damages required to be paid hereunder are liquidated, the Parties acknowledge that the Damages are difficult or impossible to determine, or otherwise obtaining an adequate remedy is inconvenient and the Damages calculated hereunder constitute a reasonable approximation of the harm or loss.

13.2 Risk of Loss

Solely for purposes of determining risk of loss and for determining the indemnity obligations under Article 14 of this Agreement, the Company shall be deemed to have custody and control of the electric Energy delivered by the DS Supplier upon receipt thereof into the Company's distribution system and until delivery thereof at the retail electric meter of the Customer; and the DS Supplier shall be deemed to have custody and control of the DS Supply at all times prior to receipt thereof by the Company. The Party deemed to have custody and control of DS Supply shall be responsible for all loss or damage to property or injury or death to persons arising in connection with such DS Supply while in its custody and control and shall indemnify the other Parties with respect to same as set forth in Article 14 of this Agreement.

ARTICLE 14: INDEMNIFICATION

14.1 Indemnification

(a) Should the Company become the defendant in, or obligor for, any third party claims and/or liabilities for losses, penalties, expenses, damage to property, injury to or death of any person including a Party's employees or any third parties, that were caused by or occur in connection with an act or omission of the DS Supplier with respect to an obligation arising under or in connection with this Agreement, or for which the DS Supplier has otherwise assumed liability under the terms of this Agreement, the DS Supplier shall defend (at the Company's option), indemnify and hold harmless the Company, its shareholders, board members, directors, officers and employees, from and against any and all such third party claims and/or liabilities, except to the extent that a court of competent jurisdiction determines that the losses, penalties, expenses or damages were

caused wholly or in part by the gross negligence or willful misconduct of the Company. The Company may, at its own expense, retain counsel and participate in the defense of any such suit or action.

(b) Should the DS Supplier (the “Indemnified DS Supplier”) become the defendant in, or obligor for, any third party claims and/or liabilities for losses, penalties, expenses, damage to property, injury to or death of any person including a Party’s employees or any third parties, that were caused by or occur in connection with an act or omission of the Company with respect to an obligation arising under or in connection with this Agreement, or for which the Company has otherwise assumed liability under the terms of this Agreement, the Company shall defend (at the option of the Indemnified DS Supplier), indemnify and hold harmless the Indemnified DS Supplier, its shareholders, board members, directors, officers and employees, from and against any and all such third party claims and/or liabilities, except to the extent that a court of competent jurisdiction determines that the losses, penalties, expenses or damages were caused wholly or in part by the gross negligence or willful misconduct of the Indemnified DS Supplier. The Indemnified DS Supplier may, at its own expense, retain counsel and participate in the defense of any such suit or action.

(c) If either Party intends to seek indemnification under Article 14.1(a) or 14.1(b), as applicable, from the other Party, the Party seeking indemnification shall give the other Party notice of such claim within ninety (90) days of the later of the commencement of, or the Party’s actual knowledge of, such claim or action. Such notice shall describe the claim in reasonable detail, and shall indicate the amount, estimated if necessary, of the claim that has been, or may be, sustained by said Party. To the extent that

the other Party will have been actually and materially prejudiced as a result of the failure to provide such notice, such notice will be a condition precedent to any liability of the other Party under the provisions for indemnification contained in this Agreement. Neither Party may settle or compromise any claim without the prior consent of the other Party; provided, however, said consent shall not be unreasonably withheld, conditioned or delayed.

14.2 Survives Agreement

The obligation of a Party to defend, indemnify, and hold harmless another Party under this Article shall survive termination of this Agreement, and shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for either Party under any statutory scheme, including any Worker's Compensation Acts, Disability Benefit Acts or other Employee Benefit Acts.

ARTICLE 15: FORCE MAJEURE

15.1 Force Majeure

Notwithstanding anything in this Agreement to the contrary, the Parties shall be excused from performing their respective obligations under this Agreement (other than the obligation to make payments with respect to performance prior to the event of Force Majeure) and shall not be liable for damages or otherwise due to their failure to perform, during any period that one Party is unable to perform due to an event of Force Majeure, provided that the Party declaring an event of Force Majeure shall: (i) act expeditiously to resume performance; (ii) exercise all commercially reasonable efforts to mitigate or limit damages to the other Party; and (iii) fulfills the requirements set forth in Article 15.2 (Notification).

15.2 Notification

A Party unable to perform under this Agreement due to an event of Force Majeure shall: (i) provide prompt written notice of such event of Force Majeure to the other Party, which shall include an estimate of the expected duration of the Party's inability to perform due to the event of Force Majeure; and (ii) provide prompt notice to the other Party when performance resumes.

ARTICLE 16: MISCELLANEOUS PROVISIONS

16.1 Notices

Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement shall be in writing and shall be personally delivered or sent by overnight express mail or courier service. Notice may also be provided via e-mail or facsimile transmission (with the original transmitted by any of the other delivery methods specified in the previous sentence) addressed per the notification information for the DS Supplier and Company as set forth in Exhibit 2 hereto.

Such notices, demands or requests shall also be provided to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the Business Day shall be deemed received on the next Business Day.

16.2 No Prejudice of Rights

The failure of a Party to insist on any one or more instances upon strict performance of any provisions of this Agreement, or to take advantage of any of its rights hereunder, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or any other right hereunder, which shall remain in full force and effect. No term or

condition of this Agreement shall be deemed to have been waived and no breach excused unless such waiver or consent to excuse is in writing and signed by the Party claimed to have waived or consented to excuse.

16.3 Assignment

Parties shall not assign any of their rights or obligations under this Agreement without obtaining the prior written consent of the non-assigning Party, which consent shall not be unreasonably withheld. The Company agrees that it shall grant its consent to a proposed assignment by the DS Supplier if the proposed assignee meets all of the Company's creditworthiness requirements then in effect under this Agreement and any applicable load cap restrictions. No assignment of this Agreement shall relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained. Any assignment in violation of this Section 16.3 shall be void; provided, however, the Company may assign any or all of its rights and obligations under this Agreement notwithstanding anything contained herein to the contrary, without the DS Supplier's consent, to any entity succeeding to all or substantially all of the assets of the Company, if such assignee agrees, in writing, to be bound by all of the terms and conditions hereof and all necessary regulatory approvals are obtained. The DS Supplier may, with prior written notice to the Company but without obtaining the approval of the Company, assign the accounts, revenues or proceeds under this Agreement to a third party. The Company agrees that, following receipt of such notice of the assignment of accounts, revenues or proceeds and such other documentation that the Company may reasonably request, the Company will pay amounts becoming due to the assigning DS Supplier under this Agreement directly to the designated assignee; provided, however, that nothing herein shall enlarge or expand the

rights of such designated assignee beyond the rights granted to the DS Supplier and the right of such designated assignee to receive payments shall be subject to all defenses, offsets and claims of the Company arising under this Agreement.

16.4 Governing Law and Venue

To the extent not subject to the jurisdiction of the FERC, questions including those concerning the formation, validity, interpretation, execution, amendment, termination and construction of this Agreement shall be governed by the laws of the Commonwealth of Pennsylvania, without regard to principles of conflicts of law. Except for matters jurisdictional to FERC, the PUC or the appellate courts having jurisdiction over the PUC or FERC matters, all disputes hereunder shall be resolved in the Pennsylvania State court or Federal court of competent jurisdiction and within reasonably close proximity to the Company. Each Party hereby waives its respective rights to any jury trial with respect to any litigation arising under or in connection with this Agreement.

16.5 Regulatory Approvals

DS Supplier agrees to cooperate, to the fullest extent necessary, to obtain any and all required State, Federal or other regulatory approvals of the Agreement and/or Transaction Confirmations hereunder. The commencement of the Delivery Period and the obligations hereto are subject to (i) the receipt or waiver by Company of all Company required regulatory approvals, (ii) the receipt or waiver by DS Supplier of all DS Supplier required regulatory approvals, and (iii) Pennsylvania PUC approval.

16.6 Headings

The headings and subheadings contained in this Agreement are used solely for convenience and do not constitute a part of the Agreement between the Parties hereto, nor

should they be used to aid in any manner in the construction of this Agreement.

16.7 Third Party Beneficiaries

This Agreement is intended solely for the benefit of the Parties hereto and nothing in this Agreement shall be construed to create any duty, or standard of care with reference to, or any liability to, any person not a Party to this Agreement.

16.8 General Miscellaneous Provisions

(a) This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties, or to impose any partnership obligation or liability upon any Party. No Party shall have any right, power, or authority to enter into any agreement or undertaking for, or on behalf of, or to act as or be an agent or representative of, or to otherwise bind, any other Party.

(b) Cancellation, expiration or Early Termination of this Agreement shall not relieve the Parties of obligations that by their nature survive such cancellation, expiration or termination, including warranties, remedies, promises of indemnity and confidentiality.

(c) Should any provision of this Agreement be held invalid or unenforceable, such provision shall be invalid or unenforceable only to the extent of such invalidity or unenforceability without invalidating or rendering unenforceable any other provision hereof unless it materially changes the agreement of the Parties; provided that in such event the Parties shall use commercially reasonable efforts to amend this Agreement or any Transaction in order to give effect to the original intention of the Parties.

(d) Each of the Parties acknowledges that it has read this Agreement, understands it, and agrees to be bound by its terms. This Agreement is intended by the Parties as a final expression of their agreement. The Parties further agree that this

Agreement is the complete and exclusive statement of agreement and supersedes all proposals (oral or written), understandings, representations, conditions, warranties, covenants and all other communications between the Parties relating thereto. This Agreement shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against one Party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof. Each Party further agrees that it will not assert, or defend itself, on the basis that any applicable tariff is inconsistent with this Agreement or any Transaction.

16.9 Taxes

As between the Parties: (i) The DS Supplier is responsible for the payment of all taxes imposed by all present and future ~~F~~Federal, state, municipal or other taxes imposed by any taxing authority on the wholesale sales of DS Supply under this Agreement; and (ii) The Company is responsible for the payment of all taxes imposed by all present and future ~~F~~Federal, state, municipal or other taxes imposed by any taxing authority on retail sales of DS Supply under this Agreement. Should the DS Supplier be required to remit any Pennsylvania State Sales and Use Taxes directly to the applicable taxing authority, other than taxes previously collected by the DS Supplier on behalf of the Company, the Company will defend and indemnify the DS Supplier for such Sales and Use Taxes and will pay to the DS Supplier all such tax amounts upon demand. If any Transaction is exempt from the payment of any such taxes, the affected DS Supplier will, if requested, provide the Company with valid tax exemption certificates. Should the Company be required to remit any such taxes directly to any applicable taxing authority, other than taxes previously collected by the Company directly from the DS Supplier, the DS Supplier will

defend and indemnify the Company and will pay to the Company all such tax amounts upon demand.

16.10 Audit

Each Party has the right on at least three (3) Business Days prior written notice, at its sole expense and during normal working hours, to examine the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge or computation made pursuant to this Agreement. If any such examination reveals any inaccuracy in any statement, the necessary adjustments in such statement and the payments thereof will be made in accordance with Article 9 (Billing) and 9.1 (i) (Interest on Unpaid Balances) of this Agreement.

16.11 Rules of Interpretation

The following principles shall be observed in the interpretation and construction of this Agreement:

- (a) Unless otherwise stated, the terms “include” and “including” when used in this Agreement shall be interpreted to mean by way of example only and shall not be considered limiting in any way;
- (b) All titles and headings used herein are for convenience and reference purposes only, do not constitute a part of this Agreement and shall be ignored in construing or interpreting the obligations of the parties under this Agreement;
- (c) References to the singular include the plural and vice versa;
- (d) References to Articles, Sections, Clauses and the Preamble are, unless the context indicates otherwise, references to Articles, Sections, Clauses and the Preamble of this Agreement;

- (e) In carrying out its rights, obligations and duties under this Agreement, each Party shall have an obligation of good faith and fair dealing; and
- (f) If any payment due under this Agreement would be, by operation of the terms and conditions of any provision hereof, due and payable on a day other than a Business Day, such payment shall be made on the next following Business Day.

16.12 Confidentiality

- (a) Each Party shall hold in confidence and not release or disclose any document or information furnished by the other Party in connection with this Agreement, unless:
 - (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; (iii) such document or information was available to the receiving Party on a non-confidential basis; (iv) such document or information was available to the receiving Party on a non-confidential basis from a third-party, provided that the receiving Party does not know, and, by reasonable effort, could not know that such third-party is prohibited from transmitting the document or information to the receiving Party by a contractual, legal or fiduciary obligation or (v) such disclosure is made to PJM or Pa PUC and is necessary in order for the Transactions contemplated by this Agreement to be consummated or to otherwise comply with the provisions of this Agreement.
- (b) Notwithstanding any other provision of this Section 16.12, a Party may disclose to its employees, representatives and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, representatives and agents have been advised of the confidentiality

- provisions of this Section 16.12, and further provided that in no event shall a document or information be disclosed in violation of the standard of conduct requirements established by FERC.
- (c) A Party receiving notice or otherwise concluding that any confidential document or information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such confidential information.
- (d) The Parties agree that monetary damages may be inadequate to compensate a Party for the other Party's breach of its obligations under this Section 16.12. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party breaches or threatens to breach its obligations under this Article 16.12, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law.

16.13 Federal Acquisition Regulation

If any of the following clauses prescribed by the Federal Acquisition Regulation ("FAR"), 48 Code of Federal Regulations Chapter 1, should be deemed to apply to this Agreement, the DS Supplier shall comply with the requirements of such clause(s), and shall include the terms or substance of such clause(s) in its subcontracts, as and to the extent required by the FAR:

- 1) Clean Air and Water: § 52.223-2;

- 2) Contract Work Hours and Safety Standards Act-Overtime Compensation:
§ 52.222-4;
- 3) Equal Opportunity: § 52.222-26;
- 4) Affirmative Action for and Employment Reports on Special Disabled and
Vietnam Era Veterans: § 52.222-35 and § 52.222-37;
- 5) Affirmative Action for Handicapped Workers: § 52.222-36;
- 6) Utilization of Small Business Concerns and Small Disadvantaged Business
Concerns and Small Business and Small Disadvantaged Business
Subcontracting Plan: § 52.219-8 and § 52-219-9.

In case of a conflict between the provisions of the FAR and the balance of this Agreement, the requirements of the FAR shall prevail.

16.14 Binding Terms

This Agreement and the rates, terms and conditions herein shall remain in effect for the entire term hereof and each Party agrees not to seek any change to such rates, terms and conditions pursuant to the FPA, if the FPA is deemed to have jurisdiction over this Agreement, including on the grounds that they are not just and reasonable.

16.15 Amendment

This Agreement, including the appendices hereto, cannot be amended without the written agreement of all Parties prior to such amendment becoming effective. Except as provided in Appendix C and the Transaction Confirmation(s), the rates, terms and conditions contained in this Agreement are not subject to change under Sections 205 or 206 of the Federal Power Act absent the mutual written agreement of the Parties. Absent the agreement of all parties to the proposed change, the standard of review for changes to

this Agreement proposed by a Party, a non-Party or the FERC acting *sua sponte* shall be the “public interest” standard of review set forth in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956), affirmed by *Morgan Stanley Capital Group, Inc. v. Public Utility District No. 1 of Snohomish County, Washington, et al.*, 554 U.S. 527 (2008) (the “Mobile-Sierra Doctrine”).

16.16 Counterparts

This Agreement may be executed in counterparts, each of which will be considered an original, but all of which shall constitute one instrument.

16.17 Successors

This Agreement and all of the provisions hereof are binding upon, and inure to the benefit of, the Parties and their respective successors and permitted assigns.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed
by their duly authorized representatives as of the date first set forth above.

ATTEST:

[Applicable EDC]

By: _____

By: _____

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed
by their duly authorized representatives as of the date first set forth above.

ATTEST:

DS Supplier

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

APPENDIX A- MAXIMUM UNSECURED CREDIT

Credit Rating of the DS Supplier			Maximum Credit Limit (calculated as the lesser of the percentage of TNW or the Credit Limit Cap below)	
S&P	Moody's	Fitch	Percentage of TNW	Credit Limit Cap
A- and above	A3 and above	A- and above	16%	\$75MM <u>\$50MM</u>
BBB +	Baa1	BBB +	16%	\$75MM <u>\$50MM</u>
BBB	Baa2	BBB	10%	\$50MM <u>\$35MM</u>
BBB-	Baa3	BBB-	8%	\$25MM <u>\$20MM</u>
BB+	Ba1	BB+	4%	\$15MM <u>\$10MM</u>
BB	Ba2	BB	3%	\$10MM <u>\$5MM</u>
BB-	Ba3	BB-	2%	\$5MM <u>\$2MM</u>
Below BB-	Below Ba3	Below BB-	0%	\$0MM

Credit Rating Determination Methodology

The DS Supplier or its Guarantor must have a minimum senior unsecured debt rating (or, if unavailable, corporate issuer rating) equal to the Minimum Rating. If the DS Supplier or its Guarantor is rated by only two rating agencies, and the ratings are split, the ~~lower~~higher rating will be used. If the DS Supplier or its Guarantor is rated by three rating agencies, and the ratings are split, the lower of the two highest ratings will be used; provided, however, that in the event that the two highest ratings are common, such common rating will be used. The maximum level of the credit limit to cover the Total Exposure Amount will be determined based on the above table and will be aggregated – meaning, this is the maximum credit limit for all the Companies combined.-

Minimum Rating – The lowest credit rating for a DS Supplier, as set forth in this Appendix A, that can obtain unsecured credit.

Independent Credit Requirement per Tranche (ICRT)

Schedule for ICRT - FEPA DSPVI

* ICRT required for both Residential and Commercial tranches (not required for Industrial)

* ICRT **not** required for 6-month tranches

* ICRT netted with prior ICRT requirements

<u>Month</u>	-	<u>24-Month Product</u> <u>(\$/tranche)</u>	-	<u>12-Month Product</u> <u>(\$/tranche)</u>
<u>Month 1</u>	-	<u>1,500,000</u>	-	<u>1,500,000</u>
<u>Month 2</u>	-	<u>1,500,000</u>	-	<u>1,500,000</u>
<u>Month 3</u>	-	<u>1,500,000</u>	-	<u>1,200,000</u>
<u>Month 4</u>	-	<u>1,500,000</u>	-	<u>1,200,000</u>
<u>Month 5</u>	-	<u>1,500,000</u>	-	<u>1,000,000</u>
<u>Month 6</u>	-	<u>1,500,000</u>	-	<u>1,000,000</u>
<u>Month 7</u>	-	<u>1,200,000</u>	-	<u>800,000</u>
<u>Month 8</u>	-	<u>1,200,000</u>	-	<u>800,000</u>
<u>Month 9</u>	-	<u>1,200,000</u>	-	<u>600,000</u>
<u>Month 10</u>	-	<u>1,200,000</u>	-	<u>600,000</u>
<u>Month 11</u>	-	<u>1,000,000</u>	-	<u>400,000</u>
<u>Month 12</u>	-	<u>1,000,000</u>	-	<u>400,000</u>
<u>Month 13</u>	-	<u>1,000,000</u>	-	-
<u>Month 14</u>	-	<u>1,000,000</u>	-	-
<u>Month 15</u>	-	<u>800,000</u>	-	-
<u>Month 16</u>	-	<u>800,000</u>	-	-
<u>Month 17</u>	-	<u>800,000</u>	-	-
<u>Month 18</u>	-	<u>800,000</u>	-	-
<u>Month 19</u>	-	<u>600,000</u>	-	-
<u>Month 20</u>	-	<u>600,000</u>	-	-
<u>Month 21</u>	-	<u>600,000</u>	-	-
<u>Month 22</u>	-	<u>400,000</u>	-	-
<u>Month 23</u>	-	<u>400,000</u>	-	-
<u>Month 24</u>	-	<u>400,000</u>	-	-

APPENDIX B – MTM EXPOSURE AMOUNT CALCULATION INFORMATION

Table 1 contains the initial marks¹ for each month of the DS auction period. Monthly marks (example only,) are provided for a twelve month period. For the months, two-month blocks² or quarterly blocks³ where broker quotes are available, broker quotes will be used for those months. For all the remaining months the EDCs will be using a proprietary method that reflects forward market conditions. The initial mark for each Billing Month is the initial mark that was calculated on the date that the DS auction closes and will not change over the life of the contract.

After the close of the DS auction On-Peak Energy Forward and Off-Peak Energy Forward prices will change. In addition, the on-peak and off-peak loads used to calculate the MtM Exposure Amount will be adjusted monthly to reflect the most current changes. On-Peak and Off-Peak Energy Forward prices for the months, two-month blocks or quarterly blocks where at least two broker quotes are available will be equal to the broker quotes. In case quotes for a component of a block and for the block are both available, the EDCs reserve the right not to use both the component of a block and the block if they are inconsistent with each other. However, when this inconsistency occurs the EDC must use either the component or the block. On-Peak and Off-Peak Energy Forward prices for the months, two-month blocks or quarterly blocks where broker quotes are unavailable will be equal to the last available broker quotes or in case they have not been quoted on the broker sheets since the DS auction closed, they will be equal to the marks set at the close of the DS auction.

¹ Initial marks represent Market Price Hub on-peak prices.

² For two-month and quarterly blocks for which the average for the block and a component of the block are both quoted, the component will be equal to its quoted price and the other months in the block will be constructed so that the weighted average (weighted by on-peak hours in each month) of the block equals the quote for the block; e.g., Q4 2013 = \$50 and Oct 2013 = \$40; therefore, Oct 2013 = \$40 and Nov-Dec 2013 = \$55 $(\$50 \cdot (336+336+368) - \$40 \cdot 336) / (336+368) = \54.77 . If only the block is quoted, that price will be used for all relevant months; e.g., Jan/Feb 2014 = \$35, then Jan 2014 = \$35 and Feb 2014 = \$35.

MtM Calculation Example

Parameters

On the closing day of the auction, the following parameters are set

1. The expected monthly On-Peak Load per tranche for each EDC.
2. The expected monthly Off-Peak Load per tranche for each EDC.
3. The monthly on-peak forward prices (to be used as the inception price “initial mark” for each month of the supply period).
4. The monthly off-peak forward prices (to be used as the inception price “initial mark” for each month of the supply period)

Indicative on-peak and off-peak loads per tranche for each EDC will be made available 14 days prior to the auction.

All Energy Prices are based on a Market Price Hub that the Company will specify as follows: PJM Western Hub

Table 1 - Data set on the Closing Day of the Auction (MWh/tranche)*

	On-Peak Volume ³	Off-Peak Volume ⁴	Initial Mark On-Peak Price ⁵	Initial Mark Off-Peak Price ⁶
Month 1				
Month 2				
Month 3				
Month 4				
Month 5				
Month 6				
Month 7				
Month 7				
Month 8				
Month 9				
Month 10				
Month 11				
Month 12				

* Table 1 can be found at the FirstEnergy Pennsylvania Default Service Program website at <http://www.fepaauction.com/Documents/MarkToMarketCalculations.aspx>.

EXAMPLE

Table 2 – Post Auction Close MTM Calculation (MWh/tranche)**

	On-Peak Load per Tranche (MWh)	Off-Peak Load per Tranche (MWh)	Initial Mark On-Peak Price	Initial Mark Off-Peak Price	On-Peak Energy Forward Price ⁷	Off-Peak Energy Forward Price ⁸	MtM ⁹
Month 1							
Month 2							
Month 3							
Month 4							
Month 5							
Month 6							
Month 7							
Month 8							
Month 9							
Month 10							
Month 11							
Month 12							
	Total						

** Table 2 can be found at the FirstEnergy Pennsylvania Default Service Program website at <http://www.fepaauction.com/Documents/MarkToMarketCalculations.aspx>.

³ On-peak and off-peak volumes will be adjusted monthly.

⁴ On-peak and off-peak volumes will be adjusted monthly.

⁵ Initial Mark On-peak price set at day auction closes. Remains constant through term of agreement

⁶ Initial Mark Off-peak price set at day auction closes. Remains constant through term of agreement.

⁷ On-peak Energy Forward as available and quoted by referenced market makers.

⁸ Off-peak Energy Forward as available and quoted by referenced market makers.

⁹ MTM = (On Peak Load * (On Peak Energy Forward Price - Initial Mark On Peak Price) + (Off Peak Load * (Off Peak Energy Price- Initial Mark Off Peak Price)

APPENDIX C - DS SUPPLY SPECIFICATIONS

The following DS Supply specifications will be specified in Transaction Confirmations to this Agreement.

Product:

DS Supply: All necessary Energy, Capacity, AECs for AEPS Act compliance, Ancillary Services, transmission services -including Network Integration Transmission Service, all transmission and distribution losses, and congestion and imbalance costs associated with the provision of such services, as well as such other services or products that the DS Supplier may be required, by PJM or any governmental body having jurisdiction, to provide in order to meet the DS Supplier Responsibility Share for serving DS Load.

Appendix D - describes Company and DS Supplier responsibilities for PJM Billing Statement Line Item Credits and Charges associated with the Product. In addition, any unaccounted for energy and historical tie line, generation, and retail customer meter charges not set forth in Appendix D shall be the responsibility of the Company through each EDC's respective non-bypassable Default Service Support Rider.

Appendix E - further describes DS Supplier responsibilities for compliance with the AEPS Act in the product specification.

DS Customer Group:

Each Transaction Confirmation shall be associated with DS Supply to one of the following DS Customer categories as defined in the DS Tariff:

Residential – **Met-Ed and Penelec** (Rate RS, and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate)

Penn Power (Rate Schedules RS; and GS Special Provision for Volunteer Fire Companies, Non-Profit Senior Citizen Centers, Non-Profit Rescue Squads, and Non-Profit Ambulance Services)

West Penn (Rate Schedule 10 and Rate Schedule 20 special provision for Volunteer Fire Company, Non-Profit Ambulance Service, Non-Profit Rescue Squad and Non-Profit Senior Citizen Center)

Commercial – **Met-Ed** (Rate GS-Small, Rate GS-Medium (PTC), Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Streetlighting Service, and Outdoor Lighting Service)

Penelec (Rate GS-Small, Rate GS-Medium (PTC), Rate H, Borderline Service, High Pressure Sodium Vapor Street Lighting Service, Municipal Street Lighting Service, LED Streetlighting Service, and Outdoor Lighting Service)

Penn Power (Rate Schedules GS (excluding GS Special Rule GSDS), PNP, GM (PTC), PLS, SV, SVD, and LEDSM)

West Penn (Rate Schedules 20, 30 (PTC), 51, 52, 53, 54, 55, 56, 57, 58, 71 and 72)

Industrial – **Met-Ed** (Rate Schedules GS-Medium (HP), GS-Large, GP, and TP)

Penelec (Rate Schedules GS-Medium (HP), GS-Large, GP, and LP)

Penn Power (Rate Schedules GM (HP), GS-Large, GP, GT, or GS if such GS Customers also are under Special Rule GSDS)

West Penn (Rate Schedules 30 (HP), 35, 40, 44, 46 and Tariff No. 37 – Pennsylvania State University)

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG, PENNPOWER_RESID_AGG, APS_RESID_AGG as applicable for the appropriate EDC]

Delivery Period: The term of the Company's Default Service Plan is from June 1, ~~2019~~ 2023 to May 31, ~~2023~~2027. The applicable Delivery Period for awarded contracts will be as identified on each Transaction Confirmation within the Default Service Plan date range.

Number of Tranches and Percentage for Each Tranche:

Residential – For **Metropolitan Edison Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **Pennsylvania Electric Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **Pennsylvania Power Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **West Penn Power Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

Commercial – For **Metropolitan Edison Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **Pennsylvania Electric Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **Pennsylvania Power Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **West Penn Power Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

Industrial – For **Metropolitan Edison Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **Pennsylvania Electric Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **Pennsylvania Power Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **West Penn Power Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

DS Supplier Responsibility Share:

Fixed percentage share of DS Load for DS Customer Group associated with Transaction Confirmation. Typically, number of tranches won x Tranches Percentage for the DS Customer Group.

DS Fixed Percentage/DS Variable Percentage:

The percentage of DS Supply provided at a fixed price and the percentage of DS Supply provided at a variable price. For each Transaction Confirmation, DS Fixed Percentage + DS Variable Percentage specified shall add to 100%.

APPENDIX D – RESPONSIBILITIES FOR PJM BILLING LINE ITEMS AS DEFINED IN APPLICABLE PJM AGREEMENT OR MANUAL

ID #	PJM Billing Statement Line Items	Responsible Party	
		Buyer	DS Supplier
ID#	CHARGES		
1000	Network Integration Transmission Service		X
1102	Network Integration Transmission Service (exempt)		X
1104	Network Integration Transmission Service Offset		X
1108	Transmission Enhancement	X	
1110	Direct Assignment Facilities		X
1115	Transmission Enhancement Settlement (EL05-121-009)	X	
1120	Other Supporting Facilities		X
1130	Firm Point-to-Point Transmission Service		X
1133	Firm Point-to-Point Transmission Service Resale Charge		X
1140	Non-Firm Point-to-Point Transmission Service		X
1143	Non-Firm Point-to-Point Transmission Service Resale Charge		X
1200	Day-ahead Spot Market Energy		X
1205	Balancing Spot Market Energy		X
1210	Day-ahead Transmission Congestion		X
1215	Balancing Transmission Congestion		X
1218	Planning Period Congestion Uplift		X
1220	Day-ahead Transmission Losses		X

1225	Balancing Transmission Losses		X
1230	Inadvertent Interchange		X
1240	Day-ahead Economic Load Response		X
1241	Real-time Economic Load Response		X
1245	Emergency Load Response		X
1250	Meter Error Correction	X	
1260	Emergency Energy		X
1301	PJM Scheduling, System Control and Dispatch Service – Control Area Administration		X
1302	PJM Scheduling, System Control and Dispatch Service – FTR Administration		X
1303	PJM Scheduling, System Control and Dispatch Service –Market Support		X
1304	PJM Scheduling, System Control and Dispatch Service – Regulation Market Administration		X
1305	PJM Scheduling, System Control and Dispatch Service – Capacity Resource/Obligation Mgmt.		X
1306	PJM Scheduling, System Control and Dispatch Service – Advanced Second Control Center		X
1308	PJM Scheduling, System Control and Dispatch Service Refund – Control Area Administration		X
1309	PJM Scheduling, System Control and Dispatch Service Refund – FTR Administration		X
1310	PJM Scheduling, System Control and Dispatch Service Refund – Market Support		X
1311	PJM Scheduling, System Control and Dispatch Service Refund –Regulation Market Administration		X
1312	PJM Scheduling, System Control and Dispatch Service Refund – Capacity Resource/Obligation Mgmt.		X
1314	Market Monitoring Unit (MMU) Funding		X

1315	FERC Annual Charge Recovery		X
1316	Organization of PJM States, Inc. (OPSI) Funding		X
1317	North American Electric Reliability Corporation (NERC)		X
1318	Reliability First Corporation (RFC)		X
1320	Transmission Owner Scheduling, System Control and Dispatch Service		X
1330	Reactive Supply and Voltage Control from Generation and Other Sources Service		X
1340	Regulation and Frequency Response Service		X
1350	Energy Imbalance Service		X
1360	Synchronized Reserve		X
1365	Day-ahead Scheduling Reserve		X
1370	Day-ahead Operating Reserve		X
1371	Day-ahead Operating Reserve for Load Response		X
1375	Balancing Operating Reserve		X
1376	Balancing Operating Reserve for Load Response		X
1377	Synchronous Condensing		X
1378	Reactive Services		X
1380	Black Start Service		X
1400	Load Reconciliation for Spot Market Energy		X
1410	Load Reconciliation for Transmission Congestion		X
1420	Load Reconciliation for Transmission Losses		X
1430	Load Reconciliation for Inadvertent Interchange		X
1440	Load Reconciliation for PJM Scheduling, System Control and Dispatch Service		X

1441	Load Reconciliation for PJM Scheduling, System Control and Dispatch Service Refund		X
1445	Load Reconciliation for FERC Annual Charge Recovery		X
1446	Load Reconciliation for Organization of PJM States, Inc. (OPSI) Funding		X
1447	Load Reconciliation for North American Electric Reliability Corporation (NERC)		X
1448	Load Reconciliation for Reliability First Corporation (RFC)		X
1450	Load Reconciliation for Transmission Owner Scheduling, System Control and Dispatch Service		X
1460	Load Reconciliation for Regulation and Frequency Response Service		X
1470	Load Reconciliation for Synchronized Reserve		X
1475	DASR Load Reconciliation		X
1478	Load Reconciliation for Operating Reserve		X
1480	Load Reconciliation for Synchronous Condensing		X
1490	Load Reconciliation for Reactive Services		X
1500	Financial Transmission Rights Auction		X
1600	RPM Auction		X
1610	Locational Reliability		X
1650	Non-Unit Specific Capacity Transaction		X
1660	Demand Resource and ILR Compliance Penalty		X
1661	Capacity Resource Deficiency		X
1662	Generation Resource Rating Test Failure		X
1663	Qualifying Transmission Upgrade Compliance Penalty		X
1664	Peak Season Maintenance Compliance Penalty		X
1665	Peak-Hour Period Availability		X

1710	PJM/MISO Seams Elimination Cost Assignment		X
1720	RTO Start-up Cost Recovery		X
1730	Expansion Cost Recovery	X	
1900	Unscheduled Transmission Service		X
1910	Ramapo Phase Angle Regulators		X
1920	Station Power		X
1930	Generation Deactivation and RMR Generating Unit Declarations Before PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P-2013-2391368 <i>et al.</i>		X
1930	Generation Deactivation and RMR Generating Unit Declarations After PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P-2013-2391368 <i>et al.</i>	X	
1950	Virginia Retail Administrative Fee		X
1980	Miscellaneous Bilateral		X
1995	PJM Annual Membership Fee		X
ID#	CREDITS		
2100	Network Integration Transmission Service		X
2102	Network Integration Transmission Service (exempt)		X
2104	Network Integration Transmission Service Offset		X
2106	Non-Zone Network Integration Transmission Service		X
2108	Transmission Enhancement	X	
2110	Direct Assignment Facilities		X
2115	Transmission Enhancement Settlement (EL05-121-009)	X	
2120	Other Supporting Facilities		X

2130	Firm Point-to-Point Transmission Service		X
2132	Internal Firm Point-to-Point Transmission Service		X
2133	Firm Point-to-Point Transmission Service Resale Credit		X
2140	Non-Firm Point-to-Point Transmission Service		X
2142	Internal Non-Firm Point-to-Point Transmission Service		X
2143	Non-Firm Point-to-Point Transmission Service Resale Credit		X
2210	Transmission Congestion		X
2211	Day Ahead Transmission Credit (Formerly BLI 2210)		X
2215	Balancing Transmission Congestion Credit		X
2217	Planning Period Excess Congestion		X
2218	Planning Period Congestion Uplift		X
2220	Transmission Losses		X
2240	Day-ahead Economic Load Response		X
2241	Real-time Economic Load Response		X
2245	Emergency Load Response		X
2260	Emergency Energy		X
2320	Transmission Owner Scheduling, System Control and Dispatch Service		X
2330	Reactive Supply and Voltage Control from Generation and Other Sources Service		X
2340	Regulation and Frequency Response Service		X
2350	Energy Imbalance Service		X
2360	Synchronized Reserve		X
2365	Day-ahead Scheduling Reserve		X
2370	Day-ahead Operating Reserve		X

2371	Day-ahead Operating Reserve for Load Response		X
2375	Balancing Operating Reserve		X
2376	Balancing Operating Reserve for Load Response		X
2377	Synchronous Condensing		X
2378	Reactive Services		X
2380	Black Start Service		X
2415	Balancing Transmission Congestion Load Reconciliation Credit		X
2420	Load Reconciliation for Transmission Losses		X
2500	Financial Transmission Rights Auction		X
2510	Auction Revenue Rights		X
2600	RPM Auction		X
2620	Interruptible Load for Reliability		X
2630	Capacity Transfer Rights		X
2640	Incremental Capacity Transfer Rights		X
2650	Non-Unit Specific Capacity Transaction		X
2660	Demand Resource and ILR Compliance Penalty		X
2661	Capacity Deficiency Resource		X
2662	Generation Resource Rating Test Failure		X
2663	Qualifying Transmission Upgrade Compliance Penalty		X
2664	Peak Season Maintenance Compliance Penalty		X
2665	Peak-Hour Period Availability		X
2710	PJM/MISO Seams Elimination Cost Assignment		X
2720	RTO Start-up Cost Recovery		X

2730	Expansion Cost Recovery	X	
2910	Ramapo Phase Angle Regulators		X
2930	Generation Deactivation and RMR Generating Unit Declarations Before PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P- 2013-2391368 <i>et al.</i>		X
2930	Generation Deactivation and RMR Generating Unit Declarations After PaPUC Approval Of the Company's Default Service Program in PaPUC Docket Nos. P- 2013-2391368 <i>et al.</i>	X	
2950	Virginia Retail Administrative Fee		X
2980	Miscellaneous Bilateral		X
2996	Annual PJM Cell Tower		X
2997	Annual PJM Building Rent		X

****Any PJM fees or charges not specifically identified as being the responsibility of the EDC shall be the responsibility of the EGS. Line Items 2100, 2102, and 2104 are Transmission Owner Revenues.**

APPENDIX E – DS SUPPLIER’S OBLIGATIONS FOR AEPS COMPLIANCE

To satisfy AEPS with respect to the DS Supplier’s Responsibility Share, DS Supplier shall fulfill the following obligations:

1. Providing sufficient AECs for each tranche awarded via the DS Solicitation less the Allocated AECs; if any
2. Paying any AEPS penalties, costs, charges, etc. assessed against the DS Supplier and/or the Company associated with the DS Supplier’s non-performance with AEPS requirements;
3. Submitting to the Company proof of AEPS compliance under this Agreement in such form and manner as may be required by the Company.
4. Provide to the Company all information the Company may require to comply with the AEPS Act and its implementing regulations and other Requirements of Law, including, but not limited to the price paid per AEC required by 73 Pa.C.S. §1648.3(e)(8).

This Appendix E shall confirm the Alternative Energy Portfolio Standards Obligation of the Transaction Date as defined in the Transaction Confirmation.

Alternative Energy Portfolio Standards Obligations for the period beginning June 1, ~~2019~~ 2023 based on the total MWh supplied by DS Supplier:

<u>Compliance Period</u>	<u>Tier I</u>	<u>Tier I Solar</u>	<u>Tier II</u>
6/1/ 2019-2023 to 5/31/ 2020 <u>2024</u>	7.50 <u>8.20</u> <u>10.00</u> %	7.50 <u>8.00</u> %	0.44 <u>0.50</u> %
6/1/ 2020-2024 to 5/31/ 2021 <u>2025</u>	10.00%	8.00%	0.50%
6/1/ 2021-2025 to 5/31/ 2022 <u>2026</u>	10.00%	8.00%	0.50%
6/1/ 2022-2026 to 5/31/ 2023 <u>2027</u>	10.00%	8.00%	0.50%

The percentages set forth above are those applicable for the first DS Solicitation and may be revised for future DS Solicitations to reflect changes in law or other applicable regulatory requirements.

The above amounts are estimates and will vary based on actual load served. DS Supplier will need to true-up, higher or lower, actual credits needed based on Monthly Settlement Amount.

If Alternative Energy Portfolio requirements change by federal or state law or any other reason, the ~~Companies-DS Suppliers~~ shall be responsible for any incremental AEPS

compliance requirement in order to comply with DS Supplier's obligations under DS Supply.

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Residential

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, ~~2019-2023~~ through May 31, ~~2020-2024~~ (Example of a
12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Fixed Percentage = 95%

DS Variable Price = The DS Variable Price is the real time hourly total LMP for the
Delivery Point, plus a fixed adder of \$20.00/MWh.

DS Variable Percentage = 5%

Corrections to DS Variable Price: In the event that PJM changes the location or
mechanism by which the LMP for the Delivery Point is calculated, the Company will
recalculate a new DS Variable Price for this Agreement. The PMEA/FMEA Adjustment
Amount shall reflect any changes to these prices.

Total Allocated AECs: ~~For Met-Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of
AEPs solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For
West Penn: XX Tier I non-solar AECs and X Tier I solar AECs. To Be Determined~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Commercial

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, ~~2019-2023~~ through May 31, ~~2020-2024~~ (Example of a
12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Fixed Percentage = 100%

~~**Total Allocated AECs:** For Met-Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of
AEPs solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For
West Penn: XX Tier I non-solar AECs and X Tier I solar AECs.~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Industrial

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, ~~2019-2023~~ through May 31, ~~2020-2024~~ (Example of a 12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Variable Price = The DS Variable Price is the real time hourly total LMP for the Delivery Point, plus a fixed adder of \$4.00/MWh.

Corrections to DS Variable Price: In the event that PJM changes the location or mechanism by which the LMP for the Delivery Point is calculated, the Company will recalculate a new DS Variable Price for this Agreement. The PMEA/FMEA Adjustment Amount shall reflect any changes to these prices.

~~**Total Allocated AECs:** For Met Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of AEPS solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For West Penn: XX Tier I non-solar AECs and X Tier I solar AECs.~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT 2
FORM OF NOTICE

Any notices required under this Agreement shall be made as follows:

Buyer:

DS Supplier:

All Notices:

All Notices:

FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001
Attn: Dean Stathis
Director Regulated Commodity Sourcing
Phone: (610) 921-6766
Facsimile: (330) 777-6441
Email: dstathis@firstenergycorp.com
Duns:
Federal Tax ID Number:

DS Company
Street
City/State/Zip
Attn:
Phone:
Facsimile:
Email:
Duns:
Federal Tax ID Number:

Copy to:

FirstEnergy Corp.
P.O. Box 1600176 South Main Street 8th Floor
Reading, PA 19612-6001Akron, OH 44308
Attn: ~~Eileen M. Mikkelsen~~; Joanne Savage
~~VP Rates & Regulatory Affairs~~ Director Rates & Regulatory Affairs
Phone: ~~(330) 384-5166~~ (610) 921 6525
Facsimile: ~~(330) 315-4358~~
Email: ~~mikkelsene@firstenergycorp.com~~ jmsavage@firstenergycorp.com

Invoices: & Payment:

~~————~~ **Invoices: & Payments:**

FirstEnergy Corp.
P.O. Box 1600176 South Main Street
ReadingAkron, PA-OH 19612-600144308
Attn: Robert Brown ~~Jim Sensenig~~
Manager, Regulated Settlements ~~Supervisor, Regulated Commodity Sourcing~~

Attn:

Phone: ~~(610) 921-6543~~ (216) 970 8357
Facsimile: ~~(330) 777-6441~~
Email: rdbrown@firstenergycorp.com ~~jjsensenig@firstenergycorp.com~~

Phone:

Facsimile:

Scheduling:

FirstEnergy Corp.
~~76 South Main Street~~~~800 Cabin Hill Drive~~
~~Akron, OH~~ ~~Greensburg, PA 15601~~

Attn: ~~Cindy Teamann~~ Tiffanne L. Cowan

~~Manager, Regulated Settlements~~ Manager Regulated Settlements

Phone: ~~(724) 838-6672~~ (330) 761-4474

Facsimile:

Email: ~~eteaman@firstenergycorp.com~~ cowant@firstenergycorp.com

Scheduling:

Attn:

Phone:

Facsimile:

Email:

Payments:

FirstEnergy Corp.
~~76 South Main Street~~ P.O. Box 16001
~~Reading, PA 19612-6001~~ Akron, OH 44308

Attn: ~~Robert Brown~~ Jim Sensenig

~~Manager, Regulated Settlements~~ Supervisor, Regulated Commodity Sourcing

Phone: ~~(216) 970-8357~~ (610) 921-6543

Facsimile: ~~(330) 777-6441~~

Email: rdbrown@firstenergycorp.com jjjsensenig@firstenergycorp.com Email:

Phone:

Facsimile:

Wire Transfer:

BNK: JP Morgan Chase, NY
FirstEnergy Service Co.

ABA: 021000021

ACCT: -323-396496

Wire Transfer

BNK:

ABA:

ACCT:

Credit and Collections:

FirstEnergy Corp.
341 White Pond Drive
Akron, OH 44320

Attn: ~~Martin Massie~~ Justin Gawne
~~Credit Analyst~~ Credit Analyst
Phone: ~~(330) 315-6894~~ 330-315-7226

Facsimile:

Email: margin@firstenergycorp.com massiem@firstenergycorp.com

Credit and Collections:

Attn:

Phone:

Facsimile:

Email:

With additional Notices of an

Event of Default to:

FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001

Attn: Tori Giesler

~~Supervising Managing Counsel~~ Associate General Counsel

Phone: (610) 921-6658

Facsimile: (610) 939-8655

Email: tgiesler@firstenergycorp.com

With Additional Notices of an

Event of Default to:

Attn:

Phone:

Facsimile:

Email:

APPENDIX F - LETTER OF CREDIT DOCUMENTATION

Sample DS Letter of Credit

[Insert Date]

Letter of Credit No. [Insert Credit No]

To: [Insert Company Name] ("Beneficiary")

1. We hereby establish in your favor this irrevocable transferable Letter of Credit (this "Letter of Credit") for the account of _____ (the "Applicant"), in the amount of \$ _____, effective immediately and available to you at sight upon demand at our counters at _____ (Location) and expiring 364 days from date of issuance, unless terminated earlier in accordance with the provisions hereof.
2. This Letter of Credit is issued at the request of the Applicant, and we hereby irrevocably authorize you to draw on us, in accordance with the terms and conditions hereof, up to the maximum amount of this Letter of Credit, subject to reduction as provided in paragraph 11 hereof. This Letter of Credit may be drawn upon an Event of Default under the DS Suppler Master Agreement(s) between the Applicant and you, dated _____ and the DS Suppl~~i~~er Supplier Master Agreement(s) between the Applicant and you, dated _____.
3. A partial or full drawing hereunder may be made by you on any Business Day on or prior to the expiration of this Letter of Credit by delivering, by no later than 11:00 A.M.

(New York, NY time¹) on such Business Day to _____

(Bank), _____ (address), (i) a notice executed by you in the form of Annex 1 hereto, appropriately completed and duly signed by your Authorized Officer of the Beneficiary and (ii) your draft in the form of Annex 2 hereto, appropriately completed and duly signed by your Authorized Officer of the Beneficiary. Authorized Officer shall mean President, Treasurer, any Vice President or any Assistant Treasurer.

4. We hereby agree to honor a drawing hereunder made in compliance with the terms and provisions of this Letter of Credit by transferring in immediately available funds the amount specified in the draft delivered to us in connection with such drawing to such account at such bank in the United States as you may specify in your draft delivered to us pursuant to Paragraph 3 hereof, by 3:00 P.M. (New York, NY time) on the date of such drawing, if delivery of this requisite document is made prior to 11:00 AM (New York, NY time) on a Business Day pursuant to Paragraph 3 herein above, but at the opening of business on the first Business Day next succeeding the date of such drawing if delivery of the requisite document is made on or after 11:00 AM (New York, NY time) on any Business Day pursuant to Paragraph 3 herein above.
5. If a demand for payment made by you hereunder does not, in any instance, conform to the terms and conditions of this Letter of Credit, we shall give you prompt notice (not exceeding three (3) Business Days following the date of receipt of the documents) that the demand for payment was not effected in accordance with the terms and conditions of this Letter of Credit, stating the reasons that the demand for payment was not effected

¹ If the issuer of the Letter of Credit is located in an area that is not in the Eastern time zone, this time and all other times in this Letter of Credit, and the definition of a Business Day should be adjusted accordingly.

in accordance with such terms and conditions, and that we will upon your instructions hold any documents at your disposal or return the same to you. Upon being notified that the demand for payment was not effected in conformity with this Letter of Credit, you may attempt to correct any such non-conforming demand for payment to the extent that you are entitled to do so, provided, however, in such event a conforming demand for payment must be timely made in accordance with the terms of this Letter of Credit.

6. This Letter of Credit shall automatically terminate and be delivered to us for cancellation on the earliest of (i) the making by you of the drawings in an amount equal to the maximum amount available to be made hereunder, (ii) the date we receive from you a Certificate of Expiration in the form of Annex 3 hereto, or (iii) will be automatically extended without written amendment for successive additional one (1) year periods from the current or any future extended expiry date, unless at least ninety (90) days prior to such date of expiration, we give written notice to the Beneficiary by registered or certified mail, return receipt requested, or by overnight courier, at the address set forth above, or at such other address of which prior written notice has been provided to us, that we elect not to renew this irrevocable standby Letter of Credit for such additional one (1) year period.

7. As used herein:

“Business Day” shall mean any day on which commercial banks are not authorized or required to close in New York, New York and any day on which payments can be effected on the Fed wire system.

8. This Letter of Credit is assignable and transferable, in accordance with Annex 4, to an entity who you certify to us in the form of Annex 4, and we hereby consent to such

assignment or transfer, provided that this Letter of Credit may not otherwise be amended or modified without consent from us, you and the Applicant, and except as otherwise expressly stated herein, is subject to the Uniform Customs and Practice for Documentary Credits – 2007 Revision, ICC Publication No. 600, or any successor publication thereto (the “UCP”). Any and all transfer fees, expenses and costs shall be borne by the Applicant. This Letter of Credit shall, as to matters not governed by the UCP, be governed and construed in accordance with New York law, without regard to principles of conflicts of law. Transfers fees shall be borne by the Applicant.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, changed, amplified or limited by reference to any document, instrument or agreement referred to herein, except for Annexes 1 through 6 hereto and the notices referred to herein; and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement except as set forth above.

9. We certify that as of _____(date) we _____ (“Bank”) satisfy the senior unsecured debt rating of “A” from Standard & Poor’s Ratings Services or “A2” from Moody’s Investors Service Inc.
10. The amount which may be drawn by you under this Letter of Credit shall be automatically reduced by the amount of any drawings paid through us referencing this Letter of Credit No. _____. Partial drawings are permitted hereunder.
11. Faxed document(s) are acceptable. Presentation by fax must be made to fax number _____ confirmed by telephone to _____.
12. In the event of act of God, riot, civil commotion, insurrection, war, terrorism or by any

strikes or lock outs, or any cause beyond our control, that interrupts our business, and causes the place for presentation of this Letter of Credit to be closed for business on the last day of presentation, the expiration date of this Letter of Credit shall be automatically extended without amendment to a date thirty (30) calendar days after the place for presentation reopens for business.

13. This original Letter of Credit has been sent to the beneficiary EDC located at _____ above (as per Applicant's instructions). The aggregate amount paid to the _____ during the validity of this Letter of Credit will not exceed the amount of this Letter of Credit. Any demands or communications in the form of the attached Annexes or other communications directed to us under this Letter of Credit must be signed by an Authorized Officer of the _____. Acceptance or rejection of any amendments to this Letter of Credit must be signed by an Authorized Officer of the _____.

Very truly yours,

(Bank)

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 1 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [InsertCreditNo.]

[Insert Date]

To: [Insert Bank]

[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned is making a drawing under the above-referenced Letter of Credit in the amount specified below and hereby certifies to you as follows:

1. Capitalized terms used herein that are defined herein shall have the meanings ascribed thereto in the Letter of Credit.
2. "Pursuant to Paragraph 2 of the Letter of Credit No. [Insert Credit No.], dated [Insert Date], the undersigned is entitled to make a drawing under the Letter of Credit in the aggregate amount of \$[Insert Dollars], inasmuch as there is an Event of Default under any DS Supplier Master Agreement between the Applicant and us.
3. We acknowledge that, upon your honoring the drawing herein requested, the amount of the Letter of Credit available for drawing shall be automatically decreased by an amount equal to this drawing.

Very truly yours,

[Insert Company Name]

By: _____
Name [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

By: _____
Name [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

Annex 2 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

ON [Business day immediately succeeding date of presentation]

PAY TO: [Insert Company Name]

\$ [Insert Dollars]

FOR VALUE RECEIVED AND CHARGE TO ACCOUNT OF LETTER OF CREDIT NO.
[Insert Credit No.]

OF

[Insert Bank]

[Insert Address]

The [Insert Company]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 3 to Letter of Credit

CERTIFICATE OF EXPIRATION
OF LETTER OF CREDIT NO. [Insert Credit No.]
[Insert Date]

To: [Insert Bank]
[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned hereby certifies to you that the above referenced Letter of Credit may be cancelled without payment. Attached hereto is said Letter of Credit, marked cancelled.

[Insert Company Name]

By: _____
Name: [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

By: _____
Name: [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

cc: [InsertApplicantName]

Annex 4 to Letter of Credit

NOTICE OF TRANSFER
OF LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

To: [Insert Bank]
[Insert Address]

To Whom It May Concern:

Re: Credit [Insert Credit No.]

Issued by: [Insert Name]

Advice No.: [Insert Advise No.]

For the value received, the undersigned beneficiary hereby irrevocably transfers to:

[Insert Transferee Name]

(Name of Transferee)

[Insert Address]

(Address)

All rights of the undersigned beneficiary to draw under the above Letter of Credit in its entirety.

By this transfer, all rights of the undersigned beneficiary in such Letter of Credit are transferred to the transferee and the transferee shall have the sole rights as beneficiary thereof, including sole rights relating to any amendments whether increases or extensions or other amendments and whether now existing or hereafter made. All amendments are to be advised direct to the transferee without necessity of any consent of or notice to the undersigned beneficiary.

The advice of such Letter of Credit is returned herewith, and we ask you to endorse the transfer on the reverse thereof, and forward it direct to the transferee with your customary notice of transfer.

Enclosed is a certified check in the amount of \$ [Insert Amount] in payment of your transfer commission and in addition we agree to pay to you on demand any expenses that may be incurred by you in conjunction with this transfer.

Very Truly Yours,
[Insert Signature of Company]
(Signature of the Company)

The above signature with title as stated conforms to that on file with us and is authorized for the execution of said instruments.

(Name of authenticating party)

[Insert Signature of Authenticating Party]
(Authorized signature of authenticating party)
Name: [Insert Name]
Title: [Insert Title]

APPENDIX G - GUARANTY

GUARANTY (this "Guaranty"), dated as of [Insert Date], made by _____ (the "Guarantor"), a corporation organized and existing under the laws of [Insert Law References] in favor of [Insert Company Name] (the "Guaranteed Party"), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania.

Terms not defined herein take on the meaning given to them in the DS Supplier Master Agreement(s). Guarantor enters into this Guaranty in consideration of, and as an inducement for Guaranteed Party having entered into or entering into the "Agreements" with [Insert Name] (Name), a [Insert State] (State) corporation (the "DS Supplier"), which may involve the extension of credit by the Guaranteed Party. Guarantor, subject to the terms and conditions hereof, hereby unconditionally and absolutely guarantees to the Guaranteed Party the full and prompt payment when due, subject to an applicable grace period and upon demand in writing from the Guaranteed Party to the Guarantor's attention at the address for Guarantor set forth in Section 11 hereof of any and all amounts payable by the DS Supplier to the Guaranteed Party arising out of the Agreement(s), and,

1. The Guarantor, as primary obligor and not merely as surety, hereby irrevocably and unconditionally guarantees the full and prompt payment when due (whether by acceleration or otherwise) of the principal and interest on any sums due and payable by the BGS Supplier as a result of an Event of Default under the Agreement(s) (including, without limitation, indemnities, damages, fees and interest thereon, pursuant to the terms of the Agreement(s)). Notwithstanding anything to the contrary herein, the maximum aggregate liability of the Guarantor under this Guaranty shall Option 1 (in no event exceed [Insert Limit Amount].) Option 2 (in no event exceed the lesser of [Insert Limit Amount] or the sum of the Total Exposures Amounts under the Agreement(s).) All such principal, interest, obligations and liabilities, collectively, are the "Guaranteed Obligations". This Guaranty is a guarantee of payment and not of collection.
2. The Guarantor hereby waives diligence, acceleration, notice of acceptance of this Guaranty and notice of any liability to which it may apply, and waives presentment and all demands whatsoever except as noted herein, notice of protest, notice of dishonor or nonpayment of any such liability, suit or taking of other action by any Guaranteed Party against, and any other notice to, any party liable thereon (including the Guarantor or any other guarantor), filing of claims with a court in the event of the insolvency or bankruptcy of the DS Supplier, and any right to require a proceeding first against the DS Supplier.
3. The Guaranteed Party may, at any time and from time to time, without notice to or consent of the Guarantor, without incurring responsibility to the Guarantor and without impairing or releasing the obligations of the Guarantor hereunder, upon or without any terms or conditions: (i) take or refrain from taking any and all actions with respect to the Guaranteed Obligations, any Document or any person (including the DS Supplier) that the Guaranteed Party determines in its sole discretion to be necessary or

appropriate; (ii) take or refrain from taking any action of any kind in respect of any security for any Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party; or (iii) compromise or subordinate any Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party including any security for such Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party.

4. Subject to the terms and conditions hereof, the obligations of the Guarantor under this Guaranty are absolute and unconditional and, without limiting the generality of the foregoing, shall not be released, discharged or otherwise affected by: (i) any extension, renewal, settlement, compromise, waiver, consent, discharge or release by the DS Supplier concerning any provision of the Agreement(s) in respect of any Guaranteed Obligations of the DS Supplier; (ii) the rendering of any judgment against the DS Supplier or any action to enforce the same; (iii) the existence, or extent of, any release, exchange, surrender, non-perfection or invalidity of any direct or indirect security for any of the Guaranteed Obligations; (iv) any modification, amendment, waiver, extension of or supplement to any of the Agreement(s) or the Guaranteed Obligations agreed to from time to time by the DS Supplier and the Guaranteed Party; (v) any change in the corporate existence (including its constitution, laws, rules, regulations or powers), structure or ownership of the BGS Supplier or the Guarantor, or any insolvency, bankruptcy, reorganization or other similar proceedings affecting the DS Supplier or its assets, the Guarantor or any other guarantor of any of the Guaranteed Obligations; (vi) the existence of any claim, set-off or other rights which the Guarantor may have at any time against the DS Supplier, the Guaranteed Party or any other corporation or person, whether in connection herewith or in connection with any unrelated transaction; provided that nothing herein shall prevent the assertion of any such claim by separate suit or compulsory counterclaim; (vii) the invalidity, irregularity or unenforceability in whole or in part of the Agreement(s) or any Guaranteed Obligations or any instrument evidencing any Guaranteed Obligations or the absence of any action to enforce the same, or any provision of applicable law or regulation purporting to prohibit payment by the DS Supplier of amounts to be paid by it under the Agreement(s) or any of the Guaranteed Obligations; and (viii) except for a failure to comply with any applicable statute of limitations, any other act or omission to act or delay of any kind of the DS Supplier, any other guarantor, the Guaranteed Party or any other corporation or person or any other event, occurrence or circumstance whatsoever which might, but for the provisions of this paragraph, constitute a legal or equitable discharge of the Guarantor's obligations hereunder.
5. The Guarantor hereby irrevocably waives (a) any right of reimbursement or contribution, and (b) any right of salvage against the DS Supplier of any collateral security or guaranty or right of offset held by the Guaranteed Party.
6. The Guarantor will not exercise any rights, which it may acquire by way of subrogation until all Guaranteed Obligations to the Guaranteed Party pursuant to the Agreement(s) have been paid in full.

7. Subject to the terms and conditions hereof, this Guaranty is a continuing one and all liabilities to which it applies or may apply under the terms hereof shall be conclusively presumed to have been created in reliance hereon. Except for a failure to comply with any applicable statute of limitations, no failure or delay on the part of the Guaranteed Party in exercising any right, power or privilege hereunder, and no course of dealing between the Guarantor and the Guaranteed Party, shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights, powers and remedies herein expressly provided are cumulative and not exclusive of any rights, powers or remedies, which the Guaranteed Party would otherwise have. No notice to or demand on the Guarantor in any case shall entitle the Guarantor to any other or further notice of demand in similar or other circumstances or constitute a waiver of the rights of the Guaranteed Party to any other or further action in any circumstances without notice or demand.
8. This Guaranty shall be binding upon the Guarantor and upon its successors and assigns and shall inure to the benefit of and be enforceable by the Guaranteed Party and its successors and assigns; provided, however, that the Guarantor may not assign or transfer any of its rights or obligations hereunder without the prior written consent of the Guaranteed Party. The assignment rights of the Guaranteed Party will be in accordance with the terms of the underlying Agreement(s).
9. Neither this Guaranty nor any provision hereof may be changed, waived, discharged or terminated except upon written agreement of the Guaranteed Party and the Guarantor.
10. The Guarantor agrees that its liability as guarantor shall continue and remain in full force and effect in the event that all or any part of any payment made hereunder or any obligation or liability guaranteed hereunder is recovered (as a fraudulent conveyance, preference or otherwise) rescinded or must otherwise be reinstated or returned due to bankruptcy or insolvency laws or otherwise.
11. All notices and other communications hereunder shall be made at the addresses by hand delivery, by the next day delivery service effective upon receipt or by certified mail return receipt requested (effective upon scheduled weekday delivery day) or telefacsimile (effective upon receipt of evidence, including telefacsimile evidence, that telefacsimile was received).

If to the Guarantor:

[Insert Guarantor]

If to the Guaranteed Party:

[Insert Guaranteed Party]

12. If claim is ever made upon the Guaranteed Party for repayment or recovery of any amount or amounts received in payment or on account of any of the Guaranteed Obligations and the Guaranteed Party repays all or part of such amount by reason of (a) any judgment, decree or order of any court or administrative body having jurisdiction over such payee or any of its property, or (b) any settlement or compromise of any such claim effected by such payee with any such claimant (including the Guarantor), then and in such event the Guarantor agrees that any such judgment, decree, order, settlement or compromise shall be binding upon it, notwithstanding any revocation hereof or the cancellation of the Agreement(s) or other instrument evidencing any liability of the Guarantor, and the Guarantor shall be and remain liable to the Guaranteed Party hereunder for the amount so repaid or recovered to the same extent as if such amount had never originally been received by any such payee.
13. The Guarantor hereby certifies that it satisfies the Minimum Rating as defined in the Agreement(s).
14. This Guaranty shall remain in full force and effect until all Guaranteed Obligations have been fully and finally performed, at which point it will expire. The Guarantor may terminate this Guaranty upon thirty (30) days prior written notice to the Guaranteed Party which termination shall be effective only upon receipt by the Guaranteed Party of alternative means of security or credit support, as specified in the Agreement(s) and in a form reasonably acceptable to the Guaranteed Party. Upon the effectiveness of any such expiration or termination, the Guarantor shall have no further liability under this Guaranty, except with respect to the Guaranteed Obligations entered into prior to the time the expiration or termination is effective, which Guaranteed Obligations shall remain guaranteed pursuant to the terms of this Guaranty until finally and fully performed.
15. The Guarantor represents and warrants that: (i) it is duly organized and validly existing under the laws of the jurisdiction in which it was organized and has the power and authority to execute, deliver, and perform this Guaranty; (ii) no authorization, approval, consent or order of, or registration or filing with, any court or other governmental body having jurisdiction over the Guarantor is required on the part of the Guarantor for the execution, delivery and performance of this Guaranty except for those already made or obtained; (iii) this Guaranty constitutes a valid and legally binding agreement of the Guarantor, and is enforceable against the Guarantor, except as the enforceability of this Guaranty may be limited by the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditor's rights generally and by general principles of equity; and (iv) the execution, delivery and performance of this Guaranty by the Guarantor have been and remain duly authorized by all necessary corporate or comparable action and do not contravene any provision of its [insert appropriate corporate organizational document, such as Declaration of Trust, Limited Liability Agreement, Articles of Incorporation or by-laws] or any law, regulation or contractual restriction binding on it or its assets.

16. This Guaranty and the rights and obligations of the DS Supplier and the Guarantor hereunder shall be construed in accordance with and governed by the laws of the Commonwealth of Pennsylvania. The Guarantor and Guaranteed Party jointly and severally agree to the exclusive jurisdiction of State and ~~F~~Federal courts located in the Commonwealth of Pennsylvania over any disputes arising or relating to this Guaranty and waive any objections to venue or inconvenient forum. The Guarantor and Guaranteed Party each hereby irrevocably waive any and all rights to trial by jury with respect to any legal proceeding arising out of or relating to this Guaranty.
17. This writing is the complete and exclusive statement of the terms of this Guaranty and supersedes all prior oral or written representations, understandings, and agreements between the Guaranteed Party and the Guarantor with respect to subject matter hereof. The Guaranteed Party and the Guarantor agree that there are no conditions to the full effectiveness of this Guaranty.
18. Every provision of this Guaranty is intended to be severable. If any term or provision hereof is declared to be illegal or invalid for any reason whatsoever by a court of competent jurisdiction, such illegality or invalidity shall not affect the balance of the terms and provisions hereof, which terms and provisions shall remain binding and enforceable. This Guaranty may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.
19. No Trustee or shareholder of Guarantor shall be held to any liability whatsoever for any obligation under this Guaranty, and such Guaranty shall not be enforceable against any such Trustee in their or his or her individual capacities or capacity. This Guaranty shall be enforceable against the Trustees of Guarantor only as such, and every person, firm, association, trust or corporation having any claim or demand arising under this Guaranty and relating to Guarantor, its shareholders or Trustee shall look solely to the trust estate of Guarantor for the payment or satisfaction thereof.

IN WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed and delivered as of the date first above written to be effective as of the earliest effective date of any of the Agreement(s).

(GUARANTOR)
[Insert Guarantor]

Accepted and Agreed to:
[Insert Name]

By:
Name: [Insert Name]
Title: [Insert Title]

By: [Insert Company Name]
Name: [Insert Name]
Title: [Insert Title]

|

APPENDIX H- CAPACITY PROXY PRICE

For purposes of this Appendix: (i) the “PJM RPM Zonal Net Load Price” is the price charged by PJM to LSEs for capacity in the Company’s PJM zone under the Reliability Pricing Model (“RPM”) or its successor; and (ii) the “Capacity Proxy Price” (CPP) for the Company is \$ _____/MW-day.

The CPP for each Company will be the average of the capacity prices from the last auctions of the previous two Capacity Market Auctions conducted by PJM.

In the event a CPP is implemented, Section 9.1 (a) of the SMA is replaced with the following:

Each Billing Month after the Capacity Proxy Price is known for the applicable energy year, the Company will prepare a Statement of amounts due to the DS Supplier. This Statement will show the aggregate amounts due based on the DS Fixed Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Fixed Percentage as shown on the Transaction Confirmation(s) for each hour of the Billing Month, plus the aggregate amounts due based on the DS Variable Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Variable Percentage, if applicable, as shown on the Transaction Confirmation(s) for each hour of the Billing Month. For each Billing Month of Energy Year after the Capacity Proxy Price is known, an additional line item will show the difference between the PJM RPM Zonal Net Load Price actually charged for load served on the day for the Company’s PJM zone and the Capacity Proxy Price multiplied by the DS Supplier Responsibility Share of the Company Capacity obligation (expressed in MW) for each day of the Billing Month in question.

APPENDIX I – ASSIGNMENT AGREEMENT

ASSIGNMENT, ASSUMPTION AND RELEASE AGREEMENT

This Assignment, Assumption and Release Agreement (this “Assignment Agreement”) dated as of _____, _____ (the “Assignment Execution Date”) by and among:

(“Transferor”)

(“Transferee”)

and

[Applicable EDC listed here – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, or West Penn Power Company], a corporation and a public utility organized and existing under the laws of Pennsylvania (“Remaining Party”).

RECITALS

WHEREAS as identified in Schedule 1 hereto, Transferor and Remaining Party have in place the Default Service Supplier Master Agreement between Remaining Party and Transferor dated _____, including the associated appendices attached thereto (collectively referred to herein as “Agreement”);

WHEREAS Transferor has agreed to assign to Transferee and Transferee has agreed to assume all of the rights, liabilities, duties and obligations of Transferor under and in respect of the Agreement on and subject to the terms contained herein;

WHEREAS Remaining Party is willing to consent to such assignment and assumption as herein set forth and to accept Transferee as its counterparty with respect to the Agreement in the place and stead of Transferor pursuant to the terms of this Assignment Agreement; and

WHEREAS Transferor and Remaining Party have agreed to release and discharge, as a result and to the extent, of the assignment and assumption described above, their respective future obligations under and in respect of the Agreement all as more fully set forth below.

NOW THEREFORE, for good and valuable consideration (receipt and sufficiency of which are hereby acknowledged), the parties hereto mutually covenant and agree as follows:

1. Assignment and Assumption. Transferor hereby assigns, conveys, transfers and delivers to Transferee, and Transferee hereby accepts and assumes, in each case as of the Assignment Execution Date, Transferor's entire right, title, estate and interest in and to, and Transferor's rights, liabilities, duties and obligations under, the Agreement from and after the Effective Date, for Transferee's sole use and benefit absolutely. For purposes of this Assignment Agreement, the term "**Effective Date**" shall mean _____.

2. Acceptance by Transferee. Transferee hereby assumes and accepts the aforesaid Agreement, and covenants and agrees with Remaining Party and Transferor that from and after the Assignment Execution Date, Transferee will be bound by, observe and perform, carry out and fulfill all covenants and agreements, duties and obligations under the Agreement from and after the Effective Date that were formerly required to be observed and performed by Transferor under the terms of the Agreement, and that the Agreement shall be fully enforceable against Transferee by Remaining Party, in each case, as if Transferee were an original party thereto.

3. Consent and Acceptance by Remaining Party. In satisfaction of Section 16.3 of the Agreement, Remaining Party hereby consents to the assignment and assumption of the Agreement in accordance with the terms set forth herein and accepts Transferee as the party to perform the obligations of Transferor under the Agreement from and after the Effective Date, and Remaining Party agrees that it shall not make any claim against Transferee as a consequence of or relating to the observance and performance of the covenants, representations and agreements under, or any default, breach or non-performance attributable to Transferor under the Agreement or any other transaction entered into pursuant to the Agreement prior to the Effective Date, regardless of when Remaining Party's cause of action accrued.

4. Release.

(a) Effective as of and from the Effective Date, Remaining Party hereby releases and forever discharges Transferor from all obligations to Remaining Party with respect to the Agreement and of and from any and all liability as a consequence of or relating to all manner of action and actions, cause or causes of action, suits, debts, dues, sums of money, claims and demands whatsoever at law or in equity ("**Claims**") arising out of, or which are in any way related to, the Agreement after and including the Effective Date; provided that, for certainty, the foregoing shall not release or discharge Transferor in respect of the settlement, payment or performance of any liabilities or obligations due and payable or due to be performed, including without limitation payment of any adjustments thereof, or causes

of action for breach of the Agreement, with respect to periods prior to the Effective Date (the “**Transferor Excluded Liabilities**”) and all such Transferor Excluded Liabilities shall be paid or performed by Transferor in accordance with the terms of the Agreement.

(b) Effective as of and from the Effective Date, Transferor hereby releases and forever discharges Remaining Party from all obligations to Transferor with respect to the Agreement and of and from any and all liability as a consequence of or relating to all Claims arising out of, or which are in any way related to, the Agreement after and including the Effective Date; provided that, for certainty, the foregoing shall not release or discharge Remaining Party in respect of the settlement, payment or performance of any liabilities or obligations due and payable or due to be performed, including without limitation payment of any adjustments thereof, with respect to periods prior to the Effective Date (the “**Remaining Party Excluded Liabilities**”), and all such Remaining Party Excluded Liabilities shall be paid or performed by Remaining Party in accordance with the terms of the Agreement.

(c) In respect of the Agreement, effective from and after the Effective Date, Remaining Party and Transferee each undertake liabilities and obligations towards the other and acquire rights against each other identical in their terms as if Transferee were Transferor and with Remaining Party remaining the counterparty, save for any rights, liabilities or obligations of Remaining Party with respect to any Remaining Party Excluded Liabilities, if any, or Transferor with respect to any Transferor Excluded Liabilities, if any.

5. Further Assurances. Each party hereto agrees that it shall, from time to time and at all times hereafter, execute such further assurances and do all such acts and things as may be reasonably required for the purpose of vesting in Transferee the rights and obligations of Transferor in the Agreement as assigned to, and assumed by, Transferee and effecting the release and other transactions set forth herein, including, at the request of Remaining Party, executing a new default service supplier master agreement with the same terms and conditions of the Agreement.

6. Address for Notices.

The address for Transferor for notices shall be:

The address for the Transferee for notices shall be:

7. **Enurement.** This Assignment Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

8. **Counterpart Execution.** This Assignment Agreement may be executed in separate counterparts and delivered by facsimile, or as an attachment to an electronic message (such as a pdf, tif or other mutually acceptable type of file attachment) each of which when so executed and delivered shall constitute the one and the same original document.

9. **Governing Law; Waiver of Jury Trial.** This Assignment Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, without giving effect to principles of conflicts of laws. Any judicial action arising out of, resulting from, or in any way relating to this Assignment Agreement shall be brought only in a state or federal court of competent jurisdiction located in the Commonwealth of Pennsylvania, except to the extent subject to the jurisdiction of the Federal Energy Regulatory Commission (“FERC”), Pennsylvania Public Utility Commission (“PUC”) or appellate courts having jurisdiction over the PUC or FERC matters. **EACH PARTY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY SUIT, ACTION OR PROCEEDING RELATING TO THIS ASSIGNMENT AGREEMENT. EACH PARTY CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH A SUIT ACTION OR PROCEEDING, SEEK TO ENFORCE THE FOREGOING WAIVER.**

10. **Representations, Warranties and Covenants.**

- (a) Transferor hereby represents and warrants that: (i) its right, title, estate and interest in and to the Agreement is free and clear of any liens, charges, pledges, options, mortgages, deeds of trust, security interests, restrictions (whether on voting, sale, transfer, disposition, or otherwise), and easements, whether imposed by law, agreement, understanding, or otherwise whatsoever, (ii) it has the power and authority to effect the sale, assignment and transfer of the Agreement and to execute this Assignment Agreement; (iii) it is a “public utility” as such term is defined under the Federal Power Act, (iv) it has no captive customers; (v) it does not own, or provide transmission services over, transmission facilities subject to the jurisdiction of the Federal Energy Regulatory Commission; (vi) assuming the truthfulness of the representations of Transferee set forth in Section 11(b)(iii), (iv) and (v) below, the transfer of rights under the Agreement falls within the blanket authorization granted under 18 C.F.R. Section 33.1(c)(16); (vii) the Agreement has not been amended or modified and is in full force and effect; (viii) no event or condition has occurred that

constitutes, or will with the passage of time constitute, an event of default or termination under the Agreement; (ix) there are no material disputes pending or to its knowledge threatened related to any rights or obligations transferred by this Assignment Agreement; (x) as of the Assignment Execution Date, it has performed all of its obligations under the Agreement that are required to be performed and will have performed all such obligations as of the Effective Date; (xi) it is acting for its own account, and it has made its own independent decisions to enter into this Assignment Agreement and as to whether this Assignment Agreement is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary; (xii) it is not relying on any communication (written or oral) of the other parties as investment advice or as a recommendation to enter into this Assignment Agreement; it being understood that information and explanations related to the terms and conditions of this Assignment Agreement shall not be considered investment advice or a recommendation to enter into this Assignment Agreement; (xiii) no communication (written or oral) received from any of the other parties shall be deemed to be an assurance or guarantee as to the expected results of this Assignment Agreement; (xiv) it is capable of assessing the merits of and understanding (on its own behalf or through independent professional advice), and understands and accepts, the terms, conditions and risks of this Assignment Agreement; (xv) it is also capable of assuming, and assumes, the risks of this Assignment Agreement; and (xvi) none of the other parties is acting as a fiduciary for or an adviser to it in respect of this Assignment Agreement.

(b) Transferee hereby represents and warrants that: (i) it has the power and authority to accept and assume the sale, purchase, assignment and transfer of the Agreement and to execute this Assignment Agreement; (ii) it is qualified to do business in the Commonwealth of Pennsylvania; (iii) it is a “public utility” as such term is defined under the Federal Power Act, (iv) it has no captive customers; (v) it does not own, or provide transmission services over, transmission facilities subject to the jurisdiction of the Federal Energy Regulatory Commission; (vi) it is a “Load Serving Entity” as defined in the Agreement in good standing with PJM Interconnection, LLC (“PJM”) and is in compliance with all applicable PJM obligations, rules and regulations; (vii) assuming the truthfulness of the representations of Transferor set forth in Section 10(a)(iii), (iv) and (v) above, the transfer of rights under the Agreement falls within the blanket authorization granted under 18 C.F.R. Section 33.1(c)(16); (viii) it is acting for its own account, and it has made its own independent decisions to enter into this Assignment Agreement and as to whether this Assignment Agreement is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary; (ix) it is not relying on any communication (written or oral) of the other parties as investment advice or as a recommendation to enter into this Assignment Agreement; it being

understood that information and explanations related to the terms and conditions of this Assignment Agreement shall not be considered investment advice or a recommendation to enter into this Assignment Agreement (x) no communication (written or oral) received from any of the other parties shall be deemed to be an assurance or guarantee as to the expected results of this Assignment Agreement; (xi) it is capable of assessing the merits of and understanding (on its own behalf or through independent professional advice), and understands and accepts, the terms, conditions and risks of this Assignment Agreement and the Agreement; (xii) it is also capable of assuming, and assumes, the risks of this Assignment Agreement and the Agreement; and (xiii) none of the other parties is acting as a fiduciary for or an advisor to it in respect of this Assignment Agreement.

(c) Transferee hereby represents and warrants (i) that each representation and warranty of the Transferor set forth in the Agreement is true, correct and complete with respect to Transferee as of the Assignment Execution Date and will be true, correct and complete as of the Effective Date, and hereby makes each such representation and warranty for the benefit of Remaining Party as if set forth in full herein, and (ii) that Transferee is familiar with and meets all of Remaining Party's creditworthiness requirements and all applicable load-cap requirements, currently in effect under and pursuant to the Agreement. Transferee acknowledges that Remaining Party is relying upon, and agrees that Remaining Party may rely upon, the representations and warranties of Transferee set forth in this Assignment Agreement in providing its consent to and acceptance of the assignment to and assumption by Assignee of the Agreement.

(d) Transferee hereby agrees to be bound by the terms of the Agreement and to perform all of the obligations thereunder in accordance with the terms thereof.

Each party hereto represents and warrants to the others that: (i) this Assignment Agreement and, as to Remaining Party and Transferee, the Agreement, do not and will not violate or conflict with its charter, articles or certificate of incorporation, or by-laws (or comparable constitutive documents), any statute, law, rule, regulation or ordinance, or any judgment, order, consent order, stipulated agreement, writ, injunction, or decree of any court or governmental agency, applicable to it or any agreement to which it is a party or by which it or any of its property is bound; provided that the Remaining Party shall provide an informational filing to the PUC advising of the execution of this Assignment Agreement after the Assignment Execution Date; (ii) its obligations hereunder and, as to Remaining Party and Transferee, under the Agreement are legal, valid and binding on it, and enforceable in accordance with their terms; and (iii) the person signing this

Assignment Agreement for such party is an officer, director, and/or partner of such party and is authorized and duly empowered to do so.

11. Informational Filing. The parties acknowledge that Remaining Party shall provide an informational filing to the PUC advising of the execution of this Assignment Agreement after the Assignment Execution Date.

12. Costs and Expenses. The parties will each pay their own costs and expenses (including legal fees) incurred in connection with this Assignment Agreement and as a result of the negotiation, preparation and execution of this Assignment Agreement.

13. Amendments. No amendment, modification or waiver in respect of this Assignment Agreement will be effective unless in writing (including a writing evidenced by a facsimile transmission) and executed by each of the parties.

14. Waiver. No waiver under this Assignment Agreement is effective unless it is in writing and signed by the party waiving its right. Any waiver authorized on one occasion is effective only in that instance and only for the purpose stated and does not operate as a waiver on any future occasion. None of the following constitutes a waiver or estoppel of any right, remedy, power, privilege or condition arising from this Assignment Agreement: (a) any failure or delay in exercising any right, remedy, power or privilege or in enforcing any condition under this Assignment Agreement; or (b) any act, omission or course of dealing between the parties.

15. Cumulative Remedies. All rights and remedies provided in this Assignment Agreement are cumulative and not exclusive, and the exercise by either party of any right or remedy does not preclude the exercise of any other rights or remedies that may now or subsequently be available at law, in equity, by statute, in any other agreement between the parties or otherwise.

16. No Third Party Beneficiaries. This Assignment Agreement benefits solely the parties to this Assignment Agreement and their respective permitted successors and assigns and nothing in this Assignment Agreement, express or implied, confers on any other person any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of this Assignment Agreement.

17. Headings; Defined Terms. The headings in this Assignment Agreement are for reference only and do not affect the interpretation of this Assignment Agreement. Capitalized terms used herein and not otherwise defined shall have the meaning set forth in the Agreement.

18. Severability. If any term or provision of this Assignment Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability does not affect any other term or provision of this Assignment Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is

invalid, illegal or unenforceable, the parties to this Assignment Agreement shall negotiate in good faith to modify this Assignment Agreement so as to effect the original intent of the parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

[signature page follows]

IN WITNESS WHEREOF the parties have executed this Assignment Agreement on the respective dates specified below with effect from and including the Assignment Execution Date.

TRANSFEROR:

By: _____
Name: _____
Title: _____
Date: _____

TRANSFeree:

By: _____
Name: _____
Title: _____
Date: _____

REMAINING PARTY:

[Applicable EDC listed here – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, or West Penn Power Company]

By: _____
Name: _____
Title: _____
Date: _____

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

DEFAULT SERVICE PROGRAMS

**For the Period
June 1, 2023 to May 31, 2027**

**REBUTTAL TESTIMONY
OF
WANYUN ZHONG**

List of Topics Addressed

Capacity Proxy Price

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**REBUTTAL TESTIMONY
OF
WANYUN ZHONG**

I. INTRODUCTION AND PURPOSE

Q. Please state your name and business address.

A. My name is Wanyun Zhong. My business address is 341 White Pond Dr., Akron, OH 44320.

Q. Have you previously filed testimony in this proceeding?

A. Yes. I filed written direct testimony and an exhibit on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”) (individually, a “Company” and, in any combination, as the “Companies”), which have been designated as Met-Ed/Penelec/Penn Power/West Penn Statement No. 3 and Exhibit WZ-1.

Q. Please describe the purpose of your rebuttal testimony.

A. My rebuttal testimony will respond to the concerns and recommendations raised in the direct testimony of Lael Campbell on behalf of Constellation Energy Generation, LLC and Constellation NewEnergy, Inc. regarding the capacity proxy price (“CPP”) included in the Companies’ proposed Default Service Programs (“DSP VI”).

Q. Have you prepared any exhibits to accompany your testimony?

A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibit WZ-1R and WZ-2 were prepared under my supervision. Met-Ed/Penelec/Penn Power/West Penn Exhibit WZ-1R is the Default Service Supplier Master Agreement (“SMA”) with certain updates described in the Rebuttal Testimony of Mr. Catanach in Met-Ed/Penelec/Penn Power/West Penn Statement

1 No. 2R. Met-Ed/Penelec/Penn Power/West Penn Exhibit WZ-2 is described later in my
2 testimony.

3 **II. CAPACITY PROXY PRICE**

4 **Q. What concerns did Mr. Campbell raise regarding the Companies' proposed CPP
5 true-up methodology?**

6 A. First, Mr. Campbell is concerned that the Companies' proposal to calculate an average
7 capacity price for a product whose term encompasses more than one actual capacity price
8 does not appropriately weight the quantity of capacity procured over the term of a default
9 service product. Mr. Campbell contends that the magnitude of the "error" in the
10 Companies' true-up methodology will increase as the difference between the Year 1 and
11 Year 2 actual capacity prices and/or the variation in Unforced Capacity ("UCAP") quantity
12 from Year 1 to Year 2 increases.

13 Second, Mr. Campbell is concerned that the true-up cashflow may not align with the timing
14 of capacity charges assessed by PJM to suppliers. Mr. Campbell presented a 24-month
15 product scenario where a default service supplier would incur Year 1 PJM capacity
16 charges, but the payment from the Company would be reduced to account for a lower PJM
17 capacity charge forthcoming in Year 2.

18 **Q. Did Mr. Campbell make any recommendations to address his two concerns?**

19 A. Yes. Mr. Campbell recommended: (1) that a true-up only be calculated in those months in
20 which a CPP is used; and (2) that the amount to be trued-up would be equal to the difference
21 between the price for capacity charged by PJM and the CPP, multiplied by the supplier's
22 actual UCAP quantity.

1 **Q. Do you agree with Mr. Campbell's recommendation on how the CPP should be**
2 **calculated?**

3 A. No. The Companies' proposal will spread out any price-to-compare ("PTC") impacts over
4 a 24-month period, while Mr. Campbell's recommendation would essentially convert the
5 true-up to a 12-month reconciliation. In the example provided in Met-Ed/Penelec/Penn
6 Power/West Penn Exhibit WZ-2, Mr. Campbell's methodology would result in a true-up
7 credit of \$55.96 (PJM capacity price \$43.22 minus CPP for Year 2 of \$99.18) to customers
8 only in Year 2. In contrast, the Companies' methodology would result in a true-up credit
9 of \$27.98 to customers over 24 months where the true-up price was calculated as the
10 difference between the final day weighted average price over 24 months (the capacity price
11 for both Year 1 and Year 2) and the initial day weighted average price over 24 months (the
12 capacity price for Year 1 and CPP for Year 2). Smoothing out the CPP differential across
13 the 24 months would prevent potentially large impacts to the PTC in Year 2. The
14 adjustment would be at a rate close to \$55.96/MW (as compared to \$27.98/MW for 24
15 months). In other words, the CPP true-up methodology proposed by the Companies will
16 mitigate volatility in the PTC changes for customers.

17 In addition, Mr. Campbell's recommendation on changes to the true-up methodology may
18 distort price signals. If the Base Residual Auction ("BRA") is known prior to the CPP
19 delivery year, reconciling the CPP price differential across all 24 months of the two-year
20 product allows the Companies to accurately represent the true PTC, thus keeping the
21 impact of the CPP on customers neutral. Delaying the implementation of the CPP true-up
22 to the planning year that used a proxy price as Mr. Campbell proposes would prevent those
23 rate adjustments in the Companies' PTC riders from occurring in year one of the two-year
24 product.

1 **Q. Do you agree with Mr. Campbell’s assertion that there is a mismatch of timing and**
2 **cash flow under the Companies’ true-up proposal?**

3 A. No. The Companies’ true-up proposal is consistent with how payment to default service
4 suppliers with 24-month products without a CPP is handled. From a cash flow perspective,
5 because suppliers are paid a blended rate for serving default service for the two-year
6 product, which encompasses two different capacity delivery years, resettling the proxy
7 price across all 24 months aligns with the default service auction rate paid to suppliers. If
8 there is no CPP, the default service rate would incorporate final capacity costs into the
9 blended rate for all 24 months. Under Mr. Campbell’s proposal, which is akin to creating
10 two separate 12-month products, the payment timing would not align with 24-month
11 products without a CPP.

12 **Q. Are any other electric distribution companies in Pennsylvania using the CPP true-up**
13 **methodology being proposed by the Companies?**

14 A. Yes. The Companies’ proposed true-up methodology is consistent with Duquesne Light
15 Company’s (“Duquesne”) Commission-approved methodology.¹

16 **III. CONCLUSION**

17 **Q. Does this conclude your rebuttal testimony?**

18 A. Yes, it does.

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¹ Please refer to Duquesne’s Petition for Modification dated August 9, 2021 which discusses the CPP true-up methodology for their PA default service suppliers: https://www.duquesnelight.com/docs/default-source/pdf-library/procurement/08-09-21-dsp-ix--cpp-final.pdf?sfvrsn=10d0aa42_2. The Petition was granted by Commission Order entered September 15, 2021 at Docket No. P-2021-3027796.

Exhibit WZ-1R

**METROPOLITAN EDISON COMPANY
PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY,
AND
WEST PENN POWER COMPANY**

**DEFAULT SERVICE
SUPPLIER MASTER AGREEMENT**

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PENNSYLVANIA DEFAULT SERVICE SUPPLIER MASTER AGREEMENT

THIS DEFAULT SERVICE SUPPLIER MASTER AGREEMENT, made and entered into this ____ day of _____ (“Effective Date”), by and between [**Applicable EDC listed here - Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company or West Penn Power Company**] (the “Company” and “Buyer”), a corporation and a public utility organized and existing under the laws of the Commonwealth of Pennsylvania **INSERT NAME OF SUPPLIER** (“DS Supplier”), the Company and the DS Supplier hereinafter sometimes referred to collectively as the “Parties”, or individually as a “Party”,

WITNESSETH:

WHEREAS, the Company is an electric public utility engaged, *inter alia*, in providing retail electric service within its service territory located in the Commonwealth of Pennsylvania; and

WHEREAS, the Pennsylvania Public Utility Commission (“PaPUC” or “Commission”) Orders issued pursuant to the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2801-2812, direct Buyer to supply electric service to Default Service Load within Buyer’s Pennsylvania franchise service territory; and

WHEREAS, the PaPUC has found that, for periods further identified in Appendix C it would serve the public interest for the Company to secure Default Service Supply (“DS Supply”) through a competitive procurement process (“DS Solicitation”) and the PaPUC has approved such a process; and

WHEREAS, the Company has conducted and completed a successful DS

Solicitation for the provision of DS Supply, and the DS Supplier was one of the winning bidders in the DS Solicitation; and

WHEREAS, pursuant to the competitive bidding procedures of the DS Solicitation, the Company and the DS Supplier desire to enter into this Agreement setting forth their respective rights and obligations concerning the provision of DS Supply.

NOW, THEREFORE, in consideration of the mutual covenants and promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto, intending to be legally bound, hereby covenant, promise and agree as follows:

ARTICLE 1: DEFINITIONS

Any capitalized or abbreviated term not elsewhere defined in this Agreement shall have the definition set forth in this Article.

AEPS Act – The Pennsylvania Alternative Energy Portfolio Standards Act, 73 P.S. §§ 1648.1-1648.8.

Affiliate - means, with respect to any entity, any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity. For this purpose, “control” means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

Allocated AECs – Shall mean the types and amounts of AECs specified on Appendix E, [if any](#).

Alternative Energy Credit or “AEC” – Shall have the meaning ascribed thereto in the AEPS Act.

Alternative Energy Portfolio Standards or “AEPS” – Standards requiring that a certain amount of electric energy sold to retail electric customers in the Commonwealth of Pennsylvania be comprised of electricity generated from alternative energy sources, as measured by AECs, in accordance with the requirements of the AEPS Act and provisions of the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2812-

14, in effect on the Effective Date including, without limitation, any subsequent increases in Tier I requirements under 66 Pa.C.S. § 2814.

Ancillary Services – Shall have the meaning ascribed thereto in the PJM Agreements.

Applicable Legal Authorities – Those ~~f~~Federal and Pennsylvania statutes and administrative rules and regulations that govern the electric utility industry in Pennsylvania, as they may be amended from time to time.

Auction Revenue Rights or “ARR” – The current or any successor congestion management mechanisms as may be employed by PJM (whether set forth in the PJM Agreements or elsewhere) for the purpose of allocating financial congestion hedges or financial transmission auction revenue rights. As currently defined by PJM, ARRs are entitlements allocated annually by PJM which entitle the holder to receive an allocation of the revenues from the annual auction of financial transmission rights conducted by PJM pursuant to the PJM Agreements.

Bankruptcy Code – Those laws of the United States of America related to bankruptcy, codified and enacted as Title 11 of the United States Code, entitled “Bankruptcy” and found at 11 U.S.C. § 101 et seq., as such laws may be amended, modified, replaced or superseded from time to time.

Billing Line Item Transfers - “Billing Line Item Transfers” shall have the meaning ascribed to it in Section 2.4 (PJM Services).

Billing Month – Each calendar month during the term of this Agreement.

Business Day – Any day on which the Company’s and PJM’s corporate offices are open for business and commercial banks are not authorized or required to close in New York, New York.

Capacity – “Unforced Capacity” as set forth in the PJM Agreements, or any successor, measurement of the capacity obligation of a Load Serving Entity as may be employed in PJM (whether set forth in the PJM Agreements or elsewhere).

[Capacity Market Auction](#) – The auctions conducted by PJM in the accordance with PJM’s Reliability Pricing Model (“RPM”).

[Capacity Proxy Price or “CPP”](#) - The capacity price DS Suppliers account for in their bid if the PJM capacity price is not known for a given year.

Charge – Any fee, charge or other amount that is billable by the Company to the DS Supplier under this Agreement.

Commercial Class – Group of Rate Schedules that comprise the Commercial Class for DS Supply and itemized in Appendix C.

Costs – With respect to the Non-Defaulting Party, brokerage fees, commissions and other similar transaction costs and expenses reasonably incurred by such Party either in terminating any arrangement pursuant to which it has hedged its obligations or entering into new arrangements which replace this Agreement; and all reasonable attorneys’ fees and expenses incurred by the Non-Defaulting Party in connection with the termination of this Agreement.

Customer – Any person or entity who enters a contractual agreement with the Company to receive retail electric service including, without limitation, all persons or entities taking service under a retail tariff, eligible to receive competitive electricity supply from an EGS or DS, respectively, in accordance with the Applicable Legal Authorities.

Damages – Financial compensation from the Defaulting Party to the Non-Defaulting Party associated with the occurrence of an Event of Default or an Early Termination of this Agreement. This compensation shall be assessed pursuant to Article 5 of this Agreement.

Default Allocation Assessment – shall have the meaning ascribed to it under the PJM Agreements.

Defaulting Party – A Party to this Agreement that has caused or precipitated an Event of Default or an Early Termination of this Agreement.

Default Service or “DS” – Electric generation service that is provided at retail pursuant to the Applicable Legal Authorities under the Company’s retail electric tariffs and under any other agreements or arrangements between the Company and Customers, to any Customer that is not being served by an EGS.

Default Service Supply or “DS Supply” – All necessary Energy, Capacity, AECs for AEPS Act compliance, Ancillary Services, and transmission services, all transmission and distribution losses and congestion and imbalance costs associated with the provision of such services, and such other services or products that the DS Supplier may be required, by PJM or any governmental body having jurisdiction, to provide in order to meet the DS Supplier Responsibility Share for serving DS Load under this Agreement and as detailed in Appendix C. For the avoidance of doubt, any reference in this Agreement to any other agreement for DS Supply shall include any agreement between the Parties for the provision of Energy to serve DS Load, even if such other agreement does not require delivery of additional products (e.g., Capacity).

Delivery Period – The delivery period specified in Appendix C.

Delivery Point – Means the applicable zone of the Company as designated by PJM.

DS Customer(s) – Retail customers who are provided Default Service pursuant to the terms of this Agreement, the Applicable Legal Authorities and the Company’s retail tariffs.

DS Fixed Percentage – The percentage of DS Supply provided at a fixed price, as set forth in Exhibit 1.

DS Fixed Price – The price in dollars per MWh, as set forth in Exhibit 1 hereto, as determined pursuant to the DS Solicitation.

DS Load – The aggregate load of DS Customers being provided DS Supply.

DS Solicitation – The competitive bidding processes, procedures and rules employed by the Company to competitively procure DS Supply for purposes of this Agreement.

DS Supplier – An entity that (i) has been selected through the DS Solicitation and has accepted the obligations and associated rights to provide DS Supply to the Company for retail customers in accordance with the Applicable Legal Authorities, (ii) has entered into this Agreement with the Company as a Party, and (iii) is a PJM Member and registered with PJM as a LSE.

DS Supplier Representative – Any officer, director, employee, consultant, contractor, or other agent or representative of the DS Supplier in connection with the DS Supplier's activity under this Agreement. To the extent the DS Supplier is a division or group of a company, the term DS Supplier Representative does not include any person in that company who is not part of the DS Supplier division or group.

DS Supplier Responsibility Share – The fixed percentage share of the Company's DS Load for which the DS Supplier is responsible as set forth in Appendix C.

DS Tariff – The Company's existing schedules of rates and services provided to retail customers as currently on file with the Commission and on the Company's website at https://www.firstenergycorp.com/content/customer/customer_choice/pennsylvania/pennsylvania_tariffs.html, as they may be amended from time to time.

DS Variable Percentage – The percentage of DS Supply provided at a variable price, as set forth in Exhibit 1 hereto.

DS Variable Price – The price in dollars per MWh, as set forth in Exhibit 1 hereto.

Early Termination – Termination of this Agreement prior to the end of the term due to the occurrence of an Event of Default as specified in Article 5.2 of this Agreement and the declaration of Early Termination.

Early Termination Date – The date upon which an Early Termination becomes effective as specified in Article 5.2 of this Agreement.

Electric Distribution Company or "EDC" – A public utility providing facilities for the transmission and distribution of electricity to retail customers in Pennsylvania.

Electric Generation Supplier or “EGS” – A person or entity that is duly certified by the Commission to offer and provide competitive electric supply to retail customers located in the Commonwealth of Pennsylvania.

Emergency – (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm load, equipment damage, or tripping of system elements that could adversely affect the reliability of an electric system or the safety of persons or property; or (ii) a condition that requires implementation of Emergency Operations Procedures as defined in the PJM Agreements or PJM manuals; or (iv) any other condition or situation that the Company or PJM deems imminently likely to endanger life or property or to affect or impair the Company’s electrical system or the electrical system(s) of other(s) to which the Company’s electrical system is directly or indirectly connected (a “Connected Entity”). Such a condition or situation may include, but shall not be limited to, potential overloading of the Company’s transmission and/or distribution circuits, PJM minimum generation (“light load”) conditions, or unusual operating conditions on either the Company’s or a Connected Entity’s electrical system, or conditions such that the Company is unable to accept Energy from the DS Supplier without jeopardizing the Company’s electrical system or a Connected Entity’s electrical system. Other additional emergencies can only be declared by PJM, FERC, or the PaPUC.

Energy – Three-phase, 60-cycle alternating current electric energy, expressed in units of kilowatt-hours or megawatt-hours.

Event of Default – A Party’s breach of obligations under this Agreement as set forth in Article 5 of this Agreement.

FERC – The Federal Energy Regulatory Commission.

Final Monthly Energy Allocation or “FMEA” – A quantity of Energy which, for any Billing Month, is the PMEA adjusted for any billing or metering data received subsequent to the calculation of PMEA of which PJM is notified within 60 days.

Force Majeure - Means an event or circumstance which prevents one Party from performing its obligations under one or more transactions, such as riots or revolutions, demands or embargoes of the United States Government, fire, flood, drought, insurrection, acts of God which are not within the reasonable control of, or the results of the negligence of the affected Party and which, by the exercise of due diligence, the Party is unable to mitigate or avoid or cause to be avoided. Notwithstanding the foregoing, under no circumstance shall an event of Force Majeure be based on: (i) the loss or failure of DS Supplier’s supply; (ii) DS Supplier’s ability to sell the DS Supply at a price greater than that received under any Transaction; (iii) curtailment by a utility transmitting DS Supply; (iv) the Company’s ability to purchase the DS Supply at a price lower than paid under any Transaction; (v) any change in requirements of any governmental authority; or (vi) labor stoppage or lockout.

Forward Market Price – The price for On-peak Energy Forward Price and Off-peak Energy Forward Price as determined by averaging concurrent broker quotes obtained by the Company for the Market Price Hub as available.

Gains – With respect to any Party, an amount equal to the present value of the economic benefit to it, if any (exclusive of Costs), resulting from an Early Termination of this Agreement, determined in a commercially reasonable manner.

Generator Attribute Tracking System or “GATS” - the system owned and operated by PJM Environmental Services, Inc. to provide reporting and tracking services to its subscribers in support of the AEPS Act, or any successor credit registry selected by the PaPUC. (As specified in Appendix E)

Guarantor – Any party having the authority and agreeing to guarantee the DS Supplier’s financial obligations under this Agreement, recognizing that such party shall be obligated to meet the Company’s creditworthiness requirements specified in this Agreement for such DS Supplier.

Guaranty – A guaranty, suretyship, hypothecation agreement, margins or security agreement or any other document in the form attached to this DS Supplier Master Agreement or other form approved by the Company.

Independent Credit Requirement per Tranche or ICRT - Amount per Tranche required as security under Section 6.3, to mitigate the risk to the Company of Energy price movements between the date of an Early Termination caused by an Event of Default by a DS Supplier and the date the final calculation of Default Damages owing to the Company under Section 5.3 is made.

Independent Credit Threshold or ICT- Amount of credit, based on the creditworthiness of a DS Supplier or its Guarantor, if applicable, determined pursuant to Section 6.4, granted by the Company to such DS Supplier to be applied towards the satisfaction of such DS Supplier’s Independent Credit Requirement.

~~Independent Credit Requirement per Tranche or “ICRT” – A financial security requirement that requires suppliers to provide collateral based on the number of tranches a supplier won.~~

Industrial Class - Group of Rate Schedules that comprise the Industrial Class for the DS Supply and itemized in Appendix C.

Interest Index – The average Federal Funds Effective Rate for the period of time the funds are on deposit. The Federal Funds Effective Rate is published daily on the Federal Reserve website (<http://www.federalreserve.gov/releases/h15/update/>).

Kilowatt or “kW” – Unit of measurement of useful power equivalent to 1000 watts.

Kilowatt-hour or “kWh” – One kilowatt of electric power used over a period of one hour.

Load Serving Entity or “LSE” – An entity that has been granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electricity to retail customers located within the PJM Control Area as that term is defined in the PJM Agreements or in successor, superseding or amended versions of the PJM Agreements that may take effect from time to time over the term of this Agreement.

Losses – With respect to any Party, an amount equal to the present value of the economic loss to it, if any (exclusive of Costs), resulting from an Early Termination of this Agreement, determined in a commercially reasonable manner.

Margin – The amount by which the Total Exposure Amount exceeds the DS Supplier’s, or Guarantor’s, credit limit as defined in Section 6.456.

Mark-to-Market (“MtM”) Exposure Amount – An amount calculated daily for each DS Supplier reflecting the total MtM credit exposure to the Company due to fluctuations in market prices for Energy minus amounts due pursuant to this Agreement to such DS Supplier for the delivery of DS Supply. The methodology for calculation of the MtM credit exposure is illustrated in Appendix B.

Market Price Hub - A liquid pricing point located within PJM’s geographic footprint, as specified in Appendix B.

Maximum Credit Limit – The lesser of the applicable percentage of TNW or the applicable credit limit cap as specified in Section 6.456 of this Agreement.

Megawatt or MW – One thousand kilowatts.

Megawatt-hour or MWh – One megawatt of electric power used over a period of one hour.

Merger Event – When a DS Supplier consolidates or amalgamates with, or merges into or with, or transfers all or substantially all of its assets to another entity and either (i) the resulting entity fails to assume all of the obligations of such DS Supplier hereunder in the sole discretion of the Company or (ii) the benefits of any credit support provided pursuant to Article 6 of this Agreement fail to extend to the performance by such resulting, surviving or transferee entity of the DS Supplier’s obligations hereunder, and the resulting entity or its guarantor fails to meet the creditworthiness requirements of this Agreement in the sole discretion of the Company.

Minimum Rating – A minimum senior unsecured debt rating as defined in Appendix A of this Agreement.

Minimum Transfer Amount - \$100,000.

NERC – The North American Electric Reliability Council or its successor.

Network Integration Transmission Service or “NITS” – “Network Integration Transmission Service” under the PJM Agreements in effect as of the date of this Agreement, or its successor, superseding or amended versions of the PJM Agreements that may take effect from time to time over the term of this Agreement. In the event the PJM Agreements are modified such that “Network Integration Transmission Service” is no longer offered, Network Integration Transmission Service shall mean the type of transmission service offered under the PJM Agreements that is accorded the highest level of priority for scheduling and curtailment purposes.

Non-Defaulting Party - A Party to this Agreement who, at the time an Event of Default occurs, is not itself in default of this Agreement and has not otherwise caused or precipitated an Event of Default or Early Termination of this Agreement.

Off-Peak Energy Forward Price - Means the price for Off-Peak Hours for each billing month of the delivery period stated in terms of \$/MWh as based on the most recent publicly available information and/or quotes from reference market makers on forward energy transactions occurring at the Market Price Hub. In the event that the Market Price Hub is no longer available or no longer representative of a transparent trading hub, the Parties will negotiate in good faith to agree upon an alternate liquid price.

On-Peak Energy Forward Price – Means the price for On-Peak Hours for each billing month of the delivery period stated in terms of \$/MWh as based on the most recent publicly available information and/or quotes from reference market makers on forward energy transactions occurring at the Market Price Hub. In the event that the Market Price Hub is no longer representative of a transparent trading hub, the Parties will negotiate in good faith to agree upon an alternate liquid price.

PaPUC or Commission – The Pennsylvania Public Utility Commission or its successor.

PJM – PJM Interconnection L.L.C. or its successor.

PJM Agreements – The PJM OATT, PJM RAA, PJM OA and all other PJM agreements, procedures, manuals and documents applicable to the Transactions covered by or relating to this Agreement.

PJM Control Area – That certain Control Area encompassing electric systems in parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia, as may be modified from time to time, and which is recognized by the North American Electric Reliability Council as the "PJM Control Area".

PJM Member – A member in good standing of PJM that satisfies the requirements to conduct business with PJM.

PJM OA – The PJM Operating Agreement or the successor, superseding or amended version of the PJM Operating Agreement that may take effect from time to time.

PJM OATT – The PJM Open Access Transmission Tariff or the successor, superseding or amended version of the PJM Open Access Transmission Tariff that may take effect from time to time.

PJM OI – The PJM Office of Interconnection, the system operator for the PJM Control Area.

PJM RAA – The PJM Reliability Assurance Agreement or the successor, superseding or amended version of the PJM Reliability Assurance Agreement that may take effect from time to time.

PMEA/FMEA Adjustment Amount – For any Billing Month, the monetary amount due to the DS Supplier or the Company, as the case may be, in order to reconcile any difference between the PMEA used for the purpose of calculating estimated payments made to DS Supplier for a given month and the FMEA used for calculating the final payments due to the DS Supplier for such month as more fully described in Article 9 hereof.

Preliminary Monthly Energy Allocation or “PMEA” – A quantity of Energy which, for any Billing Month, is the preliminary calculation of the DS Supplier’s DS Supplier Responsibility Share.

Rate Schedule(s) – Shall mean the specified existing, and modified or successor customer rate schedule(s) in the electric service tariff of the Company filed with the Commission.

Reliability First Corporation or “RFC” – The approved regional NERC entity with responsibility for the Commonwealth of Pennsylvania.

Residential Class – Group of Rate Schedules that comprise the Residential Class for the DS Supply and itemized in Appendix C

Rounding Amount - \$100,000

Settlement Amount – With respect to a Non-Defaulting Party, the net amount of the Losses or Gains, and Costs, expressed in U.S. Dollars, which such Party incurs as a result of Early Termination, as set forth in Section 5.4(a) of this Agreement. For the purposes of calculating the Termination Payment, the Settlement Amount shall be considered an amount due to the Non-Defaulting Party under this Agreement if the total of the Losses and Costs exceeds the Gains and shall be considered an amount due to the Defaulting Party under this Agreement if the Gains exceed the total of the Losses and Costs.

Statement – A monthly report prepared by the Company for the DS Supplier indicating the amount due to the DS Supplier by the Company as compensation for DS Supply supplied to DS Customers by the DS Supplier during the current Billing Month, in accordance with DS Supplier’s obligations under this Agreement.

Supply Day – Any calendar day during the term of this Agreement on which the DS Supplier is providing, or is obligated by this Agreement to provide, DS Supply to the Company’s DS Customers.

Tangible Net Worth or “TNW” – Total assets less intangible assets and total liabilities. Intangible assets include benefits such as goodwill, patents, copyrights and trademarks.

Termination Payment – An amount paid by the Defaulting Party due to Early Termination.

Tier I AEC – Shall mean an AEC generated by a non-solar photovoltaic energy source that will satisfy the non-solar Tier I requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Tier I (Solar) AEC – Shall mean an AEC generated by a solar photovoltaic energy source that will satisfy the Tier I solar photovoltaic requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Tier II AEC - Shall mean an AEC generated by a non-solar photovoltaic energy source that will satisfy the non-solar Tier II requirements of the AEPS Act applicable to the Company. (As specified in Appendix E)

Total Exposure Amount – An amount calculated daily for the DS Supplier reflecting the total credit exposure to the Company and consisting of the sum of (i) the Mark-to-Market Exposure Amount arising under this Agreement; (ii) any amount(s) designated as the “Mark-to-Market Exposure Amount” arising under any other DS Supply agreements providing for “DS Supply” or similar default service; and (iii) the amount designated as the “credit exposure” under any other DS Supply agreements providing for DS Supply or similar default service; provided that in the event the amount calculated for any day is a negative number, it shall be deemed to be zero for such day.

Tranche – A fixed percentage share of the Company’s DS Load, as specified in Appendix C.

Transaction – Means a particulate agreement by which the Company purchases and the DS Supplier sells DS Supply pursuant to this Agreement, the details of which are more fully set forth in Exhibit 1 – Transaction Confirmation.

Transaction Confirmation – Shall have the meaning ascribed to it in Appendix C and Exhibit 1 of this Agreement.

ARTICLE 2: GENERAL TERMS AND CONDITIONS

2.1 Capacity In Which Company Is Entering Into This Agreement

The DS Supplier agrees and acknowledges that the Company is contracting for the provision of DS Supply from such DS Supplier for Customers receiving Default Service on the Company's electric system pursuant to the authorizations provided to the Company. The DS Supplier further agrees and acknowledges that the Company will administer and monitor the DS Supplier's performance in providing DS Supply under this Agreement and that the Company shall be entitled to enforce the DS Supplier's obligations related to the provision of DS Supply. The DS Supplier hereby permanently, expressly and irrevocably waives any claim that Company is not entitled to seek enforcement of this Agreement on behalf of Customers. It is the specific intention of the Parties hereto that Customers and Customer groups are not third party beneficiaries of this Agreement and that no Customer or Customer group shall seek enforcement of this Agreement against the DS Supplier on their own behalf, either independently or by joining in any legal proceeding brought by the Company.

The Parties acknowledge that the Agreement is a forward contract and, accordingly, the Parties hereto are entitled to the protections of Section 556 of the Bankruptcy Code. The Parties therefore agree that the Agreement may be terminated by either Party upon the commencement of a proceeding by the other Party under any chapter of the Bankruptcy Code in accordance with Article 5.2 of this Agreement.

2.2 Parties' Obligations

(a) Obligations of DS Supplier

The DS Supplier hereby agrees as follows:

- (i) DS Supplier shall provide service on a firm and continuous basis such that the supply delivered for the term of the Agreement meets the terms and conditions set forth in Appendix C;
- (ii) To provide sufficient quantities of DS Supply on an instantaneous basis at all times and supplied to the Delivery Point to meet the DS Supplier Responsibility Share;
- (iii) To procure those services provided by the PJM OI and to perform such functions as may be required by the PJM OI that are necessary for the delivery of DS Supply required hereunder;
- (iv) To cooperate with the Company in any regulatory compliance efforts that may be required to maintain the ongoing legitimacy and enforceability of the terms of this Agreement and to fulfill any regulatory reporting requirement associated with the provision of DS Supply, before the PaPUC, FERC or any other regulatory body asserting jurisdiction;
- (v) To become the Load Serving Entity (“LSE”) with respect to the provision of DS Supply for the DS Supplier Responsibility Share and to comply with all requirements of a LSE with respect to such DS Supplier Responsibility Share;
- (vi) To pay to the Company the PMEA/FMEA Adjustment Amount for any Billing Month in which the PMEA exceeds the FMEA, as more fully described in Article 9 of this Agreement;
- (vii) To accept assignment of and to fulfill all obligations of a LSE that are assigned to it by this Agreement;

- (viii) To comply in a timely manner with all obligations under this Agreement imposed upon the DS Supplier; and
- (ix) To comply with the AEPS requirements of the Company's Default Service Plan, as detailed in Appendix E.

(b) Obligations of the Company

The Company hereby agrees as follows:

(i) To pay to each DS Supplier every month an amount due, resulting from the calculations, as detailed in Article 9 of this Agreement, subject to the adjustments as expressed therein;

(ii) Pay to the DS Supplier the PMEA/FMEA Adjustment Amount for any Billing Month in which the FMEA exceeds the PMEA, as more fully described in Article 9 of this Agreement;

(iii) To provide to the DS Supplier its estimated aggregate load obligation (capacity MW value) for each Supply Day no less than five (5) calendar days prior to the day of delivery. Further, this information will be posted in the DS Supplier's specific PJM eMTR account, or successor system or process;

(iv) To comply in a timely manner with all obligations under this Agreement imposed upon the Company;

(v) Accept the delivery of DS Supply necessary to meet the DS Load;
and

(vi) Be responsible (as between the Company and the DS Supplier) for the provision of the Allocated AECs, if any, to satisfy a portion of AEPS requirements.

2.3 Congestion and Congestion Management

The DS Supplier is responsible for any congestion costs incurred to meet the DS Supplier Responsibility Share. The Company shall transfer or assign to the DS Supplier the Company's rights to Auction Revenue Rights (ARRs) to which the Company is entitled as an LSE pursuant to the PJM Agreements, including the rights to ARRs, provided that such rights are related to the service being provided to meet the DS Supplier Responsibility Share and such rights are for the Delivery Period. All rights, liabilities and obligations associated with such ARRs will accrue and be assumed by the DS Supplier through the transfer or assignment from the Company to the DS Supplier including the responsibility and ability of the DS Supplier to request or nominate such ARRs when applicable and feasible. Should the conditions above not be met, the entity recognized by PJM as having the right to make the nominations will nominate such ARRs for the upcoming PJM planning period and such ARRs will be allocated to the DS Supplier in accordance with the PJM Agreements based upon its DS Supplier Responsibility Share.

2.4 PJM Services

The DS Supplier shall make all necessary arrangements for the delivery of DS Supply through the PJM OI. The Company will advise the PJM OI of the magnitude and location of each DS Supplier's actual DS Supplier Responsibility Share, as required by the PJM OI, for the purpose of calculating such DS Supplier's appropriate DS Supply requirements related to the provision of service under this Agreement by DS Supplier arising under the PJM Agreements. The DS Supplier shall remain responsible to PJM for the performance of its LSE obligations associated with the provision of DS Supply under this Agreement until the effective date of the transfer of such LSE obligations.

The Company shall generate and provide to DS Supplier PJM shortname(s) associated with supplier's unique contract type(s), as necessary. Unique shortname(s) may be generated for each differing contract type. DS Supplier shall complete all required forms and processing to PJM to create shortname(s) within the PJM system.

For the period of time that this Agreement is in effect, both Buyer and DS Supplier agree that PJM Settlement, Inc, shall transfer the applicable billing line item charges and/or credits as designated between the Buyer and DS Supplier in EXHIBIT D. Buyer will be responsible for initiating and/or maintaining Billing Line Item Transfers utilizing the PJM Billing Line Item Tool. DS Supplier agrees to confirm/approve Billing Line Item Transfers by the last business day of the month prior to the Delivery Period of the first Transaction under the Agreement.

2.5 PJM Agreement Modifications

(a) If the PJM Agreements are amended or modified so that any schedule or section references herein to such agreements is changed, such schedule or section references herein shall be deemed to automatically (and without any further action by the Parties) refer to the new or successive schedule or section in the PJM Agreements which replaces that originally referred to in this Agreement.

(b) If the applicable provisions of the PJM Agreements referenced herein, or any other PJM rules relating to the implementation of this Agreement, are changed materially from those in effect on the Effective Date, both Parties shall cooperate to make conforming changes to this Agreement to fulfill the purposes of this Agreement, including the DS Supplier's responsibility for changes in PJM products and pricing during the Term.

2.6 PJM Member Default Cost Allocation

In the event PJM imposes a Default Allocation Assessment upon the Company relating to a default during the Term, the Company shall invoice DS Supplier and DS Supplier shall pay an amount equal to the product of (i) DS Supplier Responsibility Share, and (ii) the Default Allocation Assessment, less the amounts of any types of charges allocated to the Company under this Agreement that are used by PJM in calculating such Default Allocation Assessment.

2.7 Other Fines and Penalties

If fees, fines, penalties, or costs are claimed or assessed against the Company by any Applicable Legal Authority or PJM due to noncompliance by the DS Supplier with this Agreement, any other requirements of law, or the PJM Agreements, the DS Supplier shall indemnify and hold the Company harmless against any and all losses, liabilities, damages, and claims suffered or incurred by the Company, including claims for indemnity or contribution made by third parties against the Company, except to the extent the Company recovers any such losses, liabilities or damages through other provisions of this Agreement.

2.8 Communications and Data Exchange

The DS Supplier and the Company shall supply to each other in a thorough and timely manner all data, materials or other information that is specified in this Agreement, or that may otherwise reasonably be required by DS Supplier or by the Company in connection with the provision of DS Supply by the DS Supplier to DS Customers, if required.

The DS Supplier shall be equipped with the communications capabilities necessary

to comply with the communications and data exchange standards that are set by and as may, from time to time, be modified by PJM, and shall exclusively bear the costs of installing, maintaining, testing, and operating all required information technology systems that will enable it to send to and receive data from the Company and PJM and to satisfy its obligations under this Agreement, the PJM Agreements and all other relevant agreements.

2.9 Record Retention

The Company shall retain necessary records for the longer of two years or as required under applicable PaPUC requirements so as to permit DS Supplier to confirm the validity of payments due to DS Supplier hereunder; provided that if a DS Supplier has provided notice pursuant to this Agreement that it disputes the validity of any payments, the Company agrees that it shall retain all records related to such dispute until the dispute is finally resolved.

2.10 Verification

In the event of a good faith dispute regarding any invoice issued or payment due under this Agreement, and provided that a mutually acceptable confidentiality agreement is executed by the Parties, each Party will have the right to verify, at its sole expense, the accuracy of the invoice or the calculation of the payment due by obtaining copies of relevant portions of the books and records of the other Party.

2.11 Forward Contract Merchant

The Parties agree that the Agreement is a “forward contract merchant” within the meaning of the United States Bankruptcy Code, all setoffs, netting and liquidations contemplated hereunder constitute “settlement payments” as set forth in Sections 101 and

741 of the United States Bankruptcy Code and each payment or transfer of Performance Assurance is a “margin payment”, “settlement payment” or transfer within the meaning of Section 101 of the United States Bankruptcy Code for the purposes of and as used in such Code.

ARTICLE 3: REPRESENTATIONS AND WARRANTIES

3.1 DS Supplier’s Representations and Warranties

The DS Supplier hereby represents, warrants and covenants to the Company on the Effective Date and throughout the term of this Agreement as follows:

a) It is a corporation, partnership, limited liability company or other legal entity, duly organized, validly existing and in good standing under the laws of the Commonwealth of Pennsylvania or, if another jurisdiction, under the laws of such jurisdiction and, in such case, is duly registered and authorized to do business in such other jurisdiction;

b) It has all requisite power and authority to execute and deliver this Agreement and to carry on the business to be conducted by it under this Agreement and to enter into and perform its obligations hereunder, including satisfaction of all applicable FERC requirements;

c) The execution and delivery of this Agreement and the performance of such DS Supplier’s obligations hereunder have been duly authorized by all necessary action on the part of the DS Supplier and do not and will not conflict with, or constitute a breach of or default under, any of the terms, conditions, or provisions of the DS Supplier’s certificate of incorporation or bylaws or other constituent instruments or any indenture, mortgage, other evidence of indebtedness, or other agreement or instrument or any statute or rule,

regulation, order, judgment, or decree of any judicial or administrative body to which the DS Supplier is a party or by which the DS Supplier or any of its properties is bound or subject;

d) All necessary and appropriate action that is required on the DS Supplier's part to execute this Agreement has been completed;

e) This Agreement is the legal, valid and binding obligation of the DS Supplier, enforceable in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws from time to time in effect that affect creditors' rights in general or by general principles of equity;

f) There are no actions at law, suits in equity, proceedings or claims pending or, to the DS Supplier's knowledge, threatened against the DS Supplier before any ~~f~~Federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the DS Supplier's performance of its obligations hereunder;

g) It has entered into this Agreement with a full understanding of the material terms and risks of the same, and it is capable of assuming those risks;

h) It is in good standing as an LSE in PJM, is a signatory to all applicable PJM Agreements, and is in compliance with, and will continue to comply with, all obligations, rules and regulations, as established and interpreted by the PJM OI, that are applicable to LSEs as defined by the PJM Agreements; provided that the DS Supplier shall not be obligated to become an LSE in PJM until the date it begins providing DS Supply;

i) It has made its trading and investment decisions (including regarding the suitability thereof) based upon its own judgment and any advice from such advisors as it

has deemed necessary and not in reliance upon any view expressed by the Company;

j) It will comply with any and all information and data transfer protocols that may be adopted by the Company or that are set by, and from time to time modified by, the PaPUC; provided that DS Supplier shall be entitled to exercise its reserved right to challenge any such protocols in the appropriate forum.

k) It is not Bankrupt or insolvent and there are no proceedings pending or being contemplated by it or, to its knowledge, threatened against it which would result in it being or becoming Bankrupt or insolvent;

l) There are no pending, or to its knowledge threatened, actions, suits or proceedings against it or any of its Affiliates, or any legal proceedings before any Governmental Authority, that could materially adversely affect its ability to perform its obligations under this Agreement;

m) No Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement;

n) It is not relying upon the advice or recommendations of the other Party in entering into this Agreement, it is capable of understanding, understands and accepts the terms, conditions and risks of this Agreement, and the other Party is not acting as a fiduciary for or advisor to it in respect of this Agreement;

o) It has entered into this Agreement in connection with the conduct of its business and it has the capacity or ability to provide or take delivery of DS Supply as required by this Agreement; and it is an “eligible contract participant” as defined in Section 1a(12) of the Commodity Exchange Act.

3.2 Company's Representations and Warranties

The Company hereby represents, warrants and covenants to the DS Supplier as follows:

a) The Company is an electric utility corporation duly organized, validly existing and in good standing under the laws of the Commonwealth of Pennsylvania;

b) The Company has all requisite power and authority to carry on the business to be conducted by it under this Agreement and to enter into and perform its obligations hereunder;

c) The execution and delivery of this Agreement and the performance of the Company's obligations hereunder have been duly authorized by all necessary action on the part of the Company and do not and will not conflict with, constitute a breach of or default under, any of the terms, conditions, or provisions of the Company's certificate of incorporation or bylaws or any indenture, mortgage, other evidence of indebtedness, or other agreement or instrument or any statute or rule, regulation, order, judgment, or decree of any judicial or administrative body to which the Company is a party or by which the Company or any of its properties is bound or subject;

d) All necessary and appropriate action that is required on the Company's part to execute this Agreement has been completed;

e) This Agreement is the legal, valid and binding obligation of the Company, enforceable in accordance with its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency or similar laws from time to time in effect that affect creditors' rights in general or by general principles of equity and the Commission's power under section 508 of the Public Utility Code, 66 Pa.C.S. § 508, to amend or modify the

contracts of public utilities;

f) The ability of the Company to pay any and all amounts due and payable under this Agreement, or upon any potential breach thereof, is not conditioned upon any governmental or administrative appropriation by the Commission, the Commonwealth of Pennsylvania or any other governmental authority;

g) There are no actions at law, suits in equity, proceedings or claims pending or, to the Company's knowledge, threatened against the Company before any ~~f~~Federal, state, foreign or local court, tribunal or governmental agency or authority that might materially delay, prevent or hinder the Company's performance of its obligations under this Agreement;

h) It has entered into this Agreement with a full understanding of the material terms and risks of the same, and it is capable of assuming those risks;

i) The Company's performance under this Agreement is not contingent upon the performance of Customers or the ability of Customers to pay rates;

j) The Company shall have sole responsibility for metering and billing with respect to Customers; and

k) The Company shall be responsible for electric distribution services and the DS Supplier shall not be responsible for distribution charges.

3.3 Survival of Obligations

All representations and warranties contained in this Article are of a continuing nature and shall be maintained during the term of this Agreement or until all amounts due hereunder, including all obligations, have been paid or performed in full. If a Party learns that any of the representations, warranties or covenants in this Agreement are no longer

true during the term of this Agreement, the Party shall immediately notify the other Party via facsimile, with a hard copy of the notice delivered by overnight mail.

ARTICLE 4: COMMENCEMENT AND TERMINATION OF AGREEMENT

4.1 Commencement and Termination

The term of this Agreement shall commence upon the Effective Date. Unless otherwise agreed upon by the Company and the DS Supplier, this Agreement shall continue in full force and effect from the Effective Date until the end of all Transaction(s) executed under this Agreement, unless the Agreement is terminated prematurely pursuant to the provisions of this Agreement.

4.2 Termination of Right to Supply

The DS Supplier agrees that termination of this Agreement for reason of an Event of Default shall terminate any right of the DS Supplier to provide DS Supply to the DS Customers and nullify any of the entitlements to which the DS Supplier became entitled as a result of being selected as a winning bidder in the DS Solicitation.

4.3 Survival of Obligations

Termination of this Agreement for any reason shall not relieve the Company or the DS Supplier of any obligation accrued or accruing prior to such termination. Applicable provisions of this Agreement shall continue in effect after termination to the extent necessary to provide for final billings.

4.4 Mutual Termination

The Company and the DS Supplier may agree at any time during the term of this Agreement to terminate their respective rights and obligations hereunder on such terms and

under such conditions that they mutually deem to be appropriate as set forth in a mutual termination agreement acceptable in form and substance to the Company and the DS Supplier (“Mutual Termination Agreement”); provided that Company agrees that it shall enter into such a Mutual Termination Agreement, which will discharge the terminating DS Supplier (the “Terminating DS Supplier”) with respect to liabilities arising after the effective date of the Mutual Termination Agreement if the following conditions precedent are met: (i) the Terminating DS Supplier identifies a replacement DS Supplier willing to assume all obligations of the Terminating DS Supplier hereunder for the remaining term of this Agreement (the “Replacement DS Supplier”); (ii) the Replacement DS Supplier demonstrates its compliance with Article 6 of this Agreement, “Creditworthiness”, as of the effective date of the Mutual Termination Agreement, that determination to be made in the sole discretion of Company; (iii) the Replacement DS Supplier executes a counterpart signature page to this Agreement and thereby becomes a Party under this Agreement, effective immediately following the effective date of the Mutual Termination Agreement; and (iv) the Terminating DS Supplier is not, to the belief or knowledge of the Company, subject to an Event of Default as of the effective date of the Mutual Termination Agreement or, if the Company believes that the Terminating DS Supplier may be subject to an Event of Default, either (a) the Company has determined that, as of the effective date of the Mutual Termination Agreement, it has not incurred any Damages as a result of the Event of Default or (b) if the Company has determined, as of the effective date of the Mutual Termination Agreement, that it may have incurred Damages as a result of the Event of Default, that the Replacement DS Supplier has agreed in writing to be responsible for the

payment of such Damages or to otherwise cure the Event of Default, in either case to the satisfaction of the Company in its sole discretion.

ARTICLE 5: BREACH AND DEFAULT

5.1 Events of Default

An Event of Default under this Agreement shall occur if a Party (the “Defaulting Party”):

- (i) Is the subject of a voluntary bankruptcy, insolvency or similar proceeding;
- (ii) Makes an assignment for the benefit of its creditors;
- (iii) Applies for, seeks consent to, or acquiesces in the appointment of a receiver, custodian, trustee, liquidator or similar official to manage all or a substantial portion of its assets;
- (iv) Is dissolved (other than pursuant to a consolidation, amalgamation or merger) or is the subject of a Merger Event;
- (v) Has a secured party take possession of all or substantially all of its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all of its assets;
- (vi) Has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger);
- (vii) In the case of a DS Supplier, PJM terminates the DS Supplier’s ability to make purchases from PJM markets or PJM holds the Company responsible for the provision of DS Supply under this Agreement and PJM does not rescind such termination or assignment of responsibility within seven (7) Business Days;
- (viii) Fails to comply with the creditworthiness requirements as set forth in

Article 6 of this Agreement, including, without limitation, compliance with the creditworthiness requirements to cover the Margin calculated under Section ~~6.5-7~~ or post any Margin due under Section ~~6.5-7~~ of this Agreement, within the time frames set forth in this Agreement;

(ix) Is declared by PJM to be in default of any provision of any PJM Agreement, which default prevents a Party's performance hereunder if such failure is not remedied within three (3) Business Days after written notice;

(x) Failure to make, when due, any payment required pursuant to this Agreement if such failure is not remedied within two (2) Business Days after written notice;

(xi) Violates any ~~f~~ederal, state or local code, regulation or statute applicable to the supply of Energy and/or AECs in a manner that materially, and adversely, affects the Party's performance under this Agreement, including by way of failure to continually satisfy all applicable FERC requirements, or, in the case of the DS Supplier, by way of failure to maintain any other governmental approvals required for participation in the Pennsylvania retail Energy market, or defaults on any obligation or other failure to comply with PJM requirements under the PJM Agreements;

(xii) Is the subject of an involuntary bankruptcy or similar proceeding;

(xiii) Subject to Section 5.3 (b) of this Agreement, in the case of the Company, fails to accept DS Supply properly tendered by the DS Supplier under this Agreement;

(xiv) Failure to perform any material covenant or obligation set forth in this Agreement, if such failure is not remedied within three (3) Business Days after written notice;

(xv) Makes a materially incorrect or misleading representation or warranty under this Agreement or under any response to the DS Solicitation; or

(xvi) Commits an act or makes an omission that constitutes an “Event of Default” under any other agreement(s) for the provision of DS Supply between the Company and the DS Supplier; and fails to remedy such condition, event or delinquency herein above described such that the other Party (the “Non-Defaulting Party”) is completely made whole with respect to such condition, event or delinquency, within three (3) Business Days of receipt of written notice thereof from such Non-Defaulting Party; provided, however, that an Event of Default shall be deemed to have occurred immediately, without any need for the provision of notice thereof by the Non-Defaulting Party and without any right of cure on the part of the Defaulting Party, in the event of the occurrence of a condition, event or delinquency described in subsections “i”, “ii”, “iii”, “iv”, “v”, “vi”, “vii” or “viii” above. Termination of this Agreement by the PaPUC, other regulatory authority or court of law does not constitute an Event of Default under this Agreement.

(xvii) With respect to the DS Supplier’s Guarantor, if any:

1. any representation or warranty made by the Guarantor in connection with this Agreement is false or misleading in any material respect when made or when deemed made or repeated;
2. Guarantor fails to make, when due, any payment required or to perform any other material covenant or obligation in any guaranty made in connection with this Agreement and such

failure shall not be remedied within two (2) Business Days after written notice;

3. Guarantor's guaranty fails to be in full force and effect for purposes of this Agreement (other than in accordance with its terms) prior to the satisfaction of all obligations of such Party under this Agreement without the written consent of the other Party; or
4. Guarantor repudiates, disaffirms, disclaims, or rejects, in whole or in part, or challenges the validity of any guaranty.

5.2 Rights upon Default

Upon and during the continuation of an Event of Default, the Non-Defaulting Party shall have the right to suspend performance, provided that such suspension shall not continue for longer than ten (10) Business Days. At any time during or subsequent to the temporary suspension of performance, the Non-Defaulting Party may proceed with the steps outlined in Article 5.7. In addition to any other remedies available at law or in equity to the Non-Defaulting Party, if an Event of Default has occurred and is continuing, the Non-Defaulting Party shall have the right to implement all of the following remedies:

- (i) Declare an Early Termination Date of this Agreement with respect to the obligations of the Defaulting Party without any liability or responsibility whatsoever except for obligations arising prior to the date of termination, by providing written notice to the Defaulting Party; provided, however, that this Agreement shall immediately terminate automatically and without notice in the case of any Event of Default in which a DS Supplier

is the Defaulting Party occurring under subsections (i), (ii), (iii), (iv), (v), (vi), (vii) or (viii) of Article 5.1 of this Agreement and such date of automatic termination shall be deemed the Early Termination Date of this Agreement with respect to such DS Supplier; and

- (ii) Receive Damages in accordance with Section 5.3 of this Agreement.

The Non-Defaulting Party shall be entitled to elect or pursue one or more of the above remedies.

5.3 Damages Resulting From an Event of Default

(a) **DS Supplier's Failure to Supply DS Supply or Declaration of Early Termination By Company:** Damages resulting from (i) the DS Supplier's failure to (A) provide DS Supply in conformance with Article 2.2 hereof or (B) pay PJM for purchases of any products or services from PJM, or other failure to comply with PJM requirements, such that PJM holds the Company responsible for the provision of DS Supply to meet the DS Supplier's DS Supplier Responsibility Share under this Agreement or (ii) the occurrence of any Event of Default attributable to the DS Supplier resulting in Early Termination, shall include all Costs incurred by the Company, acting in a commercially reasonable manner consistent with any statutory or regulatory requirements imposed by the Applicable Legal Authorities, in obtaining replacement services or in obtaining a replacement supplier, which Costs exceed the amounts that would have been payable to the defaulting DS Supplier under this Agreement. Costs incurred by the Company for the purpose of calculating Damages hereunder will consist of:

- (i) The cost of DS Supply allocated to the Company by the PJM OI due to the failure of the DS Supplier to meet obligations owing to the PJM OI in connection with its obligations under this Agreement;

(ii) The costs of DS Supply purchased by the Company to replace DS Supply that a DS Supplier was obligated to supply under this Agreement during the term hereof;

(iii) Administrative and legal costs associated with procuring replacement DS Supply; and

(iv) Financial hedging costs incurred by the Company on behalf of DS Customers as a result of having to procure DS Supply not provided by the DS Supplier.

The Parties further recognize and agree that the final calculation of Damages hereunder may not be known for some time since the level of such Damages may be dependent upon the arrangements made by the Company to obtain replacement services or a replacement DS Supplier. The Company and the DS Supplier agree that, until the calculation of Damages under this provision is completed, the amount and payment to the Company of the Settlement Amount on behalf of DS Customers in the event of an Early Termination as set forth in Article 5.4 of this Agreement shall be immediately due and owing as an estimate of all Damages ultimately determined to be due and owing. After Damages have been finally determined under this Article 5.3, the amounts of Damages due and owing will be reconciled with payments already made by the DS Supplier under Section 5.4 of this Agreement.

(b) **Failure By Company on Behalf of Customers To Accept DS Supply Tendered By DS Supplier:** Damages resulting from the failure of the Company on behalf of Customers to accept DS Supply tendered by the DS Supplier necessary to meet the DS Supplier Responsibility Share of DS Load under this Agreement shall consist of the positive difference (if any) between (i) the amounts that would have been payable to the DS Supplier hereunder had the Company accepted the DS Supply tendered by the DS

Supplier necessary to meet the DS Supplier Responsibility Share of DS Load under this Agreement and (ii) the amount realized by the DS Supplier in disposing, in a commercially reasonable manner, of the DS Supply not accepted by the Company; provided, however, that the Company shall not be required to accept on behalf of any Customer, quantities of DS Supply utilized by Customers on an instantaneous basis as a function of electrical load, in excess of such Customer's instantaneous consumption of such component of DS Supply; and further provided that the Company shall not be liable for any Damages if this Agreement is terminated by the PaPUC, other regulatory authority or a court of law.

(c) **Damages Resulting From Early Termination Due To An Event of Default Attributable To the Company:** Damages resulting from Early Termination due to an Event of Default attributable to the Company shall be as set forth in Section 5.4 of this Agreement. Damages calculated in accordance with said Article 5.4 shall be the exclusive remedy available to the DS Supplier in the event of Early Termination resulting from an Event of Default attributable to the Company.

(d) **Damages Resulting from DS Supplier's Failure to Continuously Satisfy its AEPS Obligations:** Damages resulting from the DS Supplier's failure to continuously meet and satisfy all or any portion of its obligations under Section 2.2 (a)(viii) of this Agreement shall include, but not be limited to, the amount of all penalties, costs associated with the procurement of additional AECs, etc. including, without limitation, interest and other charges, if any, levied against the Company related to AEPS regulations, due to such DS Supplier's conduct or inaction.

(e) **Other Damages:** Damages for Events of Default not specified above shall consist of the direct Damages incurred by the Non-Defaulting Party.

(f) **Waiver of Event of Default:** If an Event of Default has occurred and the Non-Defaulting Party is the Company, then unless the Event of Default was a failure by the DS Supplier to meet any or all of its DS Supply obligations, the Company may elect, at its sole discretion, to offer to waive the default on such terms and conditions as the Company, at its sole discretion, may deem appropriate to propose a special remedy. Any such special remedy can only be offered to the DS Supplier if it first is specifically approved by the PaPUC in accordance with Commission Orders.

5.4 Declaration of an Early Termination Date and Calculation of Settlement Amount and Termination Payment

(a) **Settlement Amount.** If an Event of Default with respect to a Defaulting Party shall have occurred and be continuing, the Non-Defaulting Party shall have the right (i) to designate a day, no earlier than the day such notice is effective and no later than twenty (20) days after such notice is effective, as a date for Early Termination (“Early Termination Date”) to accelerate all amounts owing between the Parties and to liquidate and terminate the undertakings set forth in this Agreement, (ii) to withhold any payments due to the Defaulting Party under this Agreement, and (iii) to suspend performance; provided however, that an Early Termination Date shall be deemed to occur automatically and concurrently with the Event of Default, without any requirement for the provision of notice by the Non-Defaulting Party, with respect to an Event of Default under subsections (i), (ii), (iii), (iv), (v), (vi), (vii), and (viii) of Article 5.1 of this Agreement. The Non-Defaulting Party shall calculate, in a commercially reasonable manner, a Settlement Amount with respect to the obligations under this Agreement.

The DS Supplier may, in its sole discretion, select the notional quantity in the following subsection 5.4(a)(i) by checking the box below. If the DS Supplier does not select subsection 5.4(a)(i) by checking the box, it will be deemed to be excluded from this Agreement.

(i) For the purposes of such determination, the DS Supply provided for under this Agreement for the period following the Early Termination Date through the remainder of the term of this Agreement shall be deemed to be those quantity amounts that would have been delivered on an hourly basis, had this Agreement been in effect during the previous calendar year adjusted for such DS Load changes as may have occurred since the previous calendar year.

(b) **Net Out of Settlement Amounts.** The Non-Defaulting Party shall calculate a Termination Payment by aggregating all Settlement Amounts due under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply into a single amount by netting out (a) all Settlement Amounts that are due or will become due to the Defaulting Party, plus at the option of the Non-Defaulting Party, any cash or other form of security then available to the Non-Defaulting Party and actually received, liquidated and retained by the Non-Defaulting Party, plus any or all other amounts due to the Defaulting Party under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply against (b) all Settlement Amounts that are due or will become due to the Non-Defaulting Party, plus any or all other amounts due to the Non-Defaulting Party under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply, so that all such amounts shall be netted out to a single liquidated amount; provided,

however, that if the DS Supplier is the Defaulting Party and the Termination Payment is due to the DS Supplier, the Company shall be entitled to retain a commercially reasonable portion of the Termination Payment, which may be equal to the entire amount of the Termination Payment, as security for additional amounts that may be determined to be due and owing by the DS Supplier as Damages and further provided that any previously attached security interest of the Company in such retained amounts shall continue. The Termination Payment shall be due to or due from the Non-Defaulting Party as appropriate. If the Termination Payment has been retained by the Company as security for additional amounts that may be determined to be due and owing by the DS Supplier, and if, upon making a final determination of Damages, the Termination Payment, or any portion thereof, is to be made to the DS Supplier, the Company will pay simple interest on the Termination Payment amount being made to the DS Supplier. Simple interest will be calculated at the lower of the Interest Index or six (6) percent per annum.

(c) **Notice of Termination Payment.** As soon as practicable after calculation of a Termination Payment, notice shall be given by the Non-Defaulting Party to the Defaulting Party of the amount of the Termination Payment and whether the Termination Payment is due to or due from the Non-Defaulting Party. The notice shall include a written statement explaining in reasonable detail the calculation of such amount. Subject to Article 5.4(b) above, the Termination Payment shall be made by the Party that owes it within three (3) Business Days after such notice is effective.

(d) **Disputes With Respect to Termination Payment.** If the Defaulting Party disputes the Non-Defaulting Party's calculation of the Termination Payment, in whole or in part, the Defaulting Party shall, within three (3) Business Days of

receipt of Non-Defaulting Party's calculation of the Termination Payment, provide to the Non-Defaulting Party a detailed written explanation of the basis for such dispute; provided, however, that if the Termination Payment is due from the Defaulting Party, the Defaulting Party shall first transfer collateral to the Non-Defaulting Party in an amount equal to the Termination Payment, such collateral to be in a form acceptable to the Non-Defaulting Party as specified in the Termination Payment Dispute Notice.

(e) **Multiple DS Supply Agreements.** It is the intention of the Company and the DS Supplier that, in the event the DS Supplier is a party to other agreements with the Company for the provision of DS Supply that existed prior to the Effective Date of this Agreement or are entered into after the Effective Date of this Agreement, the Company will calculate a single Termination Payment applicable to all such agreements as set forth herein.

5.5 Step-up Provision

The Company may ask other DS Suppliers whether they wish to assume all or part of the delivery obligations on the same terms and price contained herein, but any DS Supplier shall not be obligated to assume any such step-up requests. Any agreement to make additional supply available shall be termed a "Step-Up", and is subject to compliance with the creditworthiness provisions of Article 6 of this Agreement and the DS Supplier's load cap as per the Company's approved default service procurement plan. For the avoidance of doubt, in the event that the DS Supplier does not respond to the Company's Step-Up request within the relevant timeframe, then the DS Supplier shall be deemed to have rejected the Company's request in full.

5.6 Setoff of Payment Obligations of the Non-Defaulting Party

Any payment obligations of the Non-Defaulting Party to the Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply shall be set off: (i) first, to satisfy any payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply that are unsecured and not subject to any Guaranty; (ii) second, to satisfy any payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply that are unsecured, but which are subject to a Guaranty; and (iii) third, to satisfy any remaining payment obligations of the Defaulting Party to the Non-Defaulting Party pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply.

5.7 Preservation of Rights of Non-Defaulting Party

The rights of the Non-Defaulting Party under this Agreement, including without limitation Article 5.4 and 5.7 of this Agreement, shall be supplemental to, and not in lieu of, any right of recoupment, lien, or set-off afforded by applicable law, and all such rights are expressly preserved for the benefit of the Non-Defaulting Party.

- a. Duty to Mitigate. Each Party agrees that it has a duty to mitigate damages and covenants that it will use commercially reasonable efforts to minimize any damages it may incur as a result of the other Party's failure to perform pursuant to this Agreement.

- b. Return of Auction Revenue Rights. When the DS Supplier is the Defaulting Party, the DS Supplier will make best efforts to facilitate the transfer or reassignment to the entity which is the replacement DS Supplier on the Early Termination Date, any and all of the replacement DS Supplier's rights to Auction Revenue Rights (ARRs) to which the replacement DS Supplier is entitled as a LSE pursuant to the PJM Agreements, which were transferred or assigned to the DS Supplier under Section 2.3 (Congestion and Congestion Management).

ARTICLE 6: CREDITWORTHINESS

6.1 Applicability

The DS Supplier agrees that it shall meet the creditworthiness requirements of this Article 6 at all times during the term of this Agreement and shall inform the Company immediately of any changes in its credit rating or financial condition. Without limitation of the foregoing, the DS Supplier shall, upon written request, affirmatively demonstrate to the Company, its compliance with the creditworthiness requirements set forth hereunder. The Company may establish less restrictive creditworthiness requirements under this Article 6 in a non-discriminatory manner.

6.2 Creditworthiness Determination

The DS Supplier may submit and maintain a security deposit in accordance with Section 6.4-57 of this Agreement in lieu of submitting to or being qualified under a creditworthiness evaluation. The DS Supplier shall have the opportunity to request that the Company re-evaluate its creditworthiness whenever an event occurs that the DS Supplier believes would improve the determination made by the Company of its

creditworthiness. The Company's credit re-evaluation must be completed as soon as possible but no longer than thirty (30) days after receiving a fully documented request. The Company must provide the rationale for its determination of the credit limit and any resulting security requirement. The Company must perform its credit re-evaluation and associated security calculation in a non-discriminatory manner. DS Supplier shall provide the Company and its agent's unrestricted access to audited financial statements; provided that if audited financial statements are not available, the Company, in its sole discretion, may specify other types of financial statements that will be accepted.

6.3 Independent Credit Requirement per Tranche

The Independent Credit Requirement per Tranche ("ICRT") that will be required of DS Suppliers under each Agreement will initially be the sum of the amounts set forth on Appendix A at the inception of the Original Delivery Period for each Tranche and will decline throughout the Term in accordance with the schedule set forth on Appendix A.

6.4 Independent Credit Threshold

Each DS Supplier that qualifies under the following criteria will be granted an Independent Credit Threshold ("ICT").

(a) For a DS Supplier or its Guarantor that has been organized under the laws of the United States, the following requirements must be satisfied in order for such SSO Supplier to be granted an ICT:

- (i) the DS Supplier or its Guarantor, as applicable, must (1) be rated by S&P Global Ratings ("S&P"), Moody's Investors Service, Inc. ("Moody's") or Fitch, Inc. ("Fitch"), and (2) have a minimum senior unsecured debt rating (or, if unavailable, corporate or issuer rating) of at least "BB" from S&P,

“Ba2” from Moody’s, or “BB” from Fitch (a “Minimum Rating”). If the DS Supplier or its Guarantor is rated by only two rating agencies and the ratings are split, the lower rating will be used. If the DS Supplier or its Guarantor is rated by three rating agencies and the ratings are split, the lower of the two highest ratings will be used; provided that, in the event that the two highest ratings are common, such common rating will be used. If the DS Supplier and an Affiliate(s) are both winning bidders in the Solicitation for the provision of DS Supply, then the DS Supplier or its Guarantor, as applicable, and the Affiliate(s) will proportionally share the maximum level of the ICT using the highest rating as determined for the DS Supplier or its Guarantor, as applicable, and the Affiliate(s). The maximum level of the ICT will be determined based on the following table:

Credit Rating of the DS Supplier or its Guarantor			Max. Independent Credit Threshold (calculated as the lesser of the percentage of TNW and the applicable Independent Credit Cap below)	
S&P	Moody’s	Fitch	Percentage of TNW	Independent Credit Threshold Cap
A- and above	A3 and above	A- and above	16%	Not applicable
BBB+	Baa1	BBB+	16%	Not applicable
BBB	Baa2	BBB	10%	Not applicable
BBB-	Baa3	BBB-	8%	Not applicable
BB+	Ba1	BB+	4%	\$3,000,000
BB	Ba2	BB	3%	\$1,500,000

BB- and below	Ba3 and below	BB- and below	0%	\$0
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(ii) for DS Supplier having a Guarantor, the maximum level of the ICT that can be granted based on an ICT Guaranty will be determined in accordance with subsection (i) above, with reference to the credit rating of the Guarantor.

The ICT granted to the DS Supplier will not exceed the amount of the ICT Guaranty. The ICT Guaranty tendered by the DS Supplier to satisfy the ICT requirement arising under this Section 6.4 shall be a separate guaranty from the Total Exposure Amount Guaranty, if any, tendered by the DS Supplier to satisfy any requirement for a Credit Limit to cover the Total Exposure Amount arising under Section 6.67; provided, however, that a single Guaranty may be provided if such Guaranty is for an unlimited amount.

(b) For a DS Supplier or Guarantor that has not been incorporated or otherwise formed under the laws of the United States and whose financial data is not denominated in United States currency and does not conform to generally accepted accounting principles (“GAAP”) in the United States, they shall supply the following additional information:

(i) A legal opinion of counsel qualified to practice in the foreign jurisdiction in which the DS Supplier or Guarantor is incorporated or otherwise formed that this Agreement is, or upon completion of execution formalities will become, the binding obligation of the DS Supplier or Guarantor in the jurisdiction in which it has been incorporated or otherwise formed; and

(ii) The sworn certificate of the corporate secretary (or similar officer)

of such DS Supplier or Guarantor that the person executing this Agreement on behalf of the DS Supplier has the authority to execute the Agreement and that the governing board of the DS Supplier or Guarantor has approved the execution of this Agreement;

(iii) The sworn certificate of the corporate secretary (or similar officer) of such DS Supplier or Guarantor that the DS Supplier or Guarantor has been authorized by its governing board to enter into agreements of the same type as this Agreement; and

(iv). Such other documents and certificates as may be required by the Company in its sole discretion.

6.35 Credit Exposure Methodology

The credit exposure per tranche that will be required of the DS Supplier under this agreement will be determined by the DS Customer Group as stated on the Transaction Confirmation(s).

For the Industrial class, the credit exposure under this Agreement shall be \$140,000 times the number of tranches shown on the Transaction Confirmation(s). If the DS Supplier meets the Minimum Rating in Section 6.456, no security will be required as long as the Total Exposure Amount does not exceed the maximum credit limit of the DS Supplier or its Guarantor.

To calculate the daily exposure for each DS Supplier for the Residential and Commercial classifications as stated on the Transaction Confirmation(s), the MtM credit exposure methodology will be used. The “mark” for each Billing Month will be determined at the time the auction is completed based on the available Forward Market

Prices and for the remaining Billing Months will be derived based on historical data. At the time the auction is completed, the MtM credit exposure for each DS Supplier shall be equal to zero. Subsequently, the differences between the available Forward Market Prices on the valuation date and the “mark” prices for the corresponding Billing Months will be used to calculate the daily credit exposures for each DS Supplier. The total MtM credit exposure will be equal to ~~1.1 times~~ the sum of the MtM credit exposures for each Billing Month. The methodology for calculation of the MtM credit exposure is illustrated in the example (using hypothetical numbers) set forth in Appendix B hereto.

6.46 Credit Limit

The following criteria constitute the Company’s creditworthiness requirements for the DS Supplier to cover the Total Exposure Amount. In all instances, the most current senior unsecured debt rating (or, if unavailable, the most current corporate issuer rating) will be used.

(i) For a DS Supplier to be granted an unsecured line of credit, the DS Supplier must be rated by at least two of the following rating agencies: S&P, Moody’s, or Fitch. The methodology for determining the credit rating to use is set forth in Appendix A of this Agreement. The Maximum Credit Limit to cover the Total Exposure Amount will be determined based on the credit matrix table in Appendix A of this Agreement.

The DS Supplier will be required to post cash or a letter of credit in an acceptable form as defined in Section **6.7-9**(b) of this Agreement (see standard format in Appendix F) for the Margin due the Company as set forth in Section **6.5-7** of this Agreement; or

(ii) For a DS Supplier having a Guarantor, in the case of a Guarantor

organized under the laws of the United States, the Guarantor (1) must be rated by at least two of the following rating agencies: S&P, Moody's, or Fitch, and (2) must have a minimum senior unsecured debt rating (or, if unavailable, corporate issuer rating) equal to the Minimum Rating. If the Guarantor is rated by only two rating agencies, and the ratings are split, the rating will be established based on the methodology outlined in Appendix A of this Agreement. The Maximum Credit Limit to cover the Total Exposure Amount that could be provided through the Guaranty (see standard format in Appendix G) will be determined based on the credit matrix table for Guarantors on Appendix A. The DS Supplier will be granted a credit limit equal to the lesser of (i) the amount of the Guaranty as provided to the Company at the time this Agreement is executed as such amount may be modified in any amended or substitute Guaranty provided to the Company during the term of this Agreement, or (ii) the Supplier's Maximum Credit Limit. The DS Supplier, however, may not increase or substitute its Guaranty for the purpose of increasing its applicable credit limit during the time period after the Company has made a Margin call but before the DS Supplier has posted the required Margin. Notwithstanding anything herein to the contrary, the DS Supplier may increase the limit of its Guaranty after satisfying a Margin call from the Company and upon the Company's receipt of an amended or substitute Guaranty increasing the limit of the Guaranty, the DS Supplier may request a return of Margin in accordance with Section ~~6.5-7~~ of this Agreement. The DS Supplier will be required to post cash or a letter of credit in an acceptable form as defined in Section ~~6.79~~(b) of this Agreement (see standard format in Appendix F) for the Margin due the Company as set forth in Section ~~6.5-7~~ of this Agreement; or

(iii) For a DS Supplier or Guarantor that has not been incorporated or

otherwise formed under the laws of the United States and whose financial data is not denominated in United States currency and does not conform to generally accepted accounting principles (“GAAP”) in the United States, they shall supply the following additional information:

- a. A legal opinion of counsel qualified to practice in the foreign jurisdiction in which the DS Supplier or Guarantor is incorporated or otherwise formed that this Agreement is, or upon completion of execution formalities will become, the binding obligation of the DS Supplier or Guarantor in the jurisdiction in which it has been incorporated or otherwise formed; and
- b. The sworn certificate of the corporate secretary (or similar officer) of such DS Supplier or Guarantor that the person executing this Agreement on behalf of the DS Supplier has the authority to execute the Agreement and that the governing board of the DS Supplier or Guarantor has approved the execution of this Agreement;
- c. The sworn certificate of the corporate secretary (or similar officer) of such DS Supplier or Guarantor that the DS Supplier or Guarantor has been authorized by its governing board to enter into agreements of the same type as this Agreement; and
- d. Such other documents and certificates as may be required by the Company in its sole discretion.

(iv) The posting of cash or a letter of credit as defined in Section 6.7-9 (b) below for the entire Total Exposure Amount as set forth in Section 6.5-7 of this Agreement.

6.57 Posting Margin and Return of Surplus Margin

(a) If at any time and from time to time during the term of this Agreement, the Total Exposure Amount, rounded by the Rounding amount, exceeds the DS Supplier's or the Guarantor's credit limit by the Minimum Transfer Amount (MTA), then the Company on any Business Day, may request that the DS Supplier provide cash or a letter of credit in an acceptable form as defined in Article 6.79(b) of this Agreement (see standard format in Appendix F), in an amount equal to the Margin (less any Margin posted by the DS Supplier and held by the Company pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply).

If the DS Supplier receives written notice for Margin from the Company by 1:00 p.m. New York time on a Business Day, then the DS Supplier shall post Margin the next following Business Day, if posting cash, and by the second Business Day following the date of notice, if posting a letter of credit, unless the Company agrees in writing to extend the period to provide Margin. If the DS Supplier receives notice for Margin from the Company after 1:00 p.m. New York time on a Business Day, whether posting cash or a letter of credit, then the DS Supplier must post Margin the second Business Day following the date of notice unless the Company agrees in writing to extend the period to provide Margin. The Company will not unreasonably deny a request for a one-day extension of such period. In the event that the DS Supplier fails to post Margin when due in accordance with this Article 6.57, then an Event of Default under Article 5 of this Agreement will be deemed to have occurred and the Company will be entitled to the remedies set forth in Article 5 of this Agreement.

(b) Surplus Margin being held by the Company that is not needed to satisfy the Total Exposure Amount, as determined above, will be returned to the DS Supplier upon receipt of a written request by the DS Supplier. Surplus Margin means cash or a letter of credit posted by the DS Supplier as a result of a request by the Company pursuant to Article 6.57(a) that exceeds the Total Exposure Amount less the DS Supplier's or the Guarantor's credit limit (rounded by the Rounding Amount). If the resulting Surplus Margin amount is more than the Minimum Transfer Amount, it will be returned to the DS Supplier. If the DS Supplier posted cash and notice is received by 1:00 p.m. New York time on a Business Day, the surplus Margin will be returned by the next following Business Day and if the DS Supplier posted cash and notice is received by the Company after 1:00 p.m. New York time on a Business Day, the surplus Margin shall be returned by the second Business Day following the date of notice, unless the DS Supplier agrees in writing to extend the period to return the surplus Margin. If the DS Supplier posted a letter of credit, the surplus Margin shall be returned on the next Business Day following the Business Day on which the amendment to the letter of credit is received from the issuing bank, unless the DS Supplier agrees in writing to extend the period to return the surplus Margin. The DS Supplier will not unreasonably deny a request for a one-day extension of such period. In the event that the Company fails to return the surplus Margin when due in accordance with this Article, then an Event of Default under Article 5 of this Agreement will be deemed to have occurred and the DS Supplier will be entitled to the remedies set forth in Article 5 of this Agreement.

6.68 Grant of Security Interest/Remedies

To secure its obligations under this Agreement and to the extent that the DS Supplier posted Margin/collateral hereunder, the DS Supplier hereby grants to the

Company a present and continuing security interest in, and lien on (and right of setoff against), and assignment of, all cash collateral and cash equivalent collateral and any and all proceeds resulting therefrom or the liquidation thereof, whether now or hereafter held by, on behalf of, or for the benefit of, the Company, and the DS Supplier and the Company agree to take such action as is reasonably required to perfect the secured Party's first priority security interest in, and lien on (and right of setoff against), such collateral and any and all proceeds resulting therefrom or from the liquidation thereof. Upon or any time after the occurrence or deemed occurrence and during the continuation of an Event of Default or an Early Termination Date, the Company may do any one or more of the following: (i) exercise any of the rights and remedies of the Company with respect to all collateral, including any such rights and remedies under law then in effect; (ii) exercise its rights of setoff against any and all property of the DS Supplier in the possession of the Company whether held in connection with this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply; (iii) draw on any outstanding letter of credit issued for its benefit; and (iv) liquidate all security held by or for the benefit of the Company free from any claim or right of any nature whatsoever of the DS Supplier, including any equity or right of purchase or redemption by the DS Supplier. The Company shall apply the proceeds of the collateral realized upon the exercise of such rights or remedies to reduce the DS Supplier's obligation under this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply (the DS Supplier remaining liable for any amounts owing to the Company after such application), subject to the Company's obligation to return any surplus proceeds remaining after such obligations are satisfied in full.

All notices, demands or requests regarding credit requirements and credit related security or deposit transfers shall be in writing and shall be personally delivered or sent by overnight express mail, courier service or facsimile transmission (with the original transmitted by any of the other aforementioned delivery methods) addressed as follows:

If to a DS Supplier to:

Copy to:

If to the Company to:

FirstEnergy Corp.
341 White Pond Drive
Akron, OH 44320
Attn: Credit Risk Management
Phone: ~~(330) 315-6984~~(330) 315 7226
Facsimile: ~~(330) 777-6582~~
Email: margin@firstenergycorp.com~~Credit_Risk@firstenergycorp.com~~

_____ Copy to:
FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001
Attn: Tori Giesler
~~Supervising Counsel~~Associate General Counsel
Phone: (610) 921-6658
Facsimile: (610) 939-8655
Email: tgiesler@firstenergycorp.com

Notice received after the close of the Business Day shall be deemed received on the next Business Day; provided that notice by facsimile transmission shall be deemed to have been received by the recipient if the recipient confirms receipt telephonically or in writing.

6.79 Security Instruments

At each DS Supplier's choice, the following are deemed to be acceptable methods

for posting security, if required:

(a) Cash; or

(b) A standby irrevocable letter of credit acceptable to the Company, in its sole discretion, issued by a bank or other financial institution with a minimum “A” senior unsecured debt rating (or, if unavailable, corporate issuer rating discounted one notch) from S&P and “A2” from Moody’s (see standard format in Appendix F). The letter of credit shall state that it shall renew automatically for successive one-year or shorter periods, until terminated upon at least ninety (90) days prior written notice from the issuing financial institution. If the Company receives notice from the issuing financial institution that the letter of credit is being cancelled, the DS Supplier will be required to provide a substitute letter of credit from an alternative bank satisfying the minimum requirements. The receipt of the substitute letter of credit must be effective as of the cancellation date and delivered to the Company thirty (30) days before the cancellation date of the original letter of credit. If the DS Supplier fails to supply a substitute letter of credit as required, then the Company will have the right to draw on the existing letter of credit and to hold the amount as Margin.

If the credit rating of a bank or other financial institution from which a DS Supplier has obtained a letter of credit falls below the levels specified in Article 6 of this Agreement, the DS Supplier shall have two (2) Business Days following written notice by the Company to obtain a suitable letter of credit from another bank or other financial institution that meets those standards, unless such period is extended in writing by the Company. The Company shall have no obligation under this Agreement or otherwise to make or grant such extension.

6.108 Maintenance of Creditworthiness

(a) Reporting of Changes.

The DS Supplier shall promptly notify the Company of any change in its credit rating or financial condition or that of its Guarantor. The DS Supplier or Guarantor shall also furnish evidence of an acceptable credit rating or financial condition upon the request of the Company.

(b) Change in Credit Standing.

The Company will re-evaluate the creditworthiness of a DS Supplier whenever it becomes aware of an adverse change, through the provision of notice by the DS Supplier or otherwise, in the DS Supplier's or Guarantor's credit standing. If the lowest credit rating (whether senior unsecured debt rating or corporate issuer rating) used to determine the DS Supplier's Maximum Credit Limit or its credit limit adversely changes, the Company will require additional security from the DS Supplier in accordance with Sections 6.4-56 of this Agreement. The additional security must be in a form acceptable to the Company in its sole discretion, as specified in Article 6.7-9 of this Agreement and must be posted as set forth in Section 6.5-7 of this Agreement.

6.11-9 Calling on Security

The Company may call upon the security posted by the DS Supplier if the DS Supplier fails to pay amounts due to the Company pursuant to this Agreement or any other agreement(s) between the Company and the DS Supplier for the provision of DS Supply after all of the following events occur:

- (a) Written Notice of Default is provided to the DS Supplier; and
- (b) Any applicable cure period associated with the written Notice of

Default ends.

The foregoing notwithstanding, the security posted by the DS Supplier shall become due automatically without prior notice or right of cure in the case of any Event of Default arising under subsections (i), (ii), (iii), (iv), (v), (vi), (vii) and (viii) of Section 5.1 of this Agreement.

6.102 Interest on Cash Held by Company

The Company will pay simple interest calculated at the lower of the Interest Index or six (6) percent per annum on all cash held by the Company pursuant to this Agreement. Each Billing Month, the Company will prepare a statement of interest amounts due to the DS Supplier. The statement will be sent to the DS Supplier within three (3) Business Days after the end of the Billing Month via overnight mail or other expeditious means. The Company shall make interest payments on the first Business Day after the 5th day of each calendar month.

6.113 No Endorsement of DS Supplier

The Company's determination that a DS Supplier is creditworthy pursuant to the process set forth above, shall not be deemed to constitute an express or implied warranty or guarantee of any kind with respect to the financial or operational qualifications of the DS Supplier. The Company will treat all DS Suppliers in a non-discriminatory manner and shall provide no preference to any DS Supplier.

6.124 Multiple DS Supply Agreements

It is the intention of the Company and the DS Supplier that, in the event the DS Supplier is a party to other agreements with the Company for the provision of DS Supply that existed prior to the effective date of this Agreement or is entered into after the effective

date of this Agreement, the Company will calculate the Margin applicable to all such agreements as set forth herein. Each DS Supplier that is a party to such other agreements with the Company for the provision of DS Supply hereby agrees that such other agreements are deemed amended by this Agreement for the purpose of calculating the Margin as described herein.

~~6.13 — Independent Credit Requirement per Tranche~~

~~The Independent Credit Requirement per Tranche (“ICRT”) that will be required of DS Suppliers under each Agreement shall initially be \$1.5 million per Tranche and shall decline in accordance with the schedule included as part of Appendix A throughout the term hereof. The ICR under each Agreement is the ICRT times the number of Tranches.~~

**ARTICLE 7: PROCEDURES FOR ENERGY SCHEDULING,
CAPACITY RESOURCE SUBMISSION AND
TRANSMISSION PROCUREMENT**

7.1 Load Obligations

The Company and the DS Supplier acknowledge and agree that (1) the Company shall determine the DS Load, (2) the Company shall allocate the DS Supply obligation using the DS Supplier Responsibility Share, (3) the Company shall provide the DS Supplier’s DS Supply obligation to PJM, and (4) the DS Supplier shall be responsible for meeting its DS Supply obligations as a LSE under the PJM Agreements.

7.2 Data Transmission

The procedures for transmitting load obligation data to PJM for DS Supplier’s DS Load shall be as set forth by PJM.

7.3 Energy Scheduling

The Company is not obligated to provide any day ahead scheduling services. If the Company chooses to provide such services, the information provided is not guaranteed by the Company.

ARTICLE 8: THE ENERGY SETTLEMENT/RECONCILIATION PROCESS

8.1 Energy Settlement By PJM

The settlement process occurs at PJM to reflect the DS Supplier's actual Energy obligations in a supply/usage reconciliation process. The Energy obligations for each DS Supplier will be determined based on the DS Supplier Responsibility Share of the DS Load. The reconciled total DS Energy obligation will be based on the final total Energy loads for the Customers receiving DS service, including duration adjustments for marginal losses.

Any adjustments for billing and metering errors reported subsequent to the calculation of FMEA will be proportionally allocated by the Company to the DS Suppliers based on the respective DS Supplier Responsibility Share.

8.2 Energy Settlement by the Company

In the event that actual DS Customer consumption data is not available until after the PJM deadline for conducting the final settlement, the Company will conduct the settlement process with the DS Supplier. In the event PJM imposes penalties against the Company as a result of the DS Supplier's Transactions or failure to meet PJM requirements, such penalties shall be passed through by the Company, to the DS Supplier as part of this settlement process. In addition, all other applicable charges from PJM, including any billing adjustments, will be appropriately allocated to the DS Supplier.

ARTICLE 9: BILLING AND PAYMENT

9.1 The Company Payment of Obligations to the DS Supplier

The Company shall pay all amounts due to the DS Supplier hereunder in accordance with the following provisions:

(a) Each Billing Month, the Company will prepare a Statement of amounts due to the DS Supplier. This Statement will show the aggregate amounts due based on the DS Fixed Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Fixed Percentage as shown on the Transaction Confirmation(s) for each hour of the Billing Month, plus the aggregate amounts due based on the DS Variable Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Variable Percentage, if applicable, as shown on the Transaction Confirmation(s) for each hour of the Billing Month.

(b) The Statement will be sent to the DS Supplier within eight (8) Business Days after the end of the Billing Month via overnight mail or other expeditious means.

(c) The Company shall make payment on the first Business Day after the 19th day of each calendar month.

(d) To the extent that the FMEA differs from the PMEA, the Company shall pay or charge the DS Supplier for the PMEA/FMEA Adjustment Amount within the PJM deadline for conducting the final settlement.

(e) If each Party owes an amount to the other Party pursuant to this Agreement, including any related interest, payments or credits, the Parties may satisfy their

respective obligations to each other by netting the aggregate amounts due to one Party against the aggregate amounts due to the other Party, with the Party, if any, owing the greater aggregate amount paying the other Party the difference between the amounts owed.

(f) Payments shall be subject to adjustment for any arithmetic errors, computation errors, meter reading errors, or other errors, provided that the errors become known within one (1) year of the termination of this Agreement.

(g) The Company shall make payments of funds payable to the DS Supplier by electronic transfer to a bank designated by the DS Supplier.

(h) If a good faith dispute arises between the Company and the DS Supplier regarding a Statement, the disputing Party shall be obligated to pay only the undisputed portion of the Statement, if any, and shall present the dispute in writing and submit supporting documentation to the non-disputing Party within one hundred twenty (120) calendar days from the date of the Statement in dispute. Statement disputes shall be addressed promptly, and in accordance with the dispute resolution procedures set forth in Article 11 of this Agreement. Upon resolution of a Statement dispute, any payments made to either Party will include simple interest on the payment at the lower of the Interest Index or six (6) percent per annum payable from the date that notice of a Statement dispute was received by the non-disputing Party.

(i) If payment is made to the DS Supplier after the due date shown on the Statement, a late fee will be added to the unpaid balance until the entire Statement is paid. This late fee shall be the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in The Wall Street Journal under "Money Rates" on such day (or if not published on such day on the most recent preceding

day on which published), plus two percent (2%) or (b) the maximum rate permitted by applicable law.

9.2 Billing for DS Supplier's Obligations to Other Parties

The Company shall have no responsibility for billing between the DS Supplier and PJM; the DS Supplier and any Energy or Capacity source; or the DS Supplier and any other third party. The Company will be solely responsible for billing DS Customers for Default Service.

9.3 The DS Supplier Payment of Obligations to the Company

The DS Supplier shall pay all Charges it incurs hereunder in accordance with the following provisions:

(a) Each Billing Month, the Company shall submit an invoice to the DS Supplier for all Charges owed by the DS Supplier under this Agreement. The DS Supplier shall make payment for Charges shown on the invoice. The due date will be on the first Business Day after the 19th day of each calendar month. The invoice will be sent to the DS Supplier within eight (8) Business Days after the end of the Billing Month via overnight mail or other expeditious means.

(b) Invoices shall be subject to adjustment for any arithmetic errors, computation errors, meter reading errors, or other errors, provided that the errors become known within one (1) year of the termination of this Agreement.

(c) The DS Supplier shall make payments of funds payable to the Company by electronic transfer to a bank designated by the Company.

(d) If a good faith dispute arises between the Company and the DS Supplier regarding an invoice, the disputing Party shall pay only the undisputed portion of

the invoice, if any, and shall present the dispute in writing and submit supporting documentation to the non-disputing Party within one hundred twenty (120) calendar days from the due date of the invoice in dispute. Billing disputes shall be addressed promptly, and in accordance with the dispute resolution procedures set forth in Article 11 of this Agreement. Upon resolution of a billing dispute, any payments made to either Party will include simple interest on the payment at the lower of the Interest Index or six (6) percent per annum payable from the date that notice of a bill dispute was received by the non-disputing Party.

(e) If payment is made to the Company after the due date shown on the invoice, a late fee will be added to the unpaid balance until the entire invoice is paid. This late fee shall be the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in The Wall Street Journal under “Money Rates” on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) or (b) the maximum rate permitted by applicable law.

ARTICLE 10: SYSTEM OPERATION

The Parties shall adhere to any applicable operational requirements of PJM necessary to protect the integrity of the transmission system within the PJM Control Area and the transmission systems of interconnected control areas, and shall satisfy any and all PJM, RFC and NERC criteria, when applicable. The DS Supplier shall also adhere to any applicable operational requirements of the Company necessary to protect the integrity of the Company’s local distribution system.

10.1 Disconnection and Curtailment By the Company

The Company shall have the right, without incurring any liability to the DS

Suppliers, to disconnect (or otherwise curtail, interrupt or reduce deliveries from) the DS Suppliers or to disconnect (or otherwise curtail, interrupt or reduce deliveries to) any Customer whenever the Company determines in the exercise of its good faith discretion, or when the Company is directed by PJM, that such a disconnection, curtailment, interruption or reduction is necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of the Company's facilities; or due to any other reason affecting the safe and reliable operation of the Company's or a Customer's facilities, including, without limitation, an Emergency, forced outage or potential overloading of the Company's transmission and/or distribution circuits, potential damage to any Customer's facilities or any risk of injury to persons or property.

10.2 Inadvertent Loss of Service to DS Customers

The Parties agree and acknowledge that service to DS Customers may be inadvertently lost due to storms, weather, accidents, breakage of equipment or other events beyond the reasonable control of the Company affecting the transmission and distribution system of the Company. Neither Party will have any liability to the other Party for the occurrence of such events except for the Company's obligation to pursue steps for the resumption of the disrupted service as set forth in Section 10.3 below. In no event will an inadvertent loss of service affect a Party's obligation to make any payments then due or becoming due with respect to performance rendered prior to such inadvertent loss of service.

10.3 Good Faith Efforts

The Company shall use good faith efforts to: (a) minimize any curtailment, interruption or reduction in service to DS Customers to the extent reasonably practicable

under the circumstances; (b) provide the DS Supplier with prior notification of any curtailment, interruption or reduction in service to DS Customers, to the extent reasonably practicable; and (c) resume service to DS Customers as promptly as reasonably practicable.

10.4 PJM Requirements

The DS Supplier acknowledges and agrees that, as a member of PJM, the Company is bound by all PJM operating instructions, policies and procedures as are currently set forth in the PJM Operating Manual, which are available through the Internet on the PJM Home Page (<http://www.pjm.com>), as may be revised from time to time, which are needed to maintain the integrity of the PJM system. The DS Supplier acknowledges and agrees that it will cooperate with the Company so that the Company will be in compliance with all PJM Emergency Operations Procedures, which include, but are not limited to, those procedures pertaining to minimum and maximum generation Emergencies, and measures requiring involuntary Customer participation, such as supply voltage reduction or full interruption of Customer load by either manual or automatic means.

10.5 Compliance with Governmental Directives

The DS Supplier also acknowledges and agrees that the Company may need to act in response to governmental or civil authority directives which may affect DS Customer load. The DS Supplier agrees to cooperate with the Company in order to comply with said directives.

ARTICLE 11: DISPUTE RESOLUTION

11.1 Informal Resolution of Disputes

Before pursuing resolution of any dispute arising out of this Agreement (other than an Event of Default under Article 5.1(i)-(ix) , (xii), or (xvi)), the disputing Party shall

provide written notice to the other Party setting forth the nature of the dispute, the amount involved, if any, and the remedies sought. The Parties shall use good faith and reasonable commercial efforts to informally resolve such dispute. Such efforts shall last for a period of at least thirty (30) calendar days from the date that the notice of the dispute is first delivered from one Party to the other Party. Any amounts that are owed by one Party to the other Party as a result of resolution of a dispute pursuant to this Article 11.1 (Informal Resolution of Disputes), shall be paid within two (2) Business Days of such resolution and the payment shall include interest calculated at the Interest Index from the original due date through the date of payment.

11.2 Recourse to Agencies or Courts of Competent Jurisdiction

After the requirements of Article 11.1 (Informal Dispute Resolution) have been satisfied, all unresolved disputes, except as noted below, between the Parties shall be submitted to the appropriate authority. Nothing in this Agreement shall restrict the rights of either Party to file a complaint with the FERC under relevant provisions of the Federal Power Act (“FPA”), with the PaPUC under relevant provisions of the Applicable Legal Authorities, with a Pennsylvania State court or a ~~f~~Federal court of competent jurisdiction and within reasonably close proximity to the Company. The Party’s agreement hereunder is without prejudice to any Party’s right to contest the jurisdiction of the agency or court to which a complaint is brought.

The Parties hereby acknowledge and agree that both Parties have negotiated and entered into this Agreement freely and in good faith and that the terms of this Agreement have not been affected in any way, either directly or indirectly, by (A) any fraud, duress, unfairness, or any inequity in the relative bargaining power of the Parties or (B) any

manipulation, unlawful activity, disruption, anomaly, dysfunction, or other adverse market conditions of any type or description.

To the extent permitted by law and absent agreement to the contrary, each Party, for itself and its successors and assigns, hereby expressly and irrevocably waives its rights (i) to argue before any governmental authority that any review, modification, or rescission of this Agreement should be considered under any standard of review other than the “public interest” standard set forth in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956), affirmed by *Morgan Stanley Capital Group, Inc. v. Public Utility District No. 1 of Snohomish County, Washington, et al.*, 554 U.S. 527 (2008) (the “Mobile-Sierra Doctrine”), and (ii) to argue before any governmental authority that any terms of this Agreement should be modified or rescinded based on (A) any claim of fraud, duress, unfairness, bad faith, or inequity in the relative bargaining power of the Parties or (B) any claim of market manipulation, unlawful activity, disruption, anomaly, dysfunction, or other adverse market conditions of any type or description.

ARTICLE 12: REGULATORY AUTHORIZATIONS AND JURISDICTION

12.1 Compliance with Applicable Legal Authorities

The Company and the DS Supplier are subject to, and shall comply with, all existing or future applicable ~~f~~Federal, State and local laws, all existing or future duly-promulgated orders or other duly-authorized actions of PJM or of Applicable Legal Authorities.

12.2 FERC Jurisdictional Matters

The inclusion herein of descriptions of procedures or processes utilized by PJM or otherwise subject to the jurisdiction of FERC is intended solely for informational purposes. If anything stated herein is found by the FERC to conflict with or be inconsistent with any provision of the FPA, or any rule, regulation, order or determination of the FERC under the FPA or if any existing procedures or processes utilized by PJM are duly modified, the applicable FERC rule, regulation, order, determination or modification shall control. To the extent required under any provision of the FPA, or any rule, regulation, order or determination of the FERC under the FPA, the Company and/or the DS Supplier, if applicable, shall use reasonable commercial efforts to secure, from time to time, all appropriate orders, approvals and determinations from the FERC necessary to support this Agreement.

12.3 Energy Efficiency, Conservation, and Retail Market Programs

DS Supplier acknowledges that DS Customers may participate in energy efficiency and conservation programs offered by the Company (required by Applicable Legal Authorities or otherwise offered by the Company whether voluntarily or not), by PJM, or by other third parties and, for the avoidance of doubt, any programs offered or conducted by the Company or other entities relating to or arising from the PaPUC's Investigation of Pennsylvania's Retail Electricity Market, PaPUC Docket No. I-2011-2237952 (including legislation enacted to address the Commission's Final Order in Docket No. I-2011-2237952), and that such participation may reduce or change the amount of DS Supply that DS Supplier is required to provide and the amount of monies it may receive under this Agreement. The Company shall have no obligation whatsoever to DS Supplier with

respect to the effect, if any, of such programs. DS Supplier is solely responsible for determining the effect, if any, of such programs on future load requirements.

ARTICLE 13: LIMITATION OF REMEDIES, LIABILITY AND DAMAGES

13.1 Limitations on Liability

Except as set forth in this Agreement, there is no warranty of merchantability or fitness for a particular purpose, and any and all implied warranties are disclaimed. The Parties confirm that the express remedies and measures of Damages provided in this Agreement satisfy the essential purposes hereof. For breach of any provision for which an express remedy or measure of Damages is provided, such express remedy or measure of Damages shall be the sole and exclusive remedy, the obligor's liability shall be limited as set forth in such provision and all other remedies or Damages at law or in equity are waived. If no remedy or measure of Damages is expressly provided herein, the obligor's liability shall be limited to direct actual Damages only, such direct actual Damages shall be the sole and exclusive remedy and all other remedies or Damages at law or in equity are waived. Unless expressly herein provided, neither Party shall be liable for consequential, incidental, punitive, exemplary or indirect Damages, lost profits or other business interruption Damages, by statute, in tort or contract, under any indemnity provision or otherwise. It is the intent of the Parties that the limitations herein imposed on remedies and the measure of Damages be without regard to the cause or causes related thereto, including the negligence or any Party, whether such negligence by sole, joint or concurrent, or active or passive. To the extent any Damages required to be paid hereunder are liquidated, the Parties acknowledge that the Damages are difficult or impossible to determine, or otherwise obtaining an adequate remedy is inconvenient and the Damages calculated hereunder

constitute a reasonable approximation of the harm or loss.

13.2 Risk of Loss

Solely for purposes of determining risk of loss and for determining the indemnity obligations under Article 14 of this Agreement, the Company shall be deemed to have custody and control of the electric Energy delivered by the DS Supplier upon receipt thereof into the Company's distribution system and until delivery thereof at the retail electric meter of the Customer; and the DS Supplier shall be deemed to have custody and control of the DS Supply at all times prior to receipt thereof by the Company. The Party deemed to have custody and control of DS Supply shall be responsible for all loss or damage to property or injury or death to persons arising in connection with such DS Supply while in its custody and control and shall indemnify the other Parties with respect to same as set forth in Article 14 of this Agreement.

ARTICLE 14: INDEMNIFICATION

14.1 Indemnification

(a) Should the Company become the defendant in, or obligor for, any third party claims and/or liabilities for losses, penalties, expenses, damage to property, injury to or death of any person including a Party's employees or any third parties, that were caused by or occur in connection with an act or omission of the DS Supplier with respect to an obligation arising under or in connection with this Agreement, or for which the DS Supplier has otherwise assumed liability under the terms of this Agreement, the DS Supplier shall defend (at the Company's option), indemnify and hold harmless the Company, its shareholders, board members, directors, officers and employees, from and against any and all such third party claims and/or liabilities, except to the extent that a court

of competent jurisdiction determines that the losses, penalties, expenses or damages were caused wholly or in part by the gross negligence or willful misconduct of the Company. The Company may, at its own expense, retain counsel and participate in the defense of any such suit or action.

(b) Should the DS Supplier (the “Indemnified DS Supplier”) become the defendant in, or obligor for, any third party claims and/or liabilities for losses, penalties, expenses, damage to property, injury to or death of any person including a Party’s employees or any third parties, that were caused by or occur in connection with an act or omission of the Company with respect to an obligation arising under or in connection with this Agreement, or for which the Company has otherwise assumed liability under the terms of this Agreement, the Company shall defend (at the option of the Indemnified DS Supplier), indemnify and hold harmless the Indemnified DS Supplier, its shareholders, board members, directors, officers and employees, from and against any and all such third party claims and/or liabilities, except to the extent that a court of competent jurisdiction determines that the losses, penalties, expenses or damages were caused wholly or in part by the gross negligence or willful misconduct of the Indemnified DS Supplier. The Indemnified DS Supplier may, at its own expense, retain counsel and participate in the defense of any such suit or action.

(c) If either Party intends to seek indemnification under Article 14.1(a) or 14.1(b), as applicable, from the other Party, the Party seeking indemnification shall give the other Party notice of such claim within ninety (90) days of the later of the commencement of, or the Party’s actual knowledge of, such claim or action. Such notice shall describe the claim in reasonable detail, and shall indicate the amount, estimated if

necessary, of the claim that has been, or may be, sustained by said Party. To the extent that the other Party will have been actually and materially prejudiced as a result of the failure to provide such notice, such notice will be a condition precedent to any liability of the other Party under the provisions for indemnification contained in this Agreement. Neither Party may settle or compromise any claim without the prior consent of the other Party; provided, however, said consent shall not be unreasonably withheld, conditioned or delayed.

14.2 Survives Agreement

The obligation of a Party to defend, indemnify, and hold harmless another Party under this Article shall survive termination of this Agreement, and shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for either Party under any statutory scheme, including any Worker's Compensation Acts, Disability Benefit Acts or other Employee Benefit Acts.

ARTICLE 15: FORCE MAJEURE

15.1 Force Majeure

Notwithstanding anything in this Agreement to the contrary, the Parties shall be excused from performing their respective obligations under this Agreement (other than the obligation to make payments with respect to performance prior to the event of Force Majeure) and shall not be liable for damages or otherwise due to their failure to perform, during any period that one Party is unable to perform due to an event of Force Majeure, provided that the Party declaring an event of Force Majeure shall: (i) act expeditiously to resume performance; (ii) exercise all commercially reasonable efforts to mitigate or limit damages to the other Party; and (iii) fulfill the requirements set forth in Article 15.2 (Notification).

15.2 Notification

A Party unable to perform under this Agreement due to an event of Force Majeure shall: (i) provide prompt written notice of such event of Force Majeure to the other Party, which shall include an estimate of the expected duration of the Party's inability to perform due to the event of Force Majeure; and (ii) provide prompt notice to the other Party when performance resumes.

ARTICLE 16: MISCELLANEOUS PROVISIONS

16.1 Notices

Unless otherwise stated herein, all notices, demands or requests required or permitted under this Agreement shall be in writing and shall be personally delivered or sent by overnight express mail or courier service. Notice may also be provided via e-mail or facsimile transmission (with the original transmitted by any of the other delivery methods specified in the previous sentence) addressed per the notification information for the DS Supplier and Company as set forth in Exhibit 2 hereto.

Such notices, demands or requests shall also be provided to such other person at such other address as a Party may designate by like notice to the other Party. Notice received after the close of the Business Day shall be deemed received on the next Business Day.

16.2 No Prejudice of Rights

The failure of a Party to insist on any one or more instances upon strict performance of any provisions of this Agreement, or to take advantage of any of its rights hereunder, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or any other right hereunder, which shall remain in full force and effect. No term or

condition of this Agreement shall be deemed to have been waived and no breach excused unless such waiver or consent to excuse is in writing and signed by the Party claimed to have waived or consented to excuse.

16.3 Assignment

Parties shall not assign any of their rights or obligations under this Agreement without obtaining the prior written consent of the non-assigning Party, which consent shall not be unreasonably withheld. The Company agrees that it shall grant its consent to a proposed assignment by the DS Supplier if the proposed assignee meets all of the Company's creditworthiness requirements then in effect under this Agreement and any applicable load cap restrictions. No assignment of this Agreement shall relieve the assigning Party of any of its obligations under this Agreement until such obligations have been assumed by the assignee and all necessary consents have been obtained. Any assignment in violation of this Section 16.3 shall be void; provided, however, the Company may assign any or all of its rights and obligations under this Agreement notwithstanding anything contained herein to the contrary, without the DS Supplier's consent, to any entity succeeding to all or substantially all of the assets of the Company, if such assignee agrees, in writing, to be bound by all of the terms and conditions hereof and all necessary regulatory approvals are obtained. The DS Supplier may, with prior written notice to the Company but without obtaining the approval of the Company, assign the accounts, revenues or proceeds under this Agreement to a third party. The Company agrees that, following receipt of such notice of the assignment of accounts, revenues or proceeds and such other documentation that the Company may reasonably request, the Company will pay amounts becoming due to the assigning DS Supplier under this Agreement directly to the designated assignee; provided, however, that nothing herein shall enlarge or expand the

rights of such designated assignee beyond the rights granted to the DS Supplier and the right of such designated assignee to receive payments shall be subject to all defenses, offsets and claims of the Company arising under this Agreement.

16.4 Governing Law and Venue

To the extent not subject to the jurisdiction of the FERC, questions including those concerning the formation, validity, interpretation, execution, amendment, termination and construction of this Agreement shall be governed by the laws of the Commonwealth of Pennsylvania, without regard to principles of conflicts of law. Except for matters jurisdictional to FERC, the PUC or the appellate courts having jurisdiction over the PUC or FERC matters, all disputes hereunder shall be resolved in the Pennsylvania State court or Federal court of competent jurisdiction and within reasonably close proximity to the Company. Each Party hereby waives its respective rights to any jury trial with respect to any litigation arising under or in connection with this Agreement.

16.5 Regulatory Approvals

DS Supplier agrees to cooperate, to the fullest extent necessary, to obtain any and all required State, Federal or other regulatory approvals of the Agreement and/or Transaction Confirmations hereunder. The commencement of the Delivery Period and the obligations hereto are subject to (i) the receipt or waiver by Company of all Company required regulatory approvals, (ii) the receipt or waiver by DS Supplier of all DS Supplier required regulatory approvals, and (iii) Pennsylvania PUC approval.

16.6 Headings

The headings and subheadings contained in this Agreement are used solely for convenience and do not constitute a part of the Agreement between the Parties hereto, nor

should they be used to aid in any manner in the construction of this Agreement.

16.7 Third Party Beneficiaries

This Agreement is intended solely for the benefit of the Parties hereto and nothing in this Agreement shall be construed to create any duty, or standard of care with reference to, or any liability to, any person not a Party to this Agreement.

16.8 General Miscellaneous Provisions

(a) This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties, or to impose any partnership obligation or liability upon any Party. No Party shall have any right, power, or authority to enter into any agreement or undertaking for, or on behalf of, or to act as or be an agent or representative of, or to otherwise bind, any other Party.

(b) Cancellation, expiration or Early Termination of this Agreement shall not relieve the Parties of obligations that by their nature survive such cancellation, expiration or termination, including warranties, remedies, promises of indemnity and confidentiality.

(c) Should any provision of this Agreement be held invalid or unenforceable, such provision shall be invalid or unenforceable only to the extent of such invalidity or unenforceability without invalidating or rendering unenforceable any other provision hereof unless it materially changes the agreement of the Parties; provided that in such event the Parties shall use commercially reasonable efforts to amend this Agreement or any Transaction in order to give effect to the original intention of the Parties.

(d) Each of the Parties acknowledges that it has read this Agreement, understands it, and agrees to be bound by its terms. This Agreement is intended by the Parties as a final expression of their agreement. The Parties further agree that this

Agreement is the complete and exclusive statement of agreement and supersedes all proposals (oral or written), understandings, representations, conditions, warranties, covenants and all other communications between the Parties relating thereto. This Agreement shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against one Party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof. Each Party further agrees that it will not assert, or defend itself, on the basis that any applicable tariff is inconsistent with this Agreement or any Transaction.

16.9 Taxes

As between the Parties: (i) The DS Supplier is responsible for the payment of all taxes imposed by all present and future ~~f~~Federal, state, municipal or other taxes imposed by any taxing authority on the wholesale sales of DS Supply under this Agreement; and (ii) The Company is responsible for the payment of all taxes imposed by all present and future ~~f~~Federal, state, municipal or other taxes imposed by any taxing authority on retail sales of DS Supply under this Agreement. Should the DS Supplier be required to remit any Pennsylvania State Sales and Use Taxes directly to the applicable taxing authority, other than taxes previously collected by the DS Supplier on behalf of the Company, the Company will defend and indemnify the DS Supplier for such Sales and Use Taxes and will pay to the DS Supplier all such tax amounts upon demand. If any Transaction is exempt from the payment of any such taxes, the affected DS Supplier will, if requested, provide the Company with valid tax exemption certificates. Should the Company be required to remit any such taxes directly to any applicable taxing authority, other than taxes previously collected by the Company directly from the DS Supplier, the DS Supplier will

defend and indemnify the Company and will pay to the Company all such tax amounts upon demand.

16.10 Audit

Each Party has the right on at least three (3) Business Days prior written notice, at its sole expense and during normal working hours, to examine the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge or computation made pursuant to this Agreement. If any such examination reveals any inaccuracy in any statement, the necessary adjustments in such statement and the payments thereof will be made in accordance with Article 9 (Billing) and 9.1 (i) (Interest on Unpaid Balances) of this Agreement.

16.11 Rules of Interpretation

The following principles shall be observed in the interpretation and construction of this Agreement:

- (a) Unless otherwise stated, the terms “include” and “including” when used in this Agreement shall be interpreted to mean by way of example only and shall not be considered limiting in any way;
- (b) All titles and headings used herein are for convenience and reference purposes only, do not constitute a part of this Agreement and shall be ignored in construing or interpreting the obligations of the parties under this Agreement;
- (c) References to the singular include the plural and vice versa;
- (d) References to Articles, Sections, Clauses and the Preamble are, unless the context indicates otherwise, references to Articles, Sections, Clauses and the Preamble of this Agreement;

- (e) In carrying out its rights, obligations and duties under this Agreement, each Party shall have an obligation of good faith and fair dealing; and
- (f) If any payment due under this Agreement would be, by operation of the terms and conditions of any provision hereof, due and payable on a day other than a Business Day, such payment shall be made on the next following Business Day.

16.12 Confidentiality

- (a) Each Party shall hold in confidence and not release or disclose any document or information furnished by the other Party in connection with this Agreement, unless:
 - (i) compelled to disclose such document or information by judicial, regulatory or administrative process or other provisions of law; (ii) such document or information is generally available to the public; (iii) such document or information was available to the receiving Party on a non-confidential basis; (iv) such document or information was available to the receiving Party on a non-confidential basis from a third-party, provided that the receiving Party does not know, and, by reasonable effort, could not know that such third-party is prohibited from transmitting the document or information to the receiving Party by a contractual, legal or fiduciary obligation or (v) such disclosure is made to PJM or Pa PUC and is necessary in order for the Transactions contemplated by this Agreement to be consummated or to otherwise comply with the provisions of this Agreement.
- (b) Notwithstanding any other provision of this Section 16.12, a Party may disclose to its employees, representatives and agents all documents and information furnished by the other Party in connection with this Agreement, provided that such employees, representatives and agents have been advised of the confidentiality

provisions of this Section 16.12, and further provided that in no event shall a document or information be disclosed in violation of the standard of conduct requirements established by FERC.

- (c) A Party receiving notice or otherwise concluding that any confidential document or information furnished by the other Party in connection with this Agreement is being sought under any provision of law, to the extent it is permitted to do so under any applicable law, shall: (i) promptly notify the other Party; and (ii) use reasonable efforts in cooperation with the other Party to seek confidential treatment of such confidential information.
- (d) The Parties agree that monetary damages may be inadequate to compensate a Party for the other Party's breach of its obligations under this Section 16.12. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the receiving Party breaches or threatens to breach its obligations under this Article 16.12, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law.

16.13 Federal Acquisition Regulation

If any of the following clauses prescribed by the Federal Acquisition Regulation ("FAR"), 48 Code of Federal Regulations Chapter 1, should be deemed to apply to this Agreement, the DS Supplier shall comply with the requirements of such clause(s), and shall include the terms or substance of such clause(s) in its subcontracts, as and to the extent required by the FAR:

- 1) Clean Air and Water: § 52.223-2;

- 2) Contract Work Hours and Safety Standards Act-Overtime Compensation:
§ 52.222-4;
- 3) Equal Opportunity: § 52.222-26;
- 4) Affirmative Action for and Employment Reports on Special Disabled and Vietnam Era Veterans: § 52.222-35 and § 52.222-37;
- 5) Affirmative Action for Handicapped Workers: § 52.222-36;
- 6) Utilization of Small Business Concerns and Small Disadvantaged Business Concerns and Small Business and Small Disadvantaged Business Subcontracting Plan: § 52.219-8 and § 52-219-9.

In case of a conflict between the provisions of the FAR and the balance of this Agreement, the requirements of the FAR shall prevail.

16.14 Binding Terms

This Agreement and the rates, terms and conditions herein shall remain in effect for the entire term hereof and each Party agrees not to seek any change to such rates, terms and conditions pursuant to the FPA, if the FPA is deemed to have jurisdiction over this Agreement, including on the grounds that they are not just and reasonable.

16.15 Amendment

This Agreement, including the appendices hereto, cannot be amended without the written agreement of all Parties prior to such amendment becoming effective. Except as provided in Appendix C and the Transaction Confirmation(s), the rates, terms and conditions contained in this Agreement are not subject to change under Sections 205 or 206 of the Federal Power Act absent the mutual written agreement of the Parties. Absent the agreement of all parties to the proposed change, the standard of review for changes to

this Agreement proposed by a Party, a non-Party or the FERC acting *sua sponte* shall be the “public interest” standard of review set forth in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956) and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956), affirmed by *Morgan Stanley Capital Group, Inc. v. Public Utility District No. 1 of Snohomish County, Washington, et al.*, 554 U.S. 527 (2008) (the “Mobile-Sierra Doctrine”).

16.16 Counterparts

This Agreement may be executed in counterparts, each of which will be considered an original, but all of which shall constitute one instrument.

16.17 Successors

This Agreement and all of the provisions hereof are binding upon, and inure to the benefit of, the Parties and their respective successors and permitted assigns.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the date first set forth above.

ATTEST:

[Applicable EDC]

By: _____

By: _____

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the date first set forth above.

ATTEST:

DS Supplier

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

APPENDIX A- MAXIMUM UNSECURED CREDIT

Credit Rating of the DS Supplier			Maximum Credit Limit (calculated as the lesser of the percentage of TNW or the Credit Limit Cap below)	
S&P	Moody's	Fitch	Percentage of TNW	Credit Limit Cap
A- and above	A3 and above	A- and above	16%	\$75MM <u>\$50MM</u>
BBB +	Baa1	BBB +	16%	\$75MM <u>\$50MM</u>
BBB	Baa2	BBB	10%	\$50MM <u>\$35MM</u>
BBB-	Baa3	BBB-	8%	\$25MM <u>\$20MM</u>
BB+	Ba1	BB+	4%	\$15MM <u>\$10MM</u>
BB	Ba2	BB	3%	\$10MM <u>\$5MM</u>
BB-	Ba3	BB-	2%	\$5MM <u>\$2MM</u>
Below BB-	Below Ba3	Below BB-	0%	\$0MM

Credit Rating Determination Methodology

The DS Supplier or its Guarantor must have a minimum senior unsecured debt rating (or, if unavailable, corporate issuer rating) equal to the Minimum Rating. If the DS Supplier or its Guarantor is rated by only two rating agencies, and the ratings are split, the ~~lower~~higher rating will be used. If the DS Supplier or its Guarantor is rated by three rating agencies, and the ratings are split, the lower of the two highest ratings will be used; provided, however, that in the event that the two highest ratings are common, such common rating will be used. The maximum level of the credit limit to cover the Total Exposure Amount will be determined based on the above table and will be aggregated – meaning, this is the maximum credit limit for all the Companies combined.

Minimum Rating – The lowest credit rating for a DS Supplier, as set forth in this Appendix A, that can obtain unsecured credit.

Independent Credit Requirement per Tranche (ICRT)

Schedule for ICRT - FEPA DSPVI

* ICRT required for both Residential and Commercial tranches (not required for Industrial)

* ICRT **not** required for 6-month tranches

* ICRT netted with prior ICRT requirements

<u>Month</u>	-	<u>24-Month Product (\$/tranche)</u>	-	<u>12-Month Product (\$/tranche)</u>
<u>Month 1</u>	-	<u>1,500,000</u>	-	<u>1,500,000</u>
<u>Month 2</u>	-	<u>1,500,000</u>	-	<u>1,500,000</u>
<u>Month 3</u>	-	<u>1,500,000</u>	-	<u>1,200,000</u>
<u>Month 4</u>	-	<u>1,500,000</u>	-	<u>1,200,000</u>
<u>Month 5</u>	-	<u>1,500,000</u>	-	<u>1,000,000</u>
<u>Month 6</u>	-	<u>1,500,000</u>	-	<u>1,000,000</u>
<u>Month 7</u>	-	<u>1,200,000</u>	-	<u>800,000</u>
<u>Month 8</u>	-	<u>1,200,000</u>	-	<u>800,000</u>
<u>Month 9</u>	-	<u>1,200,000</u>	-	<u>600,000</u>
<u>Month 10</u>	-	<u>1,200,000</u>	-	<u>600,000</u>
<u>Month 11</u>	-	<u>1,000,000</u>	-	<u>400,000</u>
<u>Month 12</u>	-	<u>1,000,000</u>	-	<u>400,000</u>
<u>Month 13</u>	-	<u>1,000,000</u>	-	-
<u>Month 14</u>	-	<u>1,000,000</u>	-	-
<u>Month 15</u>	-	<u>800,000</u>	-	-
<u>Month 16</u>	-	<u>800,000</u>	-	-
<u>Month 17</u>	-	<u>800,000</u>	-	-
<u>Month 18</u>	-	<u>800,000</u>	-	-
<u>Month 19</u>	-	<u>600,000</u>	-	-
<u>Month 20</u>	-	<u>600,000</u>	-	-
<u>Month 21</u>	-	<u>600,000</u>	-	-
<u>Month 22</u>	-	<u>400,000</u>	-	-
<u>Month 23</u>	-	<u>400,000</u>	-	-
<u>Month 24</u>	-	<u>400,000</u>	-	-

APPENDIX B – MTM EXPOSURE AMOUNT CALCULATION INFORMATION

Table 1 contains the initial marks¹ for each month of the DS auction period. Monthly marks (example only,) are provided for a twelve month period. For the months, two-month blocks² or quarterly blocks³ where broker quotes are available, broker quotes will be used for those months. For all the remaining months the EDCs will be using a proprietary method that reflects forward market conditions. The initial mark for each Billing Month is the initial mark that was calculated on the date that the DS auction closes and will not change over the life of the contract.

After the close of the DS auction On-Peak Energy Forward and Off-Peak Energy Forward prices will change. In addition, the on-peak and off-peak loads used to calculate the MtM Exposure Amount will be adjusted monthly to reflect the most current changes. On-Peak and Off-Peak Energy Forward prices for the months, two-month blocks or quarterly blocks where at least two broker quotes are available will be equal to the broker quotes. In case quotes for a component of a block and for the block are both available, the EDCs reserve the right not to use both the component of a block and the block if they are inconsistent with each other. However, when this inconsistency occurs the EDC must use either the component or the block. On-Peak and Off-Peak Energy Forward prices for the months, two-month blocks or quarterly blocks where broker quotes are unavailable will be equal to the last available broker quotes or in case they have not been quoted on the broker sheets since the DS auction closed, they will be equal to the marks set at the close of the DS auction.

¹ Initial marks represent Market Price Hub on-peak prices.

² For two-month and quarterly blocks for which the average for the block and a component of the block are both quoted, the component will be equal to its quoted price and the other months in the block will be constructed so that the weighted average (weighted by on-peak hours in each month) of the block equals the quote for the block; e.g., Q4 2013 = \$50 and Oct 2013 = \$40; therefore, Oct 2013 = \$40 and Nov-Dec 2013 = \$55 $(\$50 \cdot (336+336+368) - \$40 \cdot 336) / (336+368) = \54.77 . If only the block is quoted, that price will be used for all relevant months; e.g., Jan/Feb 2014 = \$35, then Jan 2014 = \$35 and Feb 2014 = \$35.

MtM Calculation Example

Parameters

On the closing day of the auction, the following parameters are set

1. The expected monthly On-Peak Load per tranche for each EDC.
2. The expected monthly Off-Peak Load per tranche for each EDC.
3. The monthly on-peak forward prices (to be used as the inception price “initial mark” for each month of the supply period).
4. The monthly off-peak forward prices (to be used as the inception price “initial mark” for each month of the supply period)

Indicative on-peak and off-peak loads per tranche for each EDC will be made available 14 days prior to the auction.

All Energy Prices are based on a Market Price Hub that the Company will specify as follows: PJM Western Hub

Table 1 - Data set on the Closing Day of the Auction (MWh/tranche)*

	On-Peak Volume ³	Off-Peak Volume ⁴	Initial Mark On-Peak Price ⁵	Initial Mark Off-Peak Price ⁶
Month 1				
Month 2				
Month 3				
Month 4				
Month 5				
Month 6				
Month 7				
Month 7				
Month 8				
Month 9				
Month 10				
Month 11				
Month 12				

* Table 1 can be found at the FirstEnergy Pennsylvania Default Service Program website at <http://www.fepaauction.com/Documents/MarkToMarketCalculations.aspx>.

EXAMPLE

Table 2 – Post Auction Close MTM Calculation (MWh/tranche)**

	On-Peak Load per Tranche (MWh)	Off-Peak Load per Tranche (MWh)	Initial Mark On-Peak Price	Initial Mark Off-Peak Price	On-Peak Energy Forward Price ⁷	Off-Peak Energy Forward Price ⁸	MtM ⁹
Month 1							
Month 2							
Month 3							
Month 4							
Month 5							
Month 6							
Month 7							
Month 8							
Month 9							
Month 10							
Month 11							
Month 12							
	Total						

** Table 2 can be found at the FirstEnergy Pennsylvania Default Service Program website at <http://www.fepaauction.com/Documents/MarkToMarketCalculations.aspx>.

³ On-peak and off-peak volumes will be adjusted monthly.

⁴ On-peak and off-peak volumes will be adjusted monthly.

⁵ Initial Mark On-peak price set at day auction closes. Remains constant through term of agreement

⁶ Initial Mark Off-peak price set at day auction closes. Remains constant through term of agreement.

⁷ On-peak Energy Forward as available and quoted by referenced market makers.

⁸ Off-peak Energy Forward as available and quoted by referenced market makers.

⁹ MTM = (On Peak Load * (On Peak Energy Forward Price - Initial Mark On Peak Price) + (Off Peak Load *(Off Peak Energy Price- Initial Mark Off Peak Price)

APPENDIX C - DS SUPPLY SPECIFICATIONS

The following DS Supply specifications will be specified in Transaction Confirmations to this Agreement.

Product:

DS Supply: All necessary Energy, Capacity, AECs for AEPS Act compliance, Ancillary Services, transmission services -including Network Integration Transmission Service, all transmission and distribution losses, and congestion and imbalance costs associated with the provision of such services, as well as such other services or products that the DS Supplier may be required, by PJM or any governmental body having jurisdiction, to provide in order to meet the DS Supplier Responsibility Share for serving DS Load.

Appendix D - describes Company and DS Supplier responsibilities for PJM Billing Statement Line Item Credits and Charges associated with the Product. In addition, any unaccounted for energy and historical tie line, generation, and retail customer meter charges not set forth in Appendix D shall be the responsibility of the Company through each EDC's respective non-bypassable Default Service Support Rider.

Appendix E - further describes DS Supplier responsibilities for compliance with the AEPS Act in the product specification.

DS Customer Group:

Each Transaction Confirmation shall be associated with DS Supply to one of the following DS Customer categories as defined in the DS Tariff:

Residential – **Met-Ed and Penelec** (Rate RS, and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate)

Penn Power (Rate Schedules RS; and GS Special Provision for Volunteer Fire Companies, Non-Profit Senior Citizen Centers, Non-Profit Rescue Squads, and Non-Profit Ambulance Services)

West Penn (Rate Schedule 10 [and Rate Schedule 20 special provision for Volunteer Fire Company, Non-Profit Ambulance Service, Non-Profit Rescue Squad and Non-Profit Senior Citizen Center](#))

Commercial – **Met-Ed** (Rate GS-Small, Rate GS-Medium (PTC), Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, [LED Streetlighting Service](#), and Outdoor Lighting Service)

Penelec (Rate GS-Small, Rate GS-Medium (PTC), Rate H, Borderline Service, High Pressure Sodium Vapor Street Lighting Service, Municipal Street Lighting Service, [LED Streetlighting Service](#), and Outdoor Lighting Service)

Penn Power (Rate Schedules GS (excluding GS Special Rule GSDS), PNP, GM (PTC), PLS, SV, SVD, and [LEDSM](#))

West Penn (Rate Schedules 20, 30 (PTC), 51, 52, 53, 54, 55, 56, 57, 58, 71 and 72)

Industrial – **Met-Ed** (Rate Schedules GS-Medium (HP), GS-Large, GP, and TP)

Penelec (Rate Schedules GS-Medium (HP), GS-Large, GP, and LP)

Penn Power (Rate Schedules GM (HP), GS-Large, GP, GT, or GS if such GS Customers also are under Special Rule GSDS)

West Penn (Rate Schedules 30 (HP), 35, 40, 44, 46 and Tariff No. 37 – Pennsylvania State University)

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG, PENNPOWER_RESID_AGG, APS_RESID_AGG as applicable for the appropriate EDC]

Delivery Period: The term of the Company's Default Service Plan is from June 1, ~~2019~~ [2023](#) to May 31, ~~2023~~[2027](#). The applicable Delivery Period for awarded contracts will be as identified on each Transaction Confirmation within the Default Service Plan date range.

Number of Tranches and Percentage for Each Tranche:

Residential – For **Metropolitan Edison Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **Pennsylvania Electric Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **Pennsylvania Power Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. For **West Penn Power Company** there are [TBD] total Residential tranches available. Each tranche represents [TBD]% of the Residential DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

Commercial – For **Metropolitan Edison Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **Pennsylvania Electric Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **Pennsylvania Power Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. For **West Penn Power Company** there are [TBD] total Commercial tranches available. Each tranche represents approximately [TBD]% of the Commercial DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

Industrial – For **Metropolitan Edison Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **Pennsylvania Electric Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **Pennsylvania Power Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. For **West Penn Power Company** there are [TBD] total Industrial tranches available. Each tranche represents [TBD]% of the Industrial DS Load. Tranches won for the applicable Delivery Period will be specified on the Transaction Confirmation.

DS Supplier Responsibility Share:

Fixed percentage share of DS Load for DS Customer Group associated with Transaction Confirmation. Typically, number of tranches won x Tranches Percentage for the DS Customer Group.

DS Fixed Percentage/DS Variable Percentage:

The percentage of DS Supply provided at a fixed price and the percentage of DS Supply provided at a variable price. For each Transaction Confirmation, DS Fixed Percentage + DS Variable Percentage specified shall add to 100%.

APPENDIX D – RESPONSIBILITIES FOR PJM BILLING LINE ITEMS AS DEFINED IN APPLICABLE PJM AGREEMENT OR MANUAL

ID #	PJM Billing Statement Line Items	Responsible Party	
		Buyer	DS Supplier
ID#	CHARGES		
1000	Network Integration Transmission Service		X
1102	Network Integration Transmission Service (exempt)		X
1104	Network Integration Transmission Service Offset		X
1108	Transmission Enhancement	X	
1110	Direct Assignment Facilities		X
1115	Transmission Enhancement Settlement (EL05-121-009)	X	
1120	Other Supporting Facilities		X
1130	Firm Point-to-Point Transmission Service		X
1133	Firm Point-to-Point Transmission Service Resale Charge		X
1140	Non-Firm Point-to-Point Transmission Service		X
1143	Non-Firm Point-to-Point Transmission Service Resale Charge		X
1200	Day-ahead Spot Market Energy		X
1205	Balancing Spot Market Energy		X
1210	Day-ahead Transmission Congestion		X
1215	Balancing Transmission Congestion		X
1218	Planning Period Congestion Uplift		X
1220	Day-ahead Transmission Losses		X

1225	Balancing Transmission Losses		X
1230	Inadvertent Interchange		X
1240	Day-ahead Economic Load Response		X
1241	Real-time Economic Load Response		X
1245	Emergency Load Response		X
1250	Meter Error Correction	X	
1260	Emergency Energy		X
1301	PJM Scheduling, System Control and Dispatch Service – Control Area Administration		X
1302	PJM Scheduling, System Control and Dispatch Service – FTR Administration		X
1303	PJM Scheduling, System Control and Dispatch Service –Market Support		X
1304	PJM Scheduling, System Control and Dispatch Service – Regulation Market Administration		X
1305	PJM Scheduling, System Control and Dispatch Service – Capacity Resource/Obligation Mgmt.		X
1306	PJM Scheduling, System Control and Dispatch Service – Advanced Second Control Center		X
1308	PJM Scheduling, System Control and Dispatch Service Refund – Control Area Administration		X
1309	PJM Scheduling, System Control and Dispatch Service Refund – FTR Administration		X
1310	PJM Scheduling, System Control and Dispatch Service Refund – Market Support		X
1311	PJM Scheduling, System Control and Dispatch Service Refund –Regulation Market Administration		X
1312	PJM Scheduling, System Control and Dispatch Service Refund – Capacity Resource/Obligation Mgmt.		X
1314	Market Monitoring Unit (MMU) Funding		X

1315	FERC Annual Charge Recovery		X
1316	Organization of PJM States, Inc. (OPSI) Funding		X
1317	North American Electric Reliability Corporation (NERC)		X
1318	Reliability First Corporation (RFC)		X
1320	Transmission Owner Scheduling, System Control and Dispatch Service		X
1330	Reactive Supply and Voltage Control from Generation and Other Sources Service		X
1340	Regulation and Frequency Response Service		X
1350	Energy Imbalance Service		X
1360	Synchronized Reserve		X
1365	Day-ahead Scheduling Reserve		X
1370	Day-ahead Operating Reserve		X
1371	Day-ahead Operating Reserve for Load Response		X
1375	Balancing Operating Reserve		X
1376	Balancing Operating Reserve for Load Response		X
1377	Synchronous Condensing		X
1378	Reactive Services		X
1380	Black Start Service		X
1400	Load Reconciliation for Spot Market Energy		X
1410	Load Reconciliation for Transmission Congestion		X
1420	Load Reconciliation for Transmission Losses		X
1430	Load Reconciliation for Inadvertent Interchange		X
1440	Load Reconciliation for PJM Scheduling, System Control and Dispatch Service		X

1441	Load Reconciliation for PJM Scheduling, System Control and Dispatch Service Refund		X
1445	Load Reconciliation for FERC Annual Charge Recovery		X
1446	Load Reconciliation for Organization of PJM States, Inc. (OPSI) Funding		X
1447	Load Reconciliation for North American Electric Reliability Corporation (NERC)		X
1448	Load Reconciliation for Reliability First Corporation (RFC)		X
1450	Load Reconciliation for Transmission Owner Scheduling, System Control and Dispatch Service		X
1460	Load Reconciliation for Regulation and Frequency Response Service		X
1470	Load Reconciliation for Synchronized Reserve		X
1475	DASR Load Reconciliation		X
1478	Load Reconciliation for Operating Reserve		X
1480	Load Reconciliation for Synchronous Condensing		X
1490	Load Reconciliation for Reactive Services		X
1500	Financial Transmission Rights Auction		X
1600	RPM Auction		X
1610	Locational Reliability		X
1650	Non-Unit Specific Capacity Transaction		X
1660	Demand Resource and ILR Compliance Penalty		X
1661	Capacity Resource Deficiency		X
1662	Generation Resource Rating Test Failure		X
1663	Qualifying Transmission Upgrade Compliance Penalty		X
1664	Peak Season Maintenance Compliance Penalty		X
1665	Peak-Hour Period Availability		X

1710	PJM/MISO Seams Elimination Cost Assignment		X
1720	RTO Start-up Cost Recovery		X
1730	Expansion Cost Recovery	X	
1900	Unscheduled Transmission Service		X
1910	Ramapo Phase Angle Regulators		X
1920	Station Power		X
1930	Generation Deactivation and RMR Generating Unit Declarations Before PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P-2013-2391368 <i>et al.</i>		X
1930	Generation Deactivation and RMR Generating Unit Declarations After PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P-2013-2391368 <i>et al.</i>	X	
1950	Virginia Retail Administrative Fee		X
1980	Miscellaneous Bilateral		X
1995	PJM Annual Membership Fee		X
ID#	CREDITS		
2100	Network Integration Transmission Service		X
2102	Network Integration Transmission Service (exempt)		X
2104	Network Integration Transmission Service Offset		X
2106	Non-Zone Network Integration Transmission Service		X
2108	Transmission Enhancement	X	
2110	Direct Assignment Facilities		X
2115	Transmission Enhancement Settlement (EL05-121-009)	X	
2120	Other Supporting Facilities		X

2130	Firm Point-to-Point Transmission Service		X
2132	Internal Firm Point-to-Point Transmission Service		X
2133	Firm Point-to-Point Transmission Service Resale Credit		X
2140	Non-Firm Point-to-Point Transmission Service		X
2142	Internal Non-Firm Point-to-Point Transmission Service		X
2143	Non-Firm Point-to-Point Transmission Service Resale Credit		X
2210	Transmission Congestion		X
2211	Day Ahead Transmission Credit (Formerly BLI 2210)		X
2215	Balancing Transmission Congestion Credit		X
2217	Planning Period Excess Congestion		X
2218	Planning Period Congestion Uplift		X
2220	Transmission Losses		X
2240	Day-ahead Economic Load Response		X
2241	Real-time Economic Load Response		X
2245	Emergency Load Response		X
2260	Emergency Energy		X
2320	Transmission Owner Scheduling, System Control and Dispatch Service		X
2330	Reactive Supply and Voltage Control from Generation and Other Sources Service		X
2340	Regulation and Frequency Response Service		X
2350	Energy Imbalance Service		X
2360	Synchronized Reserve		X
2365	Day-ahead Scheduling Reserve		X
2370	Day-ahead Operating Reserve		X

2371	Day-ahead Operating Reserve for Load Response		X
2375	Balancing Operating Reserve		X
2376	Balancing Operating Reserve for Load Response		X
2377	Synchronous Condensing		X
2378	Reactive Services		X
2380	Black Start Service		X
2415	Balancing Transmission Congestion Load Reconciliation Credit		X
2420	Load Reconciliation for Transmission Losses		X
2500	Financial Transmission Rights Auction		X
2510	Auction Revenue Rights		X
2600	RPM Auction		X
2620	Interruptible Load for Reliability		X
2630	Capacity Transfer Rights		X
2640	Incremental Capacity Transfer Rights		X
2650	Non-Unit Specific Capacity Transaction		X
2660	Demand Resource and ILR Compliance Penalty		X
2661	Capacity Deficiency Resource		X
2662	Generation Resource Rating Test Failure		X
2663	Qualifying Transmission Upgrade Compliance Penalty		X
2664	Peak Season Maintenance Compliance Penalty		X
2665	Peak-Hour Period Availability		X
2710	PJM/MISO Seams Elimination Cost Assignment		X
2720	RTO Start-up Cost Recovery		X

2730	Expansion Cost Recovery	X	
2910	Ramapo Phase Angle Regulators		X
2930	Generation Deactivation and RMR Generating Unit Declarations Before PaPUC Approval of the Company's Default Service Program in PaPUC Docket Nos. P- 2013-2391368 <i>et al.</i>		X
2930	Generation Deactivation and RMR Generating Unit Declarations After PaPUC Approval Of the Company's Default Service Program in PaPUC Docket Nos. P- 2013-2391368 <i>et al.</i>	X	
2950	Virginia Retail Administrative Fee		X
2980	Miscellaneous Bilateral		X
2996	Annual PJM Cell Tower		X
2997	Annual PJM Building Rent		X

****Any PJM fees or charges not specifically identified as being the responsibility of the EDC shall be the responsibility of the EGS. Line Items 2100, 2102, and 2104 are Transmission Owner Revenues.**

APPENDIX E – DS SUPPLIER’S OBLIGATIONS FOR AEPS COMPLIANCE

To satisfy AEPS with respect to the DS Supplier’s Responsibility Share, DS Supplier shall fulfill the following obligations:

1. Providing sufficient AECs for each tranche awarded via the DS Solicitation less the Allocated AECs; if any
2. Paying any AEPS penalties, costs, charges, etc. assessed against the DS Supplier and/or the Company associated with the DS Supplier’s non-performance with AEPS requirements;
3. Submitting to the Company proof of AEPS compliance under this Agreement in such form and manner as may be required by the Company.
4. Provide to the Company all information the Company may require to comply with the AEPS Act and its implementing regulations and other Requirements of Law, including, but not limited to the price paid per AEC required by 73 Pa.C.S. §1648.3(e)(8).

This Appendix E shall confirm the Alternative Energy Portfolio Standards Obligation of the Transaction Date as defined in the Transaction Confirmation.

Alternative Energy Portfolio Standards Obligations for the period beginning June 1, ~~2019~~ 2023 based on the total MWh supplied by DS Supplier:

<u>Compliance Period</u>	<u>Tier I</u>	<u>Tier I Solar</u>	<u>Tier II</u>
6/1/ 2019-2023 to 5/31/ 2020 <u>2024</u>	8.20 <u>10.00</u> %	7.50 <u>8.00</u> %	0.44 <u>0.50</u> %
6/1/ 2020-2024 to 5/31/ 2021 <u>2025</u>	10.00%	8.00%	0.50%
6/1/ 2021-2025 to 5/31/ 2022 <u>2026</u>	10.00%	8.00%	0.50%
6/1/ 2022-2026 to 5/31/ 2023 <u>2027</u>	10.00%	8.00%	0.50%

The percentages set forth above are those applicable for the first DS Solicitation and may be revised for future DS Solicitations to reflect changes in law or other applicable regulatory requirements.

The above amounts are estimates and will vary based on actual load served. DS Supplier will need to true-up, higher or lower, actual credits needed based on Monthly Settlement Amount.

If Alternative Energy Portfolio requirements change by federal or state law or any other reason, the ~~Companies-DS Suppliers~~ shall be responsible for any incremental AEPS

compliance requirement in order to comply with DS Supplier's obligations under DS Supply.

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Residential

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, 2019-2023 through May 31, 2020-2024 (Example of a
12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Fixed Percentage = 95%

DS Variable Price = The DS Variable Price is the real time hourly total LMP for the
Delivery Point, plus a fixed adder of \$20.00/MWh.

DS Variable Percentage = 5%

Corrections to DS Variable Price: In the event that PJM changes the location or
mechanism by which the LMP for the Delivery Point is calculated, the Company will
recalculate a new DS Variable Price for this Agreement. The PMEA/FMEA Adjustment
Amount shall reflect any changes to these prices.

Total Allocated AECs: ~~For Met-Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of
AEPS solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For
West Penn: XX Tier I non-solar AECs and X Tier I solar AECs. To Be Determined~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Commercial

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, ~~2019-2023~~ through May 31, ~~2020-2024~~ (Example of a
12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Fixed Percentage = 100%

~~Total Allocated AECs: For Met-Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of
AEPS solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For
West Penn: XX Tier I non-solar AECs and X Tier I solar AECs.~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

EXHIBIT 1

TRANSACTION CONFIRMATION

This Transaction Confirmation letter is being provided pursuant to and in accordance with the Agreement dated _____ between _____ (“Company”) and _____ (“DS Supplier”). Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. This Transaction Confirmation shall confirm the following terms of the Transaction agreed to on _____ (“Transaction Date”).

Product: DS Supply

DS Customer Group: Industrial

Delivery Point: [METED_RESID_AGG, PENELEC_RESID_AGG
PENNPOWER_RESID_AGG, or APS_RESID_AGG as applicable]

Delivery Period: June 1, ~~2019-2023~~ through May 31, ~~2020-2024~~ (Example of a 12 Month Product)

DS Supplier Responsibility Share: X Tranches won of Y Total Tranches

DS Fixed Price = \$XX.XX/MWh as bid by DS Supplier

DS Variable Price = The DS Variable Price is the real time hourly total LMP for the Delivery Point, plus a fixed adder of \$4.00/MWh.

Corrections to DS Variable Price: In the event that PJM changes the location or mechanism by which the LMP for the Delivery Point is calculated, the Company will recalculate a new DS Variable Price for this Agreement. The PMEA/FMEA Adjustment Amount shall reflect any changes to these prices.

~~Total Allocated AECs: For Met-Ed/Penelec/Penn Power: Tier I (Solar) AECs equal 100% of AEPS solar photovoltaic requirements associated with the DS Supplier Responsibility Share. For West Penn: XX Tier I non-solar AECs and X Tier I solar AECs.~~

Please confirm that the terms stated herein accurately reflect the agreement reached on the date above between DS Supplier and Company by returning an executed copy of this Transaction Confirmation. The signatories to this Transaction must have the authority to enter into this Transaction.

Company

DS SUPPLIER

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

EXHIBIT 2
FORM OF NOTICE

Any notices required under this Agreement shall be made as follows:

Buyer:

DS Supplier:

All Notices:

All Notices:

FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001
Attn: Dean Stathis
Director Regulated Commodity Sourcing
Phone: (610) 921-6766
Facsimile: (330) 777-6441
Email: dstathis@firstenergycorp.com
Duns:
Federal Tax ID Number:

DS Company
Street
City/State/Zip
Attn:
Phone:
Facsimile:
Email:
Duns:
Federal Tax ID Number:

Copy to:

FirstEnergy Corp.
[P.O. Box 1600176 South Main Street 8th Floor](#)
[Reading, PA 19612-6001Akron, OH 44308](#)
Attn: ~~Eileen M. Mikkelsen; Joanne Savage~~
~~VP Rates & Regulatory Affairs Director Rates & Regulatory Affairs~~
Phone: ~~(330) 384-5166(610) 921 6525~~
Facsimile: ~~(330) 315-4358~~
Email: mikkelsene@firstenergycorp.com jmsavage@firstenergycorp.com

Invoices: & Payment:

~~————~~ **Invoices: & Payments:**

FirstEnergy Corp.
[P.O. Box 1600176 South Main Street](#)
[ReadingAkron, PA OH 19612-600144308](#)
Attn: [Robert Brown](#)~~Jim Sensenig~~
~~Manager, Regulated Settlements~~~~Supervisor, Regulated Commodity Sourcing~~

Attn:

Phone: ~~(610) 921-6543- (216) 970 8357~~ Phone:
Facsimile: ~~(330) 777-6441-~~ Facsimile:
Email: rdbrown@firstenergycorp.com~~jjsensenig@firstenergycorp.com-~~

Scheduling:

FirstEnergy Corp.
~~76 South Main Street~~~~800 Cabin Hill Drive~~
~~Akron, OH~~ Greensburg, PA 15601

Attn: ~~Cindy Teamann~~ Tiffanne L. Cowan

~~Manager, Regulated Settlements~~ Manager Regulated Settlements

Phone: ~~(724) 838-6672~~ (330) 761 4474

Facsimile:

Email: ~~eteaman@firstenergycorp.com~~ cowant@firstenergycorp.com

Scheduling:

Attn:

Phone:

Facsimile:

Email:

Payments:

FirstEnergy Corp.
~~76 South Main Street~~ P.O. Box 16001
~~Reading, PA 19612-6001~~ Akron, OH 44308

Attn: ~~Robert Brown~~ Jim Sensenig

~~Manager, Regulated Settlements~~ Supervisor, Regulated Commodity Sourcing

Phone: ~~(216) 970 8357~~ (610) 921-6543

Facsimile: ~~(330) 777-6441~~

Email: ~~rdbrown@firstenergycorp.com~~ jjjsensenig@firstenergycorp.com Email:

Phone:

Facsimile:

Wire Transfer:

BNK: JP Morgan Chase, NY
FirstEnergy Service Co.

ABA: 021000021

ACCT: -323-396496

Wire Transfer

BNK:

ABA:

ACCT:

Credit and Collections:

FirstEnergy Corp.
341 White Pond Drive
Akron, OH 44320

Attn: ~~Martin Massie~~ Justin Gawne
~~Credit Analyst~~ Credit Analyst
Phone: ~~(330) 315-6894~~ [330-315-7226](tel:330-315-7226)

Facsimile:

Email: margin@firstenergycorp.com massiem@firstenergycorp.com

Credit and Collections:

Attn:

Phone:

Facsimile:

Email:

With additional Notices of an

Event of Default to:

FirstEnergy Corp.
P.O. Box 16001
Reading, PA 19612-6001

Attn: Tori Giesler

~~Supervising Managing Counsel~~ Associate General Counsel

Phone: (610) 921-6658

Facsimile: (610) 939-8655

Email: tgiesler@firstenergycorp.com

With Additional Notices of an

Event of Default to:

Attn:

Phone:

Facsimile:

Email:

APPENDIX F - LETTER OF CREDIT DOCUMENTATION

Sample DS Letter of Credit

[Insert Date]

Letter of Credit No. [Insert Credit No]

To: [Insert Company Name] ("Beneficiary")

1. We hereby establish in your favor this irrevocable transferable Letter of Credit (this "Letter of Credit") for the account of _____ (the "Applicant"), in the amount of \$ _____, effective immediately and available to you at sight upon demand at our counters at _____ (Location) and expiring 364 days from date of issuance, unless terminated earlier in accordance with the provisions hereof.
2. This Letter of Credit is issued at the request of the Applicant, and we hereby irrevocably authorize you to draw on us, in accordance with the terms and conditions hereof, up to the maximum amount of this Letter of Credit, subject to reduction as provided in paragraph 11 hereof. This Letter of Credit may be drawn upon an Event of Default under the DS Suppler Master Agreement(s) between the Applicant and you, dated _____ and the DS Suppl~~i~~er Supplier Master Agreement(s) between the Applicant and you, dated _____.
3. A partial or full drawing hereunder may be made by you on any Business Day on or prior to the expiration of this Letter of Credit by delivering, by no later than 11:00 A.M.

(New York, NY time¹) on such Business Day to _____
(Bank), _____ (address), (i) a notice executed by you in the form of Annex 1 hereto, appropriately completed and duly signed by your Authorized Officer of the Beneficiary and (ii) your draft in the form of Annex 2 hereto, appropriately completed and duly signed by your Authorized Officer of the Beneficiary. Authorized Officer shall mean President, Treasurer, any Vice President or any Assistant Treasurer.

4. We hereby agree to honor a drawing hereunder made in compliance with the terms and provisions of this Letter of Credit by transferring in immediately available funds the amount specified in the draft delivered to us in connection with such drawing to such account at such bank in the United States as you may specify in your draft delivered to us pursuant to Paragraph 3 hereof, by 3:00 P.M. (New York, NY time) on the date of such drawing, if delivery of this requisite document is made prior to 11:00 AM (New York, NY time) on a Business Day pursuant to Paragraph 3 herein above, but at the opening of business on the first Business Day next succeeding the date of such drawing if delivery of the requisite document is made on or after 11:00 AM (New York, NY time) on any Business Day pursuant to Paragraph 3 herein above.
5. If a demand for payment made by you hereunder does not, in any instance, conform to the terms and conditions of this Letter of Credit, we shall give you prompt notice (not exceeding three (3) Business Days following the date of receipt of the documents) that the demand for payment was not effected in accordance with the terms and conditions of this Letter of Credit, stating the reasons that the demand for payment was not effected

¹ If the issuer of the Letter of Credit is located in an area that is not in the Eastern time zone, this time and all other times in this Letter of Credit, and the definition of a Business Day should be adjusted accordingly.

in accordance with such terms and conditions, and that we will upon your instructions hold any documents at your disposal or return the same to you. Upon being notified that the demand for payment was not effected in conformity with this Letter of Credit, you may attempt to correct any such non-conforming demand for payment to the extent that you are entitled to do so, provided, however, in such event a conforming demand for payment must be timely made in accordance with the terms of this Letter of Credit.

6. This Letter of Credit shall automatically terminate and be delivered to us for cancellation on the earliest of (i) the making by you of the drawings in an amount equal to the maximum amount available to be made hereunder, (ii) the date we receive from you a Certificate of Expiration in the form of Annex 3 hereto, or (iii) will be automatically extended without written amendment for successive additional one (1) year periods from the current or any future extended expiry date, unless at least ninety (90) days prior to such date of expiration, we give written notice to the Beneficiary by registered or certified mail, return receipt requested, or by overnight courier, at the address set forth above, or at such other address of which prior written notice has been provided to us, that we elect not to renew this irrevocable standby Letter of Credit for such additional one (1) year period.

7. As used herein:

“Business Day” shall mean any day on which commercial banks are not authorized or required to close in New York, New York and any day on which payments can be effected on the Fed wire system.

8. This Letter of Credit is assignable and transferable, in accordance with Annex 4, to an entity who you certify to us in the form of Annex 4, and we hereby consent to such

assignment or transfer, provided that this Letter of Credit may not otherwise be amended or modified without consent from us, you and the Applicant, and except as otherwise expressly stated herein, is subject to the Uniform Customs and Practice for Documentary Credits – 2007 Revision, ICC Publication No. 600, or any successor publication thereto (the “UCP”). Any and all transfer fees, expenses and costs shall be borne by the Applicant. This Letter of Credit shall, as to matters not governed by the UCP, be governed and construed in accordance with New York law, without regard to principles of conflicts of law. Transfers fees shall be borne by the Applicant.

This Letter of Credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, changed, amplified or limited by reference to any document, instrument or agreement referred to herein, except for Annexes 1 through 6 hereto and the notices referred to herein; and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement except as set forth above.

9. We certify that as of _____(date) we _____ (“Bank”) satisfy the senior unsecured debt rating of “A” from Standard & Poor’s Ratings Services or “A2” from Moody’s Investors Service Inc.
10. The amount which may be drawn by you under this Letter of Credit shall be automatically reduced by the amount of any drawings paid through us referencing this Letter of Credit No. _____. Partial drawings are permitted hereunder.
11. Faxed document(s) are acceptable. Presentation by fax must be made to fax number _____ confirmed by telephone to _____.
12. In the event of act of God, riot, civil commotion, insurrection, war, terrorism or by any

strikes or lock outs, or any cause beyond our control, that interrupts our business, and causes the place for presentation of this Letter of Credit to be closed for business on the last day of presentation, the expiration date of this Letter of Credit shall be automatically extended without amendment to a date thirty (30) calendar days after the place for presentation reopens for business.

13. This original Letter of Credit has been sent to the beneficiary EDC located at _____ above (as per Applicant's instructions). The aggregate amount paid to the _____ during the validity of this Letter of Credit will not exceed the amount of this Letter of Credit. Any demands or communications in the form of the attached Annexes or other communications directed to us under this Letter of Credit must be signed by an Authorized Officer of the _____. Acceptance or rejection of any amendments to this Letter of Credit must be signed by an Authorized Officer of the _____.

Very truly yours,

(Bank)

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 1 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [InsertCreditNo.]

[Insert Date]

To: [Insert Bank]

[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned is making a drawing under the above-referenced Letter of Credit in the amount specified below and hereby certifies to you as follows:

1. Capitalized terms used herein that are defined herein shall have the meanings ascribed thereto in the Letter of Credit.
2. "Pursuant to Paragraph 2 of the Letter of Credit No. [Insert Credit No.], dated [Insert Date], the undersigned is entitled to make a drawing under the Letter of Credit in the aggregate amount of \$[Insert Dollars], inasmuch as there is an Event of Default under any DS Supplier Master Agreement between the Applicant and us.
3. We acknowledge that, upon your honoring the drawing herein requested, the amount of the Letter of Credit available for drawing shall be automatically decreased by an amount equal to this drawing.

Very truly yours,

[Insert Company Name]

By: _____

Name [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 2 to Letter of Credit

DRAWING UNDER LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

ON [Business day immediately succeeding date of presentation]

PAY TO: [Insert Company Name]

\$ [Insert Dollars]

FOR VALUE RECEIVED AND CHARGE TO ACCOUNT OF LETTER OF CREDIT NO.
[Insert Credit No.]

OF

[Insert Bank]

[Insert Address]

The [Insert Company]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

By: _____

Name: [Insert Name]

Title: [Insert Title]

Date: [Insert Date]

Annex 3 to Letter of Credit

CERTIFICATE OF EXPIRATION
OF LETTER OF CREDIT NO. [Insert Credit No.]
[Insert Date]

To: [Insert Bank]
[Insert Address]

Attention: Standby Letter of Credit Unit

Ladies and Gentlemen:

The undersigned hereby certifies to you that the above referenced Letter of Credit may be cancelled without payment. Attached hereto is said Letter of Credit, marked cancelled.

[Insert Company Name]

By: _____
Name: [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

By: _____
Name: [Insert Name]
Title: [Insert Title]
Date: [Insert Date]

cc: [InsertApplicantName]

Annex 4 to Letter of Credit

NOTICE OF TRANSFER
OF LETTER OF CREDIT NO. [Insert Credit No.]

[Insert Date]

To: [Insert Bank]
[Insert Address]

To Whom It May Concern:

Re: Credit [Insert Credit No.]

Issued by: [Insert Name]

Advice No.: [Insert Advise No.]

For the value received, the undersigned beneficiary hereby irrevocably transfers to:

[Insert Transferee Name]

(Name of Transferee)

[Insert Address]

(Address)

All rights of the undersigned beneficiary to draw under the above Letter of Credit in its entirety.

By this transfer, all rights of the undersigned beneficiary in such Letter of Credit are transferred to the transferee and the transferee shall have the sole rights as beneficiary thereof, including sole rights relating to any amendments whether increases or extensions or other amendments and whether now existing or hereafter made. All amendments are to be advised direct to the transferee without necessity of any consent of or notice to the undersigned beneficiary.

The advice of such Letter of Credit is returned herewith, and we ask you to endorse the transfer on the reverse thereof, and forward it direct to the transferee with your customary notice of transfer.

Enclosed is a certified check in the amount of \$ [Insert Amount] in payment of your transfer commission and in addition we agree to pay to you on demand any expenses that may be incurred by you in conjunction with this transfer.

Very Truly Yours,

[Insert Signature of Company]

(Signature of the Company)

The above signature with title as stated conforms to that on file with us and is authorized for the execution of said instruments.

(Name of authenticating party)

[Insert Signature of Authenticating Party]

(Authorized signature of authenticating party)

Name: [Insert Name]

Title: [Insert Title]

APPENDIX G - GUARANTY

GUARANTY (this "Guaranty"), dated as of [Insert Date], made by _____ (the "Guarantor"), a corporation organized and existing under the laws of [Insert Law References] in favor of [Insert Company Name] (the "Guaranteed Party"), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania.

Terms not defined herein take on the meaning given to them in the DS Supplier Master Agreement(s). Guarantor enters into this Guaranty in consideration of, and as an inducement for Guaranteed Party having entered into or entering into the "Agreements" with [Insert Name] (Name), a [Insert State] (State) corporation (the "DS Supplier"), which may involve the extension of credit by the Guaranteed Party. Guarantor, subject to the terms and conditions hereof, hereby unconditionally and absolutely guarantees to the Guaranteed Party the full and prompt payment when due, subject to an applicable grace period and upon demand in writing from the Guaranteed Party to the Guarantor's attention at the address for Guarantor set forth in Section 11 hereof of any and all amounts payable by the DS Supplier to the Guaranteed Party arising out of the Agreement(s), and,

1. The Guarantor, as primary obligor and not merely as surety, hereby irrevocably and unconditionally guarantees the full and prompt payment when due (whether by acceleration or otherwise) of the principal and interest on any sums due and payable by the BGS Supplier as a result of an Event of Default under the Agreement(s) (including, without limitation, indemnities, damages, fees and interest thereon, pursuant to the terms of the Agreement(s)). Notwithstanding anything to the contrary herein, the maximum aggregate liability of the Guarantor under this Guaranty shall Option 1 (in no event exceed [Insert Limit Amount].) Option 2 (in no event exceed the lesser of [Insert Limit Amount] or the sum of the Total Exposures Amounts under the Agreement(s).) All such principal, interest, obligations and liabilities, collectively, are the "Guaranteed Obligations". This Guaranty is a guarantee of payment and not of collection.
2. The Guarantor hereby waives diligence, acceleration, notice of acceptance of this Guaranty and notice of any liability to which it may apply, and waives presentment and all demands whatsoever except as noted herein, notice of protest, notice of dishonor or nonpayment of any such liability, suit or taking of other action by any Guaranteed Party against, and any other notice to, any party liable thereon (including the Guarantor or any other guarantor), filing of claims with a court in the event of the insolvency or bankruptcy of the DS Supplier, and any right to require a proceeding first against the DS Supplier.
3. The Guaranteed Party may, at any time and from time to time, without notice to or consent of the Guarantor, without incurring responsibility to the Guarantor and without impairing or releasing the obligations of the Guarantor hereunder, upon or without any terms or conditions: (i) take or refrain from taking any and all actions with respect to the Guaranteed Obligations, any Document or any person (including the DS Supplier) that the Guaranteed Party determines in its sole discretion to be necessary or

appropriate; (ii) take or refrain from taking any action of any kind in respect of any security for any Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party; or (iii) compromise or subordinate any Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party including any security for such Guaranteed Obligation(s) or liability of the DS Supplier to the Guaranteed Party.

4. Subject to the terms and conditions hereof, the obligations of the Guarantor under this Guaranty are absolute and unconditional and, without limiting the generality of the foregoing, shall not be released, discharged or otherwise affected by: (i) any extension, renewal, settlement, compromise, waiver, consent, discharge or release by the DS Supplier concerning any provision of the Agreement(s) in respect of any Guaranteed Obligations of the DS Supplier; (ii) the rendering of any judgment against the DS Supplier or any action to enforce the same; (iii) the existence, or extent of, any release, exchange, surrender, non-perfection or invalidity of any direct or indirect security for any of the Guaranteed Obligations; (iv) any modification, amendment, waiver, extension of or supplement to any of the Agreement(s) or the Guaranteed Obligations agreed to from time to time by the DS Supplier and the Guaranteed Party; (v) any change in the corporate existence (including its constitution, laws, rules, regulations or powers), structure or ownership of the BGS Supplier or the Guarantor, or any insolvency, bankruptcy, reorganization or other similar proceedings affecting the DS Supplier or its assets, the Guarantor or any other guarantor of any of the Guaranteed Obligations; (vi) the existence of any claim, set-off or other rights which the Guarantor may have at any time against the DS Supplier, the Guaranteed Party or any other corporation or person, whether in connection herewith or in connection with any unrelated transaction; provided that nothing herein shall prevent the assertion of any such claim by separate suit or compulsory counterclaim; (vii) the invalidity, irregularity or unenforceability in whole or in part of the Agreement(s) or any Guaranteed Obligations or any instrument evidencing any Guaranteed Obligations or the absence of any action to enforce the same, or any provision of applicable law or regulation purporting to prohibit payment by the DS Supplier of amounts to be paid by it under the Agreement(s) or any of the Guaranteed Obligations; and (viii) except for a failure to comply with any applicable statute of limitations, any other act or omission to act or delay of any kind of the DS Supplier, any other guarantor, the Guaranteed Party or any other corporation or person or any other event, occurrence or circumstance whatsoever which might, but for the provisions of this paragraph, constitute a legal or equitable discharge of the Guarantor's obligations hereunder.
5. The Guarantor hereby irrevocably waives (a) any right of reimbursement or contribution, and (b) any right of salvage against the DS Supplier of any collateral security or guaranty or right of offset held by the Guaranteed Party.
6. The Guarantor will not exercise any rights, which it may acquire by way of subrogation until all Guaranteed Obligations to the Guaranteed Party pursuant to the Agreement(s) have been paid in full.

7. Subject to the terms and conditions hereof, this Guaranty is a continuing one and all liabilities to which it applies or may apply under the terms hereof shall be conclusively presumed to have been created in reliance hereon. Except for a failure to comply with any applicable statute of limitations, no failure or delay on the part of the Guaranteed Party in exercising any right, power or privilege hereunder, and no course of dealing between the Guarantor and the Guaranteed Party, shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights, powers and remedies herein expressly provided are cumulative and not exclusive of any rights, powers or remedies, which the Guaranteed Party would otherwise have. No notice to or demand on the Guarantor in any case shall entitle the Guarantor to any other or further notice of demand in similar or other circumstances or constitute a waiver of the rights of the Guaranteed Party to any other or further action in any circumstances without notice or demand.
8. This Guaranty shall be binding upon the Guarantor and upon its successors and assigns and shall inure to the benefit of and be enforceable by the Guaranteed Party and its successors and assigns; provided, however, that the Guarantor may not assign or transfer any of its rights or obligations hereunder without the prior written consent of the Guaranteed Party. The assignment rights of the Guaranteed Party will be in accordance with the terms of the underlying Agreement(s).
9. Neither this Guaranty nor any provision hereof may be changed, waived, discharged or terminated except upon written agreement of the Guaranteed Party and the Guarantor.
10. The Guarantor agrees that its liability as guarantor shall continue and remain in full force and effect in the event that all or any part of any payment made hereunder or any obligation or liability guaranteed hereunder is recovered (as a fraudulent conveyance, preference or otherwise) rescinded or must otherwise be reinstated or returned due to bankruptcy or insolvency laws or otherwise.
11. All notices and other communications hereunder shall be made at the addresses by hand delivery, by the next day delivery service effective upon receipt or by certified mail return receipt requested (effective upon scheduled weekday delivery day) or telefacsimile (effective upon receipt of evidence, including telefacsimile evidence, that telefacsimile was received).

If to the Guarantor:

[Insert Guarantor]

If to the Guaranteed Party:

[Insert Guaranteed Party]

12. If claim is ever made upon the Guaranteed Party for repayment or recovery of any amount or amounts received in payment or on account of any of the Guaranteed Obligations and the Guaranteed Party repays all or part of such amount by reason of (a) any judgment, decree or order of any court or administrative body having jurisdiction over such payee or any of its property, or (b) any settlement or compromise of any such claim effected by such payee with any such claimant (including the Guarantor), then and in such event the Guarantor agrees that any such judgment, decree, order, settlement or compromise shall be binding upon it, notwithstanding any revocation hereof or the cancellation of the Agreement(s) or other instrument evidencing any liability of the Guarantor, and the Guarantor shall be and remain liable to the Guaranteed Party hereunder for the amount so repaid or recovered to the same extent as if such amount had never originally been received by any such payee.
13. The Guarantor hereby certifies that it satisfies the Minimum Rating as defined in the Agreement(s).
14. This Guaranty shall remain in full force and effect until all Guaranteed Obligations have been fully and finally performed, at which point it will expire. The Guarantor may terminate this Guaranty upon thirty (30) days prior written notice to the Guaranteed Party which termination shall be effective only upon receipt by the Guaranteed Party of alternative means of security or credit support, as specified in the Agreement(s) and in a form reasonably acceptable to the Guaranteed Party. Upon the effectiveness of any such expiration or termination, the Guarantor shall have no further liability under this Guaranty, except with respect to the Guaranteed Obligations entered into prior to the time the expiration or termination is effective, which Guaranteed Obligations shall remain guaranteed pursuant to the terms of this Guaranty until finally and fully performed.
15. The Guarantor represents and warrants that: (i) it is duly organized and validly existing under the laws of the jurisdiction in which it was organized and has the power and authority to execute, deliver, and perform this Guaranty; (ii) no authorization, approval, consent or order of, or registration or filing with, any court or other governmental body having jurisdiction over the Guarantor is required on the part of the Guarantor for the execution, delivery and performance of this Guaranty except for those already made or obtained; (iii) this Guaranty constitutes a valid and legally binding agreement of the Guarantor, and is enforceable against the Guarantor, except as the enforceability of this Guaranty may be limited by the effect of any applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditor's rights generally and by general principles of equity; and (iv) the execution, delivery and performance of this Guaranty by the Guarantor have been and remain duly authorized by all necessary corporate or comparable action and do not contravene any provision of its [insert appropriate corporate organizational document, such as Declaration of Trust, Limited Liability Agreement, Articles of Incorporation or by-laws] or any law, regulation or contractual restriction binding on it or its assets.

16. This Guaranty and the rights and obligations of the DS Supplier and the Guarantor hereunder shall be construed in accordance with and governed by the laws of the Commonwealth of Pennsylvania. The Guarantor and Guaranteed Party jointly and severally agree to the exclusive jurisdiction of State and ~~f~~Federal courts located in the Commonwealth of Pennsylvania over any disputes arising or relating to this Guaranty and waive any objections to venue or inconvenient forum. The Guarantor and Guaranteed Party each hereby irrevocably waive any and all rights to trial by jury with respect to any legal proceeding arising out of or relating to this Guaranty.
17. This writing is the complete and exclusive statement of the terms of this Guaranty and supersedes all prior oral or written representations, understandings, and agreements between the Guaranteed Party and the Guarantor with respect to subject matter hereof. The Guaranteed Party and the Guarantor agree that there are no conditions to the full effectiveness of this Guaranty.
18. Every provision of this Guaranty is intended to be severable. If any term or provision hereof is declared to be illegal or invalid for any reason whatsoever by a court of competent jurisdiction, such illegality or invalidity shall not affect the balance of the terms and provisions hereof, which terms and provisions shall remain binding and enforceable. This Guaranty may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.
19. No Trustee or shareholder of Guarantor shall be held to any liability whatsoever for any obligation under this Guaranty, and such Guaranty shall not be enforceable against any such Trustee in their or his or her individual capacities or capacity. This Guaranty shall be enforceable against the Trustees of Guarantor only as such, and every person, firm, association, trust or corporation having any claim or demand arising under this Guaranty and relating to Guarantor, its shareholders or Trustee shall look solely to the trust estate of Guarantor for the payment or satisfaction thereof.

IN WITNESS WHEREOF, the Guarantor has caused this Guaranty to be executed and delivered as of the date first above written to be effective as of the earliest effective date of any of the Agreement(s).

(GUARANTOR)
[Insert Guarantor]

Accepted and Agreed to:
[Insert Name]

By:
Name: [Insert Name]
Title: [Insert Title]

By: [Insert Company Name]
Name: [Insert Name]
Title: [Insert Title]

APPENDIX H– CAPACITY PROXY PRICE

For purposes of this Appendix: (i) the “PJM RPM Zonal Net Load Price” is the price charged by PJM to LSEs for capacity in the Company’s PJM zone under the Reliability Pricing Model (“RPM”) or its successor; and (ii) the “Capacity Proxy Price” (CPP) for the Company is \$ _____/MW-day.

The CPP for each Company will be the average of the capacity prices from the last auctions of the previous two Capacity Market Auctions conducted by PJM.

In the event a CPP is implemented, Section 9.1 (a) of the SMA is replaced with the following:

Each Billing Month after the **Base Residual Auction Price** is known for the applicable energy year, the Company will prepare a Statement of amounts due to the DS Supplier. This Statement will show the aggregate amounts due based on the DS Fixed Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Fixed Percentage as shown on the Transaction Confirmation(s) for each hour of the Billing Month, plus the aggregate amounts due based on the DS Variable Price multiplied by the hourly Energy requirements of DS Supply used to determine the PMEA multiplied by the DS Variable Percentage, if applicable, as shown on the Transaction Confirmation(s) for each hour of the Billing Month. For each Billing Month of Energy Year after the **Base Residual Auction Price** is known, an additional line item will show the difference between the PJM RPM Zonal Net Load Price actually charged for load served on the day for the Company’s PJM zone and the Capacity Proxy Price multiplied by the DS Supplier Responsibility Share of the Company Capacity obligation (expressed in MW) for each day of the Billing Month in question.

APPENDIX I – ASSIGNMENT AGREEMENT

ASSIGNMENT, ASSUMPTION AND RELEASE AGREEMENT

This Assignment, Assumption and Release Agreement (this “Assignment Agreement”) dated as of _____, _____ (the “Assignment Execution Date”) by and among:

(“Transferor”)

(“Transferee”)

and

[Applicable EDC listed here – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, or West Penn Power Company], a corporation and a public utility organized and existing under the laws of Pennsylvania (“Remaining Party”).

RECITALS

WHEREAS as identified in Schedule 1 hereto, Transferor and Remaining Party have in place the Default Service Supplier Master Agreement between Remaining Party and Transferor dated _____, including the associated appendices attached thereto (collectively referred to herein as “Agreement”);

WHEREAS Transferor has agreed to assign to Transferee and Transferee has agreed to assume all of the rights, liabilities, duties and obligations of Transferor under and in respect of the Agreement on and subject to the terms contained herein;

WHEREAS Remaining Party is willing to consent to such assignment and assumption as herein set forth and to accept Transferee as its counterparty with respect to the Agreement in the place and stead of Transferor pursuant to the terms of this Assignment Agreement; and

WHEREAS Transferor and Remaining Party have agreed to release and discharge, as a result and to the extent, of the assignment and assumption described above, their respective future obligations under and in respect of the Agreement all as more fully set forth below.

NOW THEREFORE, for good and valuable consideration (receipt and sufficiency of which are hereby acknowledged), the parties hereto mutually covenant and agree as follows:

1. **Assignment and Assumption.** Transferor hereby assigns, conveys, transfers and delivers to Transferee, and Transferee hereby accepts and assumes, in each case as of the Assignment Execution Date, Transferor's entire right, title, estate and interest in and to, and Transferor's rights, liabilities, duties and obligations under, the Agreement from and after the Effective Date, for Transferee's sole use and benefit absolutely. For purposes of this Assignment Agreement, the term "**Effective Date**" shall mean _____.
2. **Acceptance by Transferee.** Transferee hereby assumes and accepts the aforesaid Agreement, and covenants and agrees with Remaining Party and Transferor that from and after the Assignment Execution Date, Transferee will be bound by, observe and perform, carry out and fulfill all covenants and agreements, duties and obligations under the Agreement from and after the Effective Date that were formerly required to be observed and performed by Transferor under the terms of the Agreement, and that the Agreement shall be fully enforceable against Transferee by Remaining Party, in each case, as if Transferee were an original party thereto.
3. **Consent and Acceptance by Remaining Party.** In satisfaction of Section 16.3 of the Agreement, Remaining Party hereby consents to the assignment and assumption of the Agreement in accordance with the terms set forth herein and accepts Transferee as the party to perform the obligations of Transferor under the Agreement from and after the Effective Date, and Remaining Party agrees that it shall not make any claim against Transferee as a consequence of or relating to the observance and performance of the covenants, representations and agreements under, or any default, breach or non-performance attributable to Transferor under the Agreement or any other transaction entered into pursuant to the Agreement prior to the Effective Date, regardless of when Remaining Party's cause of action accrued.
4. **Release.**
- (a) Effective as of and from the Effective Date, Remaining Party hereby releases and forever discharges Transferor from all obligations to Remaining Party with respect to the Agreement and of and from any and all liability as a consequence of or relating to all manner of action and actions, cause or causes of action, suits, debts, dues, sums of money, claims and demands whatsoever at law or in equity ("**Claims**") arising out of, or which are in any way related to, the Agreement after and including the Effective Date; provided that, for certainty, the foregoing shall not release or discharge Transferor in respect of the settlement, payment or performance of any liabilities or obligations due and payable or due to be performed, including without limitation payment of any adjustments thereof, or causes

of action for breach of the Agreement, with respect to periods prior to the Effective Date (the “Transferor Excluded Liabilities) and all such Transferor Excluded Liabilities shall be paid or performed by Transferor in accordance with the terms of the Agreement.

(b) Effective as of and from the Effective Date, Transferor hereby releases and forever discharges Remaining Party from all obligations to Transferor with respect to the Agreement and of and from any and all liability as a consequence of or relating to all Claims arising out of, or which are in any way related to, the Agreement after and including the Effective Date; provided that, for certainty, the foregoing shall not release or discharge Remaining Party in respect of the settlement, payment or performance of any liabilities or obligations due and payable or due to be performed, including without limitation payment of any adjustments thereof, with respect to periods prior to the Effective Date (the “Remaining Party Excluded Liabilities”), and all such Remaining Party Excluded Liabilities shall be paid or performed by Remaining Party in accordance with the terms of the Agreement.

(c) In respect of the Agreement, effective from and after the Effective Date, Remaining Party and Transferee each undertake liabilities and obligations towards the other and acquire rights against each other identical in their terms as if Transferee were Transferor and with Remaining Party remaining the counterparty, save for any rights, liabilities or obligations of Remaining Party with respect to any Remaining Party Excluded Liabilities, if any, or Transferor with respect to any Transferor Excluded Liabilities, if any.

5. Further Assurances. Each party hereto agrees that it shall, from time to time and at all times hereafter, execute such further assurances and do all such acts and things as may be reasonably required for the purpose of vesting in Transferee the rights and obligations of Transferor in the Agreement as assigned to, and assumed by, Transferee and effecting the release and other transactions set forth herein, including, at the request of Remaining Party, executing a new default service supplier master agreement with the same terms and conditions of the Agreement.

6. Address for Notices.

The address for Transferor for notices shall be:

The address for the Transferee for notices shall be:

7. **Enurement.** This Assignment Agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.
8. **Counterpart Execution.** This Assignment Agreement may be executed in separate counterparts and delivered by facsimile, or as an attachment to an electronic message (such as a pdf, tif or other mutually acceptable type of file attachment) each of which when so executed and delivered shall constitute the one and the same original document.
9. **Governing Law; Waiver of Jury Trial.** This Assignment Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, without giving effect to principles of conflicts of laws. Any judicial action arising out of, resulting from, or in any way relating to this Assignment Agreement shall be brought only in a state or federal court of competent jurisdiction located in the Commonwealth of Pennsylvania, except to the extent subject to the jurisdiction of the Federal Energy Regulatory Commission (“FERC”), Pennsylvania Public Utility Commission (“PUC”) or appellate courts having jurisdiction over the PUC or FERC matters. **EACH PARTY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY SUIT, ACTION OR PROCEEDING RELATING TO THIS ASSIGNMENT AGREEMENT. EACH PARTY CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH A SUIT ACTION OR PROCEEDING, SEEK TO ENFORCE THE FOREGOING WAIVER.**

10. **Representations, Warranties and Covenants.**

- (a) Transferor hereby represents and warrants that: (i) its right, title, estate and interest in and to the Agreement is free and clear of any liens, charges, pledges, options, mortgages, deeds of trust, security interests, restrictions (whether on voting, sale, transfer, disposition, or otherwise), and easements, whether imposed by law, agreement, understanding, or otherwise whatsoever, (ii) it has the power and authority to effect the sale, assignment and transfer of the Agreement and to execute this Assignment Agreement; (iii) it is a “public utility” as such term is defined under the Federal Power Act, (iv) it has no captive customers; (v) it does not own, or provide transmission services over, transmission facilities subject to the jurisdiction of the Federal Energy Regulatory Commission; (vi) assuming the truthfulness of the representations of Transferee set forth in Section 11(b)(iii), (iv) and (v) below, the transfer of rights under the Agreement falls within the blanket authorization granted under 18 C.F.R. Section 33.1(c)(16); (vii) the Agreement has not been amended or modified and is in full force and effect; (viii) no event or condition has occurred that

constitutes, or will with the passage of time constitute, an event of default or termination under the Agreement; (ix) there are no material disputes pending or to its knowledge threatened related to any rights or obligations transferred by this Assignment Agreement; (x) as of the Assignment Execution Date, it has performed all of its obligations under the Agreement that are required to be performed and will have performed all such obligations as of the Effective Date; (xi) it is acting for its own account, and it has made its own independent decisions to enter into this Assignment Agreement and as to whether this Assignment Agreement is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary; (xii) it is not relying on any communication (written or oral) of the other parties as investment advice or as a recommendation to enter into this Assignment Agreement; it being understood that information and explanations related to the terms and conditions of this Assignment Agreement shall not be considered investment advice or a recommendation to enter into this Assignment Agreement; (xiii) no communication (written or oral) received from any of the other parties shall be deemed to be an assurance or guarantee as to the expected results of this Assignment Agreement; (xiv) it is capable of assessing the merits of and understanding (on its own behalf or through independent professional advice), and understands and accepts, the terms, conditions and risks of this Assignment Agreement; (xv) it is also capable of assuming, and assumes, the risks of this Assignment Agreement; and (xvi) none of the other parties is acting as a fiduciary for or an adviser to it in respect of this Assignment Agreement.

(b) Transferee hereby represents and warrants that: (i) it has the power and authority to accept and assume the sale, purchase, assignment and transfer of the Agreement and to execute this Assignment Agreement; (ii) it is qualified to do business in the Commonwealth of Pennsylvania; (iii) it is a “public utility” as such term is defined under the Federal Power Act, (iv) it has no captive customers; (v) it does not own, or provide transmission services over, transmission facilities subject to the jurisdiction of the Federal Energy Regulatory Commission; (vi) it is a “Load Serving Entity” as defined in the Agreement in good standing with PJM Interconnection, LLC (“PJM”) and is in compliance with all applicable PJM obligations, rules and regulations; (vii) assuming the truthfulness of the representations of Transferor set forth in Section 10(a)(iii), (iv) and (v) above, the transfer of rights under the Agreement falls within the blanket authorization granted under 18 C.F.R. Section 33.1(c)(16); (viii) it is acting for its own account, and it has made its own independent decisions to enter into this Assignment Agreement and as to whether this Assignment Agreement is appropriate or proper for it based upon its own judgment and upon advice from such advisers as it has deemed necessary; (ix) it is not relying on any communication (written or oral) of the other parties as investment advice or as a recommendation to enter into this Assignment Agreement; it being

understood that information and explanations related to the terms and conditions of this Assignment Agreement shall not be considered investment advice or a recommendation to enter into this Assignment Agreement (x) no communication (written or oral) received from any of the other parties shall be deemed to be an assurance or guarantee as to the expected results of this Assignment Agreement; (xi) it is capable of assessing the merits of and understanding (on its own behalf or through independent professional advice), and understands and accepts, the terms, conditions and risks of this Assignment Agreement and the Agreement; (xii) it is also capable of assuming, and assumes, the risks of this Assignment Agreement and the Agreement; and (xiii) none of the other parties is acting as a fiduciary for or an advisor to it in respect of this Assignment Agreement.

(c) Transferee hereby represents and warrants (i) that each representation and warranty of the Transferor set forth in the Agreement is true, correct and complete with respect to Transferee as of the Assignment Execution Date and will be true, correct and complete as of the Effective Date, and hereby makes each such representation and warranty for the benefit of Remaining Party as if set forth in full herein, and (ii) that Transferee is familiar with and meets all of Remaining Party's creditworthiness requirements and all applicable load-cap requirements, currently in effect under and pursuant to the Agreement. Transferee acknowledges that Remaining Party is relying upon, and agrees that Remaining Party may rely upon, the representations and warranties of Transferee set forth in this Assignment Agreement in providing its consent to and acceptance of the assignment to and assumption by Assignee of the Agreement.

(d) Transferee hereby agrees to be bound by the terms of the Agreement and to perform all of the obligations thereunder in accordance with the terms thereof.

Each party hereto represents and warrants to the others that: (i) this Assignment Agreement and, as to Remaining Party and Transferee, the Agreement, do not and will not violate or conflict with its charter, articles or certificate of incorporation, or by-laws (or comparable constitutive documents), any statute, law, rule, regulation or ordinance, or any judgment, order, consent order, stipulated agreement, writ, injunction, or decree of any court or governmental agency, applicable to it or any agreement to which it is a party or by which it or any of its property is bound; provided that the Remaining Party shall provide an informational filing to the PUC advising of the execution of this Assignment Agreement after the Assignment Execution Date; (ii) its obligations hereunder and, as to Remaining Party and Transferee, under the Agreement are legal, valid and binding on it, and enforceable in accordance with their terms; and (iii) the person signing this

Assignment Agreement for such party is an officer, director, and/or partner of such party and is authorized and duly empowered to do so.

11. Informational Filing. The parties acknowledge that Remaining Party shall provide an informational filing to the PUC advising of the execution of this Assignment Agreement after the Assignment Execution Date.

12. Costs and Expenses. The parties will each pay their own costs and expenses (including legal fees) incurred in connection with this Assignment Agreement and as a result of the negotiation, preparation and execution of this Assignment Agreement.

13. Amendments. No amendment, modification or waiver in respect of this Assignment Agreement will be effective unless in writing (including a writing evidenced by a facsimile transmission) and executed by each of the parties.

14. Waiver. No waiver under this Assignment Agreement is effective unless it is in writing and signed by the party waiving its right. Any waiver authorized on one occasion is effective only in that instance and only for the purpose stated and does not operate as a waiver on any future occasion. None of the following constitutes a waiver or estoppel of any right, remedy, power, privilege or condition arising from this Assignment Agreement: (a) any failure or delay in exercising any right, remedy, power or privilege or in enforcing any condition under this Assignment Agreement; or (b) any act, omission or course of dealing between the parties.

15. Cumulative Remedies. All rights and remedies provided in this Assignment Agreement are cumulative and not exclusive, and the exercise by either party of any right or remedy does not preclude the exercise of any other rights or remedies that may now or subsequently be available at law, in equity, by statute, in any other agreement between the parties or otherwise.

16. No Third Party Beneficiaries. This Assignment Agreement benefits solely the parties to this Assignment Agreement and their respective permitted successors and assigns and nothing in this Assignment Agreement, express or implied, confers on any other person any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of this Assignment Agreement.

17. Headings; Defined Terms. The headings in this Assignment Agreement are for reference only and do not affect the interpretation of this Assignment Agreement. Capitalized terms used herein and not otherwise defined shall have the meaning set forth in the Agreement.

18. Severability. If any term or provision of this Assignment Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability does not affect any other term or provision of this Assignment Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is

invalid, illegal or unenforceable, the parties to this Assignment Agreement shall negotiate in good faith to modify this Assignment Agreement so as to effect the original intent of the parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

[signature page follows]

IN WITNESS WHEREOF the parties have executed this Assignment Agreement on the respective dates specified below with effect from and including the Assignment Execution Date.

TRANSFEROR:

By: _____
Name: _____
Title: _____
Date: _____

TRANSFeree:

By: _____
Name: _____
Title: _____
Date: _____

REMAINING PARTY:

[Applicable EDC listed here – Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, or West Penn Power Company]

By: _____
Name: _____
Title: _____
Date: _____

DB1/ 128495095.1

Exhibit WZ-2

Illustrative View of Final Day Weighted Adjusted Capacity Price - June 2021 to May 2023 (24 Months)

	Initial	Final	Days
Jun-21	\$136.77	\$136.77	30
Jul-21	\$136.77	\$136.77	31
Aug-21	\$136.77	\$136.77	31
Sep-21	\$136.77	\$136.77	30
Oct-21	\$136.77	\$136.77	31
Nov-21	\$136.77	\$136.77	30
Dec-21	\$136.77	\$136.77	31
Jan-22	\$136.77	\$136.77	31
Feb-22	\$136.77	\$136.77	28
Mar-22	\$136.77	\$136.77	31
Apr-22	\$136.77	\$136.77	30
May-22	\$136.77	\$136.77	31
Jun-22	\$99.18	\$43.22	30
Jul-22	\$99.18	\$43.22	31
Aug-22	\$99.18	\$43.22	31
Sep-22	\$99.18	\$43.22	30
Oct-22	\$99.18	\$43.22	31
Nov-22	\$99.18	\$43.22	30
Dec-22	\$99.18	\$43.22	31
Jan-23	\$99.18	\$43.22	31
Feb-23	\$99.18	\$43.22	28
Mar-23	\$99.18	\$43.22	31
Apr-23	\$99.18	\$43.22	30
May-23	\$99.18	\$43.22	31

	Initial (A)	Final (B)
Jun 2021 to May 2023	\$117.97	\$90.00

24 Final Day Weighted Price Adjustment (\$/MW) (C) -\$27.98

Steps to Determine Total Capacity Adjustment Price

- #1. (A): Calculate the Initial Day Weighted Average Price
- #2. (B): Calculate the Final Day Weighted Average Price
- #3. (C): Final Day Weighted Price Adjustment (\$/MW): (B) - (A)**

12 Month Adjustment (\$/MW) proposed by Constellation: -\$55.96

Smoothing out the CPP price differential across the 24 months would prevent potentially large impacts to the PTC in year 2. The adjustment would be at a rate close to \$55.96/ MW (vs \$27.98/ MW for 24 months)

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA ELECTRIC COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA POWER COMPANY
Docket No. P-2021-_____**

**WEST PENN POWER COMPANY
Docket No. P-2021-_____**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 - May 31, 2027**

**Direct Testimony
Of
James D. Reitzes and Nicholas E. Powers**

List of Topics Addressed

Analysis of Default Service Supply Plans

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1 **DIRECT TESTIMONY**
2 **OF**
3 **JAMES D. REITZES AND NICHOLAS E. POWERS**

4 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

5 **Q. Dr. Reitzes, please state your name, title, and business address.**

6 A. My name is James D. Reitzes, and I am a Principal of The Brattle Group (“Brattle”). My
7 business address is 1800 M Street NW, Suite 700 North, Washington, D.C.

8 **Q. Please describe briefly your educational and professional backgrounds.**

9 A. I hold a Ph.D. in Economics from the University of Wisconsin and a Bachelor of Arts in
10 Economics and History from Stanford University. My areas of specialization within
11 economics are industrial organization, which includes the examination of firm behavior
12 under various market conditions and international trade. Additionally, I have also
13 completed field courses in finance. I have worked on competition and regulatory matters
14 for more than thirty years, including five years while employed with the Federal Trade
15 Commission and more than twenty-five years in private consulting practice. Appendix A
16 provides further detail regarding my professional experience and educational background.

17 **Q. Dr. Powers, please state your name, title, and business address.**

18 A. My name is Nicholas E. Powers, and I am a Principal of Brattle. My business address is
19 1800 M Street NW, Suite 700 North, Washington, D.C.

20 **Q. Dr. Powers, please describe briefly your educational and professional backgrounds.**

21 A. I hold a Ph.D. in Business Economics from the University of Michigan and a Bachelor of
22 Science in Applied Economics and Management from Cornell University. My areas of
23 specialization within economics are industrial organization and environmental economics.

1 I have also completed field courses in economic theory. For more than a decade, I have
2 worked on matters related to competition and regulation, both in the electricity industry
3 and more generally. Appendix B provides further detail regarding my professional
4 experience and educational background.

5 **Q. Dr. Reitzes, please summarize your prior professional experience with respect to**
6 **electric power matters.**

7 A. For over twenty years, I participated in a variety of regulatory and competition matters
8 involving the electric power industry. Specifically, I testified before the Federal Energy
9 Regulatory Commission (“FERC”) and in state regulatory proceedings on a number of
10 occasions, addressing such issues as the competitive implications of mergers and
11 acquisitions and assessing whether energy, transmission rights, renewable energy credits,
12 or other assets were purchased or sold at the best possible price.

13 On several occasions, I have been involved in the design of procurement processes to
14 satisfy default service program (“DSP”) obligations (also known as standard offer service,
15 provider of last resort, among other names), including the analysis of costs and risks
16 associated with full-requirements, auction-based procurements and portfolio procurement
17 strategies. In addition, I have submitted written testimony on these issues to state public
18 utility commissions, including the Pennsylvania Public Utility Commission
19 (“Commission”).

20 My past experience also includes the design and management of auctions and request for
21 proposals (“RFP”) to purchase or sell various energy-related products, including energy,
22 transmission rights, renewable energy credits, and other products. I have authored several

1 articles concerning price determination and competition in general and electric power
2 markets, which have been published in economics and energy-sector trade journals.

3 **Q. Dr. Powers, please summarize your prior professional experience with respect to**
4 **electric power matters.**

5 A. I have significant experience conducting economic analyses regarding competition and
6 regulatory issues in the electric power industry. This includes conducting damages
7 assessments in litigation matters and analyses of price effects, market power, and
8 anticompetitive behavior in several litigation proceedings arising from the California
9 electricity crisis of 2000–2001.

10 Additionally, I have conducted econometric analyses of the load impacts of time-of-use
11 pricing programs in the electric industry, submitting expert reports before the Maryland
12 Public Service Commission. I have also acted as both an independent evaluator and an
13 advisor to several procurement processes in the electricity sector involving renewable
14 energy, transmission capacity, and other energy products.

15 **Q. Dr. Reitzes, have you submitted testimony previously to the Commission on behalf of**
16 **the Companies?**

17 A. Yes, I submitted testimony with the Commission on behalf of Metropolitan Edison
18 Company (“Met-Ed”) and Pennsylvania Electric Company (“Penelec”) regarding their
19 inaugural DSP and procurement of Solar Photovoltaic Alternative Energy Credits
20 (“SPAECs”) decided in Docket Nos. P-2009-2093053 and P-2009-2093054 (“DSP I”).
21 That testimony examined least-cost methods of procuring power for default service
22 customers and purchasing SPAECs for meeting requirements under Pennsylvania’s

1 Alternative Energy Portfolio Standards (“AEPS”) Act. In addition, I submitted rebuttal
2 testimony with the Commission on behalf of Penn Power regarding its Interim Default
3 Service Program decided in Docket No. P-00072305.

4 I have also submitted written testimony with the Commission on behalf of Met-Ed,
5 Penelec, Pennsylvania Power Company (“Penn Power”), and West Penn Power Company
6 (“West Penn”) (individually referred to as “Company” and in any combination as the
7 “Companies”) in each of their subsequent default service proceedings, which were decided
8 in Docket Nos. P-2011-2273650, P-2011-2273668, P-2011-2273669, and P-2011-2273670
9 (“DSP II”); Docket Nos. P-2013-2391368, P-2013-2391372, P-2013-2391375, and
10 P-2013-2391378 (“DSP III”); Docket Nos. P-2015-2511333, P-2015-2511351, P-2015-
11 2511355, and P-2015-2511356 (“DSP IV”); and in Docket Nos. P-2017-2637855, P-2017-
12 2637857, P-2017-2637858, and P-2017-2637866 (“DSP V”), respectively. Among other
13 topics, my testimonies, again, examined the least-cost methods of obtaining power for
14 default service customers and issues related to whether the Companies’ proposed power
15 procurement plan provided a prudent mix of power from spot, short-, and long-term
16 purchases.

17 **Q. Have you and Dr. Powers prepared any exhibits to accompany your testimony?**

18 A. Yes, Dr. Powers and I have prepared Met-Ed/Penelec/Penn Power/West Penn Exhibit
19 JDR/NEP-1, which is attached hereto and will be discussed later herein.

20 **Q. What is the purpose of your testimony and for whom are you testifying?**

21 A. Together, we are testifying on behalf of the Companies. Our testimony analyzes the
22 proposed procurement of residential full-requirements service, commercial full-

1 requirements service, and hourly-priced service by the Companies, as further described in
2 James Catanach and Wanyun Zhong’s respective direct testimonies (Met-Ed/Penelec/Penn
3 Power/West Penn Statement No. 2) and (Met-Ed/Penelec/Penn Power/West Penn
4 Statement No. 3, respectively). We also review the Companies’ proposed long-term solar
5 procurement for energy and SPAECs. We explain why the nature of the products being
6 procured, as well as the procurement method itself, will produce a prudent mix of spot,
7 short-, and long-term purchases that provides the “least cost over time” to default service
8 customers and satisfies other applicable provisions of Pennsylvania’s Act 129 of 2008
9 (“Act 129”). We also assess whether proposed changes to the frequency of changes to the
10 default service “price to compare” (“PTC”) are beneficial to customers. In so doing,
11 we explain why the Companies’ proposed procurement should be approved by the
12 Commission.

13 **Q. Is Brattle an independent third party?**

14 A. Yes. Brattle is not owned, managed, controlled, or directed by any of the Companies or
15 their affiliates. Brattle has no ownership in or control over the Companies or any of the
16 FirstEnergy Corp. (“FirstEnergy”) affiliates. Neither the Companies nor any other
17 FirstEnergy affiliate has any ownership in or control over Brattle.

1 **II. THE DESIGN OF THE SUPPLY PLAN FOR THE COMPANIES’ DEFAULT**
2 **SERVICE CUSTOMERS CONFORMS WITH THE REQUIREMENTS OF ACT**
3 **129, SUCH THAT IT WILL RESULT IN THE LEAST COST OVER TIME FOR**
4 **THOSE CUSTOMERS**

5 **Q. Can you provide an overview of the Companies’ proposed DSPs?**

6 A. Yes, we can. The Companies propose to acquire full-requirements, load-following
7 generation service for non-shopping residential and commercial default service customers
8 through descending-clock auctions for the service period beginning June 2023 and ending
9 May 2027. Residential default service load will be priced based on a nearly even mix of
10 12- and 24-month, full-requirements, fixed-price purchases that account for 95% of load;
11 spot-priced purchases will account for the remaining 5%.¹

12 The pricing of commercial default service load will differ slightly in that some portion
13 (roughly 29%) will be based on 6-month full-requirements, fixed-price purchases, though
14 the majority (roughly 71%) will be based on 12- and 24-month full-requirements, fixed-
15 price purchases. The pricing of industrial default service load, consistent with the
16 Companies’ past default service supply plans, will be based on 100% spot-market
17 purchases.

18 Under the Companies’ proposal, the auction participants will make offers to supply
19 “tranches”; each tranche represents the full-requirements, load-following generation
20 service obligation for a defined segment (i.e., percentage) of load for a particular default
21 service customer class. Each tranche for the residential class will consist of 5% spot-priced

¹ Specifically, at any point in time during the default service period, roughly 49% of the load obligation will effectively be priced based on one-year purchases, while another 46% of load will be priced based on two-year purchases. A small fixed quantity of load will be satisfied from energy procured by the Companies through solar power purchase agreements (“PPAs”), paired with spot purchases. We describe this aspect of the default service program in further detail later in this testimony. The reported shares of load obligation that are to be met with one-year purchases, two-year purchases, and spot purchases do not account for this “solar plus spot” purchase of a fixed block of power.

1 energy (plus a \$20/MWh fixed adder intended to offset other cost components of the full-
2 requirements obligation associated with the spot-priced default service load, including
3 capacity, ancillary services, certain transmission services, AEPS Act compliance, and other
4 costs). The remaining 95% of the residential class and all of the commercial class energy
5 requirements will be supplied at a fixed price per megawatt hour (“MWh”), as bid by the
6 winning auction participants. The customers receiving default service will be billed at a
7 fixed price per kilowatt hour that will change every six months, with the timing
8 synchronized to PJM Interconnection, LLC’s (“PJM”) energy year, which begins on June
9 1 and lasts through May 31.²

10 There will be separate default service products for each Company and for commercial and
11 residential customer classes, but these products will be procured simultaneously in the
12 same auction. Auctions will be held twice per year. Typically, the auctions for these
13 customer classes will occur every September and March, though the first auction will take
14 place in November 2022 (rather than in September of that year). The November 2022
15 auction will coincide with the November auction for DSP V. The mix of tranches offered
16 in each auction will vary.

17 Tranches with a 12-month generation service supply obligation to serve residential or
18 commercial default service customers will be auctioned starting in November 2022, with
19 subsequent procurements occurring annually thereafter every March and September
20 through March 2026. Tranches with a 24-month generation service supply obligation to
21 serve residential or commercial default service customers will also be auctioned starting in

² Specifically, a new PTC will take effect on June 1 and December 1 of every year and remain in effect for the ensuing six-month period.

1 November 2022, with subsequent procurements occurring every March and September
2 through March 2025. Tranches with a 6-month generation service supply obligation (for
3 commercial customers only) will be auctioned annually every March and September from
4 2023 through 2026. The Companies propose to replace the 3-month generation service
5 product with the 6-month generation service product that was procured for commercial
6 default service customers under DSP V. Mr. Catanach provides a timeline showing the
7 auction procurement schedule by load type and the duration of the supply obligation in an
8 exhibit to his direct testimony (Met-Ed/Penelec/Penn Power/West Penn Exhibit JHC-1).

9 The winning bidders for the full-requirements, load-following procurements for the
10 residential, commercial, and industrial classes will be responsible for energy, capacity,
11 ancillary services, relevant PJM fees and administrative expenses, and certain transmission
12 costs associated with their share of default service load (including congestion costs and
13 marginal transmission losses). They will not be responsible for Regional Transmission
14 Expansion Plan (“RTEP”) charges; Expansion Cost-Recovery Charges; Reliability Must
15 Run/generation deactivation charges; historical out-of-market adjustments related to tie
16 lines, generation, and retail customer-metering costs; unaccounted-for energy costs; or any
17 FERC-approved reallocation of PJM RTEP charges related to Docket No. EL05-121-009
18 (collectively referred to as “non-market-based charges,” or “NMB charges”). The costs
19 associated with NMB charges will be charged to customers directly through a
20 non-bypassable tariff rider (i.e., each Company’ Default Service Support Riders
21 (hereinafter “DSSR”)).

22 For the industrial class, 100% of load will be acquired through an annual auction process
23 in which suppliers bid on a full-requirements, load-following product whose energy price

1 is set at the PJM real-time price. In addition to a fixed adder of \$4/MWh intended to cover
2 capacity, ancillary services, AEPS Act compliance, and other costs associated with meeting
3 this full-requirements obligation, suppliers may bid an additional adder over the PJM real-
4 time price to cover any remaining costs or provide a potential profit margin. Industrial
5 class auctions for each Company will be held every March from 2023 to 2026 (for delivery
6 beginning June 1 of the year of the auction and ending May 31 of the subsequent calendar
7 year), and these procurements will occur at the same time as the auctions for the residential
8 and commercial classes.

9 In addition to the above areas of responsibility, suppliers of the full-requirements,
10 load-following tranches will bear the costs of complying with AEPS Act requirements. In
11 particular, default service suppliers will be responsible for meeting 100% of the non-solar
12 Tier I and Tier II AEPS Act requirements. Default service suppliers will also be
13 responsible for meeting solar Tier I AEPS Act requirements less any SPAEC allocations
14 received from existing long-term SPAEC contracts³ or from the Companies' proposed
15 long-term solar PPAs.

16 **Q. Are there any long-term energy purchases included in the Companies' proposed**
17 **DSP?**

18 A. Yes. The Companies will continue to support the development of the Pennsylvania solar
19 industry by procuring—through multi-year PPAs—the energy and SPAECs generated by
20 one or more new in-state solar photovoltaic projects with total capacity up to 20 MW. The

³ Note that Met-Ed, Penelec, and Penn Power have several SPAEC contracts that end May 31, 2024. Met-Ed, Penelec, and Penn Power will allocate these SPAECs to retail and wholesale suppliers based on their share of MWhs serviced for the energy year ending May 31, 2024.

1 winning project(s) will be selected through a competitive procurement process in which
2 the developer or owner of each qualified project will offer a \$/MWh price which it will
3 receive for each MWh of solar energy generated over the term of the PPAs.⁴ The energy
4 generated by the selected project(s) will be paired with spot purchases to satisfy a fixed
5 quantity of default service load during specified hours of the day. The SPAECs that the
6 Companies purchase through the solar PPAs will be allocated to residential default
7 suppliers in proportion to the amount of load served over the course of the energy year
8 (after reserving a small portion to meet the AEPS requirements of the residential default
9 service load that the Companies are serving with the solar PPA(s) and the associated spot
10 purchases).

11 **Q. As requested by the Commission’s January 23, 2020 Secretarial Letter, in your**
12 **opinion, does the term length of the products proposed in the Companies’ DSP serve**
13 **as “evidence showing how [the] [Companies’] DSP proposal complies with the**
14 **prudent mix requirements of the Public Utility Code and case law”?**⁵

15 A. Yes. Pursuant to Act 129, the electric power procured under an electric distribution
16 company’s (“EDC’s”) DSP proposal must include a “prudent mix” of spot-market
17 purchases and short- and long-term contracts.⁶ That said, though neither of us is an
18 attorney, we have been advised by counsel that under Pennsylvania case law, most notably
19 the *Popowsky* case cited in the January 2020 Secretarial Letter, a “prudent mix” of

⁴ The dollar price per MWh will be paid in exchange for the energy and the accompanying solar alternative energy credit.

⁵ *Investigation into Default Service and PJM Interconnection, LLC. Settlement Reforms*, Secretarial Letter, Docket No. M-2019-3007001, at 8 (issued January 23, 2020) (“January 2020 Secretarial Letter”).

⁶ 66 Pa.C.S. § 2807(e)(3.2).

1 generation sources can include only one of the foregoing when it is the most prudent course
2 and likely to result in the least cost over time.⁷

3 The Companies' proposed procurement design comports with both Act 129 and
4 Pennsylvania case law as it will result in a prudent mix of spot-purchases and short- and
5 long-term contracts. The use of 12- and 24-month contracts should provide some measure
6 of cost stability, which is a primary objective when procuring generation supply for default
7 service.⁸ The 5% of residential load that is priced according to the PJM real-time market,
8 and the 29% of commercial load that is priced based on biannual purchases, both provide
9 customers some exposure to short-term price signals. Lastly, residential default service
10 customers will be further insulated from instability in the prices of both energy and
11 SPAECs through the Companies' proposed long-term solar PPAs.

⁷ *Popowsky v. Pa. PUC*, 71 A.3rd 1112, 1117 (Pa. Commw. Ct. 2013).

⁸ The Commission's Final Order in Docket No. L-2009-2095604 recognizes that relative cost stability is an -objective in procuring default service supply:

As stated earlier in this Order, the "least cost over time" standard should not be confused with the presumption that default prices will always equal the lowest cost price for power at any particular point in time. In implementing default service standards, the Commission must be concerned about rate stability as well as other considerations such as ensuring a "prudent mix" of supply and ensuring safe and reliable service. In our view, a default service plan that meets the "least cost over time" standard should not have, as its singular focus, the achievement of the absolute lowest cost over the default service plan time frame but rather a cost for power that is both relatively stable and also economical relative to other options.

Implementation of Act 129 of October 15, 2008; Default Service and Retail Electric Markets, Final Rulemaking Order, Docket No. L-2009-2095604, at 40 (entered Oct. 4, 2011) ("2011 Final Rulemaking Order").

1 **Q. Do you believe that the Companies’ proposed DSPs are consistent with 66 Pa.C.S. §**
2 **2807(e)(3.4), which requires that they be designed to ensure “the least cost to**
3 **customers over time”?**

4 A. Yes, we do. As Dr. Reitzes has explained in testimonies submitted in the Companies’
5 previous DSP proceedings,⁹ the use of a competitive process to procure a full-requirements
6 product is designed to induce aggressive bidding among suppliers who can manage
7 portfolios of energy, transmission, and capacity products to meet the load obligations of a
8 given class of customers. The competitiveness of the bidding process, coupled with the
9 nature of the product that is being procured, will result in an outcome where the suppliers
10 who can manage those portfolios at the least cost over time (or who believe that they can
11 obtain the components of their portfolios at the lowest prices over time) are the winning
12 bidders.

⁹ See DSP I—*Joint Petition of Metropolitan Edison Company and Pennsylvania Electric Company for Approval of Their Default Service Programs, Joint Petition of Metropolitan Edison Company and Pennsylvania Electric Company, Met-Ed/Penelec*, Statement No. 8, Docket Nos. P-2009-2093053 and P-2009-2093054 (filed February 20, 2009) (Met-Ed and Penelec), *Petition of Pennsylvania Power Company for Approval of Interim Default Service Plan, Petition of Pennsylvania Power Company for Approval of Interim Default Service Supply Plan*, Penn Power Statement No. 9-RM, (filed May 2, 2007) (Penn Power); DSP II—*Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of Their Default Service Programs, Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company*, Met-Ed/Penelec/Penn Power/West Penn Statement No. 6, Docket Nos. P-2011-2273650, P-2011-2273668, P-2011-2273669, P-2011-2273670 (filed November 17, 2011); DSP III—*Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of Their Default Service Programs, Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company*, Met-Ed/Penelec/Penn Power/West Penn Statement No. 3, Docket Nos. P-2013-2391368, P-2013-2391372, P-2013-2391375, P-2013-2391378 (filed November 2, 2013); DSP IV—*Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of Their Default Service Programs, Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company*, Met-Ed/Penelec/Penn Power/West Penn Statement, No. 2, Docket Nos. P-2015-2511333, P-2015-2511351, P-2015-2511355, P-2015-2511356 (filed November 3, 2015); and DSP V—*Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of Their Default Service Programs, Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company*, Met-Ed/Penelec/Penn Power/West Penn Statement No. 3, Docket Nos. P-2017-2637855, P-2017-2637857, P-2017-2637858, and P-2017-2637866 (filed December 11, 2017).

1 **Q. How does the reliance upon a full-requirements product contribute to a procurement**
2 **strategy that is designed to ensure “the least cost to customers over time” as required**
3 **under Act 129?**

4 A. As stated previously in this testimony, the full-requirements product which the Companies
5 seek to supply through their respective default service procurements is known as a
6 “tranche”; it is a clearly defined product. Tranches represent a defined percentage of the
7 load of a particular customer class that the default service supplier must serve, including
8 the provision of energy, capacity, ancillary services, and certain transmission services (but
9 excluding NMB charges). Default service suppliers also are responsible for fulfilling the
10 requirements of the AEPS Act, as we described earlier in our testimony. With a clear
11 product definition established in this manner, all bidders will put forth offers to supply an
12 identical product so that the winners are chosen purely on the basis of their price offers.
13 This will lead to a transparent and efficient bidding process.

14 By bidding on a full-requirements product that must be supplied at a fixed price per MWh,
15 the suppliers assume various risks, such as those relating to price uncertainty and
16 volumetric uncertainty due to variations in weather, customer shopping behavior, fuel
17 prices facing generators, and other market factors. Those suppliers who consider
18 themselves to be the most adept portfolio managers in terms of handling these risks (or
19 who have the lowest expectations regarding the future prices for energy, ancillary services,
20 etc.) will place the lowest bids in the procurement. Thus, the procurement process is
21 intended to rely on the skills of the best electric power portfolio managers to achieve the
22 least cost over time for default service customers while maintaining a certain degree of rate
23 stability.

1 The Commission appears to accept this viewpoint as well, as stated in its discussion of full-
2 requirements procurements in the Final Rulemaking Order in Docket No. L-2009-
3 2095604:

4 The major benefit associated with the FR [full-requirements] approach is
5 that the procurement function is delegated to the electric supplier which is
6 presumably better equipped with the necessary personnel and infrastructure
7 to perform the activities associated with acquiring electric supplies in the
8 complex and ever changing wholesale market environment. The FR
9 process insulates default supply customers from the volatility associated
10 with wholesale market conditions with the supplier bearing the risks of
11 factors such as customer migration, weather, load variation and economic
12 activity.

13 2011 Final Rulemaking Order, at 54.

14 **Q. How does the reliance upon full-requirements products compare to the alternative**
15 **where the EDC instead uses a managed-portfolio approach?**

16 A. In comparing the merits of a full-requirements approach versus a managed-portfolio
17 approach to procuring generation supply for default service customers, the Commission
18 has previously expressed concern that the managed portfolio approach could produce
19 higher costs and greater pricing risk for consumers if the EDC does not prove to be an
20 adept portfolio manager. For example, in its 2011 Final Rulemaking Order, the
21 Commission stated:

22 On balance, we are not persuaded that the MP [managed portfolio] approach
23 is superior to the FR approach in achieving the “least cost to customers”
24 while also achieving the other objectives of “prudent mix” of products and
25 price stability. The MP approach has clear advantages to the retail markets
26 and the retail customer provided the EDC is capable of performing the full
27 range of portfolio management functions....Our principal concerns are that
28 EDCs do not currently possess the requisite expertise and infrastructure to
29 perform these portfolio management duties and the risks to retail customers
30 from EDC inexperience in performing these functions is too great. We are
31 also mindful of the fact that the current default supply process, with the
32 EDC acting as the default supplier and distribution entity purchasing its
33 supply from electric suppliers knowledgeable about the workings of the

1 wholesale electric market, is a product of the Competition Act, which
2 created the market structure we now operate within.

3 2011 Final Rulemaking Order 55-56.

4 Not only is the full-requirements approach intended to conform with the principles of least-
5 cost procurement, the winning bidders are supplying a product that is designed to provide
6 adequate and reliable service. The default service suppliers themselves will not be
7 expected to have difficulty providing such a product, given that the product's primary
8 components (e.g., energy, capacity, ancillary services) can readily be acquired through the
9 PJM market. Default service suppliers can similarly acquire Pennsylvania-compliant
10 alternative energy credits ("AECs"), including required in-state SPAECs and Tier I AECs,
11 through increasingly mature and liquid AEC markets.

12 Moreover, the use of 12- and 24-month full-requirements purchases for residential and
13 commercial customers should provide some measure of cost stability for those customers.

14 **Q. In its January 2020 Secretarial Letter, the Commission requested that "the large**
15 **EDCs include in their upcoming DSP filings a 10-year history of their PTC changes**
16 **and assess the benefits of a 6-month PTC change compared to a 3-month PTC**
17 **change." Have you done such an assessment?**

18 A. Yes. Pursuant to this directive, included in the testimony of Patricia Larkin (Met-
19 Ed/Penelec/Penn Power/West Penn Statement No. 5) is Exhibit PML-1, which provides
20 historical data on PTC changes.

21 Turning to an assessment of the comparative benefits of 6-month PTC changes versus 3-
22 month PTC changes, the primary advantage of a 6-month PTC change is the infrequency

1 of their occurrence (vis-à-vis 3-month changes). All customers generally prefer less
2 frequent PTC changes; commercial customers in particular appreciate the likely reduction
3 in the seasonal volatility of prices related to fewer PTC changes. Residential customers
4 should also see a reduction in PTC volatility arising from fluctuations in the E-factor, as
5 explained below.

6 **Q. How will commercial customers be affected by the switch to a 6-month PTC change?**

7 A. For commercial customers, the switch to include a 6-month product instead of a 3-month
8 product in the default service generation supply portfolio should serve to lessen seasonal
9 volatility. In recent years, energy market prices in the PJM zones corresponding to the four
10 Companies are generally higher in the winter and lower in other parts of the year,
11 particularly in the spring.¹⁰ This translates to a higher procurement cost for the tranches
12 with 3-month delivery periods covering December through February and lower costs for
13 the tranches in the other 3-month delivery periods.

14 Instead of having the PTC for commercial customers fluctuate in part because of seasonal
15 changes in power costs arising from a 3-month delivery period for part of the generation
16 supply portfolio, there will instead be two 6-month power procurements, with one
17 procurement covering the summer and fall seasons and another covering the winter and
18 spring seasons. Combining the winter and spring procurements and the summer and fall
19 procurements should smooth out seasonal price variations, producing a smaller and less
20 frequent shift in the PTC due to seasonal factors.

¹⁰ We confirmed the seasonal pattern of prices described here using hourly energy price data from January 2017 through October 2021 for the four relevant zones. Specifically, we calculated a load-weighted locational marginal price (“LMP”) for each three-month season. In all four zones, LMPs were on average highest in the winter (December through February) and lowest in the spring (March through May).

1 **Q. How will residential customers be affected by the switch to a 6-month PTC change?**

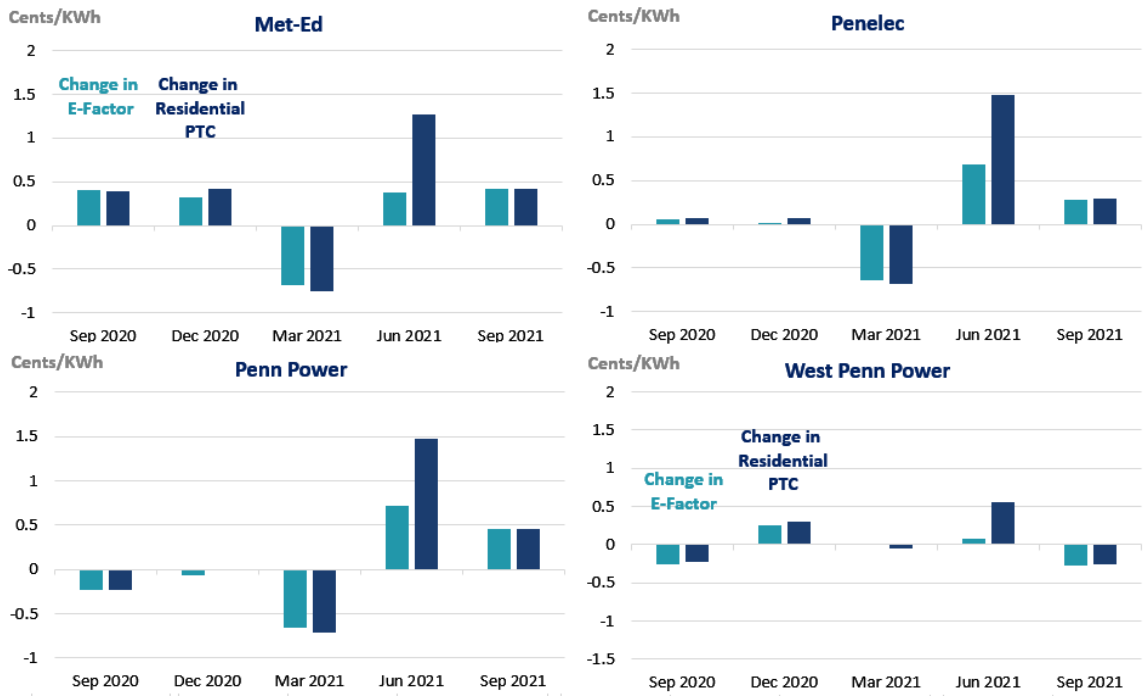
2 A. Because residential customers are supplied by a portfolio consisting of 1- and 2-year
3 products, changes to the PTC in three out of four quarters (in September, December, and
4 March) are not driven by variations in default procurement prices, as is the case for
5 commercial customers. Instead, in those quarters, the changes to the PTC are driven largely
6 by changes in the “E-factor,” which, as Patricia Larkin explains, is a “charge or credit...for
7 quarterly reconciliation of any under- or over-collection of actual revenues against actual
8 costs for each class from prior rate periods.”¹¹

9 Figure 1 below displays this graphically for each of the four Companies. Specifically, the
10 quarterly changes in the residential PTC are almost entirely explained by the quarterly
11 changes in the corresponding E-factor in that quarter. The only exceptions to this pattern
12 occur in June, when the composition of the portfolio that determines the cost of the default
13 supply changes as old contracts expire and new contracts take effect.

¹¹ Met-Ed/Penelec/Penn Power/West Penn Statement No. 5 at 4.

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Figure 1: Quarterly Changes in Residential E-Factor and Residential PTC



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Sources: Residential PTC data provided in PML-1. Data on residential E-Factor provided by the Companies.

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In preparing her testimony, Patricia Larkin has recalculated the E-factor over the 2020-21 period based on the method the Companies will use if the Companies’ proposed shift from the 3-month to the 6-month PTC is approved. As Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-2 of Patricia Larkin’s testimony (Met-Ed/Penelec/Penn Power/West Penn Statement No. 5) demonstrates, it is generally the case that the 6-month E-factor would have been less volatile than the 3-month E-factor over that time period. Accordingly, the PTC will also be less volatile, all things being equal. In general, we would expect that averaging the E-factor changes over a 6-month period, as compared to a 3-month period, will produce less frequent and smaller PTC changes related to the E-factor.

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We also expect that there will continue to be moderate adjustments to the residential PTC every June, as new auction prices reflecting current market conditions replace auction-

1 clearing prices associated with expiring 12- and 24-month default service tranches, where
2 those prices were determined under different market conditions in previous years.
3 However, there is no reason to expect that the shift from the 3-month to the 6-month PTC
4 change will affect that portion of the PTC change that is driven by year-over-year
5 differences in procurement prices. At the same time, the reduction in the volatility of the
6 E-factor will, all things being equal, lead to less volatility of the PTC adjustments.

7 In addition to their proposal to move from 3-month PTC changes to 6-month PTC changes,
8 the Companies are also proposing to change the procurement schedule for residential
9 customers, as the Companies intend to conduct procurements twice per year (every spring
10 and fall). Under DSP V, the Companies conduct procurements three times per year
11 (October/November, January, and April). Conducting two procurements per year should
12 lead to reduced auction-related costs in procuring default service generation supplies
13 compared to three procurements per year, which we expect, all things being equal, to result
14 in some modest reduction in average PTC rates.

15 **Q. Have previous full-requirements default service procurements resulted in substantial**
16 **participation?**

17 A. Yes, there has been substantial participation, based on recent experience with the
18 Companies' competitive procurements of full-requirements supplies for their default
19 service customers. For example, the number of registered bidders in default service supply
20 auctions for Met-Ed, Penelec, Penn Power, and West Penn has ranged from ten to sixteen

1 for DSP V procurements that have taken place to date, spanning the period from October
2 2018 to June 2021.¹²

3 **Q. Have the Companies' previous default service auctions resulted in reasonable prices**
4 **that reflected expected wholesale market conditions?**

5 A. Yes, they have. Our analysis of the prices resulting from recent default service auctions
6 conducted for the Companies' residential and commercial customers shows that the
7 resulting prices were only slightly above the combined wholesale energy, capacity,
8 ancillary service, and Network Integration Transmission Service ("NITS") costs that were
9 projected at the time of each auction for the corresponding delivery periods.¹³ This analysis
10 is set forth in Met-Ed/Penelec/Penn Power/West Penn Exhibit JDR/NEP-1.

11 For our analysis, we first estimated the expected wholesale energy costs to serve retail
12 loads of the Companies' residential and commercial customers. For this calculation, we
13 used PJM West forward prices, which we adjusted for the delivery location by using the
14 difference in spot-energy prices between the PJM West hub and the corresponding zonal
15 price (e.g., METED, PENELEC, PENN POWER, or APS).¹⁴ We then adjusted these flat
16 prices by the load-shape factor of the Companies' residential and commercial non-
17 shopping customers to reflect the fact that the retail load of these customer classes is, on

¹² The reported range reflects the number of bidders who registered for each of the twelve procurements held under DSP V thus far.

¹³ We did not include costs associated with alternative energy credits needed to satisfy AEPS requirements. Given the exclusion of these costs, our estimates of implied risk premiums in providing default service may be somewhat overstated.

¹⁴ For this "basis" adjustment, we used 2016 as the reference year for default service auctions that occurred in 2016 and 2017. We used 2018 as the reference year for default service auctions that occurred in 2018 and 2019; and we used 2020 as the reference year for default service auctions that occurred in 2020 and April 2021. METED, PENELEC, APS, and PENN POWER zonal prices are used for the respective Met-Ed, Penelec, West Penn, and Penn Power basis adjustments.

1 average, higher during hours with higher prices. The resulting energy prices were in the
2 range of \$24-\$36/MWh for Met-Ed, \$25-\$36/MWh for Penelec, \$25-\$36/MWh for Penn
3 Power, and \$26-\$37/MWh for West Penn.

4 To calculate the capacity-cost component of serving the Companies' residential and
5 commercial customers, we relied on the PJM base residual auction ("BRA") prices for the
6 appropriate delivery periods. Then, we converted these capacity prices expressed in dollars
7 per megawatt day ("\$/MW-day") into levelized capacity costs (expressed in \$/MWh) by
8 using the ratio of peak-to-average load for each customer class.¹⁵ The resulting levelized
9 capacity prices were in the range of \$8-\$17/MWh for Met-Ed, \$8-\$17/MWh for Penelec,
10 \$7-\$18/MWh for Penn Power, and \$7-\$17/MWh for West Penn.

11 For ancillary service costs, we used the actual observed costs, which ranged from \$0.97 to
12 \$1.21 per MWh between 2016 and 2020.¹⁶

13 For NITS costs, we used costs expressed in \$/MW-day, as provided by the Companies,
14 starting when NITS became the default service supplier's responsibility in June 2013.
15 As we did with the capacity prices, we converted NITS costs into levelized costs (expressed
16 in \$/MWh) by using the ratio of peak-to-average load for each customer class.¹⁷
17 The resulting levelized NITS costs were in the range of \$5-\$13/MWh for Met-Ed,
18 \$4-\$11/MWh for Penelec, \$12-\$17/MWh for Penn Power, and \$3-\$4/MWh for West Penn.

¹⁵ For this capacity price adjustment, we used 2016 load data for default service auctions that occurred in 2016 and 2017; 2018 load data was used for default service auctions that occurred in 2018 and 2019; and 2020 load data was used for default service auctions that occurred in 2020 and 2021.

¹⁶ For ancillary service costs, we used: 2016 costs for default service auctions that occurred in 2016 and 2017; 2018 costs for default service auctions that occurred in 2018 and 2019; and 2020 costs for auctions that occurred in 2018 and 2019.

¹⁷ We used the same load data for the NITS cost adjustment as for the capacity price adjustment.

1 Finally, we added together the energy, capacity, ancillary service, and NITS costs to
2 estimate the expected wholesale market cost of serving the Companies' residential and
3 commercial customers. This represents our estimate of the expected cost of serving retail
4 customers without accounting for any potential risk premium that default service suppliers
5 may include in their bid prices to reflect volumetric and price uncertainty. We refer to this
6 estimated cost as the "Estimated No-Risk Price", as shown in Met-Ed/Penelec/Penn
7 Power/West Penn Exhibit JDR/NEP-1.

8 Our estimated cost of serving retail customers is conservative as it does not include the
9 costs of AECs needed to meet AEPS requirements, as well as any other costs not described
10 above that are incurred by suppliers of default service. Therefore, the "risk premium"
11 referenced in Met-Ed/Penelec/Penn Power/West Penn Exhibit JDR/NEP-1, which is
12 calculated as the difference between the auction price and the sum of the expected cost of
13 serving the customer (i.e., the sum of energy, capacity, ancillary services, and NITS costs),
14 may be larger than the "true" risk-premium to the extent that any material costs have been
15 omitted.

16 In spite of the conservatism of our cost calculations, the average difference between the
17 auction price and expected cost is relatively modest. The average risk premiums expressed
18 in \$/MWh were \$2.95/MWh for Met-Ed, \$2.15/MWh for Penelec, \$2.24/MWh for Penn
19 Power, and \$1.54/MWh for West Penn. Expressed as a percentage of the Estimated No-
20 Risk Price, the risk premiums were, on average, 5.96% for Met-Ed, 4.63% for Penelec,
21 4.10% for Penn Power, and 3.54% for West Penn. Our results are summarized below in
22 Table 2, and further detail is provided in Met-Ed/Penelec/Penn Power/West Penn Exhibit
23 JDR/NEP-1.

1 **Table 2: Average Estimated Risk Premium in Default Service**
 2 **Full-Requirements Auctions (October 2016-April 2021): DSP IV and V**

EDC	Risk Premium (\$/MWh)	Risk Premium (% of No-Risk Price)
Met-Ed	2.95	5.96%
Penelec	2.15	4.63%
Penn Power	2.24	4.10%
West Penn Power	1.54	3.54%

3 Source: The Brattle Group.

4 **Q. What are the advantages of conducting a simultaneous procurement for Met-Ed,**
 5 **Penelec, Penn Power, and West Penn?**

6 A. By conducting a simultaneous procurement for the Companies for all classes, more
 7 potential bidders can be attracted to the procurement process. Transaction costs for both
 8 bidders and the Companies also can be reduced through a simultaneous procurement.
 9 When the procurement mechanism is a simultaneous, multi-round, descending-clock
 10 procurement, bidders can switch from one utility's product to another in response to price
 11 differences that they believe are not reflective of underlying supply-cost differences. This
 12 behavior leads to a potentially more economically efficient outcome and contributes to
 13 pricing that is more consistent among the four Companies.

14 By procuring default supply in this fashion, the prices of default service for Met-Ed,
 15 Penelec, Penn Power, and West Penn customers are more closely in line with one another
 16 (i.e., one is not low-priced or high-priced relative to the others simply because it was
 17 procured at a different point in time). This provides the added benefit of simplifying
 18 administrative and regulatory oversight.

1 By contrast, even if the auctions occur only days apart, a sequential default service auction
2 process among the different Companies could lead to price disparities that do not reflect
3 actual differences in generation supply costs across the Companies. Under a sequential
4 auction process, generation suppliers for default service customers must make strategic
5 decisions on how much supply to offer and what price to accept in one Company's auction
6 based on their expectations of the results of subsequent auctions by the other Companies.
7 With a simultaneous auction process, a generation supplier can determine how much
8 supply to offer to a given Company based on the current auction prices for that Company
9 and all other Companies.

10 **Q. Do the proposed procurement formats conform with the requirements of Act 129?**

11 A. Yes, they do. Section 2807(e)(3.1), Title 66, of the Pennsylvania Consolidated Statutes
12 specifies that:

13 [T]he default service provider shall provide electric generation supply to
14 that customer pursuant to a commission-approved competitive procurement
15 plan. The electric power acquired shall be procured through competitive
16 procurement processes and shall include one or more of the following:

- 17
18 (i) auctions;
19 (ii) requests for proposal;
20 (iii) bilateral agreements entered into at the sole discretion of the default
21 service provider. . . .

22 66 Pa.C.S. § 2807(e)(3.1). The procurement format proposed by the Companies is a
23 descending-clock auction process, as explicitly permitted by Section 2807(e)(3.1).

1 **Q. Is the proposed procurement format designed to achieve a competitive result, which**
2 **would be essential to achieving the least cost to customers over time?**

3 A. Yes, the auctions are designed to produce competitive outcomes as they are
4 nondiscriminatory, fair, and open. An auction mechanism encourages supplier
5 participation and is therefore aimed at achieving the least cost by selecting the
6 lowest-priced bids.

7 The descending-clock auction format is nondiscriminatory because any party can
8 participate as long as it satisfies the criteria used in the application process.
9 This procurement format is fair and transparent because suppliers clearly understand how
10 the final solicitation prices are determined and how to compete for a winning position.

11 In a descending-clock auction, each of the bidders can observe the prevailing price during
12 each round of the auction. Each bidder can then determine whether it is in their economic
13 interest to continue supplying the desired product at the current price as the price falls from
14 one round to the next. The auction ends when prices have decreased to the point where
15 enough bidders have dropped out, such that the amount of power that remaining active
16 bidders are willing to supply equals the amount of power needed.

17 The rules of the descending-clock auction are pre-specified in a way that can be thoroughly
18 replicated and verified. Because bidders are pre-qualified, the evaluation of bids is on a
19 price-only basis, which is intended to produce a fair, least-cost result.

20 The openness and transparency of the auction format encourages participation in the
21 bidding process. The winning bidders are those that offer to supply full-requirements

1 service at the lowest prices (i.e., the least cost). Consequently, the entire process is
2 consistent with achieving a competitive outcome.

3 **Q. Why is it that the superior portfolio managers will place the lowest bids in these full-**
4 **requirements procurements?**

5 A. To serve default service customers, a prospective supplier must assemble a portfolio
6 comprised of competitively priced wholesale products—such as, fixed-price, fixed-
7 quantity, forward energy purchases, and long-term energy contracts. Prospective suppliers
8 are likely to pay similar prices for forward energy purchases, implying that differences in
9 their auction bids are principally related to perceived differences in the cost of satisfying
10 uncertain customer load, as well as perceived differences in the cost of bearing other
11 sources of risk.

12 The suppliers submitting the lowest bids will be those that are the most efficient portfolio
13 managers (or otherwise require the least compensation for bearing pricing and volumetric
14 risk) or those that are most optimistic about the possibility of relatively low spot and
15 forward prices over the course of the delivery period. In this fashion, the Companies' DSPs
16 are designed to achieve the least cost to customers over time.

17 **Q. Does not the competitiveness of the auction procurement process depend on the**
18 **competitiveness of the underlying wholesale market?**

19 A. Taking the competitiveness of the wholesale market as given, the auction process, by itself,
20 can be competitive if it has sufficient participation. A concern might arise, however, that
21 the wholesale market is not competitive, leading to insufficient auction participation and a

1 less-than-fully-competitive outcome because prospective suppliers are not confident in
2 their ability to obtain physical power supplies at reasonable prices.

3 However, there is ample reason to believe that the wholesale market is sufficiently
4 competitive to support a competitive pricing outcome for the Companies' default service
5 auction process. The PJM wholesale market, including the forward and spot markets that
6 are relevant to supplying Met-Ed, Penelec, Penn Power, and West Penn, has numerous
7 potential suppliers.

8 Furthermore, PJM's markets have an active market monitor, and the PJM day-ahead- and
9 real-time markets have procedures in place to mitigate abuses of market power.
10 Specifically, PJM has stringent *ex ante* mitigation processes that impose cost-based
11 restrictions on the bids of wholesale suppliers in its day-ahead- and real-time markets
12 whenever structural conditions exist that may lead to potential exercises of market power.
13 This mitigation indirectly constrains longer-term forward prices as well, given that forward
14 prices are representative of expected future spot prices and that energy purchasers can
15 substitute between products of different durations. Besides its energy markets, PJM also
16 has market-power-mitigation processes in its capacity markets.

17 As mentioned above, participation in the Companies' default service supply auctions
18 would likely be hindered if prospective participants were concerned that PJM's wholesale
19 markets were not competitive, or that energy trading in PJM was not sufficiently robust to
20 avoid incurring substantial transactions costs. However, past results suggest that this is not
21 the case, as there have historically been anywhere from ten to sixteen bidders in recent
22 full-requirements procurement auctions for Met-Ed, Penelec, Penn Power, and West Penn.

1 **Q. Are there contingency plans in place for alternative procurement strategies if any**
2 **given auction appears to attract limited interest or if a winning supplier subsequently**
3 **defaults on its obligation before or during a delivery period?**

4 A. Yes. As described in detail in Wanyun Zhong’s direct testimony (Met-Ed/Penelec/Penn
5 Power/West Penn Statement No. 3), the Companies are proposing to continue the
6 contingency plans that were previously approved by the Commission in the Companies’
7 DSP V proceeding.

8 **Q. Do you think that the plan to enter into long-term contracts for the energy and**
9 **SPAECs associated with up to 20 MW of new solar generating capacity contributes**
10 **to the objectives of Act 129?**

11 A. Yes, we do. First, the contracts will ensure that the DSP VI plan includes a long-term
12 component as part of its prudent mix. This will provide an additional source of cost
13 certainty to residential default service customers with respect to the overall price paid for
14 energy and SPAECs procured under the proposed PPAs.

15 Because the proposed PPAs will be awarded through a competitive procurement process,
16 there is incentive for the solar developers to compete over the cost of providing the energy
17 and SPAECs, which helps to achieve the least cost to customers over time. The suppliers
18 submitting the lowest bids, after considering project viability and other factors, will be
19 those whose solar projects are the most economic, whether due to lower financing costs,
20 higher capacity factors, or other considerations.

1 Finally, the long-term solar energy and SPAEC procurement contained in the Companies’
2 proposed DSPs will directly support further development of the solar power industry in the
3 Commonwealth.

4 **Q. Have you reviewed the documents that the Companies propose to use for the proposed**
5 **Solar PPA RFP, and do you anticipate that they will produce results that are**
6 **consistent with the objectives of Act 129?**

7 A. Yes, and we have assisted in the development of these documents. Based on our experience
8 conducting SPAEC RFPs and other RFPs for renewable power, and for the reasons
9 mentioned above, we expect that this procurement design will produce a fair, open, and
10 non-discriminatory process that will ultimately yield a competitive outcome for the
11 procurement of solar energy and SPAECs.

12 **III. CONCLUSION**

13 **Q. Can you summarize how the proposed plan to procure full-requirements service for**
14 **default service customers leads to the “least cost to customers over time” in the**
15 **provision of default service supply?**

16 A. Yes. The Companies propose to use an auction process to acquire generation to satisfy
17 95% (approximately) of the residential and 100% of the commercial default service load
18 through full-requirements, load-following procurements of 6-month (for commercial
19 customers), 12-month, and 24-month durations. Approximately 5% of residential load will
20 be from the PJM spot market, where a \$20/MWh adder is also applied. All load obligations
21 will be priced based on the results of these fixed-priced procurements of varying durations.
22 The Companies will also enter into long-term solar PPAs to procure both energy and

1 SPAECs, which will provide some additional stability in the prices of both energy and
2 SPAECs for residential customers.

3 Industrial default service load will be priced based on the PJM real-time market, plus a
4 \$4/MWh adder. Suppliers will compete for this load through an auction process where
5 they will bid an additional adder to cover any costs (or profit margin requirements) that
6 remain after the \$4/MWh adder, which is intended to defray a portion of the capacity,
7 ancillary services, AEPS Act, and other costs that are part of the full-requirements
8 obligation.

9 The winners of the fixed-price, full-requirements, load-following auctions must function
10 as portfolio managers by procuring a combination of energy, capacity, ancillary services,
11 and certain transmission products needed to ensure adequate and reliable service to default
12 service customers in the face of load and price uncertainty. Because the winners in these
13 auctions will be the ones that offer default service supply at the lowest reasonable prices,
14 the proposed descending clock auctions necessarily choose as winning bidders those
15 suppliers that can, or at least believe they can, provide this portfolio of products at the least
16 cost over time. As a result, the proposed supply plan produces the least cost over time
17 relative to other procurement methods, assuming that the procurements themselves are
18 competitive.

19 The procurement format (a descending-clock auction) is designed to be open, fair, and
20 transparent. Supplier participation is encouraged as bidders are pre-qualified through an
21 open, transparent application process, where relevant information about the procurement
22 is posted to a public website. By accounting for any non-price factors, such as bidder

1 creditworthiness in the qualification requirements, the bids are evaluated on a price-only
2 basis, which leads to a lowest-price outcome. For these reasons, the procurement process
3 and the supply plan work together to achieve the least cost to customers over time.

4 **Q. Does this conclude your direct testimony?**

5 A. Yes, it does.

6

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APPENDIX A
James David Reitzes
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Dr. James D. Reitzes received his B.A. in economics and history from Stanford University, and his Ph.D. in economics from the University of Wisconsin. He specializes in providing economic analyses and expert testimony pursuant to regulatory proceedings and strategy work in the energy and transportation sectors and litigation in the areas of antitrust and competition.

Dr. Reitzes has provided expert analysis and testimony in energy-related competition and regulatory matters before the Federal Energy Regulatory Commission, state public utility commissions, and federal antitrust agencies. In the transportation sector, he has offered expert analysis and testimony in proceedings involving the U.S. Department of Transportation, U.S. Department of Justice, the European Commission, the European Court of First Instance, and national antitrust authorities. He also has provided economic consulting services to clients in the United States, Canada, the European Union, South America, and Africa.

Since joining The Brattle Group as a Principal in April 1998, Dr. Reitzes has been involved in energy regulatory, strategy, and litigation matters for utilities, RTOs, cooperatives, municipal power providers, and industrial customers. More specifically, Dr. Reitzes has been involved in formulating and managing auction and RFP processes for procuring and selling electric power supplies (including renewable power and renewable energy credits), assessing the competitive impact and efficiencies arising from integration and consolidation in natural gas transport markets, valuing investments in specified electric generation assets as well as specified energy and capacity purchases (in comparison to other generation or procurement alternatives), analyzing the value and risks associated with particular features of power purchase agreements and EPC contracts, designing energy procurement strategies to support standard-offer service obligations, critiquing market-monitoring policies and market design features of electric power markets, assessing the competitive implications of mergers and acquisitions in power markets, providing analyses of alleged market manipulation and exercises of market power in the energy sector, and designing transitional regulation strategies.

Dr. Reitzes has authored several articles on energy markets and firm strategies with respect to pricing, quality, R&D investment, and merger behavior, published in leading economics and legal journals. He also is an author of a book that assesses the domestic impact of U.S. international trade policies.

REPRESENTATIVE ENERGY SECTOR EXPERIENCE

Procurement (Auction) Management, Design, and Bidding Strategy

- For three utilities in Pennsylvania, designed and managed the procurement of solar photovoltaic alternative energy credits (SPAECs) on multiple occasions and submitted testimony describing the procurement process and benchmarking the results against expected market prices. Responsibilities included: (i) designing and drafting the auction

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rules, structure, and bid forms; (ii) overseeing the provision of auction-related information on the procurement website; (iii) corresponding with interested bidders; (iv) interacting with company personnel regarding bidder credit issues; (v) hosting bidder information sessions; (vi) evaluating bid materials; (vii) building a financial model to determine the likely value of the solar energy credits; (viii) providing a benchmarking study to determine if the bids were reflective of market fundamentals; and (ix) drafting a report to the Pennsylvania Public Utility Commission to secure approval of the procurements.

- For utilities in Ohio, developed the design, management, and implementation of an auction process to serve standard service offer customers, and submitted accompanying testimony. Also participated in the development of software to implement the auction process and identify the winning bidders.
- On multiple occasions, I have served as a member of an independent team evaluating bids to provide electric energy and capacity (and renewable energy credits) from various proposed generation projects.
- For an unregulated trading affiliate of a regulated utility, provided strategic bidding advice and financial analysis in a multi-round ascending clock auction to acquire PPAs for virtually divested generation assets. Assisted in the development of financial models to value the various PPAs, and in formulating between-round bidding strategies, including helping with algorithms to estimate the remaining amount of eligibility of competing bidders.
- For a municipal power provider that was a partial owner of a power plant in Illinois, designed and managed an RFP process to either sell the ownership stake in the plant or alternatively sell the output entitlement through a long-term PPA agreement. Responsibilities included: (i) developing target sale structures; (ii) formulating a schedule for completing the sale; (iii) developing and drafting the RFP documents and bid process tools; (iv) soliciting interest for the sale; (v) managing the RFP bid process; (vi) qualifying the bids; (vii) evaluating final bids and assisting in the negotiation of final terms; and (viii) preparing a report summarizing the RFP process.
- For industrial customers and municipalities in Texas in a stranded cost proceeding, submitted testimony to the Public Utility Commission of Texas that analyzed auction design issues pertaining to the sale of generation assets, including the potential impact on

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sale prices of conducting an auction when an outside entity has a right-of-first-refusal (ROFR) to purchase the assets at the winning auction price.

- For the owner of a merchant transmission line connecting PJM with NYISO, designed and managed an RFP process to sell transmission scheduling rights on multiple occasions. Responsibilities included: (i) designing the auction; (ii) drafting rules and bid forms; (iii) developing marketing materials and conducting various types of market analyses to assist bidders in understanding the value proposition offered by the transmission rights; (iv) identifying potentially interested bidders; (v) assisting in the development of other auction materials including bidder participation agreements and purchase and sale contract provisions; (vi) hosting a website and overseeing the provision of auction-related information through the website; (vii) communicating with potential bidders; (viii) responding to bidder questions and posting answers to those questions on the auction website; (ix) interacting with the client regarding a variety of bidder-related issues; (x) selecting the winning bidders; and (xi) preparing a report describing the auction process that was submitted to the Federal Energy Regulatory Commission.
- For an owner of another merchant transmission line connecting PJM with NYISO, designed and managed an RFP process to sell transmission scheduling rights. Responsibilities included: (i) designing the auction; (ii) drafting auction rules and bid forms; (iii) identifying potentially interested bidders; (iv) providing analyses to describe the value proposition offered to holders of transmission rights for the line; (v) developing other marketing materials; (vi) assisting in the development of other auction materials such as bidder qualification forms and purchase and sale agreements; (vii) hosting a website and overseeing the provision of auction-related information through the website; (viii) communicating with potential bidders; (ix) responding to bidder inquiries; (x) interacting with the client regarding a variety of bidder-related issues; (xi) selecting the winning bidders; and (xii) assisting in the preparation of a report submitted to the Federal Energy Regulatory Commission describing the auction process.
- For the owner of a proposed merchant transmission line connecting Ontario and PJM, designed and managed an open solicitation process to solicit interest and indicative offers for transmission rights (prior to the decision to construct the merchant line). Responsibilities included: (i) designing and drafting the solicitation rules and forms; (ii) identifying and marketing to potentially interested parties; (iii) providing analyses to describe the value of the transmission rights; (iv) developing other marketing materials for

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the solicitation; (v) hosting a website and overseeing the provision of solicitation-related information through the website; (vi) communicating with interested parties; (vii) responding to inquiries; (viii) interacting with the client regarding a variety of solicitation-related issues; and (ix) selecting a short list of interested parties for purposes of conducting negotiations regarding a purchase and sale agreement for future transmission rights.

- For the owner of a proposed merchant transmission line connecting Quebec and New York City, designed and managed an open solicitation process to solicit interest and offers for transmission rights (prior to the decision to construct the merchant line). Responsibilities included: (i) designing and drafting the solicitation documents, information memorandum, and expression-of-interest forms; (ii) identifying and marketing to potentially interested parties; (iii) developing other marketing materials for the solicitation; (iv) hosting a website and overseeing the provision of solicitation-related information through the website; (v) communicating with interested parties; (vi) responding to bidder inquiries; (vii) interacting with the client regarding a variety of solicitation-related issues; (viii) assisting in the selection of a short list of interested parties for purposes of conducting negotiations regarding a purchase and sale agreement for future transmission rights; and (ix) preparing a report for the Federal Energy Regulatory Commission describing the open solicitation process.
- Have been part of the Brattle team serving as the Independent Auction Monitor (IAM) for the Southern Company energy auction. Southern Company must supply its excess power resources under specified terms and conditions into a day-ahead and hour-ahead energy auction that is overseen by an external monitor. Our role is to: (i) verify Southern's calculations of available capacity to offer into the auctions; (ii) confirm that any transmission service necessary to accommodate a purchase under the auction is not unreasonably withheld; (iii) verify that the auction has cleared properly; (iv) ensure that internal data control restrictions are maintained to protect bidder information; (v) report complaints to the FERC; and (vi) independently file reports with the FERC regarding the auction.

Retail Market Design and Power Procurement for Utilities with Retail Load Obligations (e.g., including Standard-Offer Service Customers)

- For a utility in Pennsylvania, submitted testimony on multiple occasions that analyzed the cost and risk differences associated with full-requirements versus block-and-spot procurements of power supplies for default service customers. Analysis included estimates of the implied price premium for covering volumetric and pricing risk that was associated with past procurements of full-requirements power supplies, showing that this premium was relatively modest in size.
- For a utility in Eastern Canada, analyzed generation procurement options and competitive procurement design. The issues analyzed included the expansion of the internal generation portfolio to meet load; the use of long-term PPAs and increased transfer capability to acquire imported power suppliers from target geographic regions; conversion of the existing generation portfolio from fossil fuel to renewable generation to meet renewable energy targets; and the consideration of alternative transmission expansion strategies to facilitate power imports from geographic areas identified as the lowest cost for acquiring power supplies in the long term.
- For a utility in Pennsylvania, submitted testimony that estimated the expected level and variance in procurement costs associated with different portfolio strategies for providing electric power to default service customers. Analysis showed how different portfolio combinations of spot and forward purchases were likely to perform under different assumptions regarding the timing and frequency of forward purchases.
- For a utility in Maryland, submitted testimony that assessed differences in the expected cost and risk profile of different portfolio strategies for procuring power supplies for standard offer service customers. Analyzed how the use of a fixed-price default service product without switching restrictions provides customers with a potentially valuable option that may significantly increase the cost of supplying default service customers with full-requirements power. Assessed how load uncertainty affects the cost and risk of providing generation service for default service customers.
- For a utility in Pennsylvania, submitted testimony that assessed methods of supplying default service customers and the relationship between various facets of default service policy and the development of increased shopping by retail, residential, and commercial customers. Testimony analyzed the impact on customer shopping rates (and the

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competitive retail electric market) arising from the imposition of an “adder” to the price-to-compare, as well as from holding a retail opt-in auction subsequent to the purchase of power supplies for default service customers. Testimony also analyzed the magnitude of the “risk premium” embedded in the prices of past auctions to acquire full-requirements power supplies for default service customers.

- For a utility in Ohio, assessed a utility’s proposed rate plan for self-supplying generation service to standard service offer customers, and compared its costs against the costs of procuring power from market sources under full-requirements contracts.

Asset Valuation

- For the City of San Antonio, performed a valuation of a nuclear power plant, and compared its value against alternative technologies including gas-fired, wind, and solar powered generation. Our analysis included a risk assessment of how the plant’s value could be affected by changes in natural gas prices, environmental policy, and construction costs. Historical volatilities and implied volatilities derived from options were used to derive a distribution of potential valuation outcomes. Our results were submitted in a public report and hearing, as well as in briefings to the Mayor, City Manager, City Council, and the public.
- For a major overseas utility and investor in generation assets, performed a valuation of a proposed nuclear power plant in ERCOT and estimated the values of different types of PPAs associated with the output of the power plant. Made recommendations as to various structures for potential PPA agreements, and performed valuations associated with changes in individual PPA features. Identified potentially interested counterparties for PPA agreements. Also, performed a valuation analysis for the power plant for the “residual” period beyond the expiration of the PPA agreements. This analysis required predicting the expected level and variance of future power prices under differing outcomes regarding the price of natural gas and greenhouse gas policy.
- For a group of municipal power providers and industrial customers, performed a valuation of various power plants for a stranded cost proceeding. Built a financial model to estimate the assets’ values at the time as sale, as well as analyzed comparable transactions to form an alternative valuation estimate.

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- Built financial model to perform valuation analysis of renewable energy credits. This model was used to evaluate the results of several procurements of solar renewable energy credits conducted by Pennsylvania utilities, and the results of the model were presented to the Pennsylvania Public Utility Commission.
- On several occasions for utilities in the Mid-Atlantic and Midwest regions, have used multi-factor risk models to estimate the expected cost and cost distribution associated with different portfolio strategies for procuring power supplies for default service customers.

Competition Analysis

- For a merger of two major utilities in the western United States, estimated the pricing impacts associated with alternative generation divestiture scenarios through the use of a Cournot oligopoly simulation model. Assisted in the drafting of testimony related to the merger's impact on competition and other issues.
- For an independent power producer, submitted testimony to FERC assessing the competitive impacts of a high-profile merger involving two major utilities and generation owners within PJM, as well as the competitive effects associated with specific proposed market power mitigation measures.
- For a group of municipal power companies, analyzed a proposed merger involving two major utilities with generation supplies in the mid-atlantic and midwest regions. Reviewed the Delivered Price Test (DPT) analysis conducted on behalf of the merger applicants, and analyzed the sensitivity of applicants' results to changes in assumptions regarding power prices, gas prices, and available suppliers of imported power into the geographic area of interest.
- For two merging utilities in New York, analyzed vertical market power issues related to the merged entities' ownership of both transmission and generation assets, including the strategic use of transmission outages and other forms of transmission withholding to induce increases in power prices. Examined potential pricing impacts using a security-constrained, least-cost dispatch model.
- For PJM, served as the lead author of a Brattle study that analyzed PJM's protocols for mitigating market power, comparing those protocols to the ones used in other major RTO markets and internationally (e.g., the United Kingdom, Australia, and Nordpool). Made

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recommendations for potential changes to PJM's market power mitigation practices, and presented findings to various PJM member committees.

- For two merging electric and gas utilities with overlapping service territories in New England, analyzed the competitive impacts of their merger, specifically as it related to market power concerns arising from the supply of gas to dual-fuel industrial customers, interconnection policy with respect to industrial customers, and vertical market power issues related to supplying gas to competitive generation suppliers. Presented analysis to Federal Trade Commission attorneys and economists.
- For two merging electric and gas utilities in North Carolina, analyzed the competitive impact of the merger on gas transport markets and the price of delivered gas to North Carolina customers, including competing generation suppliers. Submitted analysis to the North Carolina Utilities Commission along with an expert report.
- For an owner and operator of natural gas pipelines, provided a white paper to the competition authorities that presented a framework for analyzing the cost and benefits of further consolidation of pipeline ownership, and assessed the efficiencies that have arisen from prior consolidations of complementary pipeline assets.
- For the U.S. government, analyzed the pricing impacts arising from an alleged cornering of a major commodity market for an oil and gas derivative product. Formulated and estimated an econometric model to identify whether an “artificial price” had resulted from the alleged behavior consistent with the exercise of significant market power. Also provided estimates of damages attributable to the price overcharges stemming from the alleged manipulation.
- For the Government of Western Australia, analyzed market power mitigation mechanisms in their wholesale electricity market (WEM), including: (i) the objectives of market power mitigation and the criteria that should be used to evaluate mitigation measures; (ii) the effectiveness of the existing market power mitigation approach in the WEM; (iii) ways to improve their existing approach; (iv) proposed alternative approaches and their pros and cons based on international experience with similar market designs and approaches (e.g., in New Zealand, United Kingdom, and other similar power markets); and (v) methods for determining which alternative approach most closely meets the desired criteria for market power mitigation.

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- For a major New Zealand electric power generation company and retailer, analyzed whether the generator’s behavior created an alleged “undesirable trading situation” (UTS) as defined in New Zealand’s electricity regulations. The alleged UTS involved the dispatch and wholesale pricing of hydroelectric power between November 2019 and January 2020, focusing on how water resources were used and the nature of bids to offer generation into the market. Submitted two reports to the New Zealand Electricity Authority that analyzed the generator’s behavior in terms of pricing, output and economic incentives; assessed reports offered by other experts on similar issues; and examined the generator’s pricing behavior in the context of other energy-only electricity markets (i.e., no capacity market) and their regulatory features.
- For a governmental authority concerned about market power and consumer protection issues within its retail electric markets, prepared a report that examined retail electricity markets and their performance in other jurisdictions where regulatory oversight spanned from limited intervention to more regulated (or closely monitored). The report identified key policy measures for protecting customers and promoting retail competition that have been implemented in those jurisdictions, and analyzed whether those measures were effective.

PUBLICATIONS

Journals

“Domestic Versus International Capital Mobility: Some Empirical Evidence,” with Donald J. Rousslang, *Canadian Journal of Economics*, Vol. 21, No. 2 (May 1988): 312-323.

“The Impact of Quotas and Tariffs on Strategic R&D Behavior,” *International Economic Review*, Vol. 32, No. 4 (November 1991): 985-1007.

“Anticompetitive Effects of Mergers in Markets with Localized Competition,” with David T. Levy, *Journal of Law, Economics, and Organization*, Vol. 8, No. 2 (April 1992): 427-440.

“Quality Choice, Trade Policy, and Firm Incentives,” *International Economic Review*, Vol. 33, No. 4 (November 1992): 817-835.

“Basing-Point Pricing and Incomplete Collusion,” with David T. Levy, *Journal of Regional Science*, Vol. 33, No. 1 (February 1993): 27-35.

“Ocean Shipping Economics: Comment,” *Contemporary Policy Issues*, Vol. 11, No. 3 (July 1993): 81-85.

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“Product Differentiation and the Ability to Collude: Where Being Different Can Be an Advantage,” with David T. Levy, *Antitrust Bulletin*, Vol. 38, No. 2 (Summer 1993): 349-368.

“Antidumping Policy,” *International Economic Review*, Vol. 34, No. 4 (November 1993): 745-763 [reprinted in Douglas R. Nelson and Hylke Vandenbussche editors, *The WTO and Anti-Dumping: Volume 1* (Cheltenham, UK: Edward Elgar Publishers, 2005): 392-410].

“The Importance of Localized Competition in the 1992 Merger Guidelines: How Closely Do Merging Firms Compete?” with David T. Levy, *ABA Antitrust Law Journal*, Vol. 62, No. 3 (Spring 1994): 695-716.

“Market-Share Quotas,” with Oliver R. Grawe, *Journal of International Economics*, Vol. 36, No. 3/4 (May 1994): 431-447.

“Price Discrimination and Mergers,” with David T. Levy, *Canadian Journal of Economics*, Vol. 28, No. 2 (May 1995): 427-436.

“In the Matter of Weyerhaeuser Company: The Use of the Hold-Separate Order in a Merger with Horizontal and Vertical Effects,” with Robert P. Rogers and Laurence Schumann, *Journal of Regulatory Economics*, Vol. 11, No. 3 (May 1997): 271-289.

“Market Power and Collusion in the Ocean Shipping Industry: Is a Bigger Cartel a Better Cartel?” with Paul S. Clyde, *Economic Inquiry*, Vol. 36, No. 2 (April 1998): 292-304.

“Is it Efficient to Impose Costs on Small-Volume Equity Traders?” with Paul S. Clyde, *International Journal of the Economics of Business*, Vol. 6, No. 1 (April 1999): 81-92.

“Lessons from the First Year of Competition in the California Electricity Markets,” with Robert Earle, Philip Hanser, and Weldon Johnson, *The Electricity Journal*, Vol. 12, No. 8 (October 1999): 57-76.

“Entry Policy and Entry Subsidies,” with Oliver R. Grawe, *Review of International Economics*, Vol. 7, No. 4 (November 1999): 715-731.

“Deregulation and Monitoring of Electric Power Markets,” with Robert L. Earle and Philip Q. Hanser, *The Electricity Journal*, Vol. 13, No. 8 (October 2000): 11-25.

“Strategic Pricing When Electricity Is Storable,” with Alfredo Garcia and Ennio Stachetti, *Journal of Regulatory Economics*, Vol. 20, No. 3 (November 2001): 223-247.

“Rolling Seas in Liner Shipping,” with Kelli L. Sheran, *Review of Industrial Organization*, Vol. 20, No. 1 (February 2002): 51-59.

“Regional Interactions in Electricity Prices in the Eastern United States,” with Gregory R. Leonard, Adam C. Schumacher, and James G. Bohn, in Michael A. Crew and Joseph C. Schuh editors, *Markets, Pricing, and Deregulation of Utilities* (Boston: Kluwer Academic Publishers, 2002): 109-142.

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“Designing Standard-Offer Service to Facilitate Electric Retail Restructuring,” with Lisa V. Wood, J. Arnold Quinn, and Kelli L. Sheran, *The Electricity Journal*, Vol. 15, No. 9 (November 2002): 34-51.

“Can Mergers to Monopoly, Price Fixing, and Market-Division Agreements Raise Welfare?” with Paul S. Clyde, *International Journal of the Economics of Business*, Vol. 11, No. 1 (February 2004): 69-90.

“Forward and Spot Prices in Electricity and Gas Markets: Does ‘Storability’ Matter?” with J. Arnold Quinn and Adam C. Schumacher, in Michael A. Crew and Menahem Spiegel editors, *Obtaining the Best from Regulation and Competition* (Boston: Kluwer Academic Publishers, 2005): 109-135.

“Incentive Contracts for Infrastructure, Litigation and Weak Institutions,” with Alfredo Garcia and Juan Benavides, *Journal of Regulatory Economics*, Vol. 27, No. 1 (January 2005): 5-24.

“Dynamic Pricing & Learning in Electricity Markets,” with Alfredo Garcia and Enrique Campos, *Operations Research*, Vol. 53, No. 2 (March-April 2005): 231-241.

“Estimating the Economic ‘Trade’ Value of Increased Transmission Capability,” with Andrew N. Kleit, *The Electricity Journal*, Vol. 19, No. 2 (March 2006): 69-78.

“International Perspectives on Electricity Market Monitoring and Market Power Mitigation,” with Jose A. Garcia, *Review of Network Economics*, Vol. 6, No. 3 (September 2007): 397-424.

“Downstream Price-Cap Regulation and Upstream Market Power,” *Journal of Regulatory Economics*, Vol. 33, No. 2 (April 2008): 179-200.

“Airline Alliances and Systems Competition,” with Diana Moss, *Houston Law Review*, Vol. 45, No. 2 (Summer 2008): 293-332.

“The Effectiveness of FERC’s Transmission Policy: Is Transmission Used Efficiently and When Is It Scarce?” with Andrew N. Kleit, *Journal of Regulatory Economics*, Vol. 34, No. 1 (August 2008): 1-26.

“Competition for Exclusive Customers: Comparing Equilibrium and Welfare under One-Part and Two-Part Pricing,” with Glenn A. Woroch, *Canadian Journal of Economics*, Vol. 41, No. 3 (August 2008): 1046-1086.

“Competitive Effects of Exchanges or Sales of Airport Landing Slots,” with Brendan McVeigh, Nicholas Powers, and Samuel Moy, *Review of Industrial Organization*, Vol. 46, No. 2 (March 2015): 95-125.

Books

The Regional Welfare Effects of U.S. Import Restraints on Apparel, Petroleum, Steel and Textiles, with Randi Boorstein, Michael Metzger, and Morris Morkre, Avebury Press, 1996.

Completed Studies

“Case Studies of the Price Effects of Horizontal Mergers,” *Staff Report of the Federal Trade Commission*, April 1992, with coauthors.

“The Effectiveness of Collusion under Antitrust Immunity - The Case of Liner Shipping Conferences,” *Staff Report of the Federal Trade Commission*, December 1995, with coauthor.

“The Effectiveness of Dutch Airport Transport Policy,” study prepared for the Dutch Ministry of Transport, December 2002, with coauthors.

“The Economic Impact of an EU-US Open Aviation Area,” study prepared for the European Commission - Directorate-General for Energy and Transport, December 2002, with coauthors.

“Study to Assess the Potential Impact of Proposed Amendments to Council Regulation 2299/89 with regard to Computerised Reservation Systems,” study prepared for the European Commission - Directorate-General for Energy and Transport, October 2003, with coauthors.

PRESENTATIONS

“Genco Pricing & Genco Asset Values under Deregulation,” presented to the Center for Business Intelligence Conference, Chicago, IL, September 18, 1998.

“Ancillary Services: New Business Opportunities in Competitive Ancillary Services Markets,” presented at Electric Utility Consultants Workshop on Strategies for Pricing and Selling Ancillary Services, Denver, CO, September 9, 1999.

“Profit-Maximizing Strategies and Gaming: Market Power and Power Markets,” presented to the Center for Business Intelligence Conference on Pricing Power Products and Services, Chicago, IL, October 14, 1999.

“Strategic Behavior and Power Market Prices,” presented to the EPRI Asset & Risk Management Group, Washington, DC, June 23, 2000.

“Regional Interactions in Electricity Prices in the United States,” presented to the CRRRI Research Seminar, Newark, NJ, May 3, 2002.

“Standard-Offer Service and Retail Restructuring of Electric Markets,” presented to the CRRRI Eastern Conference, Newport, RI, May 23, 2002.

“The Economic Impact of an EU-US Open Aviation Area,” presented to the U.S. Department of State, the European Commission (US office), and the Heritage Foundation, Washington, DC in 2002 and 2003, and the Association of European Airlines, Brussels, Belgium, 2003.

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“Transactions Costs Across Electricity Markets: Does Restructuring Matter?” presented to the CRRI Eastern Conference, Skytop, PA, May 22, 2003.

“Identifying the Relationship between Spot and Futures Prices for Electricity and Natural Gas,” presented to the Center for Research in Regulated Industries (CRRI) Research Seminar, Newark, NJ, May 7, 2004, and the CRRI Eastern Conference, Skytop, PA, May 21, 2004.

“Geographic Integration, Transmission Constraints, and Electricity Restructuring,” presented to the Federal Energy Regulatory Commission, Federal Trade Commission, Energy Information Administration, in Washington, DC, in 2004 and 2005, and the 10th Annual POWER Research Conference on Electricity Industry Restructuring of the University of California Energy Institute, Berkeley, CA, March 18, 2005.

TESTIMONY/EXPERT REPORTS

Testimony before the Advisory Commission on Conferences in Ocean Shipping, 1991, relating to an econometric analysis of the determinants of ocean freight rates, and the conclusions of that study with respect to the existence of market power in ocean shipping.

Expert Submission - Appendix J, Volume 1, Prehearing Brief on Behalf of Petitioner, Certain Flat Rolled Carbon Steel Products, June 21, 1993, U.S. International Trade Commission Investigation Nos. 701-TA-319-332, 334, 336-342, 344, and 347-353 (final); 731-TA-573-579, 581-592, 594-597, 599-609, and 612-619 (final). Analysis included a critique of methods used to evaluate domestic injury in trade cases. Also authored part of submission for post-hearing brief.

Expert Report Submitted to the European Court of First Instance on Behalf of the European Commission relating to the Petition of the Transatlantic Agreement to Annul the Commission's Decision of October 19, 1994, including a rebuttal of the expert economic analysis offered by the members of the Transatlantic Agreement in support of their collective restrictions on capacity utilization and their coordinated activity in setting certain types of freight rates.

Testimony in the Matter of Henry H. Godfrey v. Benjamin F. Hofheimer, III, *et. al.*, 1995, on behalf of defendant relating to the appropriate calculation of damages in a breach-of-contract dispute.

Expert Report Submitted to the Environmental Protection Agency, 2000, on behalf of a trade group of aluminum smelters assessing the economic costs of revised land-disposal restriction standards for spent aluminum potliners (K088), 2000.

Two Expert Reports Submitted to the U.S. District Court for the District of Maryland, 2001, in the matter of Charles River Associates Inc. v. Hale Trans, Inc., assessing the quality and cost effectiveness of economic expertise provided in a predatory-pricing matter.

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Expert Report Submitted to the U.S. District Court for the District of Columbia in the Matter of DAG Enterprises Inc. v. Exxon Mobil Corporation, 2003, regarding the suitability of a prospective purchaser as an acquirer of Mobil assets under the antitrust standards used by the Federal Trade Commission.

Expert Report Submitted to the Federal Energy Regulatory Commission (Docket No. EC05-43-000) 2005 on behalf of Midwest Generation, regarding the competitive impact of the proposed merger of Exelon Corporation and Public Service Enterprise Group and the mitigation measures offered by the parties.

Expert Reports submitted to the U.S. Department of Transportation (Docket No. OST-2004-19214), 2005, on behalf of American Airlines, regarding the competitive impact of the proposed application for antitrust immunity of an airline alliance consisting of Delta, Northwest, KLM, Air France, Alitalia, and Czech Airlines.

Expert Report and Testimony before the Public Utility Commission of Texas (Docket No. 31056), 2005, on behalf of the Cities served by AEP Texas Central Company, the Texas Industrial Energy Consumers, and the Alliance for Valley Healthcare, regarding the competitiveness of an auction held to sell an ownership share in a nuclear power plant and the commercial reasonableness of the actions taken by the seller.

Expert Reports submitted to the U.S. Department of Transportation (Docket No. OST-2005-22922), 2006, on behalf of American Airlines, regarding the competitive impact of the proposed Star Alliance expansion to include LOT and Swiss airlines and expand antitrust immunity between Air Canada and United Airlines.

Expert Report and Testimony before the Public Service Commission of Maryland, (Case No. 9117, Phase 1), 2007 on behalf of Potomac Electric Power Company and Delmarva Power & Light Company, regarding the risks and costs associated with portfolio procurement of electric power supplies as opposed to relying on a full-requirements auction-based procurement method.

Expert Report submitted to the Pennsylvania Public Utility Commission (Docket No. P-0072305), 2008, on behalf of Pennsylvania Power Company, regarding the risks and costs associated with different procurement methods for obtaining electric power supplies to serve default-service customers.

Expert Report and Testimony before the Public Utility Commission of Ohio (Case No. 08-936-EL-SSO), 2008, on behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company, regarding the rationale for using an auction process to procure full-requirements electric power supplies for standard-service-offer customers, as well as a description of the responsibilities undertaken by myself and The Brattle Group as manager of that procurement.

Expert Report submitted to the Pennsylvania Public Utility Commission (Docket Nos. P-2009-2093053 and P-2009-2093054), 2009, on behalf of Metropolitan Edison Company and Pennsylvania Electric Company, describing the design of an RFP process for procuring solar photovoltaic alternative energy credits and the management of that process by myself and The Brattle Group, as well as an analysis of the

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desirability of meeting default service obligations through the auction-based procurement of full-requirements power supplies.

Various Expert Reports submitted between 2008 and 2010 to the U.S. Department of Transportation (Docket No. OST-2008-0252) and the European Commission describing the competitive impact of the proposal by the oneworld alliance to receive antitrust immunity, including various assessments of the impact on non-stop and connecting passengers that relied on econometric analysis of airline fare data and other empirical methods.

Reports submitted to the Pennsylvania Public Utility Commission, 2010, 2011, 2012, and 2013 as the Independent Procurement Manager for the procurement of Solar Photovoltaic Alternative Energy Credits by Metropolitan Edison Company, Pennsylvania Electric Company, and Pennsylvania Power Company including a description of the RFP process, a benchmarking of procurement prices against both current short-term prices and expected long-term prices for solar credits (based on a proprietary financial model), and the conformity of the procurement to the standards of least-cost procurement provided under Pennsylvania law.

Expert Reports (and Deposition) submitted to the U.S. District Court for the Middle District of Tennessee, 2012, in the matter of Watson Carpet & Floor Covering Inc. v. Mohawk Industries Inc., regarding the competitive effects of a carpet manufacturer's alleged refusal to sell its products to a carpet dealer serving production homebuilders in Nashville and surrounding counties.

Expert Reports and Testimony before the Pennsylvania Public Utility Commission (Docket Nos. P 2011-2273650, P-2011-2273668, P-2011-2273669, and P-2011-2273670), 2011 and 2012, on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company, analyzing the Companies' procurement strategies for supplying default service customers, describing the design of an RFP process for procuring solar photovoltaic alternative energy credits (and the management of that process by myself and The Brattle Group), proposing an auction process for outsourcing the provision of generation service for time-of-use customers, describing an "opt-in" auction process to promote the switching of default service customers to competitive retail supply, and describing a customer referral program that is also designed to promote retail competition.

Expert Reports before the Pennsylvania Public Utility Commission (Docket Nos. P-2013-2391368, P-2013-2391372, P-2013-2391375, P-2013-2391378), 2013 and 2014, on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company, analyzing the Companies' procurement strategies for supplying default service customers.

Report submitted and Testimony provided to the Canadian Radio-television and Telecommunications Commission (CRTC Docket No. 2014-76-1), 2014, on behalf of the Canadian Competition Bureau analyzing market power in the wireless market, including an analysis of industry profitability, an assessment of the impact on prices, market shares, profits, consumer surplus, and market penetration arising from the entry of an additional nationwide carrier, and an analysis of the cost impact for incumbent carriers arising from changes in spectrum availability used to accommodate additional entry.

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Expert Reports before the Pennsylvania Public Utility Commission (Docket Nos. P-2015-2511333, P-2015-2511351, P-2015-2511355, and P-2015-2511356), 2015, on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company, analyzing the Companies' procurement strategies for supplying default service customers and the competitiveness of the proposed procurement process, and estimating the pricing and volumetric risk premium associated with past procurements.

Expert Report before the North Carolina Utilities Commission (Docket. Nos. E-2 Sub 1095, E-7 Sub 1100, and G-9 Sub 682), 2016, on behalf of Duke Energy, relating to an analysis of potential market power issues and the potential for competitive harm associated with the acquisition by Duke Energy of Piedmont Natural Gas, as it applies to the combination of electric and retail gas activities and the transport and delivery of natural gas.

Expert Reports before the Pennsylvania Public Utility Commission (Docket Nos. P-2017-2637855, P-2017-2637857, P-2017-2637858, and P-2017-2637866), 2017, on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company, analyzing the companies' proposed procurement strategies for supplying default service customers in terms of the "least cost" standard and other legislative requirements and updating estimates of the pricing and volumetric risk premium associated with past procurements.

Expert Report submitted to the Federal Court of Australia (New South Wales), 2019, in the matter of *Alister Dalton and others v. Volkswagen AG and others*, on behalf of claimants, providing an econometric analysis that assessed the impact of the "diesel emissions issue" on the resale prices of affected VW vehicles.

Expert Report and Supplemental Report submitted to Court of Amsterdam (Case No. C/13/486440 / HA ZA 11-944; C/13/561169 / HA ZA 14-283), 2019 and 2020, on behalf of claimants, related to the estimation of the volume of commerce affected by an alleged cartel agreement among major international airlines pertaining to fuel surcharges.

Expert Reports submitted to the Electricity Authority of New Zealand, 2020, on behalf of Meridian Energy, related to the market impact of an alleged undesirable trading situation (UTS) involving Meridian's electricity pricing and dispatch of hydroelectric power between November 2019 and January 2020.

Expert Declaration submitted to the US District Court for the Central District of California, 2020, in the matter of *William Morris Endeavor Entertainment, LLC, et al., v. Writers Guild of America West, Inc., et al.*, on behalf of Writers Guild of America West, related to the economic incentives on agents created by the joint ownership of a talent agency and a film/television production entity.

PROFESSIONAL ACTIVITIES

Consultant to the *World Bank* on the formation of regional trading blocs, the *European Community* (DG IV) on antitrust and transportation issues, and the *Government of Canada* (Competition Bureau) on antitrust and transportation issues.

Advisory Board Member of the Center for Research in Regulated Industries

Member of the Atlantic Energy Group

Referee for the following journals: *American Economic Review*, *Canadian Journal of Economics*, *Contemporary Policy Issues*, *European Economic Review*, *International Economic Review*, *International Journal of the Economics of Business*, *Journal of Economics*, *Journal of Economics and Business*, *Journal of Economic Integration*, *Journal of Industrial Economics*, *Journal of International Economics*, *Journal of Regulatory Economics*, *Oxford Economic Papers*, and *Review of International Economics*.

Teaching Experience: Introductory Macroeconomics; Introductory Microeconomics

APPENDIX B
NICHOLAS E. POWERS
Senior Associate

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Dr. Powers specializes in conducting econometric and economic analysis and applying concepts from industrial organization and regulatory economics in competition, regulatory, and other litigation matters, with a focus on the electricity sector.

His electricity experience includes several key analyses of price effects, market power, and anticompetitive behavior. In addition, he conducts econometric analysis of innovative pricing programs in the electric industry. He has supported expert testimony in three separate litigation proceedings arising from the California electricity crisis of 2000–2001. He has also overseen the statistical analyses in several New Source Review cases and performed damages and other analyses in energy-related litigation proceedings. For the Department of Energy, Dr. Powers coauthored two reports on electric grid infrastructure and approaches to valuation of various grid assets, and for multiple clients he has analyzed retail electric market conditions and regulatory developments. He has also acted as both an independent evaluator and an advisor to several procurement processes in the electricity sector, and has estimated the cost and feasibility of renewables-only energy portfolios.

Dr. Powers also has extensive experience conducting analysis for and submitting expert reports in regulatory proceedings in other industries. This includes the extensive analysis of regression-based costing models in the postal industry, rate of return analysis in the telecommunications industry, and econometric analysis of the renewable fuels market.

In the competition space, he has performed analysis estimating cartel impacts in large-scale price-fixing cases, anticompetitive effects resulting from a proposed merger, and price effects of competitor entry and exit in proposed joint ventures. Dr. Powers regularly provides economic analysis of cartel behavior and also has experience analyzing exclusionary practices.

EDUCATION

- Ph.D., Business Economics, University of Michigan, Ross School of Business, 2010
- B.S., Applied Economics and Management, Cornell University, 2000

AREAS OF EXPERTISE

- Electric Industry
- Regulatory Costing Principles
- Econometric Analysis
- Antitrust and Collusion
- Transportation

EXPERIENCE

Energy and Environmental

- For the California parties, conducted several key pieces of analysis evaluating effects of tariff violations in the Summer of 2000 on CAISO market prices and drafted portions of expert testimony, in a litigation matter before the FERC arising from the California electricity crisis.
- For the California parties, conducted econometric analyses detecting the exercise of market power and price discrimination in the 2001 “CERS” period of the California electricity crisis. This analysis formed the basis of key parts of the testimony of two expert witnesses.
- Supervised the analysis for four cases in support of testimony relating to alleged New Source Review (NSR) violations at coal-fired power plants. For a Southeastern power cooperative, analysis of government's claims included examination of alternative baseline emission calculations, analysis of changes in fuel quality, and evaluation of long-run patterns in utilization, generation, and emissions, as well as econometric analysis of the determinants of emissions. For a Midwestern utility, analysis consisted of identifying long-term trends in pricing strategy, market dispatch outcomes, and emissions prices to inform PROMOD runs in order to generate emissions projections that are consistent with NSR regulations. For a Mid-Atlantic utility, the analysis focused on long-run variation in coal plant operations, including analysis of changing market conditions that influenced that variation.
- In conjunction with a Commission-mandated time-of-use (“TOU”) pricing pilot, analyzed the impacts of TOU prices on peak load and conservation in three Maryland electric utilities. Designed and implemented a matching-based regression methodology; co-authored two reports presenting our findings.
- For multiple regulated utilities in Pennsylvania, on multiple occasions, designed and managed the procurement of solar photovoltaic alternative energy credits (SPAECs). Responsibilities included: (i) designing the auction rules and bid forms; (ii) building a financial model to determine the likely value of the solar energy credits; (iii) providing a benchmarking study to determine if the bids were reflective of market fundamentals; and (iv) drafting a report to the Pennsylvania Public Utility Commission to secure approval of the procurements.

NICHOLAS E. POWERS

- For Transmission Developers Inc., managed sale of transmission rights for Champlain Hudson Power Express transmission project. Prepared report in support of Section 205 filing for submission to the Federal Energy Regulatory Commission.
- For an expert report submitted as part of a revenue requirements proceeding, benchmarked BC Hydro's non-fuel operations and maintenance costs against those of U.S. investor-owned utilities.
- In follow-on work, developed testimony assessing the value or appropriateness of a suite of cost benchmarking reports as proposed by BC Hydro.
- For the Department of Energy and Pacific Northwest National Laboratory, coauthored a baseline report on electric transmission, distribution, and storage infrastructure in the United States as part of the inaugural Quadrennial Energy Review process.
- For the Department of Energy and Pacific Northwest National Laboratory, coauthored a report on the valuation of electric power systems and technologies as part of the Quadrennial Energy Review process.
- Coauthored a report analyzing the economics and reliability of alternative energy portfolios (approaching 100% renewable power) for the City of Memphis.
- For a Southeastern generation and transmission electric cooperative, oversaw preparation of expert damages report and advised counsel on same in the context of an arbitration proceeding stemming from an alleged breach of contract.
- Advised a large nonprofit energy buying consortium in a procurement of retail electric service for their members, assessing offers over a variety of products, services, and geographic areas, and assisting in negotiations with several large retail electric suppliers.
- For a valuation matter concerning a back-office IT services provider to retail energy suppliers, supervised the analysis for and supported industry witness in a report assessing the status and prospects of the retail energy service business in restructured states.
- On behalf of Growth Energy, coauthored a report analyzing the role that higher ethanol blends of gasoline (E85) could play in meeting the proposed 2017 renewable volume obligations (RVOs) under the Renewable Fuel Standards (RFS) program. The report was filed with Growth Energy's comments in the Environmental Protection Agency's rulemaking docket regarding proposed renewable fuel standards for 2017.

NICHOLAS E. POWERS

- Researched alternative rate plans and presented results to senior management of a mid-sized electric utility as part of a regulatory strategy consulting engagement.
- For a utility in the Southeastern United States, conducted a review of NERC region load forecasts. This consisted of econometric analysis to weather-normalize actual loads and evaluate the portion of the forecast error that could be attributed to variations in weather.
- For a mid-Atlantic utility, estimated economic benefits to ratepayers from natural gas service, as portion of eventual PUC filing justifying investments related to storm resilience of distribution system.

Antitrust

- In a large civil case concerning alleged collusion in the corrugated packaging industry, executed the econometric analysis forming the basis of a report critiquing plaintiff's damages estimates. Supported the expert testimony of Nobel laureate Daniel McFadden.
- On behalf of purchasers of air cargo (plaintiffs) in a class action civil suit, conducted econometric and other statistical analyses in order to estimate economic damages from alleged price-fixing. Supported the expert testimony of Nobel laureate Daniel McFadden.
- Advise plaintiff's counsel and external funders on damages in a cartel class action. Co-authored confidential expert report on volume of commerce issues related to incompleteness of client data. Support damages analysis of Nobel laureate Daniel McFadden.
- Advise counsel representing a large multinational industrial firm by estimating overcharges stemming from a series of price-fixing conspiracies covering several input commodities.
- Analyzed the competitive effects associated with a joint venture in the music industry.
- Analyzed the competitive effects associated with a proposed merger in the medical equipment industry.
- Analyzed Surface Transportation Board waybill data to identify potential competitive effects in the context of a proposed railroad merger.
- Analyzed the competitive effects associated with a proposed merger in the venue management industry.
- Analyzed the anti-competitive impacts resulting from a proposed merger in the television broadcast industry.

NICHOLAS E. POWERS

- Performed econometric estimates of the price effects resulting from competitor entry and exit in geographic product markets to support expert testimony that assessed anti-competitive effects from a proposed joint venture in the airline industry.
- Conducted econometric analysis in evaluation of expert testimony that sought to quantify network effects in the payment card industry.
- Identified flaws in the econometric analysis of opposing experts in the context of settlement negotiations arising from price-fixing allegations in the plastics manufacturing industry.
- Oversaw preparation of expert report and quantification of damages, on behalf of plaintiffs, stemming from exclusionary conduct.
- Supported testifying expert, on behalf of plaintiffs, in a competition matter related to vertical restraints.

Other Regulatory

- On behalf of United Parcel Service, manage analysis and support expert witness in several regulatory dockets before the Postal Regulatory Commission. Apply regulatory economic principles and econometric expertise to detailed knowledge of USPS costing models; provide input on economic arguments and regulatory strategy. Conducted econometric analyses and assisted in the preparation of reports and testimony in a number of Dockets before the Postal Regulatory Commission, including Dockets ACR2014, RM2015-7, RM2016-2, and RM2016-3. Coauthored expert report critiquing a proposed change to costing principles in the Purchased Highway Transportation cost segment, in Docket RM2016-12.
- Managed the analysis in support of multiple verified statements filed in a railroad trackage rights proceeding before the Surface Transportation Board, leveraging the Brattle Rail Network Model. Our analysis relied on a variety of data sources, including confidential Carload Waybill Sample data, proprietary railroad traffic tapes, and Form R-1 data.
- For an express package delivery carrier, managed the construction of an integrated Excel-based cost and demand financial forecasting model of the United States Postal Service (USPS), based on public USPS data and filings in previous Postal Regulatory Commission dockets.
- Submitted an expert report analyzing the rate of return of a land-based telecommunications network in Alaska for a proceeding before the Federal Communications Commission.

NICHOLAS E. POWERS

Other Litigation

- In a lawsuit brought by the City of Ontario, CA against Los Angeles World Airports, evaluated the reliability of plaintiff's claim for damages in excess of \$3 billion for alleged mismanagement of the Ontario airport.
- For a class of Australian owners of Volkswagen vehicles, analyzed the impact of the diesel emissions issue on resale prices for VW vehicles affected by non-compliant emissions "defeat devices."

PROFESSIONAL AFFILIATIONS

- American Economic Association
- Energy Bar Association

ACADEMIC HONORS AND FELLOWSHIPS

- Thomas W. Leabo Memorial Award (University of Michigan), 2007
- Fred and Barbara Erb Fellowship (University of Michigan), 2005-2009

EXPERT REPORTS AND REGULATORY FILINGS

"PC44 Time of Use Pilots: End-of-Pilot Evaluation," by Sanem Sergici, Ahmad Faruqui, Nicholas Powers, Sai Shetty, and Ziyi Tang. Prepared for Maryland Joint Utilities and Filed with the Maryland Public Utility Commission, October 4, 2021.

"PC44 Time of Use Pilots: Year 1 Evaluation," by Sanem Sergici, Ahmad Faruqui, Nicholas Powers, Sai Shetty, and Jingcheng Jiang. Prepared for Maryland Joint Utilities and Filed with the Maryland Public Utility Commission, September 15, 2020.

"Expert Declaration of Kevin Neels and Nicholas Powers." (before the Postal Regulatory Commission, related to the Statutory Review of the System for Regulating Rates and Classes for Market Dominant Products, in Docket No. RM2017-3), February 2020.

Expert Report and Supplemental Report submitted to Court of Amsterdam (Case No. C/13/486440 / HA ZA 11-944; C/13/561169 / HA ZA 14-283), 2019 and 2020, on behalf of claimants, related to the estimation of the volume of commerce affected by an alleged cartel agreement among major international airlines pertaining to fuel surcharges.

NICHOLAS E. POWERS

“Evaluation, Measurement and Verification Plan for the PC44 Time-of-Use Rate Pilots,” by Sanem Sergici, Ahmad Faruqui, and Nicholas Powers. Prepared for Maryland Public Service Commission PC44 Rate Design Work Group, June 2018.

“Rate of Return Analysis of GCI’s TERRA Network,” by William P. Zarakas, Agustin J. Ros, and Nicholas E. Powers. Prepared for GCI Communication Corp., March 2018.

“Report of Dr. Kevin Neels and Dr. Nicholas Powers to Accompany UPS Comments in Docket No. RM2016-12” (before the Postal Regulatory Commission, related to costing principles in the highway transportation segment), October 2016. Reply Report also submitted.

“Report of Dr. Kevin Neels and Dr. Nicholas Powers to Accompany UPS Comments in Docket No. RM2016-12” (before the Postal Regulatory Commission, related to costing principles in the highway transportation segment), October 2016. Reply Report also submitted.

“Peeking Over the Blendwall: An Analysis of the Proposed 2017 Renewable Volume Obligations,” by Marc Chupka, J. Michael Hagerty, Nicholas E. Powers, and Sarah Germain. Prepared for Growth Energy, July 2016; filed with comments in Docket EPA-HQ-OAR-2016-0004.

ACADEMIC PUBLICATIONS

“Competitive Effects of Exchanges or Sales of Airport Landing Slots,” by James D. Reitzes, Brendan McVeigh, Nicholas E. Powers, and Samuel Moy, *Review of Industrial Organization*, August 2014.

“Measuring the Impact of the Toxics Release Inventory: Evidence from Manufacturing Plant Births,” by Nicholas E. Powers, U.S. Census Bureau Center for Economic Studies Working Paper Series, March 2013.

“Does Disclosure Reduce Pollution? Evidence from India's Green Rating Project,” by Nicholas E. Powers, Allen Blackman, Thomas P. Lyon, and Urvashi Narain, *Environmental and Resource Economics*, March 2011.

“Do State Renewable Portfolio Standards Promote In-state Renewable Generation?” (with Haitao Yin) *Energy Policy*, February 2010.

OTHER REPORTS AND PUBLICATIONS

“Differing Proof Requirements for Global Class Actions: Using Economic Analysis to Guide Future Policymakers,” by Nicholas Powers, John Roberti, and Kelse Moen. *Antitrust*, Vol. 35, No. 3, Summer 2021.

NICHOLAS E. POWERS

“Power to Memphis: Options for a Reliable, Affordable, and Greener Future,” by Jürgen Weiss, Judy Chang, Nicholas E. Powers, and Kai Van Horn. Prepared for Friends of the Earth, January 2019.

“Valuation of Electric Power System Services and Technologies,” by Ira H. Shavel, Michael Hagerty, Nicholas E. Powers, Yingxia Yang, and Roger Lueken. Prepared for the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, August 2016.

“Electricity Baseline Report for the US Power System,” by Ira Shavel, J. Michael Hagerty, Nicholas Powers, and Yingxia Yang. Prepared for Pacific Northwest National Laboratory and the Department of Energy, April 2015.

“Developing a Market Vision for MISO - Supporting a Reliable and Efficient Electricity System in the Midcontinent,” by Samuel A. Newell, Kathleen Spees, and Nicholas E. Powers. Prepared for the Midcontinent Independent System Operator, Inc. (MISO), January 2014.

SELECTED PRESENTATIONS

“The Incremental Cost Test When Technology Choice is Endogenous” at the Center for Research in Regulated Industries Eastern Conference (2018)

“Analyzing the Competitive Effects of Exchanges or Sales of Airport Landing Slots” at the International Industrial Organization Conference (2012)

“The Toxics Release Inventory and Manufacturing Plant Births” at Penn State University (2010), University of Maryland (2010), U.S. Census Center for Economic Studies (2009)

“Does Disclosure Reduce Pollution? Evidence from India's Green Rating Project”, at Association for Public Policy Analysis and Management Fall Conference (2009), Allied Social Sciences Association Annual Meetings (2008), Southern Economics Association Annual Meetings (2007)

Default Service Full Requirements Auction Price to Expected Wholesale Market Costs: Met-Ed, October 2016 - April 2021

Utility	Auction Month	Product	Duration months	Delivery Period Start	Delivery Period End	PJM West Forward		Zonal Premium over		Zone Adjusted Price		All Hours Price \$/MWh	Load Shape Factor %	Load Shape Adjusted Price \$/MWh	Average Capacity Price \$/MWh	Capacity Scaling Factor	Adjusted Capacity Price \$/MWh	Ancillary Services Add-in \$/MWh	Average NITS Rate \$/MWh	NITS Scaling Factor	Adjusted NITS Rate \$/MWh	Estimated No-Risk Price \$/MWh	Auction Price \$/MWh	Estimated Risk \$/MWh	Premium %	
						Price \$/MWh	Off Peak	Peak	Off Peak	Peak	Off Peak															Peak
						Price \$/MWh	Off Peak	Peak	Off Peak	Peak	Off Peak															Peak
						(1)	Peak	(2)	Peak	(3)	Peak															(4)
Met-Ed	Oct-16	Residential	12	Jun-17	May-18	27.13	39.65	-4.40	-4.71	22.73	34.94	28.40	9.51%	31.10	5.78	2.44	14.08	0.97	2.58	2.44	6.29	52.44	53.09	0.65	1.23%	
Met-Ed	Oct-16	Residential	24	Jun-17	May-19	26.33	38.36	-4.40	-4.71	21.93	33.65	27.37	9.51%	29.98	6.79	2.44	16.55	0.97	2.58	2.44	6.29	53.79	53.13	-0.66	-1.23%	
Met-Ed	Oct-16	Commercial	12	Jun-17	May-18	27.13	39.65	-4.40	-4.71	22.73	34.94	28.40	6.78%	30.33	5.78	1.99	11.51	0.97	2.58	1.99	5.14	47.95	52.82	4.87	10.15%	
Met-Ed	Oct-16	Commercial	24	Jun-17	May-19	26.33	38.36	-4.40	-4.71	21.93	33.65	27.37	6.78%	29.23	6.79	1.99	13.53	0.97	2.58	1.99	5.14	48.88	53.08	4.20	8.60%	
Met-Ed	Jan-17	Residential	12	Jun-17	May-18	28.17	40.21	-4.40	-4.71	23.77	35.50	29.22	9.51%	31.99	5.78	2.44	14.08	0.97	2.58	2.44	6.29	53.33	56.29	2.96	5.54%	
Met-Ed	Jan-17	Residential	24	Jun-17	May-19	27.08	38.75	-4.40	-4.71	22.67	34.04	27.96	9.51%	30.61	6.79	2.44	16.55	0.97	2.58	2.44	6.29	54.43	57.99	3.56	6.54%	
Met-Ed	Jan-17	Commercial	12	Jun-17	May-18	28.17	40.21	-4.40	-4.71	23.77	35.50	29.22	6.78%	31.20	5.78	1.99	11.51	0.97	2.58	1.99	5.14	48.82	55.29	6.47	13.25%	
Met-Ed	Jan-17	Commercial	24	Jun-17	May-19	27.08	38.75	-4.40	-4.71	22.67	34.04	27.96	6.78%	29.85	6.79	1.99	13.53	0.97	2.58	1.99	5.14	49.50	55.54	6.04	12.20%	
Met-Ed	Apr-17	Residential	12	Jun-17	May-18	28.79	40.63	-4.40	-4.71	24.39	35.92	29.75	9.51%	32.57	5.78	2.44	14.08	0.97	2.58	2.44	6.29	53.91	57.91	4.00	7.41%	
Met-Ed	Apr-17	Residential	24	Jun-17	May-19	27.66	38.81	-4.40	-4.71	23.26	34.10	28.30	9.51%	30.99	6.79	2.44	16.55	0.97	2.58	2.44	6.29	54.80	58.44	3.64	6.64%	
Met-Ed	Apr-17	Commercial	12	Jun-17	May-18	28.79	40.63	-4.40	-4.71	24.39	35.92	29.75	6.78%	31.76	5.78	1.99	11.51	0.97	2.58	1.99	5.14	49.39	56.76	7.37	14.93%	
Met-Ed	Apr-17	Commercial	24	Jun-17	May-19	27.66	38.81	-4.40	-4.71	23.26	34.10	28.30	6.78%	30.22	6.79	1.99	13.53	0.97	2.58	1.99	5.14	49.86	56.18	6.32	12.67%	
Met-Ed	Oct-17	Residential	12	Jun-17	May-18	29.46	38.44	-4.40	-4.71	25.06	33.73	29.09	9.51%	31.85	5.78	2.44	14.08	0.97	2.58	2.44	6.29	53.19	54.92	1.73	3.25%	
Met-Ed	Oct-17	Commercial	12	Jun-17	May-18	29.46	38.44	-4.40	-4.71	25.06	33.73	29.09	6.78%	31.06	5.78	1.99	11.51	0.97	2.58	1.99	5.14	48.68	55.79	7.11	14.60%	
Met-Ed	Nov-17	Commercial	12	Jun-18	May-19	25.92	35.94	-1.55	-2.40	24.36	33.54	28.66	6.83%	30.61	7.81	1.93	15.08	1.09	2.98	1.93	5.75	52.53	55.79	3.26	6.22%	
Met-Ed	Nov-17	Residential	12	Jun-18	May-19	25.92	35.94	-1.55	-2.40	24.36	33.54	28.66	9.51%	31.38	7.81	2.21	17.28	1.09	2.98	2.21	6.59	56.35	54.92	-1.43	-2.53%	
Met-Ed	Jan-18	Commercial	12	Jun-18	May-19	26.28	35.87	-1.55	-2.40	24.72	33.46	28.82	6.83%	30.78	7.81	1.93	15.08	1.09	2.98	1.93	5.75	52.69	54.15	1.46	2.76%	
Met-Ed	Jan-18	Residential	12	Jun-18	May-19	26.28	35.87	-1.55	-2.40	24.72	33.46	28.82	9.51%	31.56	7.81	2.21	17.28	1.09	2.98	2.21	6.59	56.52	55.55	-0.97	-1.72%	
Met-Ed	Apr-18	Commercial	12	Jun-18	May-19	27.71	37.01	-1.55	-2.40	26.16	34.61	30.12	6.83%	32.17	7.81	1.93	15.08	1.09	2.98	1.93	5.75	54.08	54.35	0.27	0.49%	
Met-Ed	Apr-18	Residential	12	Jun-18	May-19	27.71	37.01	-1.55	-2.40	26.16	34.61	30.12	9.51%	32.98	7.81	2.21	17.28	1.09	2.98	2.21	6.59	57.94	57.19	-0.75	-1.30%	
Met-Ed	Oct-18	Commercial	24	Jun-19	May-21	26.52	36.52	-1.55	-2.40	24.97	34.12	29.25	6.83%	31.25	4.44	1.93	8.57	1.09	3.75	1.93	7.25	48.16	50.33	2.17	4.51%	
Met-Ed	Oct-18	Commercial	12	Jun-19	May-20	28.25	37.97	-1.55	-2.40	26.70	35.56	30.85	6.83%	32.96	4.70	1.93	9.07	1.09	3.75	1.93	7.25	49.46	51.49	2.03	4.10%	
Met-Ed	Oct-18	Residential	24	Jun-19	May-21	26.52	36.52	-1.55	-2.40	24.97	34.12	29.25	9.51%	32.04	4.44	2.21	9.83	1.09	3.75	2.21	8.31	51.26	51.71	0.45	0.87%	
Met-Ed	Oct-18	Residential	12	Jun-19	May-20	28.25	37.97	-1.55	-2.40	26.70	35.56	30.85	9.51%	33.79	4.70	2.21	10.40	1.09	3.75	2.21	7.28	52.55	52.29	-0.26	-0.49%	
Met-Ed	Jan-19	Commercial	24	Jun-19	May-21	27.49	38.23	-1.55	-2.40	25.94	35.83	30.57	6.83%	32.65	4.44	1.93	8.57	1.09	3.75	1.93	7.25	49.56	51.83	2.27	4.58%	
Met-Ed	Jan-19	Commercial	12	Jun-19	May-20	29.61	40.14	-1.55	-2.40	28.05	37.74	32.59	6.83%	34.81	4.70	1.93	9.07	1.09	3.75	1.93	6.35	51.32	51.86	0.54	1.06%	
Met-Ed	Jan-19	Residential	24	Jun-19	May-21	27.49	38.23	-1.55	-2.40	25.94	35.83	30.57	9.51%	33.47	4.44	2.21	9.83	1.09	3.75	2.21	8.31	52.70	53.90	1.20	2.28%	
Met-Ed	Jan-19	Residential	12	Jun-19	May-20	29.61	40.14	-1.55	-2.40	28.05	37.74	32.59	9.51%	35.69	4.70	2.21	10.40	1.09	3.75	2.21	7.28	54.45	54.05	-0.40	-0.74%	
Met-Ed	May-19	Commercial	24	Jun-19	May-21	26.68	36.48	-1.55	-2.40	25.13	34.08	29.32	6.83%	31.32	4.44	1.93	8.57	1.09	3.75	1.93	7.25	48.23	50.83	2.60	5.39%	
Met-Ed	May-19	Commercial	12	Jun-19	May-20	28.40	37.67	-1.55	-2.40	26.85	35.27	30.79	6.83%	32.89	4.70	1.93	9.07	1.09	3.75	1.93	6.35	49.40	51.35	1.95	3.95%	
Met-Ed	May-19	Residential	12	Jun-19	May-20	28.40	37.67	-1.55	-2.40	26.85	35.27	30.79	9.51%	33.72	4.70	2.21	10.40	1.09	3.75	2.21	7.28	52.48	53.73	1.25	2.38%	
Met-Ed	May-19	Residential	24	Jun-19	May-21	26.68	36.48	-1.55	-2.40	25.13	34.08	29.32	9.51%	32.11	4.44	2.21	9.83	1.09	3.75	2.21	8.31	51.33	53.21	1.88	3.65%	
Met-Ed	Oct-19	Commercial	12	Jun-20	May-21	22.38	31.36	-1.55	-2.40	20.83	28.96	24.63	6.83%	26.32	4.18	1.93	8.07	1.09	4.22	1.93	8.15	43.63	48.52	4.89	11.21%	
Met-Ed	Oct-19	Residential	12	Jun-20	May-21	22.38	31.36	-1.55	-2.40	20.83	28.96	24.63	9.51%	26.98	4.18	2.21	9.25	1.09	4.22	2.21	9.35	46.67	50.83	4.16	8.92%	
Met-Ed	Jan-20	Commercial	12	Jun-20	May-21	21.41	29.01	-1.55	-2.40	19.85	26.61	23.02	6.83%	24.59	4.18	1.93	8.07	1.09	4.22	1.93	8.15	41.90	46.24	4.34	10.36%	
Met-Ed	Jan-20	Residential	12	Jun-20	May-21	21.41	29.01	-1.55	-2.40	19.85	26.61	23.02	9.51%	25.20	4.18	2.21	9.25	1.09	4.22	2.21	9.35	44.90	48.67	3.77	8.41%	
Met-Ed	Apr-20	Commercial	12	Jun-20	May-21	21.18	28.47	-1.55	-2.40	19.63	26.07	22.64	6.83%	24.19	4.18	1.93	8.07	1.09	4.22	1.93	8.15	41.50	47.93	6.43	15.49%	
Met-Ed	Apr-20	Commercial	24	Jun-20	May-22	21.18	28.47	-1.55	-2.40	19.63	26.07	22.64	6.83%	24.19	5.47	1.93	10.56	1.09	4.97	1.93	9.60	45.44	50.80	5.36	11.80%	
Met-Ed	Apr-20	Residential	12	Jun-20	May-21	21.18	28.47	-1.55	-2.40	19.63	26.07	22.64	9.51%	24.80	4.18	2.21	9.25	1.09	4.22	2.21	9.35	44.49	49.09	4.60	10.34%	
Met-Ed	Apr-20	Residential	24	Jun-20	May-22	21.18	28.47	-1.55	-2.40	19.63	26.07	22.64	9.51%	24.80	5.47	2.21	12.10	1.09	4.97	2.21	11.01	49.00	52.12	3.12	6.37%	
Met-Ed	Nov-20	Commercial	24	Jun-21	May-23	24.57	32.98	-1.55	-2.40	23.01	30.58	26.56	6.83%	28.37	5.66	1.93	10.93	1.09	5.44	1.93	10.50	50.89	54.86	3.97	7.80%	
Met-Ed	Nov-20	Commercial	12	Jun-21	May-22	24.91	33.48	-1.55	-2.40	23.35	31.08	26.97	6.83%	28.81	6.76	1.93	13.04	1.09	5.72	1.93	11.05	53.99	54.75	0.76	1.40%	
Met-Ed	Nov-20	Residential	12	Jun-21	May-22	24.91	33.48	-1.55	-2.40	23.35	31.08	26.97	9.51%	29.53	6.76	2.21	14.95	1.09	5.72	2.21	12.67	58.25	58.91	0.66	1.14%	
Met-Ed	Nov-20	Residential	24	Jun-21	May-23	24.57	32.98	-1.55	-2.40	23.01	30.58	26.56	9.51%	29.08	5.66	2.21	12.54	1.09	5.44	2.21	12.04	54.74	57.52	2.78	5.07%	
Met-Ed	Jan-21	Commercial	24	Jun-21	May-23	23.97	32.59	-1.55	-2.40	22.41	30.19	26.06	6.83%	27.84	5.66	1.93	10.93	1.09	5.44	1.93	10.50	50.36	54.40	4.04	8.03%	
Met-Ed	Jan-21	Commercial	12	Jun-21	May-22	24.19	32.94	-1.55	-2.40	22.64	30.54	26.34	6.83%	28.13	6.76	1.93	13.04	1.09	5.72	1.93	11.05	53.32	55.67	2.35	4.41%	
Met-Ed	Jan-21	Residential	12	Jun-21	May-22	24.19	32.94	-1.55	-2.40	22.64	30.54	26.34	9.51%	28.84	6.76	2.21	14.95	1.09	5.72	2.21	12.67	57.56	59.44	1.88	3.27%	
Met-Ed	Jan-21	Residential	24	Jun-21	May-23	23.97	32.59	-1.55	-2.40	22.41	30.															

Default Service Full Requirements Auction Price to Expected Wholesale Market Costs: Penelec, October 2016 - April 2021

Utility	Auction Month	Product	Duration months	Delivery Period Start	Delivery Period End	PJM West Forward Price \$/MWh		Zonal Premium over PJM West \$/MWh		Zone Adjusted Price \$/MWh		All Hours Flat Load Price \$/MWh	Load Shape Factor %	Load Shape Adjusted Price \$/MWh	Average Capacity Price \$/MWh	Capacity Scaling Factor	Adjusted Capacity Price Adder \$/MWh		Ancillary Services Add-in \$/MWh	Average NITS Rate \$/MWh	NITS Scaling Factor	Adjusted NITS Rate Adder \$/MWh	Estimated No-Risk Price \$/MWh	Auction Price \$/MWh	Estimated Risk Premium %
						Off Peak	Peak	Off Peak	Peak	Off Peak	Peak						[9]	[10]							
						[1]	[2]	[3]	[4]	[5]	[6]						[7]	[8]							
Penelec	Oct-16	Residential	12	Jun-17	May-18	27.13	39.65	-2.28	-2.64	24.84	37.01	30.50	6.62%	32.52	5.78	2.49	14.36	0.97	2.58	2.49	6.42	54.26	50.59	-3.67	-6.77%
Penelec	Oct-16	Residential	24	Jun-17	May-19	26.33	38.36	-2.28	-2.64	24.05	35.72	29.47	6.62%	31.42	6.79	2.49	16.88	0.97	2.58	2.49	6.42	55.69	50.29	-5.40	-9.70%
Penelec	Oct-16	Commercial	12	Jun-17	May-18	27.13	39.65	-2.28	-2.64	24.84	37.01	30.50	5.60%	32.21	5.78	1.68	9.72	0.97	2.58	1.68	4.34	47.24	53.12	5.88	12.44%
Penelec	Oct-16	Commercial	24	Jun-17	May-19	26.33	38.36	-2.28	-2.64	24.05	35.72	29.47	5.60%	31.12	6.79	1.68	11.43	0.97	2.58	1.68	4.34	47.86	53.62	5.76	12.02%
Penelec	Jan-17	Residential	12	Jun-17	May-18	28.17	40.21	-2.28	-2.64	25.88	37.57	31.31	6.62%	33.38	5.78	2.49	14.36	0.97	2.58	2.49	6.42	55.13	52.06	-3.07	-5.57%
Penelec	Jan-17	Residential	24	Jun-17	May-19	27.08	38.75	-2.28	-2.64	24.79	36.11	30.05	6.62%	32.04	6.79	2.49	16.88	0.97	2.58	2.49	6.42	56.31	52.24	-4.07	-7.23%
Penelec	Jan-17	Commercial	12	Jun-17	May-18	28.17	40.21	-2.28	-2.64	25.88	37.57	31.31	5.60%	33.07	5.78	1.68	9.72	0.97	2.58	1.68	4.34	48.10	54.59	6.49	13.49%
Penelec	Jan-17	Commercial	24	Jun-17	May-19	27.08	38.75	-2.28	-2.64	24.79	36.11	30.05	5.60%	31.74	6.79	1.68	11.43	0.97	2.58	1.68	4.34	48.48	54.33	5.85	12.07%
Penelec	Apr-17	Residential	12	Jun-17	May-18	28.79	40.63	-2.28	-2.64	26.51	37.99	31.84	6.62%	33.95	5.78	2.49	14.36	0.97	2.58	2.49	6.42	55.70	53.99	-1.71	-3.06%
Penelec	Apr-17	Residential	24	Jun-17	May-19	27.66	38.81	-2.28	-2.64	25.38	36.17	30.39	6.62%	32.40	6.79	2.49	16.88	0.97	2.58	2.49	6.42	56.67	54.25	-2.42	-4.28%
Penelec	Apr-17	Commercial	12	Jun-17	May-18	28.79	40.63	-2.28	-2.64	26.51	37.99	31.84	5.60%	33.63	5.78	1.68	9.72	0.97	2.58	1.68	4.34	48.66	54.91	6.25	12.84%
Penelec	Apr-17	Commercial	24	Jun-17	May-19	27.66	38.81	-2.28	-2.64	25.38	36.17	30.39	5.60%	32.10	6.79	1.68	11.43	0.97	2.58	1.68	4.34	48.84	54.59	5.75	11.77%
Penelec	Oct-17	Residential	12	Jun-17	May-18	29.46	38.44	-2.28	-2.64	27.18	35.80	31.18	6.62%	33.25	5.78	2.49	14.36	0.97	2.58	2.49	6.42	54.99	52.45	-2.54	-4.62%
Penelec	Oct-17	Commercial	12	Jun-18	May-19	29.46	38.44	-2.28	-2.64	27.18	35.80	31.18	5.60%	32.93	5.78	1.68	9.72	0.97	2.58	1.68	4.34	47.96	53.98	6.02	12.54%
Penelec	Nov-17	Residential	12	Jun-18	May-19	25.92	35.94	-0.84	-1.28	25.08	34.65	29.56	5.06%	31.06	7.81	1.80	14.02	1.09	2.98	1.80	5.34	51.51	53.98	2.47	4.80%
Penelec	Nov-17	Residential	24	Jun-18	May-19	25.92	35.94	-0.84	-1.28	25.08	34.65	29.56	6.39%	31.45	7.81	1.93	15.05	1.09	2.98	1.93	5.74	53.33	52.45	-0.88	-1.65%
Penelec	Jan-18	Commercial	12	Jun-18	May-19	26.28	35.87	-0.84	-1.28	25.44	34.58	29.72	5.06%	31.22	7.81	1.80	14.02	1.09	2.98	1.80	5.34	51.67	52.17	0.50	0.96%
Penelec	Jan-18	Residential	12	Jun-18	May-19	26.28	35.87	-0.84	-1.28	25.44	34.58	29.72	6.39%	31.62	7.81	1.93	15.05	1.09	2.98	1.93	5.74	53.50	52.86	-0.64	-1.19%
Penelec	Apr-18	Commercial	12	Jun-18	May-19	27.71	37.01	-0.84	-1.28	26.88	35.73	31.02	5.06%	32.59	7.81	1.80	14.02	1.09	2.98	1.80	5.34	53.04	53.97	0.93	1.76%
Penelec	Apr-18	Residential	12	Jun-18	May-19	27.71	37.01	-0.84	-1.28	26.88	35.73	31.02	6.39%	33.01	7.81	1.93	15.05	1.09	2.98	1.93	5.74	54.88	54.00	-0.88	-1.61%
Penelec	Oct-18	Commercial	24	Jun-19	May-21	26.52	36.52	-0.84	-1.28	25.69	35.24	30.16	5.06%	31.68	4.44	1.80	7.97	1.09	3.75	1.80	6.74	47.48	49.31	1.83	3.85%
Penelec	Oct-18	Commercial	12	Jun-19	May-20	28.25	37.97	-0.84	-1.28	27.42	36.68	31.76	5.06%	33.36	4.70	1.80	8.43	1.09	3.29	1.80	5.90	48.78	50.45	1.67	3.42%
Penelec	Oct-18	Residential	24	Jun-19	May-21	26.52	36.52	-0.84	-1.28	25.69	35.24	30.16	6.39%	32.09	4.44	1.93	8.56	1.09	3.75	1.93	7.24	48.97	49.47	0.50	1.02%
Penelec	Oct-18	Residential	12	Jun-19	May-20	28.25	37.97	-0.84	-1.28	27.42	36.68	31.76	6.39%	33.79	4.70	1.93	9.05	1.09	3.29	1.93	6.34	50.26	50.61	0.35	0.69%
Penelec	Jan-19	Commercial	24	Jun-19	May-21	27.49	38.23	-0.84	-1.28	26.66	36.94	31.47	5.06%	33.06	4.44	1.80	7.97	1.09	3.75	1.80	6.74	48.86	51.25	2.39	4.89%
Penelec	Jan-19	Commercial	12	Jun-19	May-20	29.61	40.14	-0.84	-1.28	28.77	38.86	33.49	5.06%	35.19	4.70	1.80	8.43	1.09	3.29	1.80	5.90	50.61	52.40	1.79	3.54%
Penelec	Jan-19	Residential	24	Jun-19	May-21	27.49	38.23	-0.84	-1.28	26.66	36.94	31.47	6.39%	33.48	4.44	1.93	8.56	1.09	3.75	1.93	7.24	50.37	51.74	1.37	2.73%
Penelec	Jan-19	Residential	12	Jun-19	May-20	29.61	40.14	-0.84	-1.28	28.77	38.86	33.49	6.39%	35.63	4.70	1.93	9.05	1.09	3.29	1.93	6.34	52.11	52.63	0.52	0.99%
Penelec	May-19	Commercial	12	Jun-19	May-20	28.40	37.67	-0.84	-1.28	27.56	36.39	31.70	5.06%	33.30	4.70	1.80	8.43	1.09	3.29	1.80	5.90	48.72	51.08	2.36	4.84%
Penelec	May-19	Commercial	24	Jun-19	May-21	26.68	36.48	-0.84	-1.28	25.85	35.19	30.22	5.06%	31.75	4.44	1.80	7.97	1.09	3.75	1.80	6.74	47.55	50.01	2.46	5.18%
Penelec	May-19	Residential	12	Jun-19	May-20	28.40	37.67	-0.84	-1.28	27.56	36.39	31.70	6.39%	33.72	4.70	1.93	9.05	1.09	3.29	1.93	6.34	50.20	51.00	0.80	1.59%
Penelec	May-19	Residential	24	Jun-19	May-21	26.68	36.48	-0.84	-1.28	25.85	35.19	30.22	6.39%	32.16	4.44	1.93	8.56	1.09	3.75	1.93	7.24	49.04	50.45	1.41	2.88%
Penelec	Oct-19	Commercial	12	Jun-20	May-21	22.38	31.36	-0.84	-1.28	21.55	30.07	25.54	5.06%	26.83	4.18	1.80	7.50	1.09	4.22	1.80	7.58	43.00	47.14	4.14	9.62%
Penelec	Oct-19	Residential	12	Jun-20	May-21	22.38	31.36	-0.84	-1.28	21.55	30.07	25.54	6.39%	27.17	4.18	1.93	8.06	1.09	4.22	1.93	8.14	44.46	47.07	2.61	5.87%
Penelec	Jan-20	Commercial	12	Jun-20	May-21	21.41	29.01	-0.84	-1.28	20.57	27.73	23.92	5.06%	25.13	4.18	1.80	7.50	1.09	4.22	1.80	7.58	41.30	45.82	4.52	10.93%
Penelec	Jan-20	Residential	12	Jun-20	May-21	21.41	29.01	-0.84	-1.28	20.57	27.73	23.92	6.39%	25.45	4.18	1.93	8.06	1.09	4.22	1.93	8.14	42.74	45.63	2.89	6.77%
Penelec	Apr-20	Commercial	12	Jun-20	May-21	21.18	28.47	-0.84	-1.28	20.35	27.19	23.55	5.06%	24.74	4.18	1.80	7.50	1.09	4.22	1.80	7.58	40.91	47.32	6.41	15.66%
Penelec	Apr-20	Commercial	24	Jun-20	May-22	21.18	28.47	-0.84	-1.28	20.35	27.19	23.55	6.39%	24.74	5.47	1.80	9.82	1.09	4.97	1.80	8.93	44.57	49.45	4.88	10.94%
Penelec	Apr-20	Residential	12	Jun-20	May-22	21.18	28.47	-0.84	-1.28	20.35	27.19	23.55	5.06%	25.05	5.47	1.93	10.54	1.09	4.97	1.93	9.59	46.27	49.02	2.75	5.94%
Penelec	Apr-20	Residential	24	Jun-20	May-22	21.18	28.47	-0.84	-1.28	20.35	27.19	23.55	6.39%	25.05	4.18	1.93	8.06	1.09	4.22	1.93	8.14	42.34	46.85	4.51	10.65%
Penelec	Nov-20	Commercial	24	Jun-21	May-23	24.57	32.98	-0.84	-1.28	23.73	31.70	27.46	5.06%	28.85	5.66	1.80	10.17	1.09	5.44	1.80	9.76	49.87	54.01	4.14	8.31%
Penelec	Nov-20	Commercial	12	Jun-21	May-22	24.91	33.48	-0.84	-1.28	24.07	32.19	27.87	5.06%	29.28	6.76	1.80	12.13	1.09	5.72	1.80	10.27	52.77	54.80	2.03	3.84%
Penelec	Nov-20	Residential	24	Jun-21	May-23	24.57	32.98	-0.84	-1.28	23.73	31.70	27.46	6.39%	29.22	5.66	1.93	10.92	1.09	5.44	1.93	10.48	51.70	53.86	2.16	4.17%
Penelec	Nov-20	Residential	12	Jun-21	May-22	24.91	33.48	-0.84	-1.28	24.07	32.19	27.87	6.39%	29.66	6.76	1.93	13.02	1.09	5.72	1.93	11.03	54.80	54.80	0.00	0.00%
Penelec	Jan-21	Commercial	24	Jun-21	May-23	23.97	32.59	-0.84	-1.28	23.13	31.31	26.96	5.06%	28.33	5.66	1.80	10.17	1.09	5.44	1.80	9.76	49.34	53.55	4.21	8.53%
Penelec	Jan-21	Commercial	12	Jun-21	May-22	24.19	32.94	-0.84	-1.28	23.35	31.66	27.24	5.06%	28.62	6.76	1.80	12.13	1.09	5.72	1.80	10.27	52.11	54.59	2.48	4.76%
Penelec	Jan-21	Residential	24	Jun-21	May-23	23.97	32.59	-0.84	-1.28	23.13	31.31	26.96	6.39%	28.69	5.66	1.93	10.92	1.09	5.44	1.93	10.48	51.17	54.59	3.42	6.68%
Penelec	Jan-21	Residential	12	Jun-21	May-22	24.19	32.94	-0.84	-1.28	23.35	31.66	27.24	6.39%	28.98	6.76	1.93	13.02	1.09	5.72	1.93	11.03	54.13	55.53	1.40	2.59%
Penelec	Apr-21	Commercial	12	Jun-21	May-22	25.26	34.65	-0.84	-1.28	24.43	33.36	28.61	5.06%	30.06	6.76	1.80	12.13	1.							

Default Service Full Requirements Auction Price to Expected Wholesale Market Costs: Penn Power, October 2016 - April 2021

Utility	Auction Month	Product	Duration months	Delivery Period Start	Delivery Period End	PJM West Forward Price \$/MWh		Zonal Premium over PJM West \$/MWh		Zone Adjusted Price \$/MWh		All Hours Flat Load Price \$/MWh	Load Shape Factor %	Load Shape Adjusted Price \$/MWh	Average Capacity Price \$/MWh	Capacity Scaling Factor	Adjusted Capacity Price Adder \$/MWh	Ancillary Services Add-in \$/MWh	Average NITS Rate \$/MWh	NITS Scaling Factor	Adjusted NITS Rate Adder \$/MWh	Estimated No-Risk Price \$/MWh	Auction Price \$/MWh	Estimated Risk Premium \$/MWh	%											
						Off Peak	Peak	Off Peak	Peak	Off Peak	Peak																									
						[1]	[2]	[3]	[4]	[5]	[6]															[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]
Penn Power	Oct-16	Residential	12	Jun-17	May-18	27.13	39.65	-1.66	-1.85	25.47	37.80	31.20	6.16%	33.12	5.77	2.25	13.00	0.97	5.14	2.25	11.58	58.67	55.07	-3.60	-6.13%											
Penn Power	Oct-16	Residential	24	Jun-17	May-19	26.33	38.36	-1.66	-1.85	24.67	36.51	30.17	6.16%	32.03	6.80	2.25	13.32	0.97	5.14	2.25	11.58	59.89	55.21	-4.68	-7.82%											
Penn Power	Oct-16	Commercial	12	Jun-17	May-18	27.13	39.65	-1.66	-1.85	25.47	37.80	31.20	7.48%	33.53	5.77	2.31	13.36	0.97	5.14	2.31	11.91	59.77	64.37	4.60	7.70%											
Penn Power	Oct-16	Commercial	24	Jun-17	May-19	26.33	38.36	-1.66	-1.85	24.67	36.51	30.17	7.48%	32.43	6.80	2.31	15.74	0.97	5.14	2.31	11.91	61.05	64.42	3.37	5.53%											
Penn Power	Jan-17	Residential	12	Jun-17	May-18	28.17	40.21	-1.66	-1.85	26.51	38.36	32.01	6.16%	33.98	5.77	2.25	13.00	0.97	5.14	2.25	11.58	59.53	58.40	-1.23	-2.07%											
Penn Power	Jan-17	Residential	24	Jun-17	May-19	27.08	38.75	-1.66	-1.85	25.42	36.90	30.75	6.16%	32.64	6.80	2.25	13.32	0.97	5.14	2.25	11.58	60.51	58.15	-2.36	-3.90%											
Penn Power	Jan-17	Commercial	12	Jun-17	May-18	28.17	40.21	-1.66	-1.85	26.51	38.36	32.01	7.48%	34.41	5.77	2.31	13.36	0.97	5.14	2.31	11.91	60.64	64.13	3.49	5.75%											
Penn Power	Jan-17	Commercial	24	Jun-17	May-19	27.08	38.75	-1.66	-1.85	25.42	36.90	30.75	7.48%	33.05	6.80	2.31	15.74	0.97	5.14	2.31	11.91	61.67	65.20	3.53	5.72%											
Penn Power	Apr-17	Residential	12	Jun-17	May-18	28.79	40.63	-1.66	-1.85	27.13	38.77	32.54	6.16%	34.55	5.77	2.25	13.00	0.97	5.14	2.25	11.58	60.09	59.86	-0.23	-0.39%											
Penn Power	Apr-17	Residential	24	Jun-17	May-19	27.66	38.81	-1.66	-1.85	26.00	36.96	31.09	6.16%	33.01	6.80	2.25	13.32	0.97	5.14	2.25	11.58	60.87	57.94	-2.93	-4.82%											
Penn Power	Apr-17	Commercial	12	Jun-17	May-18	28.79	40.63	-1.66	-1.85	27.13	38.77	32.54	7.48%	34.98	5.77	2.31	13.36	0.97	5.14	2.31	11.91	61.21	63.47	2.26	3.69%											
Penn Power	Apr-17	Commercial	24	Jun-17	May-19	27.66	38.81	-1.66	-1.85	26.00	36.96	31.09	7.48%	33.84	6.80	2.25	13.00	0.97	5.14	2.25	11.58	59.39	59.89	0.50	0.84%											
Penn Power	Oct-17	Commercial	12	Jun-17	May-18	29.46	38.44	-1.66	-1.85	27.80	36.59	31.88	6.16%	33.84	5.77	2.25	13.00	0.97	5.14	2.25	11.58	59.39	59.89	0.50	0.84%											
Penn Power	Oct-17	Commercial	24	Jun-17	May-19	29.46	38.44	-1.66	-1.85	27.80	36.59	31.88	7.48%	34.27	5.77	2.31	13.36	0.97	5.14	2.31	11.91	60.50	66.74	6.24	10.31%											
Penn Power	Nov-17	Commercial	12	Jun-18	May-19	25.92	35.94	-0.41	-0.96	25.50	34.97	29.94	5.58%	31.61	7.83	1.88	14.70	1.09	6.24	1.88	11.72	59.12	66.74	7.62	12.89%											
Penn Power	Nov-17	Residential	12	Jun-18	May-19	25.92	35.94	-0.41	-0.96	25.50	34.97	29.94	7.65%	32.23	7.83	2.21	17.33	1.09	6.24	2.21	13.82	64.47	59.89	-4.58	-7.11%											
Penn Power	Jan-18	Commercial	12	Jun-18	May-19	26.28	35.87	-0.41	-0.96	25.87	34.90	30.10	5.58%	31.78	7.83	1.88	14.70	1.09	6.24	1.88	11.72	59.29	64.34	5.05	8.53%											
Penn Power	Jan-18	Residential	12	Jun-18	May-19	26.28	35.87	-0.41	-0.96	25.87	34.90	30.10	7.65%	32.40	7.83	2.21	17.33	1.09	6.24	2.21	13.82	64.64	60.95	-3.69	-5.71%											
Penn Power	Apr-18	Commercial	12	Jun-18	May-19	27.71	37.01	-0.41	-0.96	27.30	36.05	31.40	5.58%	33.15	7.83	1.88	14.70	1.09	6.24	1.88	11.72	60.66	63.85	3.19	5.26%											
Penn Power	Apr-18	Residential	12	Jun-18	May-19	27.71	37.01	-0.41	-0.96	27.30	36.05	31.40	7.65%	33.80	7.83	2.21	17.33	1.09	6.24	2.21	13.82	66.04	65.84	-0.20	-0.31%											
Penn Power	Oct-18	Residential	24	Jun-19	May-21	26.52	36.52	-0.41	-0.96	26.11	35.56	30.53	7.65%	32.87	4.22	2.21	9.33	1.09	6.42	2.21	14.21	57.51	58.80	1.29	2.25%											
Penn Power	Oct-18	Residential	12	Jun-19	May-20	28.25	37.97	-0.41	-0.96	27.84	37.00	32.13	7.65%	34.59	4.71	2.21	10.43	1.09	6.30	2.21	13.94	60.06	60.38	0.32	0.54%											
Penn Power	Jan-19	Commercial	24	Jun-19	May-21	27.49	38.23	-0.41	-0.96	27.08	37.27	31.85	5.58%	33.63	4.22	1.88	7.91	1.09	6.42	1.88	12.05	54.68	62.64	7.96	14.55%											
Penn Power	Jan-19	Commercial	12	Jun-19	May-20	29.61	40.14	-0.41	-0.96	29.19	39.18	33.87	5.58%	35.76	4.71	1.88	8.85	1.09	6.30	1.88	11.82	57.52	63.67	6.15	10.69%											
Penn Power	Jan-19	Residential	24	Jun-19	May-21	27.49	38.23	-0.41	-0.96	27.08	37.27	31.85	7.65%	34.29	4.22	2.21	9.33	1.09	6.42	2.21	14.21	58.92	59.87	0.95	1.61%											
Penn Power	Jan-19	Residential	12	Jun-19	May-20	29.61	40.14	-0.41	-0.96	29.19	39.18	33.87	7.65%	36.46	4.71	2.21	10.43	1.09	6.30	2.21	13.94	61.93	60.70	-1.23	-1.98%											
Penn Power	May-19	Commercial	24	Jun-19	May-21	26.68	36.48	-0.41	-0.96	26.27	35.52	30.60	5.58%	32.31	4.22	1.88	7.91	1.09	6.42	1.88	12.05	53.37	60.87	7.50	14.06%											
Penn Power	May-19	Commercial	12	Jun-19	May-20	28.40	37.67	-0.41	-0.96	27.99	36.71	32.07	5.58%	33.86	4.71	1.88	8.85	1.09	6.30	1.88	11.82	55.62	61.45	5.83	10.47%											
Penn Power	May-19	Residential	24	Jun-19	May-21	26.68	36.48	-0.41	-0.96	26.27	35.52	30.60	7.65%	32.94	4.22	2.21	9.33	1.09	6.42	2.21	14.21	57.58	58.34	0.76	1.32%											
Penn Power	May-19	Residential	12	Jun-19	May-20	28.40	37.67	-0.41	-0.96	27.99	36.71	32.07	7.65%	34.53	4.71	2.21	10.43	1.09	6.30	2.21	13.94	59.99	60.19	0.20	0.33%											
Penn Power	Oct-19	Residential	12	Jun-20	May-21	22.38	31.36	-0.41	-0.96	21.97	30.40	25.92	7.65%	27.90	3.72	2.21	8.23	1.09	6.54	2.21	14.48	51.70	55.17	3.47	6.71%											
Penn Power	Jan-20	Residential	12	Jun-20	May-21	21.41	29.01	-0.41	-0.96	21.00	28.05	24.30	7.65%	26.16	3.72	2.21	8.23	1.09	6.54	2.21	14.48	49.96	53.02	3.06	6.13%											
Penn Power	Apr-20	Commercial	12	Jun-20	May-21	21.18	28.47	-0.41	-0.96	20.77	27.51	23.93	5.58%	25.26	3.72	1.88	6.98	1.09	6.54	1.88	12.28	45.61	53.90	8.29	18.17%											
Penn Power	Apr-20	Commercial	24	Jun-20	May-22	21.18	28.47	-0.41	-0.96	20.77	27.51	23.93	5.58%	25.26	5.99	1.88	11.25	1.09	7.06	1.88	13.26	50.85	58.90	8.05	15.82%											
Penn Power	Apr-20	Residential	12	Jun-20	May-21	21.18	28.47	-0.41	-0.96	20.77	27.51	23.93	7.65%	25.76	3.72	2.21	8.23	1.09	6.54	2.21	14.48	49.56	52.36	2.80	5.65%											
Penn Power	Apr-20	Residential	24	Jun-20	May-22	21.18	28.47	-0.41	-0.96	20.77	27.51	23.93	7.65%	25.76	5.99	2.21	13.26	1.09	7.06	2.21	15.63	55.74	57.09	1.35	2.42%											
Penn Power	Nov-20	Residential	12	Jun-21	May-22	24.91	33.48	-0.41	-0.96	24.49	32.52	28.25	7.65%	30.41	8.27	2.21	18.30	1.09	7.58	2.21	16.78	66.57	63.34	-3.23	-4.86%											
Penn Power	Nov-20	Residential	24	Jun-21	May-23	24.57	32.98	-0.41	-0.96	24.15	32.02	27.84	7.65%	29.97	5.33	2.21	11.79	1.09	7.60	2.21	16.83	59.67	61.48	1.81	3.03%											
Penn Power	Jan-21	Commercial	12	Jun-21	May-22	24.19	32.94	-0.41	-0.96	23.78	31.98	27.62	5.58%	29.16	8.27	1.88	15.52	1.09	7.58	1.88	14.23	59.99	63.34	3.35	5.58%											
Penn Power	Jan-21	Residential	24	Jun-21	May-23	23.97	32.59	-0.41	-0.96	23.56	31.63	27.34	7.65%	29.43	5.33	2.21	11.79	1.09	7.60	2.21	16.83	59.14	62.15	3.01	5.10%											
Penn Power	Jan-21	Residential	12	Jun-21	May-22	24.19	32.94	-0.41	-0.96	23.78	31.98	27.62	7.65%	29.73	8.27	2.21	18.30	1.09	7.58	2.21	16.78	65.89	63.98	-1.91	-2.90%											
Penn Power	Apr-21	Commercial	24	Jun-21	May-23	24.70	33.81	-0.41	-0.96	24.29	32.85	28.30	5.58%	29.88	5.33	1.88	10.00	1.09	7.60	1.88	14.27	55.24	64.80	9.56	17.31%											
Penn Power	Apr-21	Commercial	12	Jun-21	May-22	25.26	34.65	-0.41	-0.96	24.85	33.68	28.99	5.58%	30.60	8.27	1.88	15.52	1.09	7.58	1.88	14.23	61.44	67.22	5.78	9.41%											
Penn Power	Apr-21	Residential	12	Jun-21	May-22	25.26	34.65	-0.41	-0.96	24.85	33.68	28.99	7.65%	31.20	8.27	2.21	18.30	1.09	7.58	2.21	16.78	67.37	69.56	2.19	3.26%											
Penn Power	Apr-21	Residential	24	Jun-21	May-23	24.70	33.81	-0.41	-0.96	24.29	32.85	28.30	7.65%	30.46	5.33	2.21	11.79	1.09	7.60	2.21	16.83	60.17	64.92	4.75	7.89%											
Penn Power Average																										2.24	4.10%									

Source: The Brattle Group.

Default Service Full Requirements Auction Price to Expected Wholesale Market Costs: West Penn Power, October 2016 - April 2021

Table with columns: Utility, Auction Month, Product, Duration, Delivery Period Start, Delivery Period End, PJM West Forward Price, Zonal Premium over PJM West, Zone Adjusted Price, All Hours Flat Load Price, Load Shape Factor, Load Shape Adjusted Price, Average Capacity Price, Capacity Scaling Factor, Adjusted Capacity Price, Ancillary Services Add-in, Average NITS Rate, NITS Scaling Factor, Adjusted NITS Rate, Estimated No-Risk Price, Auction Price, Estimated Risk Premium. Rows list various auction dates and products for West Penn Power, ending with a summary row for 'West Penn Power Average'.

West Penn Power Average

Summary row for West Penn Power Average with values: 1.54, 3.54%

Source: The Brattle Group.

Notes:

Only includes 12 and 24 month auctions.

- [1]: Source: S&P Capital IQ. PJM West Hub futures prices were averaged over last five trading days prior to the auction, and over all contract months in the delivery period.
[2]: Zonal premiums were calculated by taking the average difference LMP between PJM West Hub and the zone of the utility.
[3]: [1] + [2]
[4]: Weighted average of peak and off-peak zone adjusted prices.
[5]: Percentage difference between the straight average LMP and load-weighted average LMP. Load-weighted average LMP based on hourly historical load for non-shopping customers in the relevant customer class.
[6]: [4] x (1+ [5])
[7]: Capacity price increased by the installed reserve margin for the delivery period.
[8]: Ratio between peak and average load for 2016 and 2020.
[9]: [7] x [8]
[10]: Sum of ancillary service costs for 2016 and 2020.
[11]: NITS daily rate converted to an average hourly rate. For future years with unknown NITS rates, The Brattle Group has applied 2022 NITS rates based on their own assumption.
[12]: Ratio between peak and average load for 2016 and 2020.
[13]: [11] x [12]
[14]: [6] + [9] + [10] + [13]
[15]: Announced auction price from First Energy website.
[16]: [15] - [14]
[17]: [16] / [14]

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

DEFAULT SERVICE PROGRAMS

**For the Period
June 1, 2023 to May 31, 2027**

**REBUTTAL TESTIMONY
OF
JAMES D. REITZES AND NICHOLAS E. POWERS**

List of Topics Addressed

**Frequency of Adjustments to Default Service Rates
State of the Competitive Retail Market**

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III. STATE OF THE COMPETITIVE RETAIL MARKET	6
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3

**REBUTTAL TESTIMONY
OF
JAMES D. REITZES AND NICHOLAS E. POWERS**

4 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

5 **Q. Dr. Reitzes, please state your name, title, business address, and for whom you are**
6 **testifying.**

7 A. I am James D. Reitzes, Principal of *The Brattle Group* (“Brattle”), located at 1800 M Street
8 NW, Suite 700 North, Washington, District of Columbia.

9 **Q. Dr. Powers, please state your name, title, and business address.**

10 A. My name is Nicholas E. Powers, and I am a Principal of Brattle. My business address is
11 1800 M Street NW, Suite 700 North, Washington, District of Columbia.

12 **Q. Have you previously submitted testimony in these proceedings?**

13 A. We have. We are testifying on behalf of Metropolitan Edison Company (“Met-Ed”,
14 Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn
15 Power”), and West Penn Power Company (“West Penn”) (each individually a “Company”
16 and collectively, the “Companies”). We previously offered testimony in these proceedings,
17 which has been designated as Met-Ed/Penelec/Penn Power/West Penn Statement No. 4.¹

¹ Direct Testimony of James D. Reitzes and Nicholas E. Powers (Met-Ed/Penelec/Penn Power/West Penn Statement No. 4).

1 **Q. What is the purpose of your testimony?**

2 A. The Companies are proposing to shift from quarterly to semi-annual adjustments of default
3 service rates for the residential and commercial classes under the Companies' Price-to-
4 Compare ("PTC") Default Service Rate Riders. Our rebuttal testimony responds to an
5 argument criticizing that aspect of the Companies' proposed default service programs
6 ("DSP VI"). This argument was offered in the Direct Testimony of Travis Kavulla on
7 Behalf of Retail Energy Supply Association ("RESA") and NRG Energy, Inc. ("NRG").²
8 We also respond to Mr. Kavulla's assertion that the retail market has "stagnated" in light
9 of the declining percentage of customers served by electric generation suppliers ("EGSs")
10 in the last several years, which he largely blames on electric distribution company ("EDC")
11 "monopolization."³

12 **II. FREQUENCY OF ADJUSTMENTS TO DEFAULT SERVICE RATES**

13 **Q. Dr. Powers and Dr. Reitzes, your direct testimony provided an assessment of the price**
14 **stability benefits of a 6-month adjustment, instead of a 3-month adjustment schedule**
15 **for default service rates under the Companies' PTC Riders. Do any parties oppose**
16 **the Companies' proposed semi-annual rate adjustments?**

17 A. Yes. Mr. Kavulla recommends that the Companies continue the quarterly adjustment of
18 their PTC Riders on the ground that less frequent adjustments of the PTC "would actually
19 further remove it from reflecting the market over time."⁴ Mr. Kavulla also points out that

² RESA/NRG Statement No. 1.

³ RESA/NRG Statement No. 1, pp. 9, 10, 15.

⁴ RESA/NRG Statement No. 1, pp. 55-56. We note that, at pages 54 and 55 of his direct testimony, Mr. Kavulla also disagrees with the use of the term "price to compare" to describe the default service rates charged by EDCs. We continue to use the term from the Commission's default service regulations (52 Pa. Code § 54.182) for consistency and clarity.

1 the Pennsylvania Public Utility Commission (“Commission”) previously recognized that
2 “default service rates inherently pass along false or misleading price signals” due in part to
3 reconciliation of previous “over/under” collections, and that default service rates “often are
4 ‘not correlated to wholesale energy markets and may move in directions opposite of
5 wholesale energy market trends.’”⁵ We note that Mr. Kavulla may not have reviewed the
6 analysis in our direct testimony prior to making his argument.⁶

7 **Q. Do you believe that quarterly adjustment of the PTC results in more market-**
8 **reflective default service rates, as RESA/NRG witness Kavulla suggests?**

9 A. No. The Companies’ PTCs have two primary components: (1) the projected cost of supply
10 and (2) experienced differences (positive or negative) between the Companies’ actual
11 default service supply costs and billed revenue (known as the “E-Factor”). As Ms. Larkin
12 explained in her direct testimony (Met-Ed/Penelec/Penn Power/West Penn Statement No.
13 5, pp. 5-7), the primary cause of over- or under-collections for the residential and
14 commercial class is billing cycle lag that is not directly related to the cost of default service
15 supply.

16 The analysis presented in our direct testimony demonstrates, for residential customers, that
17 in three of four quarters of the year, the changes to each Company’s residential PTC are
18 determined almost entirely by changes to the E-Factor. The exception happens in June,

⁵ *Id.*, citing *Investigation of Pennsylvania’s Retail Electricity Market: End State of Default Service*, Docket No. I-2011-2237952 (Opinion and Order entered February 15, 2013) (“End State Order”), p. 12.

⁶ In addition to the Companies’ DSP VI Petition, Mr. Kavulla mentions that he reviewed the Direct Testimonies of Joanne M. Savage, James H. Catanach, and Patricia M. Larkin. RESA/NRG Statement No. 1, p. 6.

1 when a substantial portion of the portfolio of supply contracts that determines the cost of
2 default service supply changes as old contracts expire and new contracts take effect.

3 Accordingly, quarterly updates to the PTC are largely exposing residential customers to
4 fluctuations in the E-Factor, rather than providing clear pricing signals that are reflective
5 of changes in current market conditions. We expect that moving from quarterly to semi-
6 annual adjustment and reconciliation of default service rates would smooth out fluctuations
7 in the PTC, as the E--Factor will change less frequently. This change will therefore result
8 in a PTC that is more reflective of the projected cost of supply.⁷

9 **Q. Please explain how the analysis presented in your direct testimony applies to the**
10 **commercial class under the Companies' PTC Riders.**

11 A. The residential analysis has clear implications for the frequency of adjustments to the
12 commercial PTC. Specifically, there is no reason to believe that changes to the PTC that
13 are not accompanied by changes to the costs of providing default service will present
14 default service customers with reliable pricing signals, regardless of customer class.
15 Instead, any such changes to the PTC would be driven largely by changes to the E-Factor,
16 which as explained above is not tied to current market conditions.

17 In DSP VI, the Companies have proposed eliminating 3-month contracts for commercial
18 default service supply, and relying on a mix of 6-, 12-, and 24-month full requirements

⁷ Ms. Larkin has demonstrated that more often than not, a residential PTC based on semi-annual updates to the PTC is more likely to be more reflective of the “current rate”—the projected cost of supply—than is a residential PTC based on quarterly updates. *See* Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-2, which showed that over the 6 quarters starting between June 2020 and September 2021, the 6-month PTC is closer to the current rate than is the 3-month PTC in 17 out of 24 possible quarter-company observations.

1 contracts to satisfy commercial default service needs.⁸ Therefore, continuing to adjust the
2 commercial PTC on a quarterly basis would mean that half of all such adjustments would
3 provide pricing signals that are in no way tied to market fundamentals, but rather only
4 reflect imbalances between collected revenues and actual costs in *prior* rate periods.

5 Furthermore, analysis provided by Ms. Larkin demonstrates that more often than not, a
6 commercial PTC based on semi-annual updates is more likely to be reflective of the
7 current rate than is a commercial PTC based on quarterly updates.⁹ This finding
8 contradicts Mr. Kavulla’s view that “less frequent adjustments of the default service rate
9 would actually further remove it from reflecting the market over time.”¹⁰

10 **Q. Are there any other considerations that are relevant to the frequency with which the**
11 **commercial PTC is adjusted?**

12 A. Yes. Moving to a schedule by which the commercial PTC is adjusted semi-annually
13 instead of quarterly is made possible by the Companies’ proposal to replace 3-month full
14 requirements contracts for commercial customers with 6-month full requirements contracts
15 for commercial customers. This change to the proposed procurement schedule reduces
16 costs, in that the number of procurements held per year falls by 50%, from four to two.
17 This will result in cost savings that will be passed on to commercial customers, lowering
18 rates all things being equal.

⁸ Direct Testimony of James D. Reitzes and Nicholas E. Powers at 8:4-6.

⁹ See Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-2, which showed that over the 6 quarters that began between June 2020 and September 2021, the 6-month commercial PTC is closer to the “current rate” than is the 3-month PTC in 15 out of 24 possible quarter-company observations.

¹⁰ RESA/NRG Statement No. 1, at 55:19-20.

1 **III. STATE OF THE COMPETITIVE RETAIL MARKET**

2 **Q. Have any parties expressed any concerns about the state of the retail market?**

3 A. Yes. RESA/NRG witness Kavulla describes the retail market for electricity in
4 Pennsylvania as “stagnating.”¹¹ In support of his claim, Mr. Kavulla cites statistics
5 indicating, among other things, that the share of Pennsylvania’s retail customers purchasing
6 electric generation supply from EGSs has decreased over the past five years.¹² According
7 to Mr. Kavulla, the causes of the alleged stagnation are structural flaws in the design of the
8 retail market, including the presence of a “dominant utility” default service provider.¹³
9 He recommends that the PUC initiate a generic proceeding to revisit transitioning the
10 Companies and other EDCs out of the default service provider role in order to support a
11 retail market in which “all customers are shopping for electricity” and default service
12 becomes a “true backstop” for EGSs.

13 **Q. Do you agree with Mr. Kavulla’s characterization of the competitive retail market as**
14 **“stagnating”?**

15 A. We do not. First, we note that Mr. Kavulla is imprecise about which “market” he is
16 discussing. He cites statistics based on the number of all retail customers statewide,¹⁴ all
17 residential customers statewide,¹⁵ the number of residential customers in each of the
18 Companies’ service territories,¹⁶ and the number of commercial customers in the Met-Ed

¹¹ RESA/NRG Statement No. 1, p. 7.

¹² RESA/NRG Statement No. 1, pp. 7-8.

¹³ RESA/NRG Statement No. 1, pp. 9-10.

¹⁴ RESA/NRG Statement No. 1, pp. 7-8.

¹⁵ *Id.*

¹⁶ RESA/NRG Statement No. 1, p. 8.

1 service territory.¹⁷ However, in the introduction to this section of his testimony,
2 Mr. Kavulla refers to “the competitive retail market in Pennsylvania.” We begin with that
3 focus, but also discuss the residential retail market.

4 Mr. Kavulla is correct that the number of retail customers who elect to purchase electricity
5 from an EGS instead of an EDC has trended downward over the past several years.
6 However, the evidence is generally consistent with the notion that the EDCs in general,
7 and the Companies in particular, have not “monopolized” the market.

8 First, we note that market shares also can be measured in terms of the quantity of the
9 product that is sold or the total revenues earned, as opposed to the number of customers
10 served by a firm or group of firms. With this lens, we note that the EGS share of total load
11 (expressed in MW) ranges from 56.1% to 63.8%, according to recent statistics.¹⁸
12 Therefore, a more accurate measure of the EDC share of total retail load is in the range of
13 35% to 45%.¹⁹ The fact that more than half of electric load in the Companies’ service
14 territories is served by an EGS is one indicator that retail competition remains robust.
15 Indeed, more than 90% of the industrial load in each of the Companies’ service territories
16 is served by a competitive supplier.²⁰

¹⁷ RESA/NRG Statement No. 1, p. 8:12-8:14. These numbers are pulled from the Met-Ed page in RESA/NRG Exhibit TK-6.

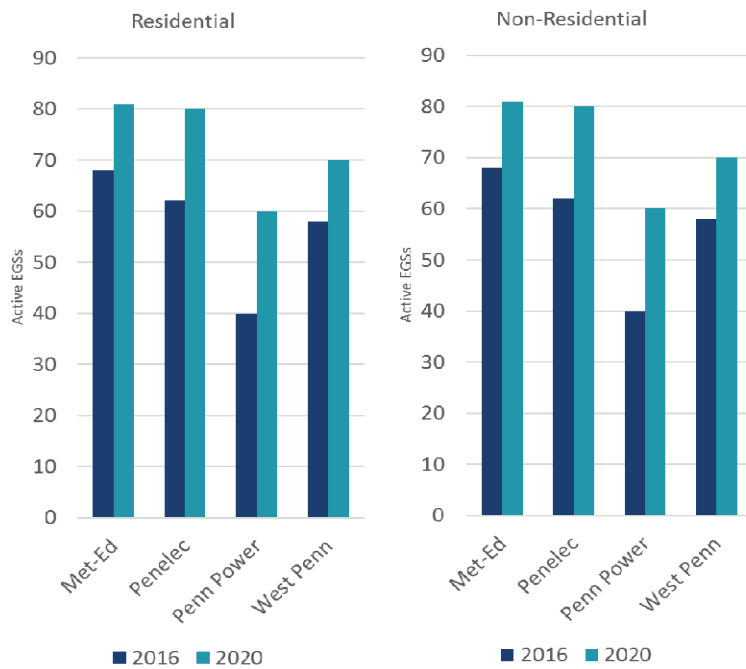
¹⁸ Pennsylvania Office of Consumer Advocate, “Pennsylvania Electric Shopping Statistics As of January 1, 2022” (“2022 OCA Shopping Statistics”) available at <https://www.oca.pa.gov/wp-content/uploads/ElecStats-January2022.pdf>.

¹⁹ Even when we focus on residential load, we note that EGS customers collectively have a share of 18.4% to 22.3%. While this implies that EDCs provide retail generation service to more residential customers than EGSs, that fact is understandable for several reasons as we explain below.

²⁰ 2022 OCA Shopping Statistics, p. 4.

1 We also note that there are dozens of active EGSs in the residential market in the
 2 Companies' service areas, according to the Commission's 2020 Electric Choice Report.²¹
 3 Moreover, comparing the most recent such Report with the corresponding 2016 report
 4 indicates that the number of active EGSs competing to serve residential and non-residential
 5 customers in each of the Companies' service territories has **increased** during the period for
 6 which Mr. Kavulla asserts that the retail market has been stagnating.²² These patterns are
 7 illustrated in Figure 1 below. Both the absolute numbers and trends in the number of active
 8 EGS competitors provide further indication that retail competition remains robust.

9 **Figure 1: Number of Active EGSs by EDC Service Territory in 2016 and**
 10 **2020: Residential and Non-Residential**



11 Sources and Notes: Pennsylvania Public Utility Commission Retail Electric Choice Activity Reports for 2016 and 2020. Each data
 12 point refers to the number of active EGSs on December 31 of the corresponding year.
 13

²¹ Pennsylvania Public Utility Commission, "Retail Electricity Choice: Activity Report 2020".

²² Compare Pennsylvania Public Utility Commission, "Retail Electricity Choice: Activity Report 2020", p. 18 with Pennsylvania Public Utility Commission, "Retail Electricity Choice: Activity Report 2016", p. 19.

1 **Q. Do Mr. Kavulla’s quoted numbers of residential default service customers in**
2 **Pennsylvania and the Companies’ service areas indicate that a fundamental change**
3 **in the default service model is needed to allow the competitive market to function**
4 **effectively?**

5 A. They do not. Decisions by residential customers to stay on or return to default service
6 when EGSs are unable to provide greater value are an indicator of the attractiveness of a
7 competitively procured default service product relative to what EGSs are currently offering
8 in terms of pricing and other retail product attributes (e.g., price stability of their offerings,
9 etc.). EGSs may be able to increase their market share among residential customers by
10 improving their offerings and providing additional value to customers.

11 **Q. You mention residential customers. Do EGSs serve a similar share of residential**
12 **customers and load? If not, why not?**

13 A. The EGS share with respect to residential customers, whether measured in terms of
14 customers or load, generally tends to be smaller. In the Companies’ service territories,
15 EGSs serve around 20% of residential customers and residential customer load. There are
16 many reasons for this pattern, but a main determinant is customer size. On average,
17 commercial and industrial customers consume more electricity than residential customers.
18 Accordingly, these customers stand to gain more by shopping, and are more likely to be
19 willing to invest effort in comparing the various options available to them. Many
20 residential and smaller commercial customers do not have the time, sophistication, or
21 resources to research and choose an EGS and therefore choose to remain on default service.

1 **Q. What factors have contributed to a lower number of residential customers being**
2 **served by an EGS?**

3 A. This is a complex question with many factors involved. However, all else equal, consumers
4 prefer a lower price. Therefore, a primary factor in determining whether residential
5 customers remain with an EGS (or switch from one EGS to another) is whether that
6 customer expects to see savings relative to their electricity bill under default service.
7 Similarly, a primary factor in determining whether residential customers receiving default
8 service opt to switch to receiving supply from an EGS is whether the customer expects to
9 receive benefits from doing so. In recent years, some EGSs have been charging
10 significantly more than default service rates in the Companies' service areas.

11 In his direct testimony, CAUSE-PA witness Harry Geller presents the results of a series of
12 calculations showing that residential shopping customers have paid significantly more than
13 default service customers in the period from August 2017 to December 2021.²³
14 Specifically, he finds that residential shopping customers were charged \$431 million in
15 excess of the applicable default service price, and that average price premiums paid by
16 residential shopping customers across the four utilities ranged from 29% to 38%.²⁴ He also
17 shows that average per customer charges in excess of the default service price have
18 increased significantly in all four service territories over the past five years. For example,
19 the average per-customer excess charge for a residential shopping customer in the West
20 Penn Power service territory was \$52.64 in the August to December 2017 period, a figure

²³ Direct Testimony of Harry Geller on Behalf of the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (CAUSE-PA Statement No. 1), pp. 9-13.

²⁴ CAUSE-PA Statement No. 1, pp. 9-10.

1 which when annualized is equivalent to \$126.34. By 2021, the excess per-customer charge
2 had risen to \$352.32.

3 These statistics indicate that the value of shopping is decreasing over time. While some
4 customers also value price stability and other features like green power options, there can
5 be little doubt that average cost is a substantial determinant of value for most customers.
6 In light of these statistics, it is not surprising that residential shopping rates have declined.

7 **Q. What other considerations are relevant to assessing the health of the retail electric**
8 **market other than the number of EGSs and their share of customers, load, or**
9 **revenues?**

10 A. In general, for any market, information on the market shares of individual firms and the
11 number of firms are merely indicators of market structure and do not provide information
12 on market conduct and performance. In this case, the same can be said about the data on
13 the combined market penetration of EGSs and the number of EGSs serving retail electric
14 customers.

15 More fundamental is how the retail market is performing in terms of pricing relative to
16 underlying costs and in its variety of service offerings, as well as other indicators of
17 competitiveness. In this case, we know that the default generation service offered by EDCs
18 is a largely fixed-price product supplied through a competitive auction process. The
19 competitive procurement process for that product ensures that it is attractively priced.

20 If EGS penetration declines, measured by the number of customers or share of load served
21 by EGSs, that is attributable to the EGS pricing and product offerings being less attractive
22 relative to the default service option. As we discussed, there is empirical evidence

1 indicating that EGS pricing is above that obtained from default service. In this context,
2 EGS penetration could be improved if EGSs lowered their prices or changed their service
3 offerings to improve their attractiveness.

4 Of course, EGS penetration also can be improved by reducing the attractiveness of the
5 default service product, such as by placing an “adder” on the underlying cost of default
6 service, or changing its features to make it a less attractive option (e.g., making it a spot
7 market priced offering where the customer is assuming potentially significant pricing risk).
8 Artificially raising the price of default service, or otherwise making it less attractive, stands
9 to harm retail customers in the process, including EGS customers if EGSs respond by
10 raising their own retail prices. The experience with the retail market in states that have
11 attempted to “tax” default service or otherwise make default service less attractive (e.g.,
12 Texas) has been mixed at best.

13 **IV. CONCLUSION**

14 **Q. Does this complete your rebuttal testimony?**

15 **A. Yes.**

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA ELECTRIC COMPANY
Docket No. P-2021-_____**

**PENNSYLVANIA POWER COMPANY
Docket No. P-2021-_____**

**WEST PENN POWER COMPANY
Docket No. P-2021-_____**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2027**

**Direct Testimony
Of
Patricia M. Larkin**

List of Topics Addressed

**Rate Design and Cost Recovery
Time Of Use Default Service Rider
Other Related Matters**

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1 **DIRECT TESTIMONY**
2 **OF**
3 **PATRICIA M. LARKIN**

4 **I. INTRODUCTION AND BACKGROUND**

5 **Q. Please state your name and business address.**

6 A. My name is Patricia M. Larkin, and my business address is 2800 Pottsville Pike, Reading,
7 Pennsylvania 19605.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as an Analyst – Rates and Regulatory
10 Affairs - Pennsylvania. The Pennsylvania Rates Department provides regulatory support
11 for each of FirstEnergy Corp.’s (“FirstEnergy”) wholly-owned Pennsylvania distribution
12 operating companies, including Metropolitan Edison Company (“Met-Ed”), Pennsylvania
13 Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West
14 Penn Power Company (“West Penn”) (individually, a “Company” and in any combination,
15 the “Companies”). I am responsible to the Director - Rates and Regulatory Affairs -
16 Pennsylvania for the development, coordination, preparation and presentation of the
17 Companies’ accounting and financial data in their rate-related matters before the
18 Pennsylvania Public Utility Commission (“Commission”) and New York State Public
19 Service Commission. I am also responsible for tariff interpretation, tariff filings, and the
20 design and development of retail electric rates.

21 **Q. What is your educational background?**

22 A. I have a Bachelor of Science degree in Accounting from DeSales University, and a Master
23 of Business Administration degree from Alvernia University. I have over twenty years of

1 experience with FirstEnergy. My educational background and work experience are more
2 fully described in Appendix A to this statement.

3 **Q. Have you ever testified before the Commission?**

4 A. Yes, I have testified before the Commission in other rate-related matters.

5 **Q. On whose behalf are you testifying in this proceeding?**

6 A. I am testifying on behalf of Met-Ed, Penelec, Penn Power and West Penn. My testimony
7 equally applies to all of the Companies, unless otherwise stated.

8 **Q. What is the purpose of your direct testimony?**

9 A. My testimony will describe the following elements of the Companies' proposed sixth
10 Default Service Programs ("DSPs" and collectively, "DSP VI") that are the subject of this
11 proceeding: (1) rate design and cost recovery; (2) Time of Use Default Service Rate
12 ("TOU") Riders; and (3) other related matters.

13 **Q. Have you prepared any exhibits to accompany your testimony?**

14 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-1 through PML-31 were
15 prepared by me or under my supervision and are described in detail later in my testimony.

16 **II. RATE DESIGN AND COST RECOVERY**

17 **Q. As part of DSP VI, are the Companies proposing any changes to their existing retail
18 customer classifications – residential, commercial and industrial?**

19 A. No. The Companies will continue to procure default service supplies separately for each
20 of the three retail customer classes. The rate schedules that comprise each customer class

1 in the proposed DSPs are consistent with the rate schedules approved as part of the
2 Companies' current DSPs (collectively, "DSP V").¹

3 **Q. Please provide an overview of the Companies' current default service rate design.**

4 A. The default service rates for the Companies' residential and commercial customer classes
5 consist of a single flat per kilowatt hour ("kWh") energy charge, which is charged through
6 each Company's Price to Compare ("PTC") Default Service Rate Rider ("PTC Rider").
7 Under the PTC Riders approved by the Commission in DSP V, the Companies currently
8 project the cost of generation supply for residential and commercial default service
9 customers with a demand less than 100 kW on a quarterly basis. Those projection periods
10 are synchronized with PJM Interconnection, L.L.C.'s ("PJM") planning year (June 1-May
11 31), corresponding to the quarters of June to August, September to November, December
12 to February, and March to May. This projection forms the basis of the PTC that customers
13 may use to evaluate competitive generation service offerings by electric generation
14 suppliers ("EGSs").

15 The Companies' industrial customer classes' default service rates are based upon the PJM
16 real-time hourly locational marginal price ("LMP") for each Company's respective PJM-
17 designated delivery zone, plus associated costs incurred to provide hourly-priced service.

18 The industrial customer class default service rates are charged through the Hourly Pricing

¹ See *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co., Pennsylvania Power Co., and West Penn Power Co. for Approval of their Default Serv. Programs for the Period Beginning June 1, 2019 through May 31, 2023*, Docket Nos. P-2017-2637855 *et al.* (Opinion and Order entered Sept. 4, 2018) ("September 2018 Order"). In the September 2018 Order, the Commission approved a partial settlement of the Companies' DSP V proceeding ("DSP V Settlement") and resolved the remaining contested issues, including the residential procurement schedule, continuation of the Customer Referral Program ("CRP"), and shopping by customers enrolled in the Companies' Customer Assistance Program ("CAP") for products priced above the Price to Compare rate. On February 28, 2019, the Commission entered a Final Order ("February 2019 Order" and together with the September 2018 Order, the "DSP V Orders") adopting rules and procedures for the CAP shopping program approved in the September 2018 Order and revising the Companies' CRP scripts.

1 (“HP”) Default Service Rate Riders (“HP Riders”) in the Companies’ retail electric service
2 tariffs.

3 **Q. What costs do the Companies recover under the default service rates currently in**
4 **place?**

5 A. The default service rates currently recover: (1) generation costs, certain transmission costs,
6 ancillary service costs, and costs to comply with Alternative Energy Portfolio Standards
7 (“AEPS”) requirements, as described by the Companies’ witness James H. Catanach in
8 Met-Ed/Penelec/Penn Power/West Penn Statement No. 2; (2) supply management and
9 administrative costs, as contemplated by 52 Pa. Code § 69.1808; (3) applicable taxes; and
10 (4) a charge or credit, or “E-factor,” for quarterly reconciliation of any under or over-
11 collection of actual revenues against actual costs for each class from prior rate periods.

12 **Q. Are the Companies proposing to maintain their existing default service rate design in**
13 **DSP VI?**

14 A. Generally, the Companies are adopting the same rate design employed in DSP V, which
15 the Commission has previously approved as consistent with the Pennsylvania Public Utility
16 Code (“Code”) and the Commission’s default service regulations. The only changes the
17 Companies are proposing for DSP VI are: (1) default service rate changes for the residential
18 and commercial classes under the PTC Riders every six months rather than every three
19 months; (2) reconciliation of the over/undercollection component of the PTC and HP
20 Riders on a semi-annual basis instead of a quarterly basis; and (3) limited tariff revisions
21 to align their PTC and HP Riders with the DSP VI procurement plan, including recovery
22 of costs associated with the proposed solar power purchase agreements (“PPAs”),
23 described in detail by Mr. Catanach.

1 **Q. As requested by the Commission’s January 2020 Secretarial Letter,² did the**
2 **Companies consider a six-month, instead of three-month, adjustment schedule for**
3 **default service rates based on the history of the Companies’ PTCs?**

4 A. Yes. The Companies examined their PTCs for the residential and commercial classes since
5 January 1, 2011 and the potential benefits presented by a six-month default service supply
6 price projection period. Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-1 presents
7 each Company’s PTC history by quarter and procurement class. Based on that analysis,
8 the Companies found that semi-annual default service rate adjustments under the PTC
9 Riders will benefit customers and should be adopted for the following reasons.

10 First, semi-annual price changes will align with the Companies’ proposed semi-annual
11 procurements. As Mr. Catanach explains in his testimony, the Companies are proposing
12 to eliminate the three-month fixed-price full requirements product for the commercial class
13 to provide consistency in the auction dates across the residential and commercial classes.

14 Second, changing rates less frequently offers customers more price certainty and stability.³

15 Third, semi-annual rate changes require fewer auctions, potentially lowering the
16 administrative fees passed on to customers through the PTC and HP Riders. Finally, semi-
17 annual rates create efficiencies for both the Companies in the calculation of rates and
18 Commission staff and other parties in the review of rates. In sum, the Companies found
19 that moving to semi-annual rate adjustments appropriately balances the responsiveness of
20 the PTC to current market conditions and provides price stability benefits for customers.

² *Investigation into Default Serv. and PJM Interconnection, LLC Settlement Reforms*, Docket No. M-2019-3007101 (Secretarial Letter issued Jan. 23, 2020) (“January 2020 Secretarial Letter”) at 8-9.

³ Drs. James D. Reitzes and Nicholas E. Powers provide an assessment of the price stability benefits of a 6-month PTC change compared to a 3-month PTC change for the residential and commercial classes in Met-Ed/Penelec/Penn Power/West Penn Statement No. 4.

1 **Q. What are the proposed effective dates for the semi-annual PTC Rider rates?**

2 A. The Companies are proposing to offer rates effective June 1 and December 1. These
3 periods were chosen to align with the DSP June 1 start date.

4 **Q. Please explain what an over/undercollection is with respect to the Companies' PTC
5 and HP Riders.**

6 A. As I mentioned earlier in my testimony, the Companies compare their actual default service
7 supply costs to the billed revenue they receive from customers under the PTC and HP
8 Riders for default service. Over/under recoveries are driven by two principal factors: the
9 difference between projected and actual supply costs and billing cycle lag. Customer
10 billing cycles are not perfectly aligned with the actual incurrence of generation supply
11 costs. Because customers are billed at different times throughout the month, the revenue
12 from the month reflects sales from the subject month and the prior month that may have
13 experienced higher or lower usage. This billing cycle lag results in a timing difference
14 between revenue and expense that can produce significant fluctuations in the PTC that are
15 not directly related to the underlying cost of default service supply. Default service supply
16 costs are the largest component of the PTC that may be used by shopping customers and
17 default service customers to evaluate competitive offers. Therefore, to the extent possible,
18 the PTC and HP Riders should generally reflect projected costs and not increases or
19 decreases from prior periods.

20 **Q. Are the Companies proposing any modifications to their existing reconciliation
21 mechanisms to mitigate fluctuations in the PTC caused by over/under collections?**

22 A. Yes. The Companies currently reconcile the E-Factor of the PTC and HP Riders on a
23 quarterly basis. Modifications are necessary to reconcile the over/under collections for all

1 classes on a semi-annual basis rather than a quarterly basis. To implement a semi-annual
2 reconciliation, the Companies propose a transition period that would include over/under
3 collections experienced from January 1, 2023 through March 31, 2023 to be recovered over
4 the six-month period from June 1, 2023 through November 30, 2023. Thereafter, the
5 over/under collections experienced from October 1 to March 31 would be recovered during
6 the June-November period of the same year, while the over/under collections experienced
7 from April 1 to September 30 would be recovered during the December 1 to May 31 period.

8 By using a semi-annual schedule for reconciliation of “over or under” amounts instead of
9 a quarterly schedule, fluctuations in default service prices will be smoothed out as shown
10 on Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-2 and clearer pricing signals will
11 be sent to both customers and competitive suppliers. In addition, rates under the PTC and
12 HP Riders that more closely track the cost of default service supply will provide customers
13 with improved information for their shopping decisions.

14 **Q. Are the Companies proposing any other changes to their PTC and HP Riders?**

15 A. Yes. As explained by Mr. Catanach, the Companies are proposing to enter into long-term
16 PPAs to continue to support the development of solar projects in Pennsylvania. The solar
17 alternative energy credits (“SPAECs”) associated with the PPAs would be used to help
18 satisfy the solar photovoltaic AEPS requirements of serving residential default service
19 customers. The energy produced by the selected project(s) will be paired with spot
20 purchases to satisfy a fixed quantity of residential default service load. The Companies are
21 proposing revisions to the definition of default service costs (“DS_{Exp2}”) in their PTC Riders
22 to include costs associated with the solar PPAs.

1 **Q. Are you sponsoring any exhibits that show the proposed changes to the Companies’**
2 **tariffs necessary to implement these changes to the PTC and HP Riders?**

3 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-3 through PML-6 reflect
4 changes to the tariff definitions in each of the Companies’ retail electric service tariffs;
5 Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-7 through PML-10 show the
6 changes to the Companies’ PTC Riders; and Met-Ed/Penelec/Penn Power/West Penn
7 Exhibits PML-11 through PML-15 present the modifications to the Companies’ HP Riders.

8 **Q. Are the Companies requesting a waiver of the Commission’s regulations to**
9 **implement a semi-annual adjustment of default service rates under the PTC Riders?**

10 A. Yes. Pursuant to the Commission’s regulations (52 Pa. Code § 54.187(i)), default service
11 rates shall be adjusted on a quarterly basis, or more frequently, for customers with load
12 requirements between 25 and 500 kilowatts (“kW”). The Commission has approved six-
13 month periods for adjustment of rates for customers that are not receiving hourly-priced
14 default service for other electric distribution companies (“EDCs”).⁴ Therefore, the
15 Companies request a waiver of these regulations, to the extent necessary, to implement a
16 semi-annual rate adjustment schedule for the commercial class under the PTC Riders.

⁴ See, e.g., *Petition of Duquesne Light Co. for Approval of Its Default Serv. Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019522 (Jan 14, 2021) (“DLC DSP IX Order”) at 15-16; *Petition of PPL Elec. Utils. Corp. for Approval of Its Default Serv. Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019356 (Dec. 17, 2020) (“PPL DSP V Order”) at 13, 153.

1 **Q. Are the Companies also seeking a waiver of the Commission’s regulations to**
2 **implement semi-annual reconciliation of the over/undercollection component of the**
3 **PTC and HP Riders?**

4 A. Yes. As I explained previously, the Commission’s regulations (52 Pa. Code § 54.187(i))
5 require adjustment of default service rates on a quarterly basis, or more frequently, for
6 commercial customers with load requirements up to 500 kW. Those regulations (52 Pa.
7 Code § 54.187(j)) also provide that default service rates shall be adjusted monthly, or more
8 frequently for customers with load requirements equal to or greater than 500 kW.
9 However, the Commission has recognized that more extended periods for
10 over/undercollection reconciliation may help keep default service rates more market
11 reflective,⁵ and the Commission has granted other EDCs a waiver from these regulations
12 in recent default service proceedings to implement a semi-annual E-Factor reconciliation
13 for commercial and industrial customers.⁶ The Companies request a waiver of these
14 regulations, to the extent necessary, to implement a semi-annual reconciliation schedule
15 for all customer classes throughout DSP VI to mitigate potential default service rate
16 volatility due to billing cycle lag.

⁵ See *Investigation of Pennsylvania’s Retail Elec. Mkt.: Recommendations Regarding Upcoming Default Serv. Plans*, Docket No. I-2011-2237952 (Order entered Dec. 16, 2011) at 54-55.

⁶ See, e.g., *Petition of PECO Energy Co. for Approval of Its Default Serv. Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019290 (Opinion and Order entered Dec. 3, 2020) (“PECO DSP V Order”) at 66.

1 **Q. Are the designs of the PTC Rider rates for the residential and commercial customer**
2 **classes and the HP Rider rates for the industrial customer class consistent with the**
3 **Commission’s default service regulations and the Code?**

4 A. Yes. The Commission’s regulations at 52 Pa. Code § 54.187(d) state that default service
5 rates may not use a declining block structure. For the residential class, the Code at Section
6 2807(e)(7) and the regulations at 52 Pa. Code § 54.187(h) provide that rates shall change
7 no more frequently than on a quarterly basis. Consistent with these requirements, the
8 Companies’ proposed PTC Rider rates for the residential and commercial customers
9 employ a flat per kWh rate design, with rates that will change on a semi-annual basis. The
10 hourly-priced service offered under the HP Riders is consistent with Commission
11 precedent, the Commission’s regulations at 52 Pa. Code §§ 54.187(i) and (j), other
12 applicable provisions of those regulations, and the Commission’s prior approval of the
13 Companies’ customer class definitions and service offerings.

14 **Q. Describe the Companies’ DSS Riders and the costs currently recovered through these**
15 **riders.**

16 A. The DSS Rider is a non-bypassable rider, which recovers various categories of costs at
17 each of the Companies. All Companies’ DSS Riders recover four categories of costs: (1)
18 the uncollectible accounts expense incurred through the provision of default service and on
19 behalf of EGSs through the purchase of receivables programs for residential and small
20 commercial customers; (2) retail enhancement costs for the CRPs; (3) customer education

1 costs; and (4) non-market based (“NMB”) charges.⁷ In addition to these four categories,
2 Met-Ed’s DSS Rider recovered non-utility generation (“NUG”) costs through May 31,
3 2018; Penelec’s DSS Rider recovered NUG costs through May 31, 2021. Penn Power’s
4 DSS Rider may also recover any Federal Energy Regulatory Commission (“FERC”)-
5 approved Midcontinent Independent System Operator (“MISO”) Transmission Expansion
6 Plan costs, PJM integration fees, and MISO exit fees associated with Penn Power’s move
7 from MISO to PJM.

8 **Q. Are the Companies proposing any changes to their DSS Riders?**

9 A. Yes. Met-Ed and Penelec are proposing to eliminate the NUG components. The NUG
10 components, which are currently set to \$0, were previously used to amortize the final
11 over/under collection of the Companies’ NUG Riders. These proposed revisions to the
12 DSS Riders are reflected in Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-16 and
13 PML-17.

14 **Q. Are Met-Ed and Penelec proposing any changes to their NUG Riders?**

15 A. Yes. Met-Ed and Penelec propose to eliminate the NUG Riders because all NUG contracts
16 have expired and the riders are no longer active. The Companies also propose to eliminate
17 any references to the NUG Riders throughout their tariffs.

⁷ NMB Charges currently include FERC approved costs for: (i) PJM Regional Transmission Expansion Plan charges; (ii) PJM Expansion Cost Recovery charges; (iii) PJM charges for Reliability Must Run generating unit declarations and charges associated with plants deactivated on or after July 24, 2014; (iv) historical tie line, generation, and retail customer meter adjustments; (v) unaccounted for energy; (vi) any FERC-approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009; and (vii) any other FERC-approved PJM charges billed by PJM that will not be reconciled through the PTC and/or HP Riders and as approved for recovery under the DSS Riders by the Commission.

1 **Q. Will the Solar Photovoltaic Requirements Charge (“SPVRC”) Riders remain in place**
2 **for the upcoming default service term?**

3 A. Yes. Met-Ed, Penelec and Penn Power are not proposing any changes to their SPVRC
4 Riders at this time to continue to allow them to recover costs associated with legacy solar
5 contracts that expire in 2024 as explained by Mr. Catanach in Met-Ed/Penelec/Penn
6 Power/West Penn Power Statement No. 2. The SPVRC Riders will continue to be non-
7 bypassable and apply to all delivery service customers. West Penn does not have a SPVRC
8 Rider and is not proposing one as part of its DSP VI.

9 **Q. Are the Companies proposing any changes to their Electric Generation Supplier**
10 **Coordination Tariffs (“Supplier Tariffs”)?**

11 A. Yes, there are two proposed changes to the Companies’ Supplier Tariffs. First, the
12 Companies are eliminating language related to transferring SPAECs to EGSs. Second, as
13 explained in Met-Ed/Penelec/Penn Power/West Penn witness Joanne M. Savage’s
14 testimony (Statement No. 1), the Companies are proposing to continue the purchase of
15 receivables program clawback provision on a permanent basis, and therefore, the
16 Companies are eliminating the language describing it as a pilot with an end date. Those
17 changes are all reflected in Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-18 to
18 PML-21.

1 **III. TIME-OF-USE DEFAULT SERVICE RIDERS**

2 **Q. Do the Companies currently offer TOU default service rate options as required by**
3 **Act 129 of 2008 (“Act 129”)?⁸**

4 A. Yes. The Companies currently offer TOU rate options to residential default service
5 customers through their Commission-approved Time-of-Use Default Service Riders
6 (“TOU Riders” or “Rider K”).⁹ The current TOU Rider rate structure offers a rate higher
7 than the PTC for on-peak hours and a reduced rate for all other hours during the months of
8 June, July and August.¹⁰ The TOU default service rate for all other months does not reflect
9 an on-peak or off-peak differential. Eligible residential customers contract with a
10 Commission-certified EGS for TOU default service under the switching rules set forth in
11 the Companies’ Supplier Tariffs.

12 **Q. Are the Companies proposing any changes to their TOU rate offerings?**

13 A. Yes. Since the Commission’s initial approval of Rider K for each Company, the scope of
14 an EDC’s obligation to offer TOU rates to default service customers was the subject of
15 litigation before the Commission and Commonwealth Court.¹¹ Following this litigation,

⁸ 66 Pa.C.S. § 2807(f)(5). The hourly-priced default service rate for the industrial customer class already meets Act 129 requirements.

⁹ See *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co. Pennsylvania Power Co., and West Penn Power Co. for Approval of their Default Serv. Programs*, Docket Nos. P-2011-2273650 et al. (Opinion and Order entered Feb. 15, 2013); *Pa. P.U.C. v. Metro. Edison Co.*, Docket No. R-2014-2428745 (Recommended Decision dated Mar. 9, 2015 (“Met-Ed Recommended Decision”), pp. 21, 29; *Pa. P.U.C. v. Pennsylvania Elec. Co.*, Docket No. R-2014-2428743 (Recommended Decision dated Mar. 9, 2015 (“Penelec Recommended Decision”) at 22, 29-30. The Commission adopted and approved the Met-Ed Recommended Decision and Penelec Recommended Decision by an Opinion and Order entered on April 9, 2015 at Docket No. R-2014-2428745 and Docket No. R-2014-2428743, respectively.

¹⁰ Under Met-Ed’s and Penelec’s current TOU Riders, on-peak hours are on weekdays from 8:00 a.m. to 8:00 p.m. (9:00 a.m. to 9:00 p.m. for Rate Schedule RT). On-peak hours are from 12 p.m. to 9 p.m. on weekdays for Penn Power and West Penn.

¹¹ See *Petition of PPL Elec. Utils. Corp. for Approval of a New Pilot Time-of-Use Program*, Docket No. P-2013-2389572 (Order entered Sept. 11, 2014) (holding that Act 129 did not require PPL Electric Utilities Corp. (“PPL”) to offer TOU rates directly to customer-generators); *Dauphin Cty. Indus. Dev. Auth. v. Pa. P.U.C.*, 123 A.3d 1124, 1136 (Pa. Cmwlth. 2015) (holding that Act 129 does not authorize default service providers to delegate the obligation to offer TOU rates to customers with smart meters to EGSs).

1 the Commission proposed a new TOU structure for PPL Electric Utilities Corporation to
2 satisfy Act 129 requirements, but clarified that EDCs would have “the flexibility to propose
3 other alternatives and/or modifications regarding their TOU operations” for Commission
4 review and approval in future DSP filings.¹² In light of these developments, in the DSP V
5 Settlement, the Companies agreed to propose new TOU default service rate options in the
6 earlier of their first base rate or default service proceedings following full implementation
7 of smart meter back-office functionality. The Companies’ smart meter back-office
8 functionality is now in place; therefore, the Companies are making a specific proposal
9 regarding TOU in this proceeding.

10 **Q. What guidelines did the Companies follow in developing their new TOU rates?**

11 A. In addition to the guidance provided in the April 2017 Secretarial Letter, the Companies
12 considered the following objectives in designing their proposed TOU Riders to comply
13 with Act 129 and Commission requirements: (1) a simple and understandable TOU rate
14 design to incent customers to shift their usage patterns to off-peak hours; (2) incentives for
15 electric vehicle (“EV”) operators as envisioned by the Commission in its investigation of
16 potential opportunities to better reflect wholesale cost causation in default service rates;
17 and (3) cost-causation principles to link the TOU pricing structure to the PJM wholesale
18 markets for energy and capacity that drive the cost of the Companies’ default service
19 auctions.

¹² *Petition of PPL Elec. Utils. Corp. for Approval of a New Pilot Time-of-Use Program*, Docket Nos. P-2013-2389572 and M-2016-2578051 (Secretarial Letter issued Apr. 6, 2017) (“April 2017 Secretarial Letter”) at 4. The Commission approved TOU default service rate options that deviated from the guidance in the April 2017 Secretarial Letter in the DLC DSP IX Order (pp. 46-58) and the PECO DSP V Order (pp. 18-22, 26-31).

1 **Q. Please provide an overview of the Companies’ proposed TOU rate design.**

2 A. The Companies are proposing TOU rates that differentiate prices across three periods (on-
3 peak, super off-peak, and off-peak) that remain the same year-round based on price
4 multipliers discussed later in my testimony designed to motivate customers to shift usage
5 to lower-cost, off-peak hours. The Companies are proposing the same TOU pricing periods
6 for both the residential and small commercial classes, as shown in the table below.

<u>TOU Pricing Period</u>	<u>Year-Round Days/Hours Included</u>
<u>On-Peak</u>	2 p.m. – 9 p.m. Monday through Friday
<u>Super Off-Peak</u>	11 p.m. – 6 a.m. Every day
<u>Off-Peak</u>	All other hours

7 Like the Companies’ current TOU Riders, the proposed TOU rate design is structured to
8 establish a rate premium compared to the Companies’ standard, non-time varying default
9 service rate during the on-peak period and rate discounts from the applicable PTC Rider
10 rate during two off-peak periods. The Companies’ proposed TOU rates include a super
11 off-peak pricing period to encourage EV charging during overnight low-priced energy
12 hours, thereby lowering the overall total cost of EV ownership. The off-peak period
13 consists of all other hours.

14 **Q. What customers are eligible for the TOU Riders?**

15 A. Consistent with the April 2017 Secretarial Letter, the Companies’ proposed TOU rates will
16 be available to default service customers with smart meters who are not receiving HP

1 default service, with one exception. Residential customers enrolled in the Companies'
2 CAPs will not be eligible for the TOU Riders.

3 **Q. Why are CAP customers ineligible for the TOU Riders?**

4 A. CAPs offer a reduced bill to participants for their electric service based on their ability to
5 pay regardless of their actual amount of their utility bill. The selection of a TOU rate could
6 negatively affect those benefits as CAP customers may have less flexibility to shift their
7 usage to off peak hours. In addition, as Ms. Savage explains in her direct testimony (Met-
8 Ed/Penelec/Penn Power/West Penn Statement No. 1), effective June 1, 2019, the
9 Companies implemented CAP shopping rules that limit the terms of offers from EGSs
10 (including rates at or below the PTC) in accordance with the Commission's direction in the
11 DSP V Orders. The Companies are proposing to exclude CAP customers from the TOU
12 Riders in order to avoid the risk of higher generation charges on those customers' electric
13 bills that could jeopardize affordability and impose an unreasonable cost burden on all
14 residential customers that pay for the CAPs.

15 **Q. Are there any other eligibility provisions associated with the TOU Riders?**

16 A. Yes. If a customer is participating in the TOU Rider and decides to leave the rider for any
17 reason, the customer is not eligible to re-enroll in the TOU rate for twelve months. This
18 provision will discourage customers from joining the TOU Rider only in certain months
19 when they do not have to shift usage to save money, thereby reducing the ability to game
20 the riders.

1 **Q. Will net metering generation customers be eligible for the TOU Riders?**

2 A. Yes. Residential and small commercial customers who take service under the Companies’
3 Net Metering Riders will be eligible for the TOU Riders, consistent with the April 2017
4 Secretarial Letter. Customer generators who have virtual net metering will not be eligible
5 due to the administrative and billing complexity of offering a TOU rate to these customers.

6 **Q. How did the Companies determine the number and time periods of the price
7 differentiated TOU multipliers?**

8 A. The Companies examined their zonal load data and energy prices over a five-year historic
9 period 2016-2020 as shown on Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-25.
10 The system peak usage generally occurred during the hours between 2 p.m. to 9 p.m. over
11 the summer months (June – September). Additionally, the Companies examined the
12 average five-year residential zonal load data, which indicated that residential peaks for
13 Met-Ed, Penn Power and West Penn occurred during the same 2 p.m. to 9 p.m. period,
14 while Penelec’s residential peak occurred during the winter period of November through
15 February.

16 Based on this data, the Companies defined the on-peak period as 2 p.m. to 9 p.m. on
17 weekdays. The proposed on-peak period also allows for material price differentials that
18 will be more likely to motivate customers to shift consumption to lower-priced (off-peak)
19 hours. Consistent with the January 2020 Secretarial Letter, the Companies’ proposed TOU
20 Riders include a super off-peak pricing window that features discounted rates which would
21 be attractive for EV charging during the designated hours. Typical charging for an EV at
22 a customer’s residence can range from five to seven hours to reach a full charge, and the

1 proposed super off-peak period encompasses 11 p.m. to 6 a.m. based on the Companies'
2 load and energy price data.

3 **Q. Why are the Companies proposing year-round price differentiated time periods even**
4 **though the April 2017 Secretarial Letter recommends seasonal variation?**

5 A. The Companies are proposing to apply the TOU rates year-round because the proposed on-
6 peak period generally includes the system peak for each Company during both summer and
7 winter months. This design is also easier for customers to understand and reduces the
8 number of variables for customers to consider in changing their usage patterns. I note that
9 the Commission recently approved year-round TOU pricing periods in PECO Energy
10 Company's default service proceeding that had a similar design.¹³

11 **Q. How did the Companies derive the price ratios for the on-peak, off-peak and super-**
12 **off peak usage periods for the residential and small commercial classes?**

13 A. In the April 2017 Secretarial Letter, the Commission recommended that EDCs develop
14 price multipliers to appropriately motivate shifting of consumption from on-peak to off-
15 peak periods. To that end, the Companies examined five years (2016-2020) of historical
16 PJM day-ahead spot market pricing data and load data for their respective zones to calculate
17 the load-weighted LMP for each TOU pricing period.

18 In addition to wholesale energy prices, the calculation of TOU rates depends on the cost of
19 capacity, which varies by customer class. The Companies are proposing to allocate the
20 cost of capacity to peak hours only. This approach will send cost-based price signals and
21 create larger on/off peak price differentials more likely to motivate customers to adjust the

¹³ PECO DSP V Order at 18-19, 30-31.

1 time of day they use electricity. For each class, the Companies determined the cost of
 2 capacity (in dollars per megawatt hour (“MWh”)) based on the annual PJM zonal capacity
 3 costs during delivery years 2015/2016 to 2020/2021 and the class load obligation during
 4 the proposed TOU on-peak pricing period (2 p.m.-9 p.m.) over the same five-year period.
 5 This cost of capacity was added to the on-peak pricing multiplier.

6 Based on these analyses, the Companies are proposing the TOU price multipliers shown in
 7 the table below. These pricing multipliers will remain constant throughout the DSP VI
 8 term. The proposed multipliers reflect the ratios calculated from average PJM spot market
 9 prices as well as the additional cost of capacity during on-peak hours. Detailed calculations
 10 of the Companies’ proposed TOU pricing multipliers are provided in Met-Ed/Penelec/Penn
 11 Power/West Penn Exhibits PML-23 through PML-26.

		On-Peak	Super Off- Peak	Off-Peak
Met-Ed	Commercial	2.0558	0.5298	0.7277
	Residential	2.0180	0.5438	0.7285
Penelec	Commercial	1.9532	0.5582	0.7686
	Residential	1.9367	0.5669	0.7633
Penn Power	Commercial	2.0271	0.5202	0.7409
	Residential	2.0140	0.5331	0.7377
West Penn	Commercial	1.9416	0.5663	0.7870
	Residential	1.8632	0.5749	0.7821

12 **Q. How will the TOU rates be set for the residential and small commercial classes using**
 13 **the multipliers proposed for the pricing differentials?**

14 A. Wholesale suppliers will provide both standard and TOU default service from the same
 15 supply portfolio based upon their tranche responsibilities awarded in the Companies’
 16 auctions. The Companies will use the standard default service price as calculated in the

1 PTC Riders as the reference price by class for their TOU rate calculations. As shown in
2 Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-27 to PML-30, the revised TOU
3 Riders for each Company, the TOU default service rates for each Company will be
4 determined by multiplying the PTC Rider rate by the multiplier for the applicable customer
5 class and TOU pricing period.

6 **Q. How will default service rates be adjusted for customers enrolled in the Companies’**
7 **TOU rates?**

8 A. TOU rates will be adjusted on a semi-annual basis, synchronized with the PTC Rider
9 adjustment periods for the residential and commercial classes, using the Companies’
10 proposed pricing methodology. TOU customer kWh usage and costs will be included in
11 the semi-annual reconciliation of the over/undercollection component of the PTC Riders
12 by class (i.e., residential or commercial). The Companies’ proposed reconciliation process
13 using a single E-Factor for each customer class will help mitigate potential large swings in
14 the PTC Rider over/under collections that could arise if customers switch between the
15 Companies’ standard default service and TOU default service rates. In addition, the
16 Commission has previously authorized other EDCs to recover TOU over/undercollection
17 amounts from all default service customers based on its finding that the TOU rates
18 mandated by Act 129 are a “form of default service.”¹⁴

¹⁴ See *Pa. P.U.C. v. PPL Elec. Utils. Corp.*, Docket No. R-2011-2264771 (Opinion and Order entered Aug. 30, 2012) at 22-23.

1 **Q. Please explain the monthly accounting and annual cash out process for net metering**
2 **TOU customers.**

3 A. The Companies will separately track net metering TOU customers' net excess generation
4 within the TOU on-peak, off-peak and super-off peak pricing periods by month. Any
5 excess generation will be banked for use by the customer in the next billing period at the
6 TOU rate for the banked excess generation MWhs. On an annual basis, a TOU net metering
7 customer's accumulated excess generation will be cashed out at the full retail rate by each
8 of the on-peak, off-peak and super-off peak pricing periods, as applicable, in accordance
9 with the Commission's guidance in the April 2017 Secretarial Letter.

10 **Q. How can customers enroll in the Companies' TOU offerings?**

11 A. Eligible default service customers may enroll in the TOU Riders online or by contacting
12 the Companies' Customer Care Service Center. Customers will not be charged any fees to
13 sign up for the TOU rates and can cancel the TOU service at any time. Participating
14 customers will remain on the TOU Rider until they elect to return to the standard default
15 service rate or switch to an EGS.

16 **Q. How will the Companies notify existing TOU customers about the changes to the TOU**
17 **Riders that will take effect in DSP VI if approved by the Commission?**

18 A. The Companies will notify current TOU customers of the changes that will take effect on
19 June 1, 2023 in a letter allowing them the option to opt in or out of the new TOU Riders.
20 Those customers will remain on TOU rates unless they contact the Companies to return to
21 standard default service rates. In addition, the Companies will provide educational
22 materials regarding TOU rates on their websites summarizing the TOU rate structure and
23 tips on how customers can shift their electricity usage.

1 **Q. How will the Companies recover the costs to implement their proposed TOU Riders?**

2 A. The Companies anticipate they will incur approximately \$300,000 to implement the
3 proposed TOU rates related to training and information technology changes to the
4 Companies' billing and customer information systems to support TOU enrollment, billing,
5 meter data management, customer service scripting, and net metering excess generation
6 tracking. The Companies will recover the actual costs from customers through the PTC
7 Riders.

8 **IV. OTHER RELATED MATTERS**

9 **Q. What are the proposed effective dates of the tariff changes described in your**
10 **testimony?**

11 A. All changes to the Companies' tariffs are proposed to be effective on June 1, 2023, which
12 is the start of the delivery period for the proposed default service term.

13 **Q. Are there administrative or general expenses associated with the proposed DSPs that**
14 **the Companies intend to recover in their PTC and HP Riders?**

15 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-31 lists the estimated expenses
16 by category for the proposed DSP VI. The total estimated expenses were allocated to each
17 Company using forecasted kWh for the October 2021 through September 2022 period.
18 Each Company's estimated expenses were then allocated by customer class using the kWh
19 for the same period to determine the estimated amount to be recovered in the PTC and HP
20 Riders.

21 **V. CONCLUSION**

22 **Q. Does this complete your direct testimony?**

23 A. Yes, it does.

Appendix A

Resume: Education and Experience of Patricia M. Larkin

Education:

Bachelor of Science Degree in Accounting – DeSales University
Master of Business Administration Degree – Alvernia University

Experience:

2000-2007	Accountant – Property Accounting Services – GPU Energy
2007-2008	Accountant – Accounting Research – FirstEnergy Service Company
2008-2012	Accountant – General Accounting Services (Regulatory Accounting focus) – FirstEnergy Service Company
2012-Present	Analyst – Rates & Regulatory Affairs – Pennsylvania – FirstEnergy Service Company

Prepared and presented testimony in the following rate-related cases:

PA P.U.C. Cases:

<i>Docket Nos.</i>	<i>Case Name</i>
R-2014-2428745	Metropolitan Edison Company – General Base Rate Filing
R-2014-2428743	Pennsylvania Electric Company – General Base Rate Filing
R-2014-2428744	Pennsylvania Power Company – General Base Rate Filing
R-2014-2428742	West Penn Power Company – General Base Rate Filing

Assisted in development and preparation of filings in the following proceedings:

PA P.U.C. Cases:

<i>Docket Nos.</i>	<i>Case Name</i>
P-2017-2637855, P-2017-2637857, P-2017-2637858, P-2017-2637866	Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Default Service Programs

R-2016-2537349	Metropolitan Edison Company – General Base Rate Filing
R-2016-2537352	Pennsylvania Electric Company – General Base Rate Filing
R-2016-2537355	Pennsylvania Power Company – General Base Rate Filing
R-2016-2537359	West Penn Power Company – General Base Rate Filing
P-2015-2511333, P-2015-2511351, P-2015-2511355, P-2015-2511356	Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Default Service Programs
P-2013-2391368, P-2013-2391372, P-2013-2391375, P-2013-2391378	Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Default Service Programs
P-2011-2273650, P-2011-2273668, P-2011-2273669, P-2011-2273670	Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of their Default Service Programs

Metropolitan Edison Company
Historical Price to Compare Rates
(cents per kWh)

	Residential		Commercial	
	PTC Rate	Change	PTC Rate	Change
1/1/2011	8.296		8.187	
3/1/2011	8.690	0.394	8.671	0.484
6/1/2011	8.239	(0.451)	8.908	0.237
9/1/2011	9.089	0.850	9.594	0.686
12/1/2011	9.091	0.002	8.657	(0.937)
3/1/2012	7.967	(1.124)	7.185	(1.472)
6/1/2012	6.969	(0.998)	6.613	(0.572)
9/1/2012	6.321	(0.648)	7.180	0.567
12/1/2012	8.911	2.590	9.144	1.964
3/1/2013	8.666	(0.245)	7.868	(1.276)
6/1/2013	8.817	0.151	8.219	0.351
9/1/2013	8.198	(0.619)	8.018	(0.201)
12/1/2013	8.208	0.010	7.874	(0.144)
3/1/2014	7.776	(0.432)	7.765	(0.109)
6/1/2014	9.753	1.977	7.833	0.068
9/1/2014	7.361	(2.392)	6.715	(1.118)
12/1/2014	7.007	(0.354)	7.767	1.052
3/1/2015	7.923	0.916	8.003	0.236
6/1/2015	7.842	(0.081)	8.356	0.353
9/1/2015	7.246	(0.596)	8.272	(0.084)
12/1/2015	8.306	1.060	8.123	(0.149)
3/1/2016	7.071	(1.235)	7.601	(0.522)
6/1/2016	5.945	(1.126)	6.917	(0.684)
9/1/2016	6.902	0.957	6.957	0.040
12/1/2016	7.351	0.449	7.304	0.347
3/1/2017	6.964	(0.387)	6.842	(0.462)
6/1/2017	6.018	(0.946)	6.703	(0.139)
9/1/2017	5.995	(0.023)	5.863	(0.840)
12/1/2017	6.816	0.821	6.226	0.363
3/1/2018	6.181	(0.635)	6.523	0.297
6/1/2018	6.341	0.160	6.128	(0.395)
9/1/2018	6.068	(0.273)	6.344	0.216
12/1/2018	6.684	0.616	7.236	0.892
3/1/2019	6.241	(0.443)	6.483	(0.753)
6/1/2019	5.540	(0.701)	5.352	(1.131)
9/1/2019	5.667	0.127	5.295	(0.057)
12/1/2019	6.510	0.843	6.200	0.905
3/1/2020	5.390	(1.120)	6.352	0.152
6/1/2020	5.361	(0.029)	5.044	(1.308)
9/1/2020	5.757	0.396	5.220	0.176
12/1/2020	6.174	0.417	5.821	0.601
3/1/2021	5.418	(0.756)	6.175	0.354
6/1/2021	6.690	1.272	6.584	0.409
9/1/2021	7.114	0.424	6.914	0.330
12/1/2021	7.414	0.300	8.707	1.793

Pennsylvania Electric Company
Historical Price to Compare Rates
(cents per kWh)

	Residential		Commercial	
	PTC Rate	Change	PTC Rate	Change
1/1/2011	7.030		7.244	
3/1/2011	7.346	0.316	7.778	0.534
6/1/2011	6.990	(0.356)	7.814	0.036
9/1/2011	7.624	0.634	7.744	(0.070)
12/1/2011	8.208	0.584	7.581	(0.163)
3/1/2012	7.495	(0.713)	6.886	(0.695)
6/1/2012	6.321	(1.174)	6.417	(0.469)
9/1/2012	5.960	(0.361)	6.541	0.124
12/1/2012	7.071	1.111	6.882	0.341
3/1/2013	6.975	(0.096)	7.012	0.130
6/1/2013	8.729	1.754	8.058	1.046
9/1/2013	8.082	(0.647)	7.611	(0.447)
12/1/2013	7.194	(0.888)	7.665	0.054
3/1/2014	7.734	0.540	7.361	(0.304)
6/1/2014	9.284	1.550	8.844	1.483
9/1/2014	7.053	(2.231)	7.414	(1.430)
12/1/2014	6.370	(0.683)	7.576	0.162
3/1/2015	6.943	0.573	8.005	0.429
6/1/2015	7.343	0.400	8.192	0.187
9/1/2015	7.341	(0.002)	7.983	(0.209)
12/1/2015	7.554	0.213	7.763	(0.220)
3/1/2016	6.516	(1.038)	7.244	(0.519)
6/1/2016	6.019	(0.497)	6.465	(0.779)
9/1/2016	7.724	1.705	6.899	0.434
12/1/2016	7.121	(0.603)	7.238	0.339
3/1/2017	6.047	(1.074)	7.018	(0.220)
6/1/2017	6.158	0.111	5.774	(1.244)
9/1/2017	5.383	(0.775)	5.727	(0.047)
12/1/2017	6.742	1.359	6.769	1.042
3/1/2018	5.878	(0.864)	6.754	(0.015)
6/1/2018	6.223	0.345	5.475	(1.279)
9/1/2018	5.968	(0.255)	5.842	0.367
12/1/2018	6.288	0.320	6.654	0.812
3/1/2019	5.747	(0.541)	6.571	(0.083)
6/1/2019	5.668	(0.079)	5.465	(1.106)
9/1/2019	5.198	(0.470)	5.163	(0.302)
12/1/2019	6.445	1.247	5.998	0.835
3/1/2020	5.404	(1.041)	6.257	0.259
6/1/2020	5.532	0.128	5.012	(1.245)
9/1/2020	5.598	0.066	5.102	0.090
12/1/2020	5.667	0.069	5.633	0.531
3/1/2021	4.981	(0.686)	6.049	0.416
6/1/2021	6.462	1.481	6.374	0.325
9/1/2021	6.761	0.299	6.585	0.211
12/1/2021	6.507	(0.254)	8.636	2.051

**Pennsylvania Power Company
Historical Price to Compare Rates
(cents per kWh)**

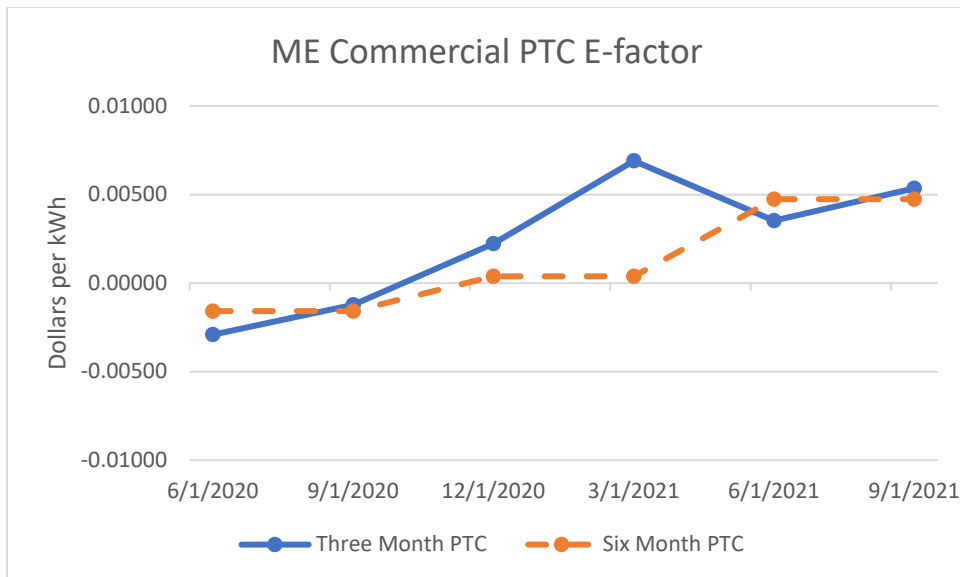
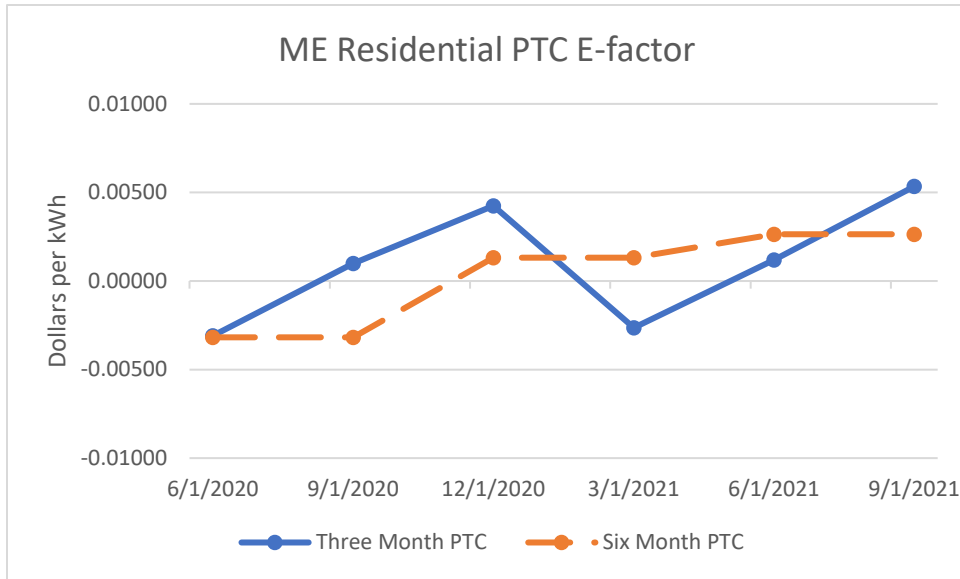
	Residential		Commercial	
	PTC Rate	Change	PTC Rate	Change
1/1/2011	6.522		5.317	
3/1/2011	8.119	1.597	6.230	0.913
6/1/2011	7.200	(0.919)	7.121	0.891
9/1/2011	7.879	0.679	8.738	1.617
12/1/2011	7.437	(0.442)	6.987	(1.751)
3/1/2012	6.161	(1.276)	5.807	(1.180)
6/1/2012	5.779	(0.382)	4.504	(1.303)
9/1/2012	5.465	(0.314)	4.441	(0.063)
12/1/2012	5.842	0.377	4.499	0.058
3/1/2013	5.806	(0.036)	4.209	(0.290)
6/1/2013	7.038	1.232	6.114	1.905
9/1/2013	5.747	(1.291)	5.971	(0.143)
12/1/2013	5.954	0.207	5.741	(0.230)
3/1/2014	6.181	0.227	5.651	(0.090)
6/1/2014	8.094	1.913	7.352	1.701
9/1/2014	6.347	(1.747)	7.277	(0.075)
12/1/2014	5.419	(0.928)	7.433	0.156
3/1/2015	5.754	0.335	7.113	(0.320)
6/1/2015	8.585	2.831	8.637	1.524
9/1/2015	9.198	0.613	8.877	0.240
12/1/2015	8.996	(0.202)	8.867	(0.010)
3/1/2016	7.878	(1.118)	9.479	0.612
6/1/2016	6.819	(1.059)	7.498	(1.981)
9/1/2016	7.978	1.159	7.388	(0.111)
12/1/2016	7.727	(0.251)	8.410	1.023
3/1/2017	5.884	(1.843)	7.410	(1.000)
6/1/2017	6.741	0.857	6.603	(0.807)
9/1/2017	5.956	(0.785)	7.456	0.853
12/1/2017	7.202	1.246	6.929	(0.527)
3/1/2018	6.599	(0.603)	7.724	0.795
6/1/2018	6.824	0.225	7.625	(0.099)
9/1/2018	6.626	(0.198)	7.548	(0.077)
12/1/2018	7.714	1.088	7.807	0.259
3/1/2019	6.414	(1.300)	8.066	0.259
6/1/2019	6.256	(0.158)	6.949	(1.117)
9/1/2019	6.231	(0.025)	6.427	(0.522)
12/1/2019	7.572	1.341	7.325	0.898
3/1/2020	6.267	(1.305)	7.608	0.283
6/1/2020	6.684	0.417	6.529	(1.079)
9/1/2020	6.447	(0.237)	6.762	0.233
12/1/2020	6.435	(0.012)	6.616	(0.146)
3/1/2021	5.721	(0.714)	7.564	0.948
6/1/2021	7.195	1.474	8.033	0.469
9/1/2021	7.657	0.462	8.411	0.378
12/1/2021	7.593	(0.064)	10.065	1.654

West Penn Power Company
Historical Price to Compare Rates
(cents per kWh)

	Residential		Commercial	
	PTC Rate	Change	PTC Rate	Change
1/1/2011	7.118		7.195	
3/1/2011	7.026	(0.092)	7.153	(0.042)
6/1/2011	7.052	0.026	7.453	0.300
9/1/2011	7.141	0.089	6.275	(1.178)
12/1/2011	7.054	(0.087)	7.010	0.735
3/1/2012	6.858	(0.196)	7.718	0.708
6/1/2012	5.205	(1.653)	5.409	(2.309)
9/1/2012	5.240	0.035	5.183	(0.226)
12/1/2012	5.434	0.194	5.720	0.537
3/1/2013	5.288	(0.146)	5.587	(0.133)
6/1/2013	6.261	0.973	5.957	0.370
9/1/2013	6.075	(0.186)	5.501	(0.456)
12/1/2013	5.643	(0.432)	6.233	0.732
3/1/2014	4.961	(0.682)	5.780	(0.453)
6/1/2014	7.514	2.553	7.058	1.278
9/1/2014	6.253	(1.261)	6.016	(1.042)
12/1/2014	6.312	0.059	7.947	1.931
3/1/2015	5.330	(0.982)	6.714	(1.233)
6/1/2015	7.312	1.982	6.926	0.212
9/1/2015	6.917	(0.395)	7.947	1.021
12/1/2015	7.011	0.094	7.547	(0.400)
3/1/2016	6.983	(0.028)	7.504	(0.043)
6/1/2016	6.411	(0.572)	7.338	(0.166)
9/1/2016	6.061	(0.350)	7.986	0.648
12/1/2016	6.574	0.513	8.014	0.028
3/1/2017	5.975	(0.599)	7.670	(0.344)
6/1/2017	6.597	0.622	7.709	0.039
9/1/2017	6.289	(0.308)	4.787	(2.922)
12/1/2017	6.149	(0.140)	4.858	0.071
3/1/2018	6.085	(0.064)	5.416	0.558
6/1/2018	6.560	0.475	5.619	0.203
9/1/2018	5.595	(0.965)	4.249	(1.370)
12/1/2018	6.354	0.759	6.962	2.713
3/1/2019	6.092	(0.262)	6.344	(0.618)
6/1/2019	5.517	(0.575)	5.535	(0.809)
9/1/2019	5.338	(0.179)	5.720	0.185
12/1/2019	5.760	0.422	5.722	0.002
3/1/2020	5.637	(0.123)	5.849	0.127
6/1/2020	5.125	(0.512)	5.602	(0.247)
9/1/2020	4.891	(0.234)	5.244	(0.358)
12/1/2020	5.198	0.307	5.703	0.459
3/1/2021	5.154	(0.044)	4.844	(0.859)
6/1/2021	5.707	0.553	6.128	1.284
9/1/2021	5.447	(0.260)	5.660	(0.468)
12/1/2021	5.698	0.251	7.609	1.949

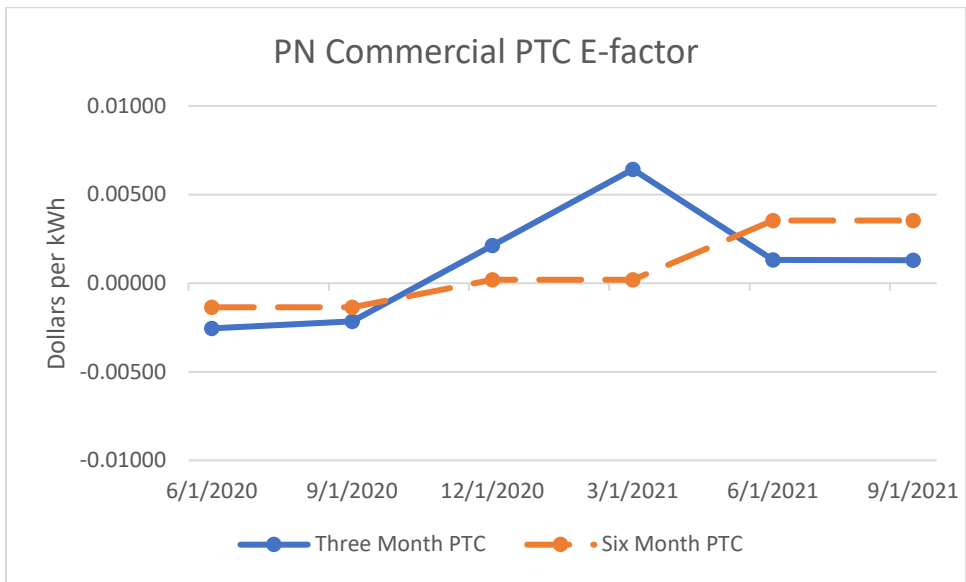
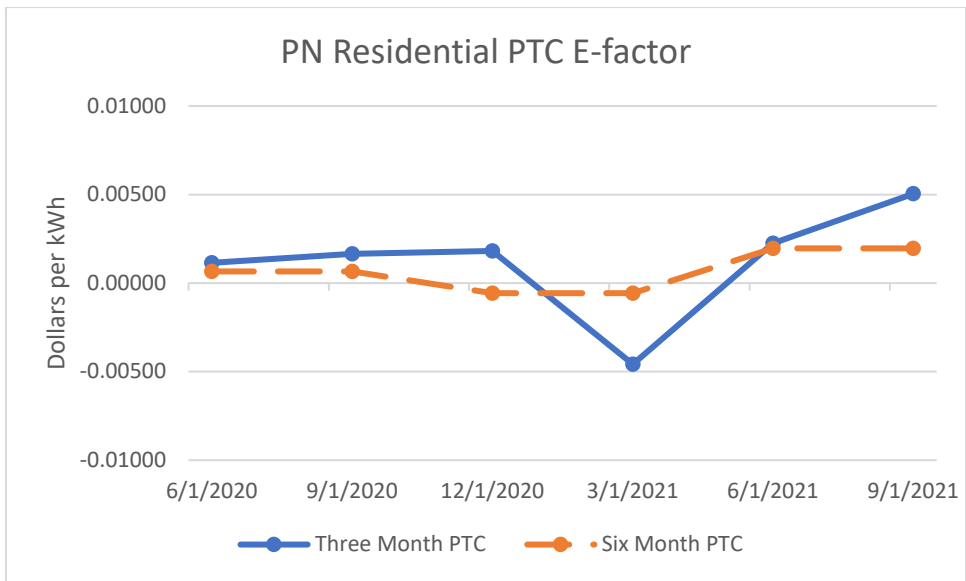
Metropolitan Edison Company

Comparison of Three-Month and Six-Month PTC E-factors



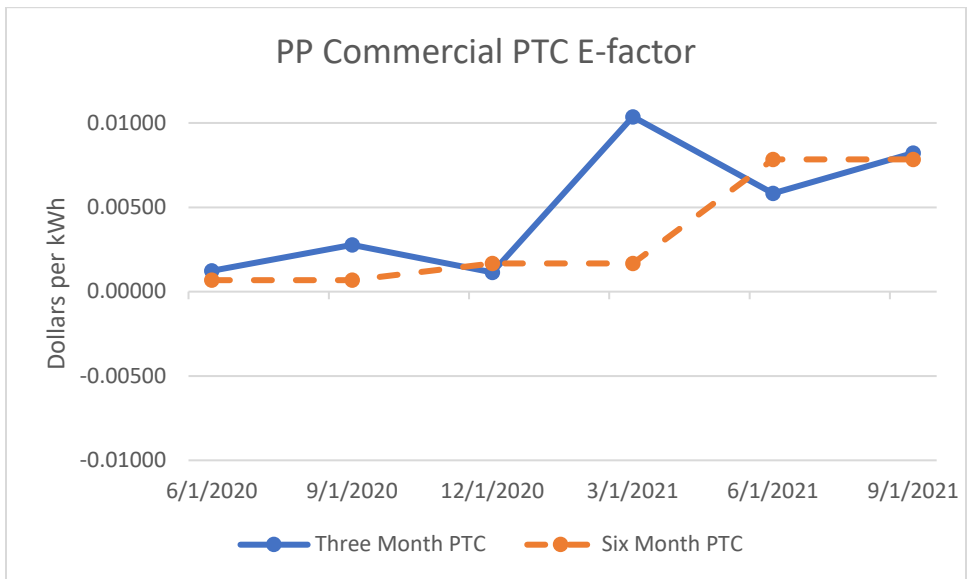
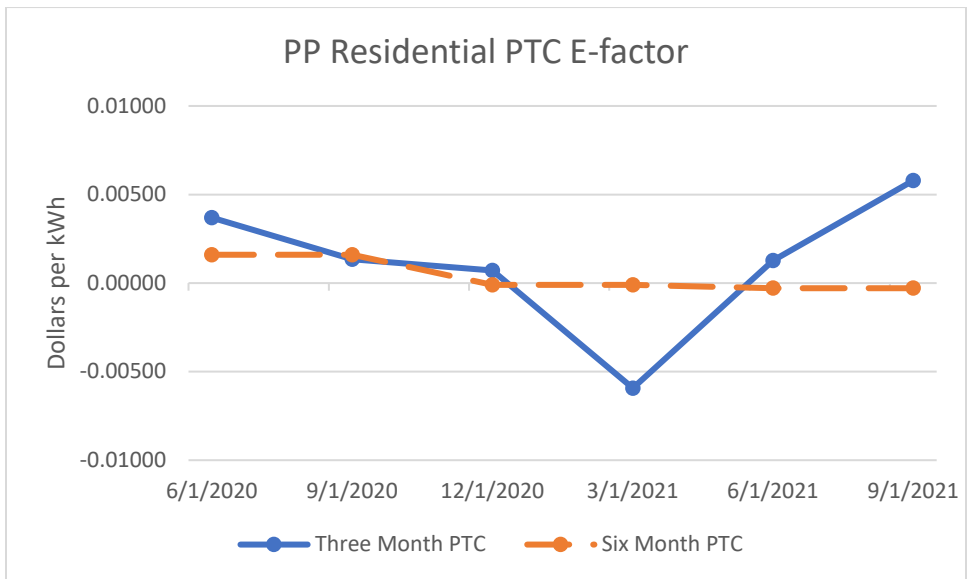
Pennsylvania Electric Company

Comparison of Three-Month and Six-Month PTC E-factors



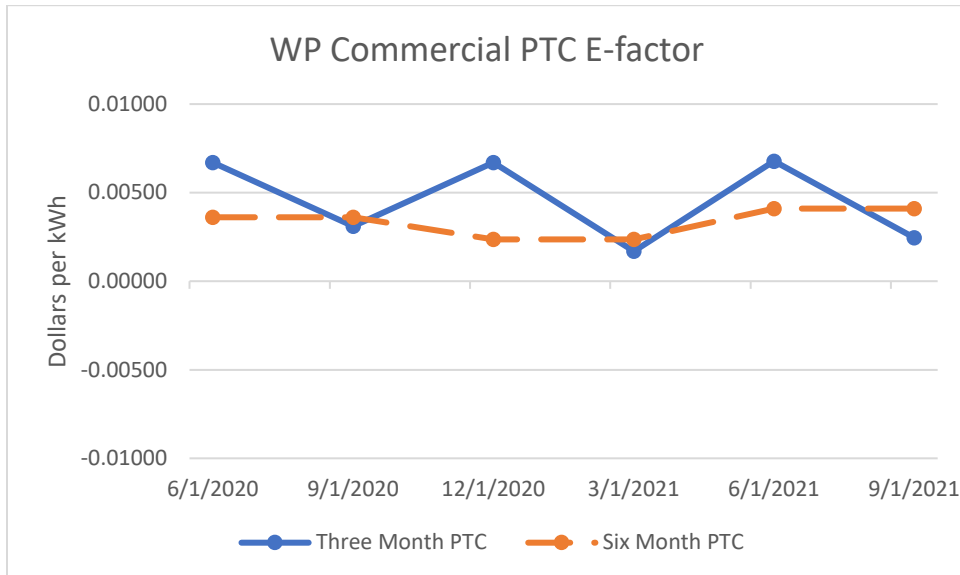
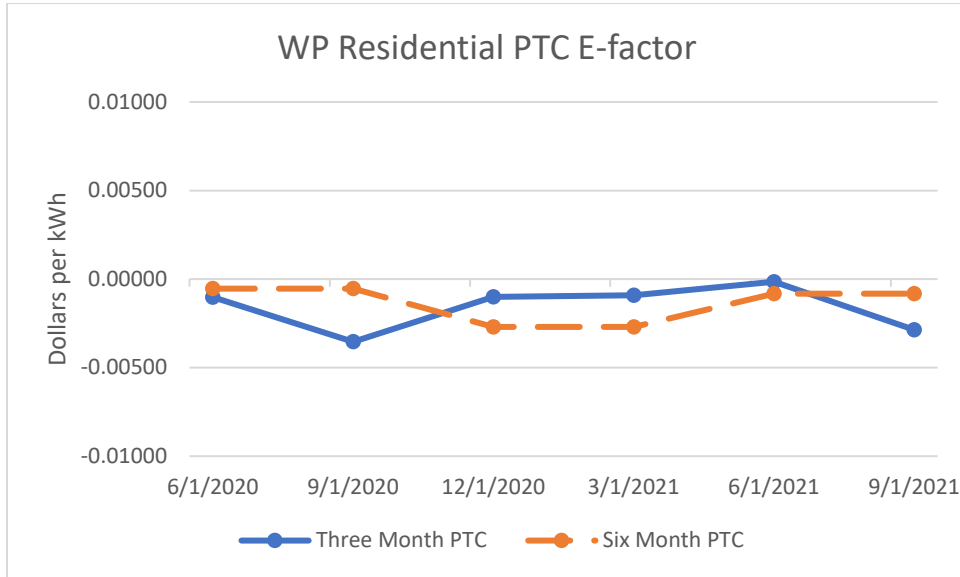
Pennsylvania Power Company

Comparison of Three-Month and Six-Month PTC E-factors



West Penn Power Company

Comparison of Three-Month and Six-Month PTC E-factors



METROPOLITAN EDISON COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Electric Generation Supplier (EGS) - EGS shall have the meaning as set forth in the Customer Choice and Competition Act.

Energy Charge - A charge based upon kilowatt-hours of use.

Energy Efficiency and Conservation Charge - A reconcilable, non-by-passable charge applied to each Billing Unit during a billing month to Delivery Service Customers, with the exception of those served under Borderline Service, pursuant to the terms of the Phase II Energy Efficiency and Conservation Rider.

FERC - The Federal Energy Regulatory Commission

Generating Facility - Any equipment and/or facility that is electrically interconnected to the Company and is (i) capable of generating electrical energy for delivery into the PJM control area and (ii) is located on a single site within the Company's service territory. A single site with multiple generating units, each owned by a single entity, shall constitute one Generating Facility. The Company shall have the sole and exclusive right to determine if any particular equipment qualifies as a Generating Facility if the operating characteristics and/or circumstances relating to such equipment are different than described in this definition.

Hertz - A unit of frequency, equal to one cycle per second.

Horsepower (HP) - Unit of mechanical power representing rate of consumption of power and equivalent to 746 watts. As used herein, horsepower is computed as the equivalent of 750 watts.

Hourly Pricing Service Charges - For Customers served under Rate Schedules GS-Medium (HP), GS-Large, GP, TP, as well as GS-Small and GS-Medium (PTC) Customers that elect this rate, the charges representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-solar~~ AEPS, market based transmission, and ancillary services for Default Service Customers. (C)

(C) Change

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METROPOLITAN EDISON COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Non-Summer - The calendar months of October through May.

~~**Non-Utility Generation Charge or NUG Charge** - A reconcilable, non-by-passable charge or credit applied to each kWh delivered during a billing month to Delivery Service Customers pursuant to the terms of the Non-Utility Generation Charge Rider.~~ (C)

~~**NUG** - Non-Utility Electric Generating Facility~~ (C)

On-Peak Hours - The On-peak hours shall be from 6 a.m. to 6 p.m., 7 a.m. to 7 p.m., 8 a.m. to 8 p.m., 9 a.m. to 9 p.m., or 10 a.m. to 10 p.m. prevailing time, at the option of the Customer, Mondays to Fridays excluding holidays. If Customer does not select the On-Peak hours within 30 days of the receipt of notice to do so, the On-Peak hours will default to 8 a.m. to 8 p.m. All other hours shall be Off-Peak. The Off-Peak holidays are New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. On-Peak hours are subject to change from time to time by the Company after giving notice of such changes to Customers.

Permanent Residential Customer - A Customer occupying a dwelling or mobile home on a permanent foundation which is the Customer's primary residence occupied year-round for normal living purposes and including: (i) electrical wiring conforming with the National Electrical Code and the Company's service installation policies; (ii) a permanently installed heating system; and (iii) permanently installed plumbing and sewage systems.

PJM - PJM Interconnection, L.L.C. or any successor organization/entity thereto.

Point of Delivery - The location at which the Company service connection terminates and the Customer's wiring and installation begins.

Power Factor - The ratio of the watts to the volt-amperes.

Price to Compare Default Service Charge - The cents per kWh rates representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-~~ solar-AEPS, market based transmission and ancillary services for Customers who take Default Service. (C)

Primary Voltage - Voltage greater than 600 volts.

Private Right-of-Way - The right-of-way or easement for electric facilities on, over, under, across and/or through real or other property owned by an individual or entity which is not a governmental, municipal or other public body to provide service.

(C) Change

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PENNSYLVANIA ELECTRIC COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Electric Generation Supplier (EGS) - EGS shall have the meaning as set forth in the Customer Choice and Competition Act.

Energy Charge – A charge based upon kilowatt-hours of use.

Energy Efficiency and Conservation Charge – A reconcilable, non-by-passable charge applied to each Billing Unit during a billing month to Delivery Service Customers, with the exception of those served under Borderline Service, pursuant to the terms of the Phase III Energy Efficiency and Conservation Rider.

FERC – The Federal Energy Regulatory Commission

Generating Facility - Any equipment and/or facility that is electrically interconnected to the Company and is (i) capable of generating electrical energy for delivery into the PJM control area and (ii) is located on a single site within the Company's service territory. A single site with multiple generating units, each owned by a single entity, shall constitute one Generating Facility. The Company shall have the sole and exclusive right to determine if any particular equipment qualifies as a Generating Facility if the operating characteristics and/or circumstances relating to such equipment are different than described in this definition.

Hertz – A unit of frequency, equal to one cycle per second.

Horsepower (HP) – Unit of mechanical power representing rate of consumption of power and equivalent to 746 watts. As used herein, horsepower is computed as the equivalent of 750 watts.

(C)

Hourly Pricing Service Charges – For Customers served under Rate Schedules GS-Medium (HP), GS-Large, GP, LP, as well as GS-Small and GS-Medium (PTC) Customers that elect this rate, the charges representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-solar~~ AEPS, market based transmission, and ancillary services for Default Service Customers.

(C) Change

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PENNSYLVANIA ELECTRIC COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Non-Summer – The calendar months of October through May.

~~**Non-Utility Generation Charge or NUG Charge** – A reconcilable, non-by-passable charge or credit applied to each kWh delivered during a billing month to Delivery Service Customers pursuant to the terms of the Non-Utility Generation Charge Rider.~~ (C)

~~**NUG** – Non-Utility Electric Generating Facility.~~ (C)

On-Peak Hours - The On-Peak Hours shall be from 8:00 a.m. to 8:00 p.m., prevailing times, Monday through Friday excluding holidays. All other hours shall be Off-Peak. The Off-Peak holidays are New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. On-Peak Hours are subject to change from time to time by the Company after giving notice of such changes to Customers.

Permanent Residential Customer - A Customer occupying a dwelling or mobile home on a permanent foundation which is the Customer's primary residence occupied year-round for normal living purposes and including: (i) electrical wiring conforming with the National Electrical Code and the Company's service installation policies; (ii) a permanently installed heating system; and (iii) permanently installed plumbing and sewage systems.

PJM - PJM Interconnection, L.L.C. or any successor organization/entity thereto.

Point of Delivery - The location at which the Company service connection terminates and the Customer's wiring and installation begins.

Power Factor - The ratio of the watts to the volt-amperes.

Price to Compare Default Service Charge – The cents per kWh rates representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-solar~~ AEPS, market based transmission and ancillary services for Customers who take Default Service. (C)

Primary Voltage - Voltage greater than 600 volts.

Private Right-of-Way - The right-of-way or easement for electric facilities on, over, under, across and/or through real or other property owned by an individual or entity which is not a governmental, municipal or other public body to provide service.

(C) Change

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PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Electric Generation Supplier (EGS) – EGS shall have the meaning as set forth in the Customer Choice and Competition Act.

Energy Charge – A charge based upon kilowatt-hours of use.

Energy Efficiency and Conservation Charge – A reconcilable, non-by-passable charge applied to each Billing Unit during a billing month to Delivery Service Customers, pursuant to the terms of the Phase III Energy Efficiency and Conservation Rider.

FERC – The Federal Energy Regulatory Commission.

Generating Facility – Any equipment and/or facility that is electrically interconnected to the Company and is (i) capable of generating electrical energy for delivery into the PJM control area and (ii) is located on a single site within the Company's service territory. A single site with multiple generating units, each owned by a single entity, shall constitute one Generating Facility. The Company shall have the sole and exclusive right to determine if any particular equipment qualifies as a Generating Facility if the operating characteristics and/or circumstances relating to such equipment are different than described in this definition.

Hertz – A unit of frequency, equal to one cycle per second.

Horsepower (HP) – Unit of mechanical power representing rate of consumption of power and equivalent to 746 watts. As used herein, horsepower is computed as the equivalent of 750 watts.

Hourly Pricing Service Charges – For Customers served under Rate Schedules GM (HP), GS-Large, GP, GT, GS-Special Rule GSDS, GS-Small (on a voluntary basis), and GM (PTC) (on a voluntary basis). Customers that elect this rate, the charges representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-solar~~ AEPS, market based transmission, and ancillary services for Default Service Customers. (C)

(C) Change

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PENNSYLVANIA POWER COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Non-Summer – The calendar months of October through May.

On-Peak Hours – The On-Peak hours shall be from 8:00 a.m. to 9:00 p.m., prevailing times, Monday through Friday excluding holidays. All other hours shall be Off-Peak. The Off-Peak holidays are New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. On-Peak hours are subject to change from time to time by the Company after giving notice of such changes to Customers.

Permanent Residential Customer – A Customer occupying a dwelling or mobile home on a permanent foundation which is the Customer's primary residence occupied year-round for normal living purposes and including: (i) electrical wiring conforming with the National Electrical Code and the Company's service installation policies; (ii) a permanently installed heating system; and (iii) permanently installed plumbing and sewage systems.

PJM – PJM Interconnection, L.L.C. or any successor organization/entity thereto.

Point of Delivery – The location at which the Company service connection terminates and the Customer's wiring and installation begins.

Power Factor – The ratio of the watts to the volt-amperes.

Price to Compare Default Service Charge – The cents per kWh rates representing the Company's costs for providing energy, capacity, including the cost of complying with ~~non-~~^(C) solar-AEPS, market based transmission and ancillary services for Customers who take Default Service.

Primary Voltage – Voltage greater than 600 volts but less than 23,000 volts.

Private Right-of-Way – The right-of-way or easement for electric facilities on, over, under, across and/or through real or other property owned by an individual or entity which is not a governmental, municipal or other public body to provide service.

WEST PENN POWER COMPANY

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GENERAL RULES AND REGULATIONS

Definition of Terms (continued)

Electric Generation Supplier (EGS) – EGS shall have the meaning as set forth in the Customer Choice and Competition Act.

Energy Charge – A charge based upon kilowatt-hours of use.

Energy Efficiency and Conservation Charge – A reconcilable, non-by-passable charge applied to each Billing Unit during a billing month to Delivery Service Customers, pursuant to the terms of the Rider F - Phase III Energy Efficiency and Conservation Rider.

FERC – The Federal Energy Regulatory Commission.

Generating Facility – Any equipment and/or facility that is electrically interconnected to the Company and is (i) capable of generating electrical energy for delivery into the PJM control area and (ii) is located on a single site within the Company's service territory. A single site with multiple generating units, each owned by a single entity, shall constitute one Generating Facility. The Company shall have the sole and exclusive right to determine if any particular equipment qualifies as a Generating Facility if the operating characteristics and/or circumstances relating to such equipment are different than described in this definition.

Hertz – A unit of frequency, equal to one cycle per second.

Horsepower (HP) – Unit of mechanical power representing rate of consumption of power and equivalent to 746 watts. As used herein, horsepower is computed as the equivalent of 750 watts.

Hourly Pricing Service Charges – For Customers served under Rate Schedules 30 (HP), 35, 40, 44, 46 and Tariff No.38 (PSU) as well as 20 and 30 (PTC) on a voluntary basis. Customers that elect this rate, the charges representing the Company's costs for providing energy, capacity, including the cost of complying with AEPs, market based transmission, and ancillary services for Default Service Customers.

(C)

(C) Change

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METROPOLITAN EDISON COMPANY

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RIDERS

RIDER H

PRICE TO COMPARE DEFAULT SERVICE RATE RIDER

A Price to Compare Default Service Rate (“PTC_{Default}”) shall be applied to each kWh of Default Service that Met-Ed delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The PTC_{Default} rate shall be billed to Customers receiving Default Service from the Company under this rider. The rates shall be calculated according to the provisions of this rider.

For service rendered ~~June~~~~September~~ 1, ~~2021~~~~2023~~ through November 30, ~~2021~~~~2023~~ the (C)
PTC_{Default} rates billed by Customer Class are as follows:

Commercial Customer Class (Rate GS-Small, Rate GS-Medium (PTC), Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service and Outdoor Lighting Service):

\$X.XXXXX per kWh

Residential Customer Class (Rate RS and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

\$X.XXXXX per kWh

(C) Change

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RIDERS

Rider H (continued)

(C)

The PTC_{Default} rates by Commercial or Residential Customer Class will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. ~~at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The PTC_{Default} rate shall be calculated by Customer Class in accordance with the formula set forth below:

$$PTC_{Default} = [(PTC_{Current} + E)] \times [1 / (1 - T)]$$

$$PTC_{Current} = (PTC_{Current} \text{ Cost Component} \times PTC \text{ LOSS}_{Current}) + PTC_{Adm} + PTC_{NITS}$$

$$E = [((DS_{Exp1} + DS_{Exp2}) - PTC_{Rev} + DS_{Int}) / DS_{Sales}]$$

Where:

PTC_{Current} = The current cost component of the PTC_{Default} rate grossed up for line losses calculated by Commercial or Residential Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

The computation of the PTC_{Current} component of the PTC_{Default} rate by Commercial or Residential Customer Class will use the following procedures:

(C)

PTC_{Current} Cost Component = The current cost component of the PTC_{Default} rate calculated by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider. This rate will be determined, by Customer Class, using the projected weighted cost of Default Service supply acquired by the Company to serve Default Service load ~~and will include any AEPS expenses that may be incurred by the Company related to amendments to the AEPS Act that may occur subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan,~~ and any PJM charges related to the provision of Default Service.

(C) Change

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RIDERS

Rider H (continued)

$PTC_{LOSS_{Current}}$ = Distribution line losses for energy that are determined by the applicable Loss Factors specified below:

Customer Class	Loss Factor
Commercial Customer Class	1.0515
Residential Customer Class	1.0515

PTC_{Adm} = An administrative fee for applicable administration costs by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

PTC_{NITS} = When the Company purchases Network Integration Transmission Service from PJM on behalf of customers, a Network Integration Transmission Service Charge for Default Service, determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

E = The Price to Compare Default Service Reconciliation Rate component by Customer Class. The rate determined to the nearest one-thousandth of a cent per kWh by Customer Class shall be applied to each kWh of Default Service delivered to retail Customers by Customer Class under this rider.

(C)

(C) Change

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RIDERS

Rider H (continued)

DS_{Exp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023~~2027, including but not limited to:

(C)

- ~~Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail-Default Service Customers~~
- ~~Other start-up costs incurred to develop and implement the competitive bid process for the retail-Default Service Supply Plan for retail-Default Service including legal, customer notice, and consultant fees~~
- The incremental administrative start-up costs incurred to implement the Time-of-Use Rider
- ~~The incremental administrative start-up costs associated with the portfolio procurements of the supply needed from block and spot~~

(C)

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{Exp2} = The cumulative costs to provide Default Service incurred by the Company for the respective Customer Class for the six-month period ending two months prior to the effective date~~through the end of the previous Default Service Quarter~~, including but not limited to the following:

(C)

(C) Change

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Effective: June 1, 2023

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RIDERS

Rider H (continued)

(C)

- Payments made to winning bidders
- ~~Any net energy costs associated with the portfolio procurements of the supply needed from block and spot purchases. (These net energy costs will reflect the net proceeds from sales in the wholesale energy market of any excess energy purchased by the Company to provide Default Service that exceeds actual energy used).~~
- Any PJM related charges including capacity, operating reserve, transmission-related costs other than Non-Market Based Services Transmission Charges identified in Rider J, and ancillary services associated with the acquisition of default service supply
- ~~An allocated portion of administrative costs associated with the portfolio procurements of the supply needed from block and spot purchases.~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers.~~
- All contingency plan implementation costs incurred during the supply period, including any PJM charges to implement the Company's contingency plans
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~Retail~~ Default Service including legal, customer notice, and consultant fees.
- ~~AEPS expenses incurred by the Company related to amendments to the AEPS Act occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan excluding such costs that are recovered through the Company's Solar Photovoltaic Requirements Charge Rider.~~

(C) Change

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Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

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RIDERS

Rider H (continued)

(C)

- The net AEPS expenses incurred by the Company associated with the portfolio procurements of the supply needed from block and spot purchases. These net AEPS expenses will reflect the net proceeds of sales of AEPS credits purchased that exceed the AEPS credits needed to meet AEPS requirements.
- The cost of credit when the Company is considered by PJM to be the load serving entity
- Any cost incurred by the Company associated with any Commission-approved solar power purchase agreements and the administration of the Company's long-term solar procurement, including the costs associated with spot purchases to satisfy a fixed quantity of default service load. These costs will be recovered from the customers in the applicable procurement classes receiving an allocation of the solar energy and/or the SPAECs procured
- ~~Any reconciliation balance associated with GS Medium customers with demand equal to or greater than 100 kW~~
- ~~migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

(C)

$PTC_{Rev} =$ The cumulative revenues billed to Retail Customers by Customer Class for Default Service under the Default Service Supply Plan, excluding applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter billed under the respective Customer Class $PTC_{Default}$ rates.

(C)

$DS_{Int} =$ The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter by Customer Class. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

(C) Change

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METROPOLITAN EDISON COMPANY

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RIDERS

Rider H (continued)

(C)

DS_{Sales} = The Company's projected Default Service kWh sales to Retail Customers by Customer Class for the ~~six~~three-month billing period that the E rate component of the $PTC_{Default}$ rate will be in effect.

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

Each change in the $PTC_{Default}$ rates will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised $PTC_{Default}$ rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the $PTC_{Default}$ rates shall be subject to annual review and audit by the Commission.

(C) Change

Issued:

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PENNSYLVANIA ELECTRIC COMPANY

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RIDERS

RIDER H

PRICE TO COMPARE DEFAULT SERVICE RATE RIDER

A Price to Compare Default Service Rate (“PTC_{Default}”) shall be applied to each kWh of Default Service that Penelec delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The PTC_{Default} rate shall be billed to Customers receiving Default Service from the Company under this rider. The rates shall be calculated according to the provisions of this rider.

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~ (C) the PTC_{Default} rates billed by Customer Class are as follows:

Commercial Customer Class (Rate GS-Small, Rate GS-Medium (PTC), Rate H, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

\$X.XXXXX per kWh.

Residential Customer Class (Rate RS and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

\$X.XXXXX per kWh

(C) Change

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RIDERS

Rider H (continued)

(C)

The PTC_{Default} rates by Commercial or Residential Customer Class will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three-month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st). The PTC_{Default} rate shall be calculated by Customer Class in accordance with the formula set forth below:

$$PTC_{Default} = [(PTC_{Current} + E)] \times [1 / (1 - T)]$$

$$PTC_{Current} = (PTC_{Current} \text{ Cost Component} \times PTC \text{ LOSS}_{Current}) + PTC_{Adm} + PTC_{NITS}$$

$$E = [((DS_{Exp1} + DS_{Exp2}) - PTC_{Rev} + DS_{Int}) / DS_{Sales}]$$

Where:

PTC_{Current} = The current cost component of the PTC_{Default} rate grossed up for line losses calculated by Commercial or Residential Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

The computation of the PTC_{Current} component of the PTC_{Default} rate by Commercial or Residential Customer Class will use the following procedures:

(C)

PTC_{Current} Cost Component = The current cost component of the PTC_{Default} rate calculated by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider. This rate will be determined, by Customer Class, using the projected weighted cost of Default Service supply acquired by the Company to serve Default Service load ~~and will include any AEPS expenses that may be incurred by the Company related to amendments to the AEPS Act that may occur subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan~~, and any PJM charges related to the provision of Default Service.

(C) Change

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RIDERS

Rider H (continued)

$PTC_{Loss_{Current}}$ = Distribution line losses for energy that are determined by the applicable Loss Factors specified below:

Customer Class	Loss Factor
Commercial Customer Class	1.0573
Residential Customer Class	1.0573

PTC_{Adm} = An administrative fee for applicable administration costs by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

PTC_{NITS} = When the Company purchases Network Integration Transmission Service from PJM on behalf of customers, a Network Integration Transmission Service Charge for Default Service, a Network Integration Transmission Service, determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider. (C)

E = The Price to Compare Default Service Reconciliation Rate component by Customer Class. The rate determined to the nearest one-thousandth of a cent per kWh by Customer Class shall be applied to each kWh of Default Service delivered to retail Customers by Customer Class under this rider.

(C) Change

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RIDERS

Rider H (continued)

DS_{Exp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty (48) month period ending May 31, ~~2023~~2027, including but not limited to:

(C)

(C)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~retail~~ Default Service Supply Plan for ~~retail~~ Default Service including legal, customer notice, and consultant fees
- The incremental administrative start-up costs incurred to implement the Time-of-Use Rider
- ~~The incremental administrative start-up costs associated with the portfolio procurements of the supply needed from block and spot purchases~~

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{Exp2} = The cumulative costs to provide Default Service incurred by the Company for the respective Customer Class for the six-month period ending two months prior to the effective date~~through the end of the previous Default Service Quarter~~, including but not limited to the following:

(C)

(C) Change

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PENNSYLVANIA ELECTRIC COMPANY

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RIDERS

Rider H (continued)

(C)

- Payments made to winning bidders
- ~~Any net energy costs associated with the portfolio procurements of the supply needed from block and spot purchases. These net energy costs will reflect the net proceeds from sales in the wholesale energy market of any excess energy purchased by the Company to provide Default Service that exceeds actual energy used.~~
- Any PJM related charges including capacity, operating reserve, transmission-related costs other than Non-Market Based Services Transmission Charges identified in Rider J and ancillary services associated with the acquisition of default service supply:
- ~~An allocated portion of administrative costs associated with the portfolio procurements of the supply needed from block and spot purchases.~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers.~~
- All contingency plan implementation costs incurred during the supply period, including any PJM charges to implement the Company's contingency plans.
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~Retail~~ Default Service including legal, customer notice, and consultant fees.
- ~~AEPS expenses incurred by the Company related to amendments to the AEPS Act occurring subsequent to the effective date of the Supplier-Master Agreement for the Default Service Supply Plan excluding such costs that are recovered through the Company's Solar Photovoltaic Requirements Charge Rider.~~

(C) Change

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RIDERS

Rider H (continued)

- The net AEPS expenses incurred by the Company associated with the portfolio procurements of the supply needed from block and spot purchases. These net AEPS expenses will reflect the net proceeds of sales of AEPS credits purchased that exceed the AEPS credits needed to meet AEPS requirements. (C)
- The cost of credit when the Company is considered by PJM to be the load serving entity
- Any cost incurred by the Company associated with any Commission-approved solar power purchase agreements and the administration of the Company's long-term solar procurement, including the costs associated with spot purchases to satisfy a fixed quantity of default service load. These costs will be recovered from the customers in the applicable procurement classes receiving an allocation of the solar energy and/or the SPAECs procured
- ~~Any reconciliation balance associated with GS Medium customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~ (C)

PTC_{Rev} = The cumulative revenues billed to Retail Customers by Customer Class for Default Service under the Default Service Supply Plan, excluding applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter billed under the respective Customer Class PTC_{Default} rates. (C)

DS_{Int} = The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter by Customer Class. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected. (C)

(C) Change

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RIDERS

Rider H (continued)

(C)e

DS_{Sales} = The Company's projected Default Service kWh sales to Retail Customers by Customer Class for the ~~three~~six-month billing period that the E rate component of the $PTC_{Default}$ rate will be in effect.

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

Each change in the $PTC_{Default}$ rates will be filed with the Commission by the later: (a) forty-five (45) days prior to the effective date of the rate changes, or (b) seven (7) days after last supply auction. The Company shall file details in support of the revised $PTC_{Default}$ rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the $PTC_{Default}$ rates shall be subject to annual review and audit by the Commission.

(C) Change

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PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

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RIDERS

RIDER H

PRICE TO COMPARE DEFAULT SERVICE RATE RIDER

A Price to Compare Default Service Rate (“PTC_{Default}”) shall be applied to each kWh of Default Service that Penn Power delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The PTC_{Default} rate shall be billed to Customers receiving Default Service from the Company under this rider. The rates shall be calculated according to the provisions of this rider.

For service rendered ~~September-June~~ 1, ~~2021-2023~~ through November 30, ~~2021-2023~~ the PTC_{Default} rates billed by Customer Class are as follows: (C)

Commercial Customer Class (Rate GS (excluding Special Rate GSDS), Rate GM (PTC), Rate PNP, PLS, SV, SVD, ~~SM~~ and LED): (C)

\$X.XXXXX per kWh.

Residential Customer Class (Rate RS, and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

\$X.XXXXX per kWh

(C) Change

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RIDERS

Rider H (continued)

(C)

The PTC_{Default} rates by Commercial or Residential Customer Class will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. ~~at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The PTC_{Default} rate shall be calculated by Customer Class in accordance with the formula set forth below:

$$PTC_{Default} = [(PTC_{Current} + E)] \times [1 / (1 - T)]$$

$$PTC_{Current} = (PTC_{Current\ Cost\ Component} \times PTC\ LOSS_{Current}) + PTC_{Adm} + PTC_{NITS}$$

$$E = [((DS_{Exp1} + DS_{Exp2}) - PTC_{Rev} + DS_{Int}) / DS_{Sales}]$$

Where:

PTC_{Current} = The current cost component of the PTC_{Default} rate grossed up for line losses calculated by Commercial or Residential Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

The computation of the PTC_{Current} component of the PTC_{Default} rate by Commercial or Residential Customer Class will use the following procedures:

(C)

PTC_{Current Cost Component} = The current cost component of the PTC_{Default} rate calculated by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider. This rate will be determined, by Customer Class, using the projected weighted cost of Default Service supply acquired by the Company to serve Default Service load ~~and will include any AEPS expenses that may be incurred by the Company related to amendments to the AEPS Act that may occur subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan,~~ and any PJM charges related to the provision of Default Service.

(C) Change

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PENNSYLVANIA POWER COMPANY

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RIDERS

Rider H (continued)

$PTC_{Loss_{Current}}$ = Distribution line losses for energy that are determined by the applicable Loss Factors specified below:

Customer Class	Loss Factor
Commercial Customer Class	1.0661
Residential Customer Class	1.0661

PTC_{Adm} = An administrative fee for applicable administration costs by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

PTC_{NITS} = When the Company purchases Network Integration Transmission from PJM on behalf of customers, a Network Integration Transmission Service charge for Default Service, determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

E = The Price to Compare Default Service Reconciliation Rate component by Customer Class. The rate determined to the nearest one-thousandth of a cent per kWh by Customer Class shall be applied to each kWh of Default Service delivered to retail Customers by Customer Class under this rider.

(C) Change

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PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

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RIDERS

Rider H (continued)

DS_{Exp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023~~2027, including but not limited to:

(C)

(C)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~retail~~-Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the retail Default Service Supply Plan for ~~retail~~-Default Service including legal, customer notice, and consultant fees

The incremental administrative start-up costs incurred to implement the Time-of-Use Rider

- ~~The incremental administrative start-up costs associated with the portfolio procurements of the supply needed from block and spot purchases~~

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{Exp2} = The cumulative costs to provide Default Service incurred by the Company for the respective Customer Class for the six-month period ending two months prior to the effective date~~through the end of the previous Default Service Quarter~~, including but not limited to the following:

(C)

(C) Change

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RIDERS

Rider H (continued)

(C)

- Payments made to winning bidders
- ~~Any net energy costs associated with the portfolio procurements of the supply needed from block and spot purchases. These net energy costs will reflect the net proceeds from sales in the wholesale energy market of any excess energy purchased by the Company to provide Default Service that exceeds actual energy used~~
- Any PJM related charges including capacity, operating reserve, transmission-related costs other than Non-Market Based Services Transmission Charges identified in Rider J, and ancillary services associated with the acquisition of default service supply
- ~~An allocated portion of administrative costs associated with the portfolio procurements of the supply needed from block and spot purchases~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period, including any PJM charges to implement the Company's contingency plans:
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~Retail~~ Default Service including legal, customer notice, and consultant fees
- ~~AEPS expenses incurred by the Company related to amendments to the AEPS Act occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan excluding such costs that are recovered through the Company's Solar Photovoltaic Requirements Charge Rider~~

(C) Change

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RIDERS

Rider H (continued)

(C)

- The net AEPS expenses incurred by the Company associated with the portfolio procurements of the supply needed from block and spot purchases. These net AEPS expenses will reflect the net proceeds of sales of AEPS credits purchased that exceed the AEPS credits needed to meet AEPS requirements.
- The cost of credit when the Company is considered by PJM to be the load serving entity-
- Any cost incurred by the Company associated with any Commission-approved solar power purchase agreements and the administration of the Company's long-term solar procurement, including the costs associated with spot purchases to satisfy a fixed quantity of default service load. These costs will be recovered from the customers in the applicable procurement classes receiving an allocation of the solar energy and/or the SPAECs procured
- ~~Any reconciliation balance associated with GM customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

(C)

PTC_{Rev} = The cumulative revenues billed to Retail Customers by Customer Class for Default Service under the Default Service Supply Plan, excluding applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter billed under the respective Customer Class PTC_{Default} rates.

(C)

DS_{Int} = The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter by Customer Class. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

(C) Change

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RIDERS

Rider H (continued)

DS_{Sales} = The Company's projected Default Service kWh sales to Retail Customers by Customer Class for the ~~threesix~~ threesix-month billing period that the E rate component of the $PTC_{Default}$ rate will be in effect. (C)

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

Each change in the $PTC_{Default}$ rates will be filed with the Commission by the later of (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised $PTC_{Default}$ rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the $PTC_{Default}$ rates shall be subject to annual review and audit by the Commission.

(C) Change

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WEST PENN POWER COMPANY

Electric Pa. P.U.C. No. 40 (Supp. XX)

___ Revised Page 173

Superseding __ Revised Page 173

RIDERS

RIDER H

PRICE TO COMPARE DEFAULT SERVICE RATE RIDER

A Price to Compare Default Service Rate (“PTC_{Default}”) shall be applied to each kWh of Default Service that West Penn Power delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The PTC_{Default} rate shall be billed to Customers receiving Default Service from the Company under this rider. The rates shall be calculated according to the provisions of this rider.

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~ ^(C) the PTC_{Default} rates billed by Customer Class are as follows:

Commercial Customer Class (Rate Schedules 20, 30 (PTC), 51 - 58, 71 and 72):

\$X.XXXXX per kWh

Residential Customer Class (Rate Schedule 10 and 20 (Special Provision)): ^(C)

\$X.XXXXX per kWh

(C) Change

WEST PENN POWER COMPANY

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RIDERS

Rider H (continued)

(C)

The PTC_{Default} rates by Commercial or Residential Customer Class will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. ~~calculated at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The PTC_{Default} rate shall be calculated by Customer Class in accordance with the formula set forth below:

$$PTC_{Default} = [(PTC_{Current} + E)] \times [1 / (1 - T)]$$

$$PTC_{Current} = (PTC_{Current} \text{ Cost Component} \times PTC \text{ LOSS}_{Current}) + PTC_{Adm} + PTC_{NITS}$$

$$E = [((DS_{Exp1} + DS_{Exp2}) - PTC_{Rev} + DS_{Int}) / DS_{Sales}]$$

Where:

PTC_{Current} = The current cost component of the PTC_{Default} rate grossed up for line losses calculated by Commercial or Residential Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

The computation of the PTC_{Current} component of the PTC_{Default} rate by Commercial or Residential Customer Class will use the following procedures:

(C)

PTC_{Current} Cost Component = The current cost component of the PTC_{Default} rate calculated by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider. This rate will be determined, by Customer Class, using the projected weighted cost of Default Service supply acquired by the Company to serve Default Service load ~~and will include any AEPS expenses that may be incurred by the Company related to amendments to the AEPS Act that may occur subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan~~, and any PJM charges related to the provision of Default Service.

(C) Change

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RIDERS

Rider H (continued)

$PTC_{LOSS_{Current}}$ = Distribution line losses for energy that are determined by the applicable Loss Factors specified below:

Customer Class	Loss Factor
Commercial Customer Class	1.0899
Residential Customer Class	1.0910

PTC_{Adm} = An administrative fee for applicable administration costs by Customer Class determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

PTC_{NITS} = For the Residential Customer Class only, a Network Integration Transmission Service charge for block energy purchases, determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Retail Customers under this rider.

E = The Price to Compare Default Service Reconciliation Rate component by Customer Class. The rate determined to the nearest one-thousandth of a cent per kWh by Customer Class shall be applied to each kWh of Default Service delivered to retail Customers by Customer Class under this rider.

(C) Change

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RIDERS

Rider H (continued)

DS_{Exp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023-2027~~, including but not limited to:

(C)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~retail~~-Default Service Customers
- ~~Other start-up costs incurred to develop and implement the competitive bid process for the ~~retail~~-Default Service Supply Plan for ~~retail~~-Default Service including legal, customer notice, and consultant fees~~
- The incremental administrative start-up costs incurred to implement the Time-of-Use Rider
- ~~The incremental administrative start-up costs associated with the portfolio procurements of the supply needed from block and spot purchases~~

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{Exp2} = The cumulative costs to provide Default Service incurred by the Company for the respective Customer Class for the six-month period ending two months prior to the effective date~~through the end of the previous Default Service Quarter~~, including but not limited to the following:

(C)

(C) Change

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RIDERS

Rider H (continued)

(C)

- Payments made to winning bidders
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- Any PJM related charges including capacity, operating reserve, transmission-related costs other than Non-Market Based Services Transmission Charges, identified in Rider J and ancillary services associated with the acquisition of default service supply
- All contingency plan implementation costs incurred during the supply period, including any PJM charges ~~related to the implementation of~~ the Company's contingency plans
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~Retail~~ Default Service including legal, customer notice, and consultant fees
- The net AEPS expenses incurred by the Company associated with the portfolio procurements of the supply needed from block and spot purchases. These net AEPS expenses will reflect the net proceeds of sales of AEPS credits purchased that exceed the AEPS credits needed to meet AEPS requirements
- The cost of credit when the Company is considered by PJM to be the load serving entity
- Any cost incurred by the Company associated with any Commission-approved solar power purchase agreements and the administration of the Company's long-term solar procurement, including the costs associated with spot purchases to satisfy a fixed quantity of default service load. These costs will be recovered from the customers in the applicable procurement classes receiving an allocation of the solar energy and/or the SPAECs procured
- ~~Net AEPS Expense and AEPS expenses incurred by the Company related to amendments to the AEPS Act occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan~~
- ~~Any reconciliation balance associated with Rate Schedule 30 customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019~~

(C) Change

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RIDERS

Rider H (continued)

(C)

PTC_{Rev} = The cumulative revenues billed to Retail Customers by Customer Class for Default Service under the Default Service Supply Plan, excluding applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date~~through the end of the most recent Default Service Quarter~~ billed under the respective Customer Class PTC_{Default} rates.

(C)

DS_{Int} = The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date~~through the end of the most recent Default Service Quarter~~ by Customer Class. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

(C) Change

Issued:

Effective: June 1, 2023

WEST PENN POWER COMPANY

Electric Pa. P.U.C. No. 40 (Supp. XX)

___ Revised Page 179

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RIDERS

Rider H (continued)

(C)

$DS_{Sales} =$ The Company's projected Default Service kWh sales to Retail Customers by Customer Class for the ~~three~~six-month billing period that the E rate component of the $PTC_{Default}$ rate will be in effect.

$T =$ The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

Each change in the $PTC_{Default}$ rates will be filed with the Commission by the later of: (a) Forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised $PTC_{Default}$ rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the $PTC_{Default}$ rates shall be subject to annual review and audit by the Commission.

(C) Change

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 136

Superseding ___ Revised Page 136

RIDERS

RIDER I

HOURLY PRICING DEFAULT SERVICE RIDER

AVAILABILITY:

The charges billed under this rider are applicable to all Customers on Rate Schedules GS-Medium (HP), GS-Large, GP, and TP who elect to take Default Service from the Company. These charges are also applicable to Customers on Rate Schedules GS-Small and GS-Medium (PTC) on a voluntary basis who meet the metering requirements of this rider. Rates shall be billed under this rider on the next scheduled meter reading date after electing Default Service.

All GS-Small and GS-Medium (PTC) Customers electing service under this rider must have Smart Meter technology installed as part of the Company's Smart Meter Plan filed with and approved by the Commission.

Hourly Pricing Service Charges:

Customers participating in the Hourly Pricing Default Service Rider will be billed for usage based on the following calculation:

$$\text{Hourly Pricing Service Charges} = (\text{HP}_{\text{Energy Charge}} + \text{HP}_{\text{Cap-AEPS-Other Charge}} + \text{HP}_{\text{Administrative Charge}} + \text{HP}_{\text{Unc}} + \text{HP}_{\text{Reconciliation Charge}}) \times [1 / (1-T)]$$

HP Energy Charge per kWh:

$$\text{HP}_{\text{Energy Charge}} = \sum_{t=1}^n (\text{kWh}_t \times (\text{LMP}_t + \text{HP}_{\text{Oth}}) \times \text{HP}_{\text{Loss Multiplier}})$$

Where:

n = Total number of hours in the billing period

t = An hour in the billing period

LMP = the "Real Time" PJM load-weighted average Locational Marginal Price for the ME Transmission Zone.

HP_{Oth} = \$X.XXXXX per kWh for estimate of capacity, ancillary services, NITS, AEPS compliance and other supply components.

(C) Change

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 137

Superseding __ Revised Page 137

RIDERS

Rider I (continued)

HP Loss Multipliers:	GS-Small	1.0515
	GS-Medium	1.0515
	GS-Large	1.0515
	GP	1.0171
	TP	1.0007

These HP Loss Multipliers exclude transmission losses.

HP Cap-AEPS-Other Charge:

\$X.XXXXX per kWh representing the costs paid by the Company to the Supplier for Capacity, AEPS costs, and any other costs incurred by the Supplier multiplied by the HP Loss Multipliers. This charge is subject to quarterly adjustments.

HP Administrative Charge:

\$X.XXXXX per kWh representing the administrative costs incurred by the Company associated with providing Hourly Pricing Service.

HP Uncollectibles Charge:

\$X.XXXXX per kWh representing the default service-related uncollectible accounts expense associated with Hourly Pricing Default Service. This charge is subject to annual adjustment on June 1 of each year.

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 138

Superseding ___ Revised Page 138

RIDERS

Rider I (continued)

HP Reconciliation Charge:

The HP Reconciliation Charge Rate (“E_{HP}”) shall be applied to each kWh of Default Service that Met-Ed delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The E_{HP} rate shall be included as a non-bypassable component billed to Customers receiving Default Service from the Company under this rider. The rate shall be calculated according to the provisions of this rider.

For service rendered ~~June~~~~September~~ 1, ~~2021~~~~2023~~ through November 30, ~~2021~~~~2023~~ the E_{HP} (C)

rate is as follows: HP Reconciliation Charge Rate = \$X.XXXXXX per kWh

The E_{HP} rate will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. ~~at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three-month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The E_{HP} rate shall be calculated in accordance with the formula set forth below: (C)

$$E_{HP} = ((DS_{HPExp1} + DS_{HPExp2}) - PTC_{HPRev} + DS_{HPInt}) / DS_{HPSales}$$

Where:

E_{HP} = The rate determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Customers under this rider.

DS_{HPExp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019~~~~2023~~ in connection with the Company’s Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023~~~~2027~~ including but not limited to: (C)

(C) Change

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 139

Superseding ___ Revised Page 139

RIDERS

Rider I (continued)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~Retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~Retail~~ Default Service Supply Plan including legal, customer notice, and consultant fees.

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

(C)

DSHPExp2 = The cumulative costs to provide Hourly Pricing Default Service incurred by the Company for the six-month period ending two months prior to the effective date, through the end of the previous Default Service Quarter including but not limited to the following:

- Payments made to winning bidders
- Any PJM related charges other than Non-Market Based Services Transmission charges identified in Rider J associated with the procurement of Hourly Pricing Default Service
- ~~AEPS expenses incurred by Met-Ed related to amendments to the AEPS Act and/or related laws or regulations occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan excluding such costs recovered through the Company's Solar Photovoltaic Requirements Charge Rider~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~retail~~ Default Service including legal, customer notice, and consultant fees.
- The cost of credit when the Company is considered by PJM to be the load serving entity
- ~~Any reconciliation balance associated with GS Medium ~~customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~~~ (C)

(C) Change

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 140

Superseding ___ Revised Page 140

RIDERS

Rider I (continued)

- PTC_{HPRev} = The cumulative revenues, excluding any revenues associated with the HP Uncollectibles Charge and applicable Pennsylvania gross receipts tax, ~~for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter~~ billed to Hourly Pricing Default Service Customers under this rider including the applicable E_{HP} rates. (C)
- DS_{HPInt} = The cumulative amount of carrying charges calculated on a monthly basis ~~for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter~~. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.
- $DS_{HPSales}$ = The Company's projected Hourly Pricing Default Service kWh sales to Retail Customers for the ~~three~~six-month billing period that the E_{HP} rate will be in effect. (C)

Gross Receipts Tax:

- T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

(C) Change

Issued:

Effective: June 1, 2023

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

___ Revised Page 141

Superseding ___ Revised Page 141

RIDERS

Rider I (continued)

General:

Each change in the E_{HP} rate as well as other rates within this rider will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the E_{HP} rate shall be subject to annual review and audit by the Commission.

Adjustment for Meter Location:

Where the Company meters distribution secondary voltage service on the primary side of the transformers, the demand and energy registrations shall each be reduced by two and one-half percent (2.5%). Where the Company meters service supplied at voltages higher than the distribution secondary voltage on the secondary side of the transformers, either compensating - metering equipment will be used to correct for transformer losses or the demand and energy meter registration shall each be increased by two and one-half percent (2.5%).

Metering:

The Customer is responsible for providing a working dedicated telephone line for metering purposes at each metering point or shall pay the Company any and all expenses for providing communications to the interval equipment at the Customer's location(s). Maintenance of the meter(s) will be the responsibility of the Company, which will own the meter(s).

Issued:

Effective: June 1, 2023

PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 143

Superseding __ Revised Page 143

RIDERS

RIDER I

HOURLY PRICING DEFAULT SERVICE RIDER

AVAILABILITY:

The charges billed under this rider are applicable to all Customers on Rate Schedules GS-Medium (HP), GS-Large, GP, and LP who elect to take Default Service from the Company. These charges are also applicable to Customers on Rate Schedules GS-Small and GS-Medium (PTC) on a voluntary basis who meet the metering requirements of this rider. Rates shall be billed under this rider on the next scheduled meter reading date after electing Default Service

All GS-Small and GS-Medium (PTC) Customers electing service under this rider must have Smart Meter technology installed as part of the Company's Smart Meter Plan filed with and approved by the Commission.

Hourly Pricing Service Charges:

Customers participating in the Hourly Pricing Default Service Rider will be billed for usage based on the following calculation:

$$\text{Hourly Pricing Service Charges} = (\text{HP}_{\text{Energy Charge}} + \text{HP}_{\text{Cap-AEPS-Other Charge}} + \text{HP}_{\text{Administrative Charge}} + \text{HP}_{\text{Unc}} + \text{HP}_{\text{Reconciliation Charge}}) \times [1 / (1-T)]$$

HP Energy Charge per kWh:

$$\text{HP}_{\text{Energy Charge}} = \sum_{t=1}^n (\text{kWh}_t \times (\text{LMP}_t + \text{HP}_{\text{Oth}}) \times \text{HP}_{\text{Loss Multiplier}})$$

Where:

n = Total number of hours in the billing period

t = An hour in the billing period

LMP = the "Real Time" PJM load-weighted average Locational Marginal Price for the PN Transmission Zone

HP_{Oth} = \$X.XXXXX per kWh for estimate of capacity, ancillary services, NITS, AEPS, ~~C~~compliance and other supply components.

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PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 144

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RIDERS

Rider I (continued)

HP Loss Multipliers:	GS-Small	1.0573
	GS-Medium	1.0573
	GS-Large	1.0573
	GP	1.0234
	LP	1.0035

These HP Loss Multipliers exclude transmission losses.

HP Cap-AEPS-Other Charge:

\$ X.XXXXX per kWh representing the costs paid by the Company to the Supplier for Capacity, AEPS costs, and any other costs incurred by the Supplier multiplied by the HP Loss Multipliers. This charge is subject to quarterly adjustments.

HP Administrative Charge:

\$ X.XXXXX per kWh representing the administrative costs incurred by the Company associated with providing Hourly Pricing Service.

HP Uncollectibles Charge:

\$ X.XXXXX per kWh representing the default service--related uncollectible accounts expense associated with Hourly Pricing Default Service. This charge is subject to annual adjustment on June 1 of each year.

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Effective: June 1, 2023

PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 145

Superseding ___ Revised Page 145

RIDERS

Rider I (continued)

HP Reconciliation Charge:

The HP Reconciliation Charge Rate (“E_{HP}”) shall be applied to each kWh of Default Service that Penelec delivers to customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The E_{HP} rate shall be included as a non-bypassable component billed to Customers receiving Default Service from the Company under this rider. The rate shall be calculated according to the provisions of this rider.

(C)

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~ the E_{HP} rate is as follows:

HP Reconciliation Charge Rate = \$X.XXXXX per kWh

(C)

The E_{HP} rate will be calculated ~~semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st.at the end of each Default Service Quarter (three months ending January 31st, April 30th, July 31st, and October 31st) to be effective for the three month period beginning on the first day of the second calendar month following the end of that Default Service Quarter (March 1st, June 1st, September 1st and December 1st).~~ The E_{HP} rate shall be calculated in accordance with the formula set forth below:

$$E_{HP} = \left[\frac{((DS_{HPExp1} + DS_{HPExp2} + \del{DS_{HPExp3}}) - PT_{CHPRev} + DS_{HPInt})}{DS_{HPSales}} \right] \del{X} \frac{1}{1 - T}$$

Where:

E_{HP} = The rate determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Customers under this rider.

DS_{HPExp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company’s Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023-2027~~ including but not limited to:

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~Retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~Retail~~ Default Service Supply Plan including legal, customer notice, and consultant fees.

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 146

Superseding __ Revised Page 146

RIDERS

Rider I (continued)

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DSHPExp2 = The cumulative costs to provide Hourly Pricing Default Service incurred by the Company for the six-month period ending two months prior to the effective date, through the end of the previous Default Service Quarter including but not limited to the following: (C)

- Payments made to winning bidders
- Any PJM related charges other than Non-Market Based Services Transmission Charges identified in Rider J associated with the procurement of Hourly Pricing Default Service
- ~~AEPS expenses incurred by Penelec related to amendments to the AEPS Act and/or related laws or regulations occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan excluding such costs recovered through the Company's Solar Photovoltaic Requirements Charge Rider~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~retail~~ Default Service including legal, customer notice, and consultant fees.
- The cost of credit when the Company is considered by PJM to be the load serving entity
- ~~Any reconciliation balance associated with GS Medium (C) customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

PTCHPRev = The cumulative revenues, excluding any revenues associated with the HP Uncollectibles Charge and applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter billed to Hourly Pricing Default Service Customers under this rider including the applicable EHP rates. (C)

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 147

Superseding ___ Revised Page 147

RIDERS

Rider I (continued)

DS_{HPInt} = The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date~~through the end of the most recent Default Service Quarter~~. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

(C)

DS_{HPSales} = The Company's projected Hourly Pricing Default Service kWh sales to Retail Customers for the ~~three~~six-month billing period that the E_{HP} rate will be in effect.

(C)

Gross Receipts Tax:

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

General:

Each change in the E_{HP} rate as well as other rates within this rider will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the E_{HP} rate shall be subject to annual review and audit by the Commission.

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

___ Revised Page 148

Superseding __ Revised Page 148

RIDERS

Rider I (continued)

Adjustment for Meter Location:

Where the Company meters distribution secondary voltage service on the primary side of the transformers, the demand and energy registrations shall each be reduced by two and one-half percent (2.5%). Where the Company meters service supplied at voltages higher than the distribution secondary voltage on the secondary side of the transformers, either compensating - metering equipment will be used to correct for transformer losses or the demand and energy meter registration shall each be increased by two and one-half percent (2.5%).

Metering:

The Customer is responsible for providing a working dedicated telephone line for metering purposes at each metering point or shall pay the Company any and all expenses for providing communications to the interval equipment at the Customer's location(s). Maintenance of the meter(s) will be the responsibility of the Company, which will own the meter(s).

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Effective: June 1, 2023

PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

___ Revised Page 130

Superseding ___ Revised Page 130

RIDERS

RIDER I

HOURLY PRICING DEFAULT SERVICE RIDER

Availability:

The charges billed under this rider are applicable to all Customers who elect to take Default Service from the Company and are receiving service under Rate Schedules GM (HP), GS-Large, GP, GT, or GS if such GS Customers also are under Special Rule GSDS. These charges are also applicable to Customers on Rate Schedules GS and GM (PTC) on a voluntary basis who meet the metering requirements of this rider. Rates shall be billed under this rider on the next scheduled meter reading date after electing Default Service.

All GS and GM (PTC) Customers electing service under this rider must have Smart Meter technology installed as part of the Company's Smart Meter Plan filed with and approved by the Commission.

Hourly Pricing Service Charges:

Customers participating in the Hourly Pricing Default Service Rider will be billed for usage based on the following calculation:

$$\text{Hourly Pricing Service Charges} = (\text{HP}_{\text{Energy Charge}} + \text{HP}_{\text{Cap-AEPS-Other Charge}} + \text{HP}_{\text{Administrative Charge}} + \text{HP}_{\text{Unc}} + \text{HP}_{\text{Reconciliation Charge}}) \times [1 / (1-T)]$$

HP Energy Charge per kWh:

$$\text{HP}_{\text{Energy Charge}} = \sum_{t=1}^n (\text{kWh}_t \times (\text{LMP}_t + \text{HP}_{\text{Oth}}) \times \text{HP}_{\text{Loss Multiplier}})$$

Where:

n = Total number of hours in the billing period

t = An hour in the billing period

LMP = the "Real Time" PJM load-weighted average Locational Marginal Price for the Penn Power Transmission Zone.

HP_{Oth} = \$X.XXXXX per kWh for estimate of capacity, ancillary services, NITS, AEPS compliance and other supply components.

HP _{Loss Multipliers} :	GS-Small	1.0515
	GS-Medium	1.0515
	GS-Large	1.0515
	GP	1.0171
	GT	1.0007

These HP_{Loss Multipliers} exclude transmission losses.

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)
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Superseding ___ Revised Page 131

RIDERS

Rider I (continued)

HP Cap-AEPS-Other Charge:

\$X.XXXXX per kWh representing the costs paid by the Company to the Supplier for Capacity, AEPS costs, and any other costs incurred by the Supplier multiplied by the HP Loss Multipliers. This charge is subject to quarterly adjustments.

HP Administrative Charge:

\$X.XXXXX per kWh representing the administrative costs incurred by the Company associated with providing Hourly Pricing Service.

HP Uncollectibles Charge:

\$X.XXXXX per kWh representing the default service-related uncollectible accounts expense associated with Hourly Pricing Default Service. This charge is subject to annual adjustment on June 1 of each year.

HP Reconciliation Charge:

The HP Reconciliation Charge Rate (“E_{HP}”) shall be applied to each kWh of Default Service that Penn Power delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The E_{HP} rate shall be included as a non-bypassable component billed to Customers receiving Default Service from the Company under this rider. The rate shall be calculated according to the provisions of this rider

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~, the E_{HP} rate is as follows:

(C)

HP Reconciliation Charge Rate = \$X.XXXXX per kWh

(C) Change

PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

___ Revised Page 132

Superseding ___ Revised Page 132

RIDERS

Rider I (continued)

(C)

The E_{HP} rate will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st. ~~at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three-month period beginning on the first day of the third-calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The E_{HP} rate shall be calculated in accordance with the formula set forth below:

$$E_{HP} = [((DS_{HPExp1} + DS_{HPExp2}) - PTC_{HPR} + DS_{HPInt}) / DS_{HPSales}] \times [1 / (1 - T)]$$

Where:

E_{HP} = The rate determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Customers under this rider.

DS_{HPExp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023-2027~~ including but not limited to:

(C)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~Retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~Retail~~ Default Service Supply Plan including legal, customer notice, and consultant fees.

(C)

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

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Superseding ___ Revised Page 133

RIDERS

Rider I (continued)

DS_{HPExp2} = The cumulative costs to provide Hourly Pricing Default Service incurred by the Company for the six-month period ending two months prior to the effective date, through the end of the previous ~~Default Service Quarter~~ including but not limited to the following:

(C)

- Payments made to winning bidders
- Any PJM related charges other than Non-Market Based Services Transmission Charges identified in Rider J associated with the procurement of Hourly Pricing Default Service
- ~~AEPS expenses incurred by Penn Power related to amendments to the AEPS Act and/or related laws or regulations occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan excluding such costs recovered through the Company's Solar Photovoltaic Requirements Charge Rider~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~retail~~ Default Service including legal, customer notice, and consultant fees
- The cost of credit when the Company is considered by PJM to be the load serving entity
- ~~Any reconciliation balance associated with GM customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

(C)

PTC_{HPRev} = The cumulative revenues, excluding any revenues associated with the HP Uncollectibles Charge and applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent ~~Default Service Quarter~~ billed to Hourly Pricing Default Service Customers under this rider including the applicable E_{HP} rates.

(C) Change

Issued:

Effective: June 1, 2023

PENNSYLVANIA POWER COMPANY

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RIDERS

Rider I (continued)

DS_{HPInt} = The cumulative amount of carrying charges calculated on a monthly basis ^(C) ~~for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter.~~ Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

$DS_{HPSales}$ = The Company's projected Hourly Pricing Default Service kWh sales to Retail Customers for the ~~three~~^(C)~~six~~-month billing period that the E_{HP} rate will be in effect.

Gross Receipts Tax:

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

General:

Each change in the E_{HP} rate as well as other rates within this rider will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the E_{HP} rate shall be subject to annual review and audit by the Commission.

(C) Change

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WEST PENN POWER COMPANY

Electric Pa. P.U.C. No. 40 (Supp. XX)
___ Revised Page 180
Superseding __ Revised Page 180

RIDERS

RIDER I HOURLY PRICING DEFAULT SERVICE RIDER

AVAILABILITY:

The charges billed under this rider are applicable to all Customers on Rate Schedules 30 (HP), 35, 40, 44 and 46 who elect to take Default Service from the Company. These charges are also applicable to Customers on Rate Schedules 20, and 30 (PTC) on a voluntary basis who meet the metering requirements of this rider. Rates shall be billed under this rider on the next scheduled meter reading date after electing Default Service.

All Rate Schedules 20 and 30 (PTC) Customers electing service under this rider must have smart meter technology installed as part of the Company's smart meter plan filed with and approved by the Commission.

Hourly Pricing Service Charges:

Customers participating in the Hourly Pricing Default Service Rider will be billed for usage based on the following calculation:

$$\text{Hourly Pricing Service Charges} = (\text{HP}_{\text{Energy Charge}} + \text{HP}_{\text{Cap-AEPS-Other Charge}} + \text{HP}_{\text{Administrative Charge}} + \text{HP}_{\text{Unc}} + \text{HP}_{\text{Reconciliation Charge}}) \times [1 / (1-T)]$$

HP Energy Charge per kWh:

$$\text{HP}_{\text{Energy Charge}} = \sum_{t=1}^n [\text{kWh}_t \times (\text{LMP}_t + \text{HP}_{\text{Oth}}) \times \text{HP}_{\text{Loss Multipliers}}]$$

Where:

n = Total number of hours in the billing period

t = An hour in the billing period

LMP = the "Real Time" PJM load-weighted average Locational Marginal Price for the APS Transmission Zone

HP_{Oth} = \$X.XXXXX per kWh for estimate of capacity, ancillary services, NITS, AEPS compliance and other supply components.

(C) Change

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WEST PENN POWER COMPANY

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RIDERS

Rider I (continued)

HP _{Loss} Multipliers:	Rates 20 and 30	1.0899
	Rate 35	1.0678
	Rates 40, 44 and 46	1.0356

HP Cap-AEPS-Other Charge:

\$X.XXXXX per kWh representing the costs paid by the Company to the supplier for capacity, AEPS costs, and any other costs incurred by the supplier multiplied by the HP_{Loss} Multipliers. This charge is subject to quarterly adjustments.

HP Administrative Charge:

\$X.XXXXX per kWh representing the administrative costs incurred by the Company associated with providing Hourly Pricing Service.

HP Uncollectibles Charge:

\$X.XXXXX per kWh representing the default service-related uncollectible accounts expense associated with Hourly Pricing Default Service. This charge is subject to annual adjustment on June 1 of each year.

HP Reconciliation Charge:

The HP Reconciliation Charge Rate (“E_{HP}”) shall be applied to each kWh of Default Service that the Company delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The E_{HP} rate shall be included as a non-bypassable component billed to Customers receiving Default Service from the Company under this rider. The rate shall be calculated according to the provisions of this rider and shall be calculated and applied equally to Customers under this rider.

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~, the E_{HP} rates as follows:

(C)

HP Reconciliation Charge Rate = \$X.XXXXX per kWh

(C) Change

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RIDERS

Rider I (continued)

(C)

The E_{HP} rate will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st.~~at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The E_{HP} rate shall be calculated in accordance with the formula set forth below:

$$E_{HP} = ((DS_{HPExp1} + DS_{HPExp2}) - PTC_{HPR} + DS_{HPI}) / DS_{HPSales}$$

Where:

E_{HP} = ___ The rate determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Customers under this rider.

DS_{HPExp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023-2027~~ including but not limited to:

(C)

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~retail~~ Default Service Supply Plan including legal, customer notice, and consultant fees

(C)

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{HPExp2} = The cumulative costs to provide Hourly Pricing Default Service incurred by the Company for the six-month period ending two months prior to the effective date, through the end of the previous Default Service Quarter including but not limited to the following:

(C)

(C) Change

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RIDERS

Rider I (continued) _____ (C)

- Payments made to winning bidders
- Any PJM related charges other than Non-Market Based services Transmission charges identified in Rider J associated with the procurement of Hourly Pricing Default Service.
- ~~Net AEPS expenses and AEPS expenses incurred by the Company related to amendments to the AEPS Act and/or related laws or regulations occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan.~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~retail~~ Default Service including legal, customer notice, and consultant fees
- The cost of credit when the Company is considered by PJM to be the load serving entity
- ~~Incremental costs including but not limited to metering costs and billing expenses, incurred by the Company to expand Rate Schedule 35 to include Customers with a Kilowatt demand greater than or equal to 400 Kilowatts.~~
- ~~Any reconciliation balance associated with Rate Schedule 30 (HP) customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

(C)

$PTC_{HPRev} =$ The cumulative revenues, excluding any revenues associated with the HP Uncollectibles Charge and applicable Pennsylvania gross receipts tax, ~~for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter~~ billed to Hourly Pricing Default Service Customers under this rider including the applicable EHP rates.

(C)

$DS_{HPInt} =$ The cumulative amount of carrying charges calculated on a monthly basis ~~for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter~~. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

(C) Change

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RIDERS

Rider I (continued)

(C)

$DS_{HPSales} =$ The Company's projected Hourly Pricing Default Service kWh sales to retail Customers for the ~~three~~six-month billing period that the E_{HP} rate will be in effect.

Gross Receipts Tax:

$T =$ The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

General:

Each change in the E_{HP} rate as well as other rates within this rider will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the E_{HP} rate shall be subject to annual review and audit by the Commission.

(C) Change

WEST PENN POWER COMPANY

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RIDERS

RIDER I

HOURLY PRICING DEFAULT SERVICE RIDER

AVAILABILITY:

The charges billed under this rider are applicable to all Customers on Rate Schedules 30 (HP), 35-~~(large)~~, 40, 44, and 46 who elect to take Default Service from the Company. These charges are also applicable to Customers on Rate Schedules 20, and 30 (PTC) on a voluntary basis who meet the metering requirements of this rider. Rates shall be billed under this rider on the next scheduled meter reading date after electing Default Service.

Rate Schedules 20 and 30 (PTC) Customers electing service under this rider must have smart meter technology installed as part of the Company’s smart meter plan filed with and approved by the Commission. (C)

Hourly Pricing Service Charges:

Customers participating in the Hourly Pricing Default Service Rider will be billed for usage based on the following calculation:

$$\text{Hourly Pricing Service Charges} = (\text{HP}_{\text{Energy Charge}} + \text{HP}_{\text{Cap-AEPS-Other Charge}} + \text{HP}_{\text{Administrative Charge}} + \text{HP}_{\text{Unc}} + \text{HP}_{\text{Reconciliation Charge}}) \times [1 / (1-T)]$$

HP Energy Charge per kWh:

$$\text{HP}_{\text{Energy Charge}} = \sum_{t=1}^n [\text{kWh}_t \times (\text{LMP}_t + \text{HP}_{\text{Oth}}) \times \text{HP}_{\text{Loss Multipliers}}]$$

Where:

n = Total number of hours in the billing period

t = An hour in the billing period

LMP = the “Real Time” PJM load-weighted average Locational Marginal Price for the APS Transmission Zone

HP_{Oth} = \$X.XXXXX per kWh for estimate of capacity, ancillary services, NITS, AEPS compliance and other supply components.

HP_{Loss Multipliers}: 1.0356

(C) Change

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Effective: June 1, 2023

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RIDERS

Rider I (continued)

HP Cap-AEPS-Other Charge:

\$ X.XXXXX per kWh representing the costs paid by the Company to the supplier for capacity, AEPS costs, and any other costs incurred by the supplier multiplied by the $HP_{Loss\ Multipliers}$. This charge is subject to quarterly adjustments.

HP Administrative Charge:

\$ X.XXXXX per kWh representing the administrative costs incurred by the Company associated with providing Hourly Pricing Service.

HP Uncollectibles Charge:

\$ X.XXXXX per kWh representing the default service-related uncollectible accounts expense associated with Hourly Pricing Default Service. This charge is subject to annual adjustment on June 1 of each year.

HP Reconciliation Charge:

The HP Reconciliation Charge Rate (“ E_{HP} ”) shall be applied to each kWh of Default Service that the Company delivers to Customers under this rider as determined to the nearest one-thousandth of a cent per kWh. The E_{HP} rate shall be included as a non-bypassable component billed to Customers receiving Default Service from the Company under this rider. The rate shall be calculated according to the provisions of this rider, and shall be calculated and applied equally to Customers under this rider.

For service rendered ~~September-June 1, 2021-2023~~ through November 30, ~~2021-2023~~, the E_{HP} rate is as follows: (C)

HP Reconciliation Charge Rate = X.XXXXX per kWh (C)

The E_{HP} rate will be calculated ~~semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six month period ending September 30th to be effective for the six month period beginning December 1st at the end of each Default Service Quarter (three months ending March 31st, June 30th, September 30th, and December 31st) to be effective for the three-month period beginning on the first day of the third calendar month following the end of that Default Service Quarter (June 1st, September 1st, December 1st, and March 1st).~~ The E_{HP} rate shall be calculated in accordance with the formula set forth below:

$$E_{HP} = ((DS_{HPExp1} + DS_{HPExp2}) - PTC_{HPRev} + DS_{HPInt}) / DS_{HPSales}$$

Where:

E_{HP} = The rate determined to the nearest one-thousandth of a cent per kWh to be applied to each kWh of Default Service delivered to Customers under this rider.

(C) Change

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RIDERS

Rider I (continued)

(C)

DS_{HPExp1} = An allocated portion of the incremental start-up costs incurred by the Company through May 31, ~~2019-2023~~ in connection with the Company's Default Service Supply Plan to provide Default Service amortized over the forty-eight (48) month period ending May 31, ~~2023-2027~~ including but not limited to:

- Incremental start-up administrative costs including metering and billing costs incurred and other costs as necessary to provide service to ~~retail~~ Default Service Customers
- Other start-up costs incurred to develop and implement the competitive bid process for the ~~retail~~ Default Service Supply Plan including legal, customer notice, and consultant fees

(C)

Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected and included in the determination of the monthly amortized amount.

DS_{HPExp2} = The cumulative costs to provide Hourly Pricing Default Service incurred by the Company for the six-month period ending two months prior to the effective date, through the end of the previous Default Service Quarter including but not limited to the following:

(C)

- Payments made to winning bidders
- Any PJM related charges other than Non-Market Based Services Transmission Charges identified in Rider J associated with the procurement of Hourly Pricing Default Service.
- ~~Net AEPS expenses and AEPS expenses incurred by the Company related to amendments to the AEPS Act and/or related laws or regulations occurring subsequent to the effective date of the Supplier Master Agreement for the Default Service Supply Plan.~~
- ~~An allocated portion of incremental administrative costs including metering and billing costs incurred and other costs as necessary to provide service to retail Default Service Customers~~
- All contingency plan implementation costs incurred during the supply period
- An allocated portion of other costs incurred to develop and implement the competitive bid process for ~~retail~~ Default Service including legal, customer notice, and consultant fees

(C)

(C) Change

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RIDERS

Rider I (continued)

- The cost of credit when the Company is considered by PJM to be the load serving entity
- ~~Incremental costs, including but not limited to metering costs and billing expenses, incurred by the Company to expand Rate Schedule 35 to include Customers with a Kilowatt demand greater than or equal to 400 Kilowatts.~~
- ~~Any reconciliation balance associated with Rate Schedule 30 customers with demand equal to or greater than 100 kW migrating from Rider H Price to Compare Default Service Rate Rider to Rider I Hourly Pricing Default Service Rider as of June 1, 2019.~~

PTC_{HPR}Rev = The cumulative revenues, excluding any revenues associated with the HP Uncollectibles Charge and applicable Pennsylvania gross receipts tax, for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter billed to Hourly Pricing Default Service Customers under this rider including the applicable E_{HP} rates. (C)

DS_{HP}Int= The cumulative amount of carrying charges calculated on a monthly basis for the six-month period ending two months prior to the effective date through the end of the most recent Default Service Quarter. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month that the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected. (C)

DS_{HP}Sales = The Company's projected Hourly Pricing Default Service kWh sales to retail Customers for the ~~three~~six-month billing period that the E_{HP} rate will be in effect. (C)

Gross Receipts Tax:

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

General:

Each change in the E_{HP} rate as well as other rates within this rider will be filed with the Commission by the later of: (a) forty-five (45) days prior to the effective date of the rate changes; or (b) seven (7) days after the last supply auction. The Company shall file details in support of the revised rates.

At the conclusion of the duration of this reconciliation rider, the Company is authorized to recover or refund any remaining amounts not reconciled at that time under such mechanism as approved by the Commission.

Application of the E_{HP} rate shall be subject to annual review and audit by the Commission.

(C) Change

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METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

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RIDERS

RIDER J

DEFAULT SERVICE SUPPORT RIDER

A Default Service Support (“DSS”) rate shall be applied to DSS Sales delivered by the Company to Delivery Service Customers under this rider as determined to the nearest one-thousandth of a cent per kWh or dollar per kW NSPL, as applicable. The DSS rate shall be billed to Customers receiving Delivery Service from the Company under this rider. The DSS rates shall be calculated according to the provisions of this rider. The DSS Rider shall be non-bypassable.

For service rendered during the DSS Initial Computational Period and thereafter, the DSS Computational Year, the DSS rates billed by Rate Schedule are as follows:

<u>Rate Schedule</u>	<u>DSS Rates</u>
Rate Schedule RS	X.XXX cents per kWh
Rate Schedule GS Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	X.XXX cents per kWh
Rate Schedule GS - Small	X.XXX cents per kWh
Rate Schedule GS - Medium	X.XXX cents per kWh
Rate Schedule GS - Large	\$ X.XXX per kW NSPL
Rate Schedule GP	\$ X.XXX per kW NSPL
Rate Schedule TP	\$ X.XXX per kW NSPL
Rate Schedule MS	X.XXX cents per kWh
Rate Schedule OAL	X.XXX cents per kWh
Rate Schedule STLT	X.XXX cents per kWh
Rate Schedule LED	X.XXX cents per kWh
Rate Schedule BRD	X.XXX cents per kWh

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RIDERS

Rider J (continued)

The DSS rates by rate schedule shall be calculated annually in accordance with the formula set forth below:

$$\text{DSS rate} = [\text{UE} + \text{NUG} + \text{NMB} + \text{RE} + \text{CEC} + \text{CB}] \times [1 / (1-T)]$$

(C)

The components of the formula are defined below:

Default Service Related Uncollectibles

UE = A default service-related unbundled uncollectible accounts expense charge, determined by Customer Class and stated to the nearest one-thousandth of a cent per kWh, to be applied to DSS Sales delivered by the Company to residential and commercial Delivery Service Customers under this rider. The UE reflects the default service-related portion of the uncollectible account expense based on revenues in the Company's distribution base rate case and the additional uncollectible accounts expense incurred by the Company as a result of providing Default Service under this tariff. This component of the DSS rate in this non-bypassable rider is non-reconcilable.

The unbundled uncollectible accounts expense associated with Default Service and a purchase of receivables program allocated to Delivery Service Customers on a non-bypassable, non-reconcilable basis will be Customer Class specific and will be adjusted annually on June 1 of each year based on the projected price of Default Service. Adjustments, if necessary, will be made to the uncollectible percentage in a future distribution base rate case or the start of the next Default Service Program, whichever occurs earlier.

(C) Change

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RIDERS

Rider J (continued)

The UE charges by Customer Class to be included in DSS rates are as follows:

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting, and Outdoor Lighting Service):

X.XXX cents per kWh

Residential Customer Class (Rate RS and Rate GS - Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

Non-Utility Generation Charges

(C)

$$NUG = NUGE / S$$

Where:

~~NUG = The charge to be applied to Delivery Service Customers under this rider to recover or refund the balance of the cumulative over or under collection of the Non-Utility Generation Charge Rider ("NUGE") which was approved by the Commission in its final order at Docket No. P-2009-2093053. The NUGE is being recovered under this DSS Rider. The NUG rate will be effective on June 1, 2017 and will be amortized over the 12 month period ending May 31, 2018.~~

(C)

~~NUGE = The balance of the NUG Rider that remains to be recovered from or refunded to customers~~

~~S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.~~

(C) Change

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RIDERS

Rider J (continued)

(C)

~~The NUG charges by NUGE Rate Group to be included in DSS rates are as follows:~~

<u>Rate Schedule</u>	<u>NUG Rates</u>
NUG Rate Group 1—Rate Schedule RS	0.000 cents per kWh
NUG Rate Group 2A—Rate Schedule GS— Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior- Center Service Rate, GS—Small, GS—Medium, MS, OAL, STLT, LED and BRD	0.000 cents per kWh
NUG Rate Group 2B—Rate Schedule GS—Large	\$0.000 per kW NSPL
NUG Rate Group 3—Rate Schedule GP	\$0.000 per kW NSPL
NUG Rate Group 4—Rate Schedule TP	\$0.000 per kW NSPL

Non-Market Based Services Transmission Charges

$$NMB = (NMB_C - E) / S$$

Where:

NMB = The charge to be applied to Delivery Service Customers served under this rider for Non-Market Based Services Transmission Charge costs incurred by the Company.

(C)

NMB_C = Forecasted NMB costs applicable to the Company's DSS Sales. Forecasted NMB costs shall include FERC approved costs for (i) PJM Regional Transmission Expansion Plan charges; (ii) PJM Expansion Cost Recovery; (iii) PJM charges for Reliability Must Run generating unit declarations and charges associated with plants deactivated after July 24, 2014, the approval date of the Company's Default Service Program at Docket No. P-2013-2391368; (iv) historical tie line, generation, and retail customer meter adjustments; (v) Unaccounted for Energy; (vi) any FERC-approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009; and (vii) any other FERC-approved PJM transmission charges billed to the Company by PJM that will not be reconciled through the Company's Price To Compare Default Service Rate Rider and/or Hourly Pricing Default Service Rider. Forecasted NMB costs are allocated to each Customer Class based upon each Customer Class's contribution to the total Company Network Service Peak Load.

(C) Change

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RIDERS

Rider J (continued)

- E = The over or under-collection of the NMB_C that results from billing of the NMB during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.
- S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The NMB charges by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS – Large, GP and Rate TP):

\$ X.XXX per kW NSPL

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

X.XXX cents per kWh

Residential Customer Class (Rate RS, Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Retail Enhancements

$$RE = [(RE_c - E) / S]$$

Where:

RE = The charge to be applied to Delivery Service Customers served under this rider for the Retail Enhancement Costs incurred by the Company.

RE_c = The Retail Enhancement Costs incurred by the Company to cover programming expenses and implementation costs associated with competitive market enhancements approved by the Commission.

E = The over or under-collection of the RE_c that results from billing of the RE during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The RE rates by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS - Large, GP and Rate TP):

\$X.XXX per kW NSPL

Commercial Customer Class (Rate GS-Small):

X.XXX cents per kWh

Residential Customer Class (Rate RS and Rate GS - Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Customer Education Charges

$$CEC = (CEC_C - E) / S$$

Where:

CEC = The charge to be applied to Delivery Service Customers served under this rider for Customer Education Charges incurred by the Company.

CEC_C = Customer Education costs for the specific Customer Class to cover customer education costs associated with competitive market enhancements approved by the Commission.

E = The over or under-collection of the CEC_C that results from the billing of the CEC during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The CEC rates by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS – Large, GP and Rate TP):

\$X.XXX per kW NSPL

Commercial Customer Class (Rate GS - Small):

X.XXX cents per kWh

Residential Customer Class (Rate RS and Rate GS - Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Clawback Charge Credit

$$CB = CB_C / S$$

Where:

CB = The credit to be applied to Delivery Service Customers related to the clawback provision, under the Default Service Program, which is collected by the Company from Electric Generation Suppliers. This credit will be amortized for each applicable DSS Computational Year.

CB_C = Clawback credits applied to each Customer Class eligible for the Company's POR to refund the clawback charges collected from Electric Generation Suppliers. The clawback charges are returned to customers when the Company's actual uncollectible expense was less than the amount of uncollectible expense recovered in base rates and the Default-Service Related Uncollectibles component of this Rider. CB will be applied to each Customer Class eligible for the Company's POR based upon each Customer Class's kWh.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The CB rates by Customer Class to be included in DSS rates are as follows:

Residential Customer Class (Rate RS and Rate GS - Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate MS, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

X.XXX cents per kWh

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Superseding __ Revised Page 149

RIDERS

Rider J (continued)

Gross Receipts Tax

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

All capitalized terms not otherwise defined in this Rider shall have the definitions specified in Section 2 of this Tariff. For purposes of this Rider, the following additional definitions shall apply:

1. DSS Sales - The kWh or kW NSPL delivered during a billing month to all Delivery Service Customers, as applicable to each Rate Schedule billed under the DSS Rider.
2. DSS Computational Year - The 12-month period from June 1 through the following May 31.
3. DSS Reconciliation Year - The 12-month period ending March 31 immediately preceding the DSS Computational Year.
4. DSS Initial Computational Period - the period from May 3, 2015 through May 31, 2015 that the DSS Rider is in effect. Thereafter, the DSS Computational Year will be in effect.

The Company shall recalculate its DSS Rates annually and, based on that recalculation, shall file with the Commission, by May 1st of each year, revised Rates to become effective on June 1st of the same year unless the Commission orders otherwise. The revised DSS rates shall remain in effect for a period of one year, unless revised on an interim basis subject to the approval of the Commission. Upon determining that its DSS rates, if left unchanged, would result in material over or under-collection of all costs incurred, or expected to be incurred, for DSS during the then current DSS Reconciliation Year, the Company may request that the Commission approve one or more interim revisions to its DSS rates to become effective thirty (30) days from the date of filing, unless the Commission orders otherwise.

At the conclusion of the period during which this DSS Rider is in effect, the Company shall be authorized to recover or refund at any time, any remaining differences between recoverable costs and revenues billed under this rider by charges or credits to be applied to customer's bills under such mechanism the Commission may approve, but uncollectibles, which are non-reconcilable under the terms of this rider, shall not be included in the final reconciliation.

Application of the DSS rates shall be subject to annual review and audit by the Commission.

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RIDERS

RIDER J

DEFAULT SERVICE SUPPORT RIDER

A Default Service Support (“DSS”) rate shall be applied to DSS Sales delivered by the Company to Delivery Service Customers under this rider as determined to the nearest one-thousandth of a cent per kWh or dollar per kW NSPL, as applicable. The DSS rate shall be billed to Customers receiving Delivery Service from the Company under this rider. The DSS rates shall be calculated according to the provisions of this rider. The DSS Rider shall be non-bypassable.

For service rendered during the DSS Initial Computational Period and thereafter, the DSS Computational Year, the DSS rates billed by Rate Schedule are as follows:

<u>Rate Schedule</u>	<u>DSS Rates</u>
Rate Schedule RS	X.XXX cents per kWh
GS Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	X.XXX cents per kWh
Rate Schedule GS – Small	X.XXX cents per kWh
Rate Schedule GS – Medium	X.XXX cents per kWh
Rate Schedule H	X.XXX cents per kWh
Rate Schedule BRD	X.XXX cents per kWh
Rate Schedule LED	X.XXX cents per kWh
Rate Schedule Street Lighting	X.XXX cents per kWh
Rate Schedule Municipal Street Lighting	X.XXX cents per kWh
Rate Schedule OAL	X.XXX cents per kWh
Rate Schedule GS – Large	\$ X.XXX per kW NSPL
Rate Schedule GP	\$ X.XXX per kW NSPL
Rate Schedule LP	\$ X.XXX per kW NSPL

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RIDERS

Rider J (continued)

The DSS rates by rate schedule shall be calculated annually in accordance with the formula set forth below:

$$\text{DSS rate} = [\text{UE} + \text{NUG} + \text{NMB} + \text{RE} + \text{CEC} + \text{CB}] \times [1 / (1-T)]$$

(C)

The components of the formula are defined below:

Default Service Related Uncollectibles

UE = A default service-related unbundled uncollectible accounts expense charge, determined by Customer Class and stated to the nearest one-thousandth of a cent per kWh to be applied to DSS Sales delivered by the Company to residential and commercial Delivery Service Customers under this rider. The UE reflects the default service-related portion of the uncollectible account expense based on revenues in the Company's distribution base rate case and the additional uncollectible accounts expense incurred by the Company as a result of providing Default Service under this tariff. This component of the DSS rate in this non-bypassable rider is non-reconcilable.

The unbundled uncollectible accounts expense associated with Default Service and a purchase of receivables program allocated to Delivery Service Customers on a non-bypassable, non-reconcilable basis will be Customer Class specific and will be adjusted annually on June 1 of each year based on the projected price of Default Service. Adjustments, if necessary, will be made to the uncollectible percentage in a future distribution base rate case or the start of the next Default Service Program, whichever occurs earlier.

The UE charges by Customer Class to be included in DSS rates are as follows:

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate H, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

X.XXX cents per kWh

Residential Customer Class (Rate RS, Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

(C) Change

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Rider J (continued)

(C)

~~Non-Utility Generation Charges~~

$$NUG = NUGE / S$$

Where:

~~NUG = The charge to be applied to Delivery Service Customers under this rider to recover or refund the balance of the cumulative over or under collection of the Non-Utility Generation Charge Rider (“NUGE”) which was approved by the Commission in its final order at Docket No. P-2009-2093053. The NUGE is being recovered under the DSS Rider. The NUG rate will be effective on June 1, 2021 and will be amortized over the 12-month period ending May 31, 2022.~~

~~NUGE = The balance of the NUG Rider that remains to be recovered from or refunded to customers.~~

~~S = The Company’s total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.~~

~~The NUG charges by NUGE Rate Group to be included in DSS rates are as follows:~~

<u>Rate Schedule</u>	<u>NUG Rates</u>
NUG Rate Group 1 Rate Schedule RS	0.000 cents per kWh (D)
NUG Rate Group 2 Rate Schedule GS Volunteer Fire Company Non-Profit Ambulance Service, Rescue Squad and Senior Center Service, GS Small, GS Medium, H, OAL, STLT, SLED, and BRD	0.000 cents per kWh (I)
NUG Rate Group 2B Rate Schedule GS Large	\$0.000 per kW NSPL (I)
NUG Rate Group 3 Rate Schedule GP	\$0.000 per kW NSPL (I)
NUG Rate Group 4 Rate Schedule LP	\$0.000 per kW NSPL (I)

(C) Change

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RIDERS

Rider J (continued)

Non-Market Based Services Transmission Charges

$$\text{NMB} = (\text{NMB}_C - E) / S$$

Where:

NMB = The charge to be applied to Delivery Service Customers served under this rider for Non-Market Based Services Transmission Charge costs incurred by the Company.

(C)

NMB_C = Forecasted NMB costs applicable to the Company's DSS Sales. Forecasted NMB costs shall include FERC approved costs for (i) PJM Regional Transmission Expansion Plan charges; (ii) PJM Expansion Cost Recovery; (iii) PJM charges for Reliability Must Run generating unit declarations and charges associated with plants deactivated after July 24, 2014, the approval date of the Company's Default Service Program at Docket No. P-2013-2391372; (iv) historical tie line, generation, and retail customer meter adjustments; (v) Unaccounted for Energy; (vi) any FERC-approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009; and (vii) any other FERC-approved PJM transmission charges billed to the Company by PJM that will not be reconciled through the Company's Price To Compare Default Service Rate Rider and/or Hourly Pricing Default Service Rider. Forecasted NMB costs are allocated to each Customer Class based upon each Customer Class's contribution to the total Company Network Service Peak Load.

E = The over or under-collection of the NMB_C that results from billing of the NMB during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

(C) Change

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RIDERS

Rider J (continued)

The NMB charges by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS – Large, GP and Rate LP):

\$ X.XXX per kW NSPL

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate H, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

X.XXX cents per kWh

Residential Customer Class (Rate RS, Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

(I) Increase

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RIDERS

Rider J (continued)

Retail Enhancements

$$RE = [(RE_c - E) / S]$$

Where:

RE = The charge to be applied to Delivery Service Customers served under this rider for the Retail Enhancement Costs incurred by the Company.

RE_c = The Retail Enhancement Costs incurred by the Company to cover programming expenses and implementation costs associated with competitive market enhancements approved by the Commission.

E = The over or under-collection of the RE_c that results from billing of the RE during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The RE rates by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS – Large, GP and Rate LP):

\$ X.XXX per kW NSPL

Commercial Customer Class (Rate GS-Small):

X.XXX cents per kWh

Residential Customer Class (Rate RS and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Customer Education Charges

$$CEC = (CEC_C - E) / S$$

Where:

CEC = The charge to be applied to Delivery Service Customers served under this rider for Customer Education Charges incurred by the Company.

CEC_C = Customer Education costs for the specific Customer Class to cover customer education costs associated with competitive market enhancements approved by the Commission.

E = The over or under-collection of the CEC_C that results from the billing of the CEC during the DSS Reconciliation Year, including applicable interest. An over-collection is denoted by a positive E and an under-collection by a negative E. Interest shall be computed monthly for the over or under collection at the prime rate of interest for commercial banking, not to exceed the legal rate of interest, in effect on the last day of the month the over and under collection occurs, as reported in the *Wall Street Journal*, to the effective month that the over collection is refunded or the under collection is collected.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The CEC rates by Customer Class to be included in DSS rates are as follows:

Industrial Customer Class (Rate GS – Large, GP and Rate LP):

\$ X.XXX per kW NSPL

Commercial Customer Class (Rate GS-Small):

X.XXX cents per kWh

Residential Customer Class (Rate RS and Rate GS – Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Clawback Charge Credit

$$CB = CB_C / S$$

Where:

CB = The credit to be applied to Delivery Service Customers related to the clawback provision, under the Default Service Program, which is collected by the Company from Electric Generation Suppliers. This credit will be amortized for each applicable DSS Computational Year.

CB_C = Clawback credits applied to each Customer Class eligible for the Company's POR to refund the clawback charges collected from Electric Generation Suppliers. The clawback charges are returned to customers when the Company's actual uncollectible expense was less than the amount of uncollectible expense recovered in base rates and the Default-Service Related Uncollectibles component of this Rider. CB will be applied to each Customer Class eligible for the Company's POR based upon each Customer Class's kWh.

S = The Company's total DSS Sales per Customer Class to Delivery Service Customers projected for the DSS Computational Year.

The CB rates by Customer Class to be included in DSS rates are as follows:

Residential Customer Class (Rate RS and Rate GS - Volunteer Fire Company, Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate):

X.XXX cents per kWh

Commercial Customer Class (Rate GS-Small, Rate GS-Medium, Rate H, Borderline Service, Street Lighting Service, Ornamental Street Lighting, LED Street Lighting Service, and Outdoor Lighting Service):

X.XXX cents per kWh

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RIDERS

Rider J (continued)

Gross Receipts Tax

T = The Pennsylvania gross receipts tax rate in effect during the billing month expressed in decimal form as reflected in the Company's base rates.

All capitalized terms not otherwise defined in this Rider shall have the definitions specified in Section 2 of this Tariff. For purposes of this Rider, the following additional definitions shall apply:

1. DSS Sales – The kWh or kW NSPL delivered during a billing month to all Delivery Service Customers, as applicable to each Rate Schedule billed under the DSS Rider.
2. DSS Computational Year – The 12-month period from June 1 through the following May 31.
3. DSS Reconciliation Year – The 12-month period ending March 31 immediately preceding the DSS Computational Year.
4. DSS Initial Computational Period – the period from May 3, 2015 through May 31, 2015 that the DSS Rider is in effect. Thereafter, the DSS Computational Year will be in effect.

The Company shall recalculate its DSS Rates annually and, based on that recalculation, shall file with the Commission, by May 1st of each year, revised Rates to become effective on June 1st of the same year unless the Commission orders otherwise. The revised DSS rates shall remain in effect for a period of one year, unless revised on an interim basis subject to the approval of the Commission. Upon determining that its DSS rates, if left unchanged, would result in material over or under-collection of all costs incurred, or expected to be incurred, for DSS during the then current DSS Reconciliation Year, the Company may request that the Commission approve one or more interim revisions to its DSS rates to become effective thirty (30) days from the date of filing, unless the Commission orders otherwise.

At the conclusion of the period during which this DSS Rider is in effect, the Company shall be authorized to recover or refund at any time, any remaining differences between recoverable costs and revenues billed under this rider by charges or credits to be applied to customer's bills under such mechanism the Commission may approve, but uncollectibles, which are non-reconcilable under the terms of this rider, shall not be included in the final reconciliation.

Application of the DSS rates shall be subject to annual review and audit by the Commission.

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8.5.1 Customer PLS and NPLS. The customer specific PLS and NPLS developed in support of the PLS and NPLS submitted to the PJM eRPM tool (or its successor) by the Company, will be provided to each EGS for the EGS's customers of record no later than 10 days following such data being uploaded into the Company's SAP system. Beginning in 2012, the Eligible Customer List ("ECL") and supplier specific "Sync Lists" will contain the new PLS and NPLS values in the first scheduled update of the ECL and Sync Lists after the calculations are uploaded into the SAP system.

9. ALTERNATIVE ENERGY PORTFOLIO STANDARDS

9.1 Requirements. EGSs supplying retail load in the Company's service territory shall cooperate with the Company to ensure compliance with applicable requirements under the AEPS Act and related regulations. An EGS is required to meet AEPS Act requirements for its metered retail load as measured at the delivery point for each EGS Customer, ~~provided, however, that the Company shall provide solar photovoltaic alternative energy credits to satisfy EGS AEPS solar photovoltaic requirements during the period June 1, 2019 to May 31, 2023. An EGS shall grant the Company permission to transfer solar photovoltaic alternative energy credits into the EGS's GATS account.~~

(C)

(C) Change

12.9 Purchase of EGS Receivables (“POR”) Program. The Company will purchase the account receivables, associated with EGS sales of retail electricity supply comprised of electric energy, capacity, transmission and ancillary services. The program will be applicable to residential and commercial Customers on Consolidated EDC Billing under the following rate schedules: Residential Service RS, General Service GS-Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service, General Service GS-Small, General Service GS-Medium, Municipal Service, Borderline Service, Street Lighting Service, Ornamental Street Lighting Service and Outdoor Lighting Service. Provided that the Company is able to bill EGSs for all fees as provided in Section 12.9(f), the POR will be “non-recourse”, except as provided for under Section 12.9(g). To the extent the Company has to provide any consumer protections other than those provided for under Chapter 14 of the Public Utility Code and Chapters 55 and 56 of the Commission’s regulations, 52 Pa. Code §§ 55.1 and 56.1 et. seq., the costs will be borne by the EGSs. The Company will purchase only those receivables that are associated with basic electric supply services and not receivables associated with charges for other products or services. The Company has the right to withhold from the POR payment to an EGS an amount equal to any undisputed outstanding and unpaid balance in excess of thirty (30) or more days associated with EGS obligations to the Company as provided for in Section 12.2.

Suppliers serving both industrial and commercial/residential Customers on Consolidated EDC Billing would need a separate DUNs number for industrial Customers and a separate DUNs number for commercial/residential Customers. EGSs will not deny service to residential customers whose accounts are included in the POR program for credit-related reasons and will not ask residential customers for deposits separate from any deposit required by the Company pursuant to Chapter 14 and Commission regulations.

(a) **Eligibility:** The POR program will be available only for EGSs who employ the Company’s Consolidated EDC Billing option. Participation in the Company’s POR program will be mandatory for any EGS that does employ the Consolidated EDC Billing option.

(b) **Timing of Payments:** Payments to EGSs will be made based on the current amount that is billed and owed by the Customers and will be paid 40 days after invoicing the Customer. The POR payments to EGSs will be subject to the Clawback Provision provided for in Section 12.9(g) ~~on a pilot basis through September 30, 2021.~~

(C)

(C) Change

8.5.1 Customer PLS and NPLS. The customer specific PLS and NPLS developed in support of the PLS and NPLS submitted to the PJM eRPM tool (or its successor) by the Company, will be provided to each EGS for the EGS's customers of record no later than 10 days following such data being uploaded into the Company's SAP system. Beginning in 2012, the Eligible Customer List ("ECL") and supplier specific "Sync Lists" will contain the new PLS and NPLS values in the first scheduled update of the ECL and Sync Lists after the calculations are uploaded into the SAP system.

9. ALTERNATIVE ENERGY PORTFOLIO STANDARDS

9.1 Requirements. EGSs supplying retail load in the Company's service territory shall cooperate with the Company to ensure compliance with applicable requirements under the AEPS Act and related regulations. An EGS is required to meet AEPS Act requirements for its metered retail load as measured at the delivery point for each EGS Customer, ~~provided, however, that the Company shall provide solar photovoltaic alternative energy credits to satisfy EGS AEPS solar photovoltaic requirements during the period June 1, 2019 to May 31, 2023. An EGS shall grant the Company permission to transfer solar photovoltaic alternative energy credits into the EGS's GATS account.~~

(C)

(C) Change

12.9 Purchase of EGS Receivables (“POR”) Program. The Company will purchase the account receivables, associated with EGS sales of retail electricity supply comprised of electric energy, capacity, transmission and ancillary services. The program will be applicable to residential and commercial Customers on Consolidated EDC Billing under the following rate schedules: Residential Service RS, General Service GS-Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service, General Service GS-Small, General Service GS-Medium, Municipal Service, Borderline Service, Street Lighting Service, Ornamental Street Lighting Service and Outdoor Lighting Service. Provided that the Company is able to bill EGSs for all fees as provided in Section 12.9(f), the POR will be “non-recourse”, except as provided for under Section 12.9(g). To the extent the Company has to provide any consumer protections other than those provided for under Chapter 14 of the Public Utility Code and Chapters 55 and 56 of the Commission’s regulations, 52 Pa. Code §§ 55.1 and 56.1 et. seq., the costs will be borne by the EGSs. The Company will purchase only those receivables that are associated with basic electric supply services and not receivables associated with charges for other products or services. The Company has the right to withhold from the POR payment to an EGS an amount equal to any undisputed outstanding and unpaid balance in excess of thirty (30) or more days associated with EGS obligations to the Company as provided for in Section 12.2.

Suppliers serving both industrial and commercial/residential Customers on Consolidated EDC Billing would need a separate DUNs number for industrial Customers and a separate DUNs number for commercial/residential Customers. EGSs will not deny service to residential customers whose accounts are included in the POR program for credit-related reasons and will not ask residential customers for deposits separate from any deposit required by the Company pursuant to Chapter 14 and Commission regulations.

(a) Eligibility: The POR program will be available only for EGSs who employ the Company’s Consolidated EDC Billing option. Participation in the Company’s POR program will be mandatory for any EGS that does employ the Consolidated EDC Billing option.

(b) Timing of Payments: Payments to EGSs will be made based on the current amount that is billed and owed by the Customers and will be paid 40 days after invoicing the Customer. The POR payments to EGSs will be subject to the Clawback Provision provided for in Section 12.9(g) ~~on a pilot basis through September 30, 2021.~~

(C) Change

8.5.1 Customer PLS and NPLS. The customer specific PLS and NPLS developed in support of the PLS and NPLS submitted to the PJM eRPM tool (or its successor) by the Company, will be provided to each EGS for the EGS's customers of record no later than 10 days following such data being uploaded into the Company's SAP system. Beginning in 2012, the eligible customer list ("ECL") and supplier specific "sync lists" will contain the new PLS and NPLS values in the first scheduled update of the ECL and Sync Lists after the calculations are uploaded into the SAP system.

9. ALTERNATIVE ENERGY PORTFOLIO STANDARDS

9.1 Requirements. EGSs supplying retail load in the Company's service territory shall cooperate with the Company to ensure compliance with applicable requirements under the AEPS Act and/or related regulations. An EGS is required to meet AEPS Act requirements for its metered retail load as measured at the delivery point for each EGS Customer, ~~provided, however, that the Company shall provide solar photovoltaic alternative energy credits to satisfy EGS AEPS solar photovoltaic requirements during the period June 1, 2019 to May 31, 2023. An EGS shall grant the Company permission to transfer solar photovoltaic alternative energy credits into the EGS's GATS account.~~ (C)

(C) Change

12.9 12.9 Purchase of EGS Receivables (“POR”) Program. The Company will purchase the account receivables, associated with EGS sales of Basic Electric Supply. The program will be applicable to residential and commercial Customers on Consolidated EDC Billing under the following rate schedules: Residential Service RS, General Service GS Special Provision for Volunteer Fire Company and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service, General Service GS, General Service Medium GM, Street Lighting Service SV, Street Lighting Service SVD, Street Lighting Service SM and Private Outdoor Lighting Service PLS. Provided that the Company is able to bill EGSs for all fees as provided in Section 12.9(f), the POR will be “non-recourse” except as provided for under Section 12.9(g). To the extent the Company has to provide any consumer protections other than those provided for under Chapter 14 of the Public Utility Code and Chapters 55 and 56 of the Commission’s regulations, 52 Pa. Code §§ 55.1 and 56.1 et. seq., the costs will be borne by the EGSs. The Company will purchase only those receivables that are associated with basic electric supply services and not receivables associated with Basic Electric Supply. The Company has the right to withhold from the POR payment to an EGS an amount equal to any undisputed outstanding and unpaid balance in excess of thirty (30) or more days associated with EGS obligations to the Company as provided for in Section 12.2.

EGSs will not deny service to residential customers whose accounts are included in the POR program for credit-related reasons and will not ask residential customers for deposits separate from any deposit required by the Company pursuant to Chapter 14 and Commission regulations.

The Company will purchase receivables only for service rendered on or after June 1, 2011. Receivables for service rendered before June 1, 2011 cannot be used for termination purposes.

- (a) **Eligibility:** The POR program will be available only for EGSs who employ the Company’s Consolidated EDC Billing option. Participation in the Company’s POR program will be mandatory for any EGS that does employ the Consolidated EDC Billing option.
- (b) **Timing of Payments:** Payments to EGSs will be made based on the current amount that is billed and owed by the Customers and will be paid 40 days after invoicing the Customer. The POR payments to EGSs will be subject to the Clawback Provision provided for in Section 12.9(g) ~~on a pilot basis through September 30, 2021.~~

(C)

(C) Change

5.14.2 Transfer of Cost Obligations Between Registered EGSs and Customers. Nothing in the EGS Tariff is intended to prevent a Registered EGS and a Customer from agreeing to reallocate between them any charges that the EGS Tariff imposes on the Registered EGS, provided that any such agreement shall not change in any way the Registered EGSs obligation to pay such charges to the Company, and that any such agreement shall not confer upon the Company any right to seek recourse directly from the Registered EGSs Customer for any charges owed to the Company by the Registered EGS.

5.14.3 Customer Obligations. Customers of a Registered EGS remain bound by the rules and requirements of the applicable EDC Tariff under which they receive service from the Company.

6. LOAD FORECASTING

(C)

- 6.1 Customer Load Forecasting.** The Registered EGS is responsible for forecasting its Customer load obligations. ~~The Company will post 24-hour next day forecasts respective to each LSE as support information. This information will be available on an on-going basis for a Registered EGS to download from a password-secured Company website. These will be provided for informational purposes only.~~
- 6.2 Typical Load Data.** The Company shall provide typical load curve data respective to Monthly metered Customer class types. This data is available on the Company's website.
- 6.3 Updates to Typical Load Curve Data.** The Company shall review annually its methodology, algorithms and Load Forecasting results and shall perform additional load studies to update the load curve data as required.
- 6.4 Right to Aggregate.** Registered EGSs may aggregate their Customers' loads when exercising Customer Choice. Customers receiving Competitive Generation Service from a Registered EGS may aggregate multiple EDC accounts or meters for the purpose of energy scheduling and billing of Competitive Generation Service only if the Registered EGS performs the billing of the Competitive Generation Service.
- 6.5 Split Loads.** Partial requirements or split loads are not allowed. Only one Registered EGS will be allowed to provide Competitive Generation Service to a Customer's EDC account.

7. LOAD SCHEDULING

- 7.1 Day Ahead Energy Schedules.** The Registered EGS is responsible for fulfilling its load obligations directly with PJM according to the PJM OATT, as noted in Appendix A- Responsibilities for PJM Billing Line Items as Defined in Applicable PJM Agreement or Manual.

EGSs will no longer be responsible for PJM Regional Transmission Expansion Plan charges ("RTEPs") (PJM OATT Schedule 12) and Expansion Cost Recovery charges (PJM OATT Schedule 13) billed for service rendered by PJM after June 1, 2013.

Beginning June 1, 2015, EGS will no longer be responsible for the following transmission costs; (1) PJM charges associated with reliability must run ("RMR") generating unit declarations and deactivation of plants deactivated after July 24, 2014, the date of the Commission's approval of West Penn Power's Default Service Programs in PaPUC Docket No. P-2013-2391378; (2) historical out of market tie line, generation and retail customer meter adjustments; and (3) unaccounted for energy.

EGSs will not be responsible for any approved reallocation of PJM Regional Transmission Expansion Plan charges related to Docket No. EL05-121-009.

(C) Change

- (a) The Registered EGS must calculate and send its Customer charges to the Company within three (3) Business Days of receipt of the meter read data. If the Registered EGS fails to transmit its Customer charges to the Company in the required timeframe, the Company will not include the Registered EGS's Customer charges on the bill for that period. The Company will place the previous Month Customer charges on a future consolidated bill provided that the Registered EGS: (i) transmits the previous Month Customer charges in accordance with standard EDI practices; and (ii) sends its previous Month Customer charges to the Company within three (3) Business Days of receipt of future meter read data.
- (b) The Company will not be liable for the Registered EGS's charges or losses, damages or consequential damages associated with the Registered EGS's Customers not being billed for the Registered EGS's charges for that period.
- (c) The Registered EGS is responsible for the bill content transmitted to the Company.

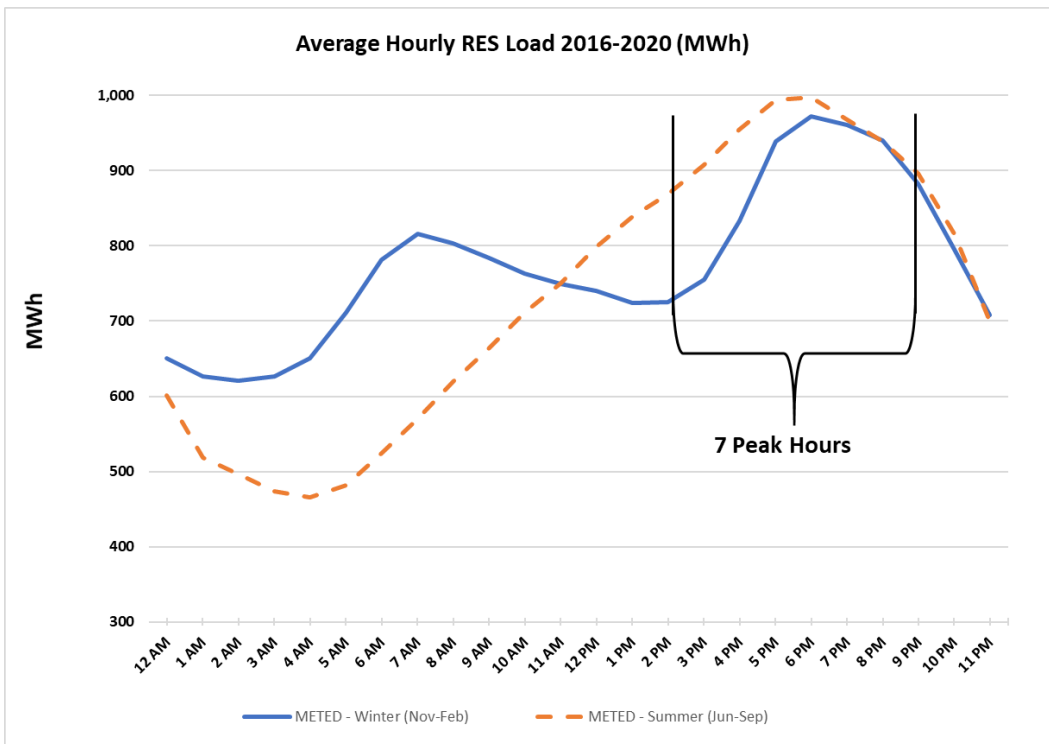
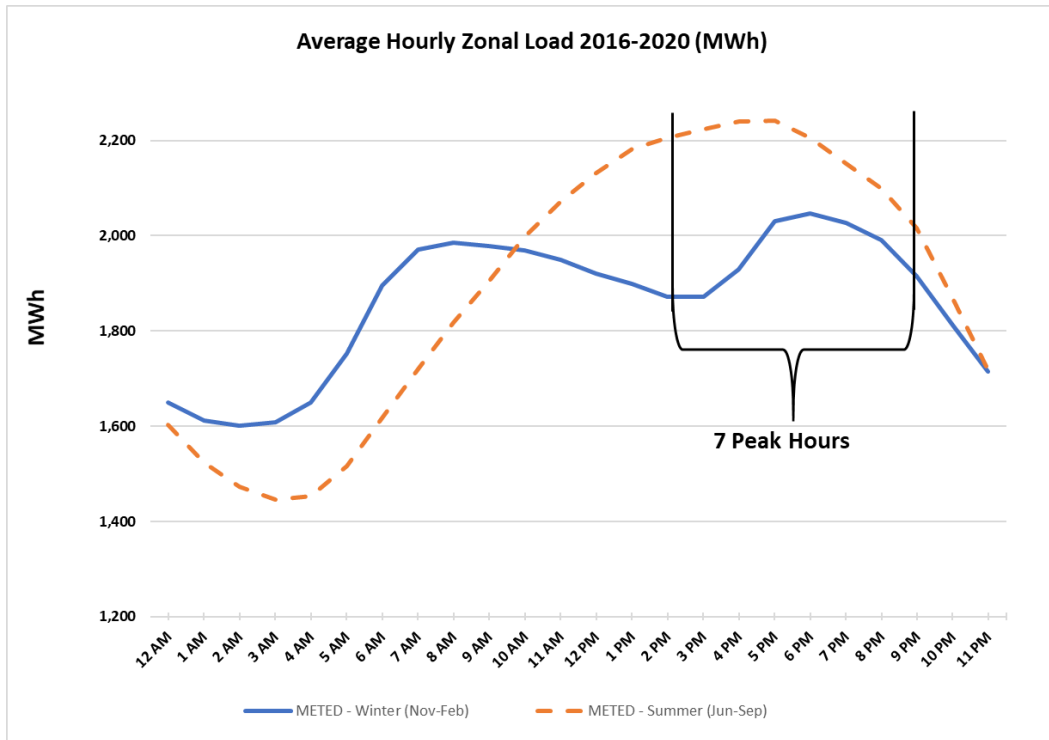
12.4.2 Purchase of Receivables ("POR") Program. When a Registered EGS elects to use Company Consolidated Billing, the Company will purchase the Registered EGS's Basic Electric Supply receivables. The POR program will be applicable to residential and small commercial Customers served under the following retail rate schedules of the EDC Tariff: Schedules 10, 20, 30, 51, 52, 53, 54, 55, 56, 57, 58, and 71 and pursuant to the terms and conditions as follows:

- (a) All Registered EGS Basic Electric Supply charges for residential and small commercial Customers billed using Company Consolidated Billing will be purchased at 100%, and will become the Company's charges on the day the bill is rendered. The Company has the right to withhold from the POR payment to an EGS an amount equal to any undisputed outstanding and unpaid balance in excess of thirty (30) or more days associated with EGS obligations to the Company as provided for in Section 12.7.
- (b) In the event a Registered EGS converts a Customer from Company Consolidated Billing to Dual Billing, the Registered EGS and Company will each be responsible for its receivables effective as of the start of Dual Billing. EGSs' receivables incurred as a result of a Customer billed under a Dual Billing arrangement will not be included in the POR program.
- (c) Company payments to EGSs will be made based on current charges applicable for the current month of service that is billed to and owed by the Customers, and will be paid to the Registered EGSs forty (40) days after the issued date of the Company Consolidated Bill. The POR payments to EGSs will be subject to the Clawback Provision provided for in Section 12.4.2(I) ~~on a pilot basis through September 30, 2021.~~

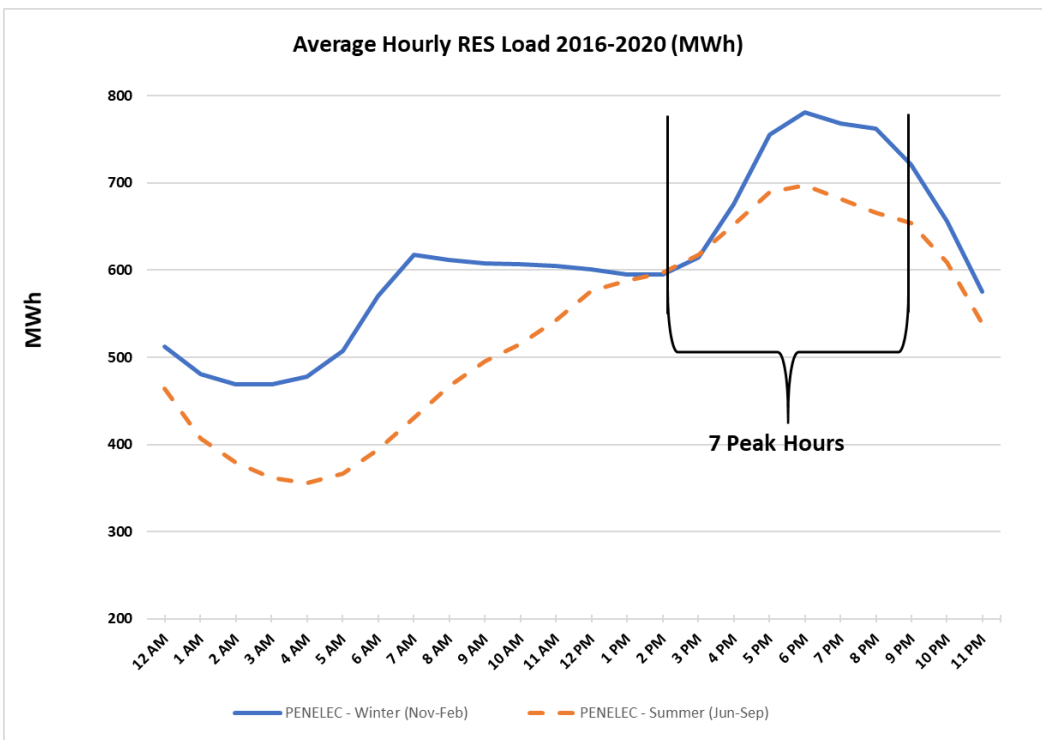
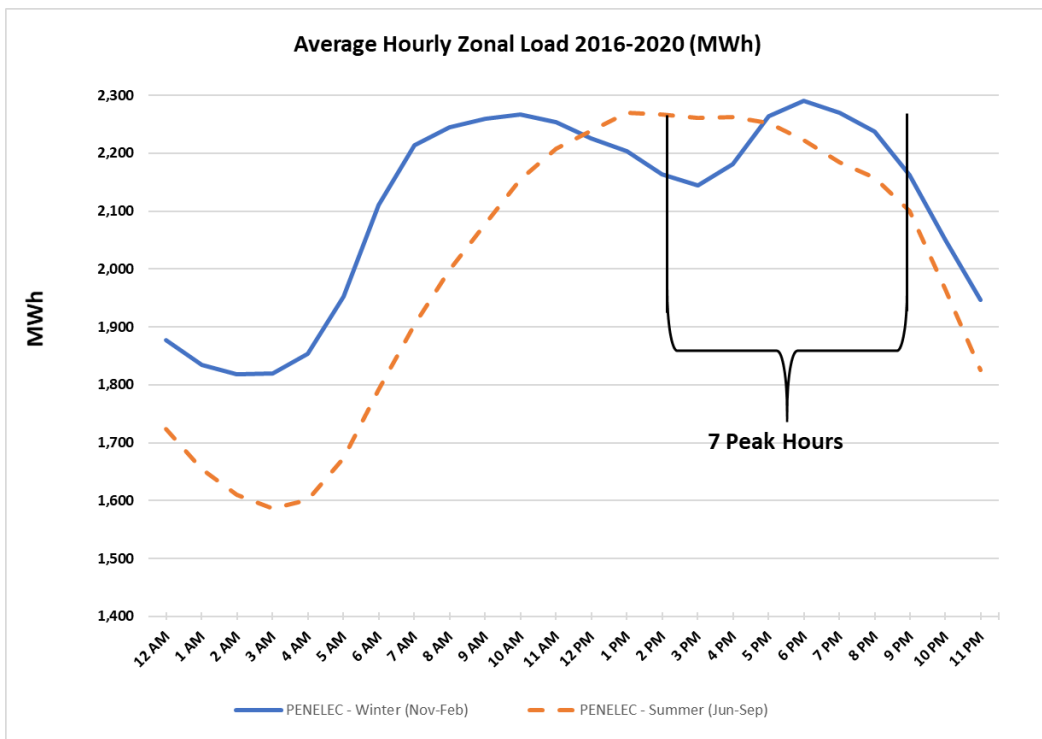
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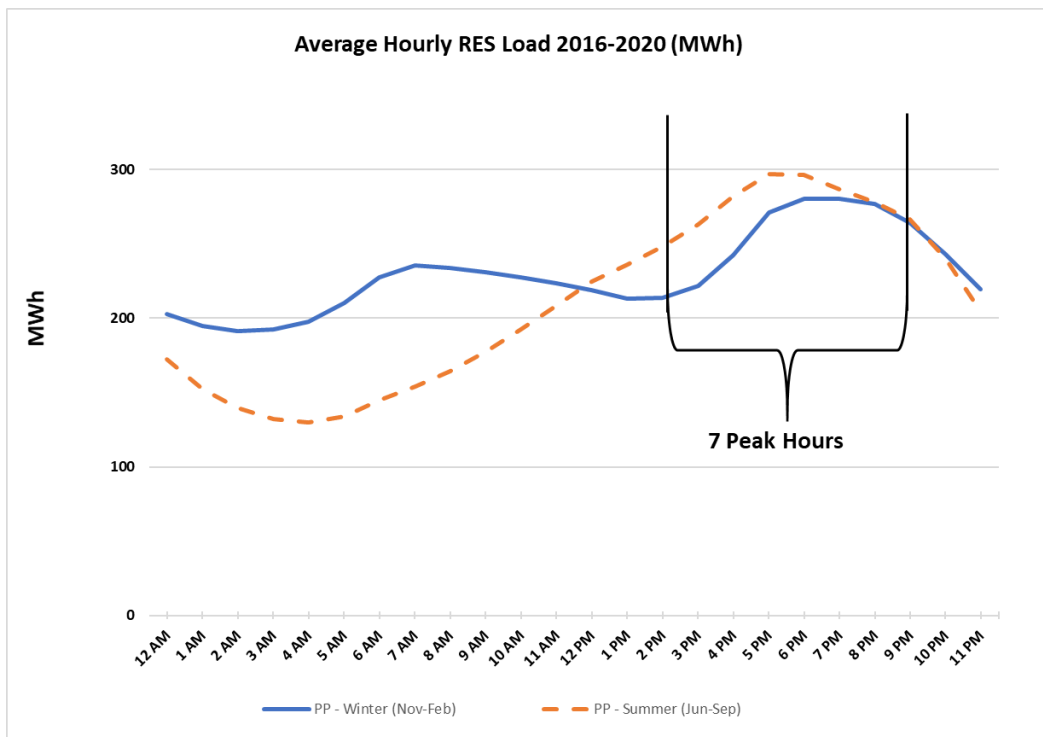
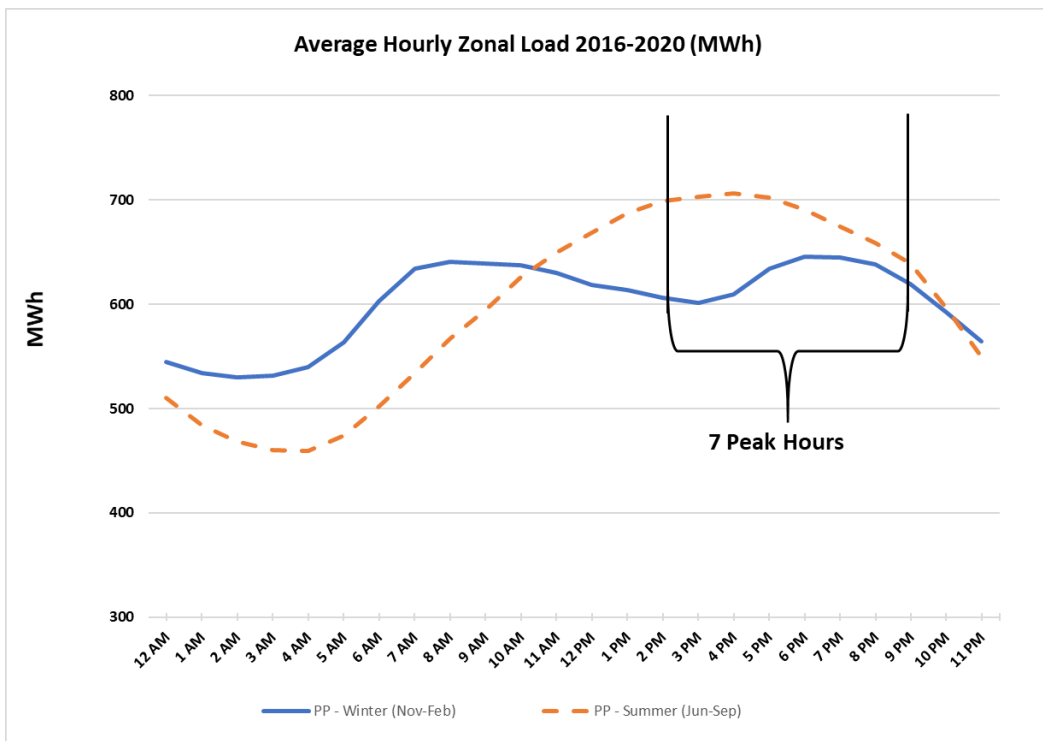
Metropolitan Edison Company System Total Peak Usage



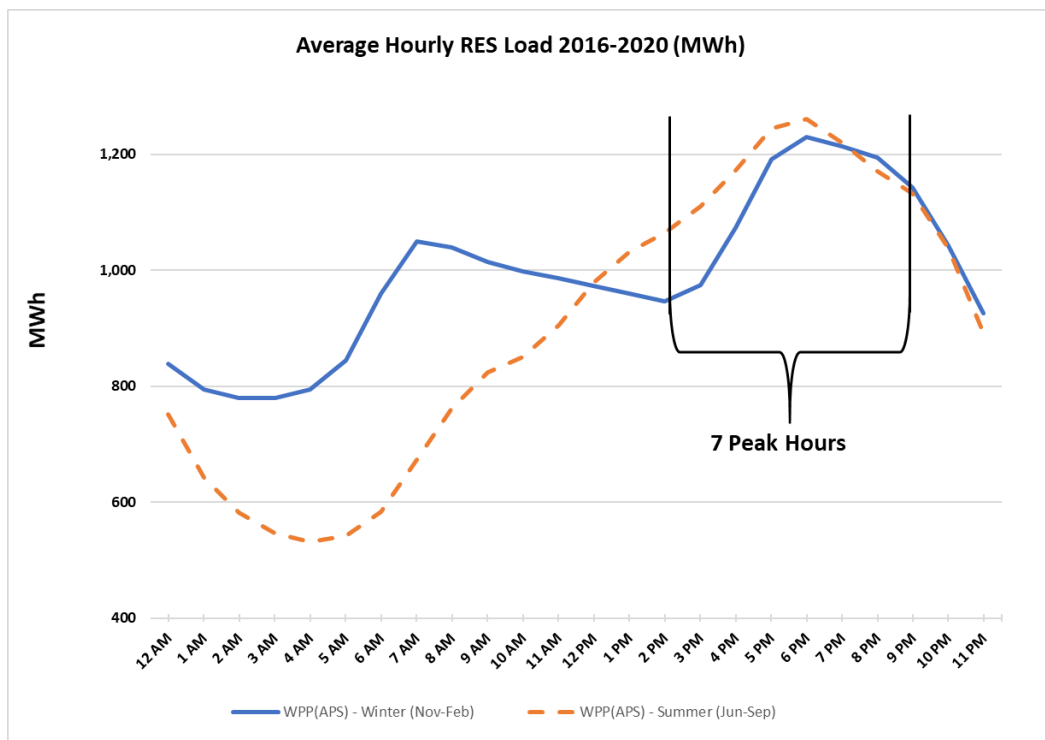
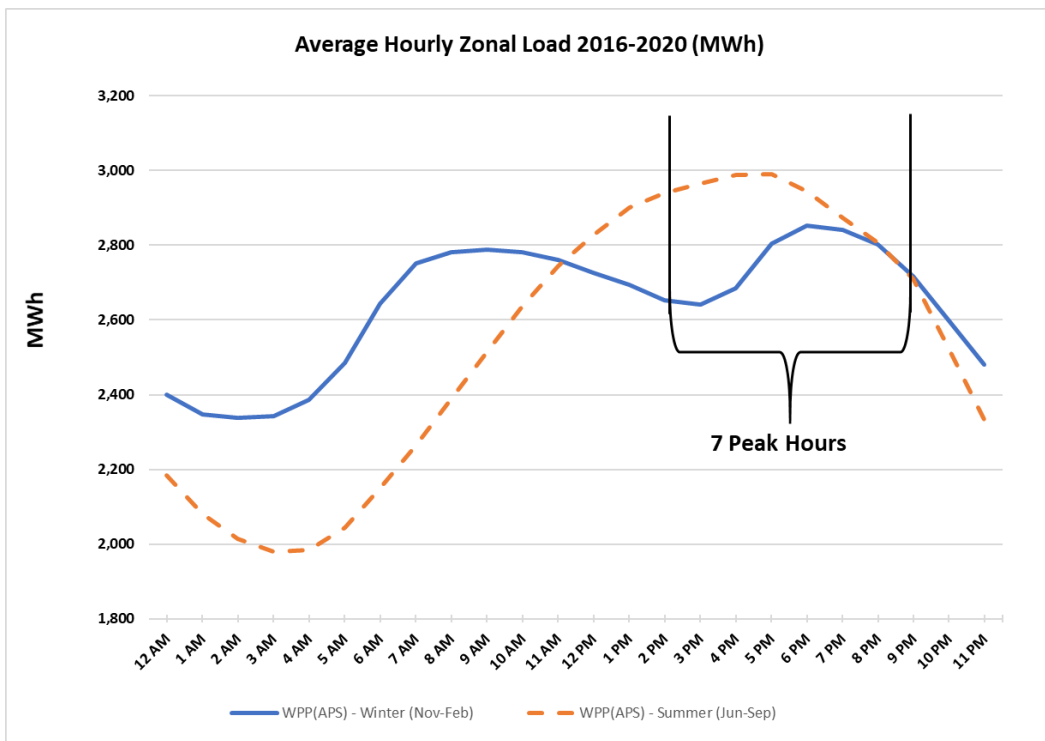
Pennsylvania Electric Company System Total Peak Usage



Pennsylvania Power Company System Total Peak Usage



West Penn Power Company System Total Peak Usage



Metropolitan Edison Company
Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 41,616,251
2017				\$ 38,662,460
2018				\$ 40,119,669
2019				\$ 28,938,346
2020				\$ 17,803,349
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 46,215,993	\$ 28,600,020	\$ 14,298,546	\$ 89,114,560
2017	\$ 52,453,787	\$ 30,445,719	\$ 16,766,320	\$ 99,665,827
2018	\$ 65,119,326	\$ 36,135,614	\$ 22,286,066	\$ 123,541,007
2019	\$ 39,570,595	\$ 21,319,813	\$ 14,036,627	\$ 74,927,035
2020	\$ 25,044,432	\$ 14,242,104	\$ 8,694,762	\$ 47,981,298
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	1,730,770	817,813	799,722	3,348,305
2017	1,687,046	790,426	774,777	3,252,248
2018	1,754,197	816,932	802,210	3,373,339
2019	1,507,599	687,678	685,020	2,880,297
2020	1,239,877	559,132	581,034	2,380,043
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 26.70	\$ 34.97	\$ 17.88	\$ 26.61
2017	\$ 31.09	\$ 38.52	\$ 21.64	\$ 30.65
2018	\$ 37.12	\$ 44.23	\$ 27.78	\$ 36.62
2019	\$ 26.25	\$ 31.00	\$ 20.49	\$ 26.01
2020	\$ 20.20	\$ 25.47	\$ 14.96	\$ 20.16
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 50.89	\$ -	\$ 12.43
2017	\$ -	\$ 48.91	\$ -	\$ 11.89
2018	\$ -	\$ 49.11	\$ -	\$ 11.89
2019	\$ -	\$ 42.08	\$ -	\$ 10.05
2020	\$ -	\$ 31.84	\$ -	\$ 7.48
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 26.70	\$ 85.86	\$ 17.88	\$ 39.04
2017	\$ 31.09	\$ 87.43	\$ 21.64	\$ 42.53
2018	\$ 37.12	\$ 93.34	\$ 27.78	\$ 48.52
2019	\$ 26.25	\$ 73.08	\$ 20.49	\$ 36.06
2020	\$ 20.20	\$ 57.31	\$ 14.96	\$ 27.64
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.6839	2.1990	0.4579	
2017	0.7310	2.0556	0.5088	
2018	0.7652	1.9240	0.5726	
2019	0.7279	2.0267	0.5682	
2020	0.7308	2.0735	0.5414	
Average	0.7277	2.0558	0.5298	

**Metropolitan Edison Company
Residential Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)					
Years					Total
2016					\$ 73,742,573
2017					\$ 69,030,743
2018					\$ 73,632,414
2019					\$ 58,828,052
2020					\$ 45,947,834
Energy (\$)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 85,107,342	\$ 51,781,707	\$ 25,462,331	\$ 162,351,380	
2017	\$ 97,653,522	\$ 55,497,857	\$ 30,578,998	\$ 183,730,377	
2018	\$ 127,634,969	\$ 72,319,549	\$ 44,288,858	\$ 244,243,376	
2019	\$ 83,902,679	\$ 47,563,268	\$ 30,194,491	\$ 161,660,438	
2020	\$ 66,403,569	\$ 40,581,645	\$ 22,165,452	\$ 129,150,666	
Load (MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	3,166,500	1,448,932	1,373,882	5,989,314	
2017	3,086,388	1,411,151	1,349,445	5,846,984	
2018	3,254,199	1,533,823	1,463,951	6,251,973	
2019	3,183,024	1,484,948	1,437,448	6,105,421	
2020	3,240,782	1,539,745	1,436,619	6,217,146	
Load-Weighted LMP (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 26.88	\$ 35.74	\$ 18.53	\$ 27.11	
2017	\$ 31.64	\$ 39.33	\$ 22.66	\$ 31.42	
2018	\$ 39.22	\$ 47.15	\$ 30.25	\$ 39.07	
2019	\$ 26.36	\$ 32.03	\$ 21.01	\$ 26.48	
2020	\$ 20.49	\$ 26.36	\$ 15.43	\$ 20.77	
Capacity Cost (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ -	\$ 50.89	\$ -	\$ 12.31	
2017	\$ -	\$ 48.92	\$ -	\$ 11.81	
2018	\$ -	\$ 48.01	\$ -	\$ 11.78	
2019	\$ -	\$ 39.62	\$ -	\$ 9.64	
2020	\$ -	\$ 29.84	\$ -	\$ 7.39	
Energy + Capacity (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 26.88	\$ 86.63	\$ 18.53	\$ 39.42	
2017	\$ 31.64	\$ 88.25	\$ 22.66	\$ 43.23	
2018	\$ 39.22	\$ 95.16	\$ 30.25	\$ 50.84	
2019	\$ 26.36	\$ 71.65	\$ 21.01	\$ 36.11	
2020	\$ 20.49	\$ 56.20	\$ 15.43	\$ 28.16	
Rate Factor (Pricing Period compared to Total)					
Years	Off-Peak	On-Peak	Super Off-Peak		
2016	0.6818	2.1977	0.4702		
2017	0.7319	2.0413	0.5242		
2018	0.7714	1.8715	0.5950		
2019	0.7299	1.9839	0.5817		
2020	0.7275	1.9954	0.5478		
Average	0.7285	2.0180	0.5438		

**Pennsylvania Electric Company
Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 43,066,925
2017				\$ 40,405,526
2018				\$ 41,816,167
2019				\$ 29,439,724
2020				\$ 16,959,308
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 59,932,745	\$ 34,677,975	\$ 18,413,940	\$ 113,024,660
2017	\$ 64,078,958	\$ 34,553,107	\$ 20,399,356	\$ 119,031,421
2018	\$ 80,985,614	\$ 43,268,766	\$ 26,629,723	\$ 150,884,103
2019	\$ 48,578,191	\$ 24,779,744	\$ 16,723,505	\$ 90,081,440
2020	\$ 29,086,015	\$ 15,810,237	\$ 10,036,941	\$ 54,933,193
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	2,077,182	960,009	934,682	3,971,873
2017	2,064,551	945,178	925,404	3,935,133
2018	2,119,708	956,992	949,562	4,026,262
2019	1,759,908	783,680	793,022	3,336,610
2020	1,376,618	612,694	643,781	2,633,093
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 28.85	\$ 36.12	\$ 19.70	\$ 28.46
2017	\$ 31.04	\$ 36.56	\$ 22.04	\$ 30.25
2018	\$ 38.21	\$ 45.21	\$ 28.04	\$ 37.47
2019	\$ 27.60	\$ 31.62	\$ 21.09	\$ 27.00
2020	\$ 21.13	\$ 25.80	\$ 15.59	\$ 20.86
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 44.86	\$ -	\$ 10.84
2017	\$ -	\$ 42.75	\$ -	\$ 10.27
2018	\$ -	\$ 43.70	\$ -	\$ 10.39
2019	\$ -	\$ 37.57	\$ -	\$ 8.82
2020	\$ -	\$ 27.68	\$ -	\$ 6.44
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 28.85	\$ 80.98	\$ 19.70	\$ 39.30
2017	\$ 31.04	\$ 79.31	\$ 22.04	\$ 40.52
2018	\$ 38.21	\$ 88.91	\$ 28.04	\$ 47.86
2019	\$ 27.60	\$ 69.19	\$ 21.09	\$ 35.82
2020	\$ 21.13	\$ 53.48	\$ 15.59	\$ 27.30
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.7342	2.0607	0.5013	
2017	0.7661	1.9574	0.5441	
2018	0.7983	1.8577	0.5860	
2019	0.7706	1.9314	0.5887	
2020	0.7738	1.9589	0.5710	
Average	0.7686	1.9532	0.5582	

**Pennsylvania Electric Company
Residential Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)					
Years					Total
2016					\$ 50,962,468
2017					\$ 47,605,308
2018					\$ 50,495,297
2019					\$ 39,793,119
2020					\$ 30,485,135
Energy (\$)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 71,323,820	\$ 41,026,186	\$ 21,463,285	\$ 133,813,292	
2017	\$ 76,143,321	\$ 40,918,394	\$ 23,973,398	\$ 141,035,112	
2018	\$ 98,780,254	\$ 54,689,539	\$ 33,682,149	\$ 187,151,943	
2019	\$ 66,519,207	\$ 35,778,157	\$ 23,662,146	\$ 125,959,510	
2020	\$ 52,182,927	\$ 30,449,924	\$ 17,690,245	\$ 100,323,096	
Load (MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	2,498,086	1,136,503	1,068,199	4,702,788	
2017	2,454,558	1,107,588	1,065,089	4,627,235	
2018	2,543,506	1,171,658	1,152,113	4,867,277	
2019	2,441,086	1,113,317	1,116,034	4,670,437	
2020	2,472,672	1,156,733	1,117,118	4,746,523	
Load-Weighted LMP (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 28.55	\$ 36.10	\$ 20.09	\$ 28.45	
2017	\$ 31.02	\$ 36.94	\$ 22.51	\$ 30.48	
2018	\$ 38.84	\$ 46.68	\$ 29.24	\$ 38.45	
2019	\$ 27.25	\$ 32.14	\$ 21.20	\$ 26.97	
2020	\$ 21.10	\$ 26.32	\$ 15.84	\$ 21.14	
Capacity Cost (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ -	\$ 44.84	\$ -	\$ 10.84	
2017	\$ -	\$ 42.98	\$ -	\$ 10.29	
2018	\$ -	\$ 43.10	\$ -	\$ 10.37	
2019	\$ -	\$ 35.74	\$ -	\$ 8.52	
2020	\$ -	\$ 26.35	\$ -	\$ 6.42	
Energy + Capacity (\$/MWH)					
Years	Off-Peak	On-Peak	Super Off-Peak	Total	
2016	\$ 28.55	\$ 80.94	\$ 20.09	\$ 39.29	
2017	\$ 31.02	\$ 79.92	\$ 22.51	\$ 40.77	
2018	\$ 38.84	\$ 89.77	\$ 29.24	\$ 48.83	
2019	\$ 27.25	\$ 67.88	\$ 21.20	\$ 35.49	
2020	\$ 21.10	\$ 52.68	\$ 15.84	\$ 27.56	
Rate Factor (Pricing Period compared to Total)					
Years	Off-Peak	On-Peak	Super Off-Peak		
2016	0.7267	2.0600	0.5114		
2017	0.7609	1.9605	0.5521		
2018	0.7954	1.8387	0.5988		
2019	0.7678	1.9126	0.5974		
2020	0.7658	1.9115	0.5746		
Average	0.7633	1.9367	0.5669		

**Pennsylvania Power Company
Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 21,903,807
2017				\$ 15,889,207
2018				\$ 17,778,173
2019				\$ 12,895,797
2020				\$ 7,251,935
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 23,778,680	\$ 13,512,968	\$ 5,881,985	\$ 43,173,633
2017	\$ 24,440,204	\$ 13,178,087	\$ 7,239,634	\$ 44,857,925
2018	\$ 31,542,667	\$ 18,183,459	\$ 9,338,242	\$ 59,064,368
2019	\$ 18,793,418	\$ 9,919,771	\$ 6,185,846	\$ 34,899,036
2020	\$ 11,599,267	\$ 6,344,349	\$ 3,915,087	\$ 21,858,703
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	792,291	359,879	291,284	1,443,454
2017	761,928	340,178	324,346	1,426,452
2018	770,084	349,164	338,559	1,457,806
2019	650,638	294,478	290,665	1,235,781
2020	532,699	239,149	246,608	1,018,456
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 30.01	\$ 37.55	\$ 20.19	\$ 29.91
2017	\$ 32.08	\$ 38.74	\$ 22.32	\$ 31.45
2018	\$ 40.96	\$ 52.08	\$ 27.58	\$ 40.52
2019	\$ 28.88	\$ 33.69	\$ 21.28	\$ 28.24
2020	\$ 21.77	\$ 26.53	\$ 15.88	\$ 21.46
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 60.86	\$ -	\$ 15.17
2017	\$ -	\$ 46.71	\$ -	\$ 11.14
2018	\$ -	\$ 50.92	\$ -	\$ 12.20
2019	\$ -	\$ 43.79	\$ -	\$ 10.44
2020	\$ -	\$ 30.32	\$ -	\$ 7.12
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 30.01	\$ 98.41	\$ 20.19	\$ 45.08
2017	\$ 32.08	\$ 85.45	\$ 22.32	\$ 42.59
2018	\$ 40.96	\$ 102.99	\$ 27.58	\$ 52.71
2019	\$ 28.88	\$ 77.48	\$ 21.28	\$ 38.68
2020	\$ 21.77	\$ 56.85	\$ 15.88	\$ 28.58
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.6657	2.1829	0.4479	
2017	0.7532	2.0065	0.5241	
2018	0.7771	1.9539	0.5233	
2019	0.7468	2.0033	0.5503	
2020	0.7618	1.9890	0.5554	
Average	0.7409	2.0271	0.5202	

**Pennsylvania Power Company
Residential Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 28,454,390
2017				\$ 19,090,386
2018				\$ 22,296,040
2019				\$ 17,621,214
2020				\$ 12,652,104
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 27,874,819	\$ 16,632,085	\$ 9,412,598	\$ 53,919,501
2017	\$ 29,001,577	\$ 16,572,429	\$ 9,370,876	\$ 54,944,882
2018	\$ 39,917,579	\$ 24,194,222	\$ 12,766,911	\$ 76,878,712
2019	\$ 26,260,219	\$ 14,731,374	\$ 9,008,686	\$ 50,000,278
2020	\$ 20,411,926	\$ 12,227,360	\$ 6,728,416	\$ 39,367,702
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	950,270	442,872	455,140	1,848,282
2017	899,314	417,781	406,674	1,723,769
2018	954,288	450,873	436,303	1,841,463
2019	911,973	426,484	415,252	1,753,709
2020	931,801	448,106	415,352	1,795,259
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 29.33	\$ 37.56	\$ 20.68	\$ 29.17
2017	\$ 32.25	\$ 39.67	\$ 23.04	\$ 31.87
2018	\$ 41.83	\$ 53.66	\$ 29.26	\$ 41.75
2019	\$ 28.79	\$ 34.54	\$ 21.69	\$ 28.51
2020	\$ 21.91	\$ 27.29	\$ 16.20	\$ 21.93
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 64.25	\$ -	\$ 15.40
2017	\$ -	\$ 45.69	\$ -	\$ 11.07
2018	\$ -	\$ 49.45	\$ -	\$ 12.11
2019	\$ -	\$ 41.32	\$ -	\$ 10.05
2020	\$ -	\$ 28.23	\$ -	\$ 7.05
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 29.33	\$ 101.80	\$ 20.68	\$ 44.57
2017	\$ 32.25	\$ 85.36	\$ 23.04	\$ 42.95
2018	\$ 41.83	\$ 103.11	\$ 29.26	\$ 53.86
2019	\$ 28.79	\$ 75.86	\$ 21.69	\$ 38.56
2020	\$ 21.91	\$ 55.52	\$ 16.20	\$ 28.98
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.6582	2.2843	0.4640	
2017	0.7508	1.9875	0.5365	
2018	0.7767	1.9146	0.5433	
2019	0.7468	1.9673	0.5626	
2020	0.7560	1.9161	0.5591	
Average	0.7377	2.0140	0.5331	

**West Penn Power Company
Commercial Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 41,436,465
2017				\$ 46,023,571
2018				\$ 55,430,454
2019				\$ 40,700,392
2020				\$ 23,049,944
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 78,596,021	\$ 44,228,364	\$ 27,353,217	\$ 150,177,602
2017	\$ 78,536,628	\$ 42,362,669	\$ 28,171,436	\$ 149,070,733
2018	\$ 101,823,158	\$ 55,016,374	\$ 36,397,856	\$ 193,237,388
2019	\$ 65,251,324	\$ 34,198,045	\$ 22,850,768	\$ 122,300,137
2020	\$ 40,432,552	\$ 22,327,800	\$ 13,861,650	\$ 76,622,001
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	2,524,214	1,144,120	1,284,854	4,953,188
2017	2,433,081	1,102,276	1,226,159	4,761,516
2018	2,519,236	1,141,445	1,238,841	4,899,521
2019	2,275,650	1,025,792	1,060,862	4,362,304
2020	1,822,368	814,827	861,286	3,498,482
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 31.14	\$ 38.66	\$ 21.29	\$ 30.32
2017	\$ 32.28	\$ 38.43	\$ 22.98	\$ 31.31
2018	\$ 40.42	\$ 48.20	\$ 29.38	\$ 39.44
2019	\$ 28.67	\$ 33.34	\$ 21.54	\$ 28.04
2020	\$ 22.19	\$ 27.40	\$ 16.09	\$ 21.90
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 36.22	\$ -	\$ 8.37
2017	\$ -	\$ 41.75	\$ -	\$ 9.67
2018	\$ -	\$ 48.56	\$ -	\$ 11.31
2019	\$ -	\$ 39.68	\$ -	\$ 9.33
2020	\$ -	\$ 28.29	\$ -	\$ 6.59
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 31.14	\$ 74.87	\$ 21.29	\$ 38.68
2017	\$ 32.28	\$ 80.19	\$ 22.98	\$ 40.97
2018	\$ 40.42	\$ 96.76	\$ 29.38	\$ 50.75
2019	\$ 28.67	\$ 73.02	\$ 21.54	\$ 37.37
2020	\$ 22.19	\$ 55.69	\$ 16.09	\$ 28.49
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.8049	1.9355	0.5503	
2017	0.7878	1.9570	0.5607	
2018	0.7964	1.9065	0.5789	
2019	0.7674	1.9541	0.5765	
2020	0.7788	1.9547	0.5649	
Average	0.7870	1.9416	0.5663	

**West Penn Power Company
Residential Customer Class Pricing Analysis and Time-of-Use Pricing Analysis**

TOU Pricing Period	Days/Hours Included
Off-Peak	All Other Hours
On-Peak	2 p.m. - 9 p.m. Monday through Friday
Super Off-Peak	11 p.m. - 6 a.m. Everyday

Annual Capacity (\$)				
Years				Total
2016				\$ 63,343,307
2017				\$ 69,795,985
2018				\$ 88,395,910
2019				\$ 68,669,134
2020				\$ 49,665,637
Energy (\$)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 127,730,991	\$ 73,211,649	\$ 37,254,576	\$ 238,197,216
2017	\$ 127,989,459	\$ 68,799,665	\$ 38,829,452	\$ 235,618,576
2018	\$ 171,378,863	\$ 94,854,776	\$ 55,627,392	\$ 321,861,032
2019	\$ 114,811,346	\$ 63,920,847	\$ 39,165,177	\$ 217,897,370
2020	\$ 89,828,498	\$ 54,881,700	\$ 29,363,258	\$ 174,073,456
Load (MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	4,121,126	1,893,975	1,713,250	7,728,350
2017	3,956,930	1,789,385	1,650,816	7,397,130
2018	4,182,020	1,937,320	1,811,919	7,931,258
2019	3,995,952	1,874,223	1,783,194	7,653,369
2020	4,006,136	1,923,003	1,783,848	7,712,988
Load-Weighted LMP (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 30.99	\$ 38.66	\$ 21.74	\$ 30.82
2017	\$ 32.35	\$ 38.45	\$ 23.52	\$ 31.85
2018	\$ 40.98	\$ 48.96	\$ 30.70	\$ 40.58
2019	\$ 28.73	\$ 34.11	\$ 21.96	\$ 28.47
2020	\$ 22.42	\$ 28.54	\$ 16.46	\$ 22.57
Capacity Cost (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ -	\$ 33.44	\$ -	\$ 8.20
2017	\$ -	\$ 39.01	\$ -	\$ 9.44
2018	\$ -	\$ 45.63	\$ -	\$ 11.15
2019	\$ -	\$ 36.64	\$ -	\$ 8.97
2020	\$ -	\$ 25.83	\$ -	\$ 6.44
Energy + Capacity (\$/MWH)				
Years	Off-Peak	On-Peak	Super Off-Peak	Total
2016	\$ 30.99	\$ 72.10	\$ 21.74	\$ 39.02
2017	\$ 32.35	\$ 77.45	\$ 23.52	\$ 41.29
2018	\$ 40.98	\$ 94.59	\$ 30.70	\$ 51.73
2019	\$ 28.73	\$ 70.74	\$ 21.96	\$ 37.44
2020	\$ 22.42	\$ 54.37	\$ 16.46	\$ 29.01
Rate Factor (Pricing Period compared to Total)				
Years	Off-Peak	On-Peak	Super Off-Peak	
2016	0.7944	1.8479	0.5573	
2017	0.7834	1.8759	0.5697	
2018	0.7922	1.8286	0.5935	
2019	0.7673	1.8894	0.5866	
2020	0.7730	1.8742	0.5674	
Average	0.7821	1.8632	0.5749	

METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

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RIDERS

(C)

RIDER K

TIME-OF-USE DEFAULT SERVICE RIDER

Availability

Time-Of-Use (“TOU”) default service (“TOU_{Default}”) is available under this Rider for Residential Customers, and Commercial Customers with demand less than 100 kW, including those served under Rider D, the Net Metering Rider, and are receiving Default Service from the Company, upon the terms and conditions set forth herein, that: (1) have had smart meters installed pursuant to the Company’s Smart Meter Technology Procurement and Installation Plan; (2) are not enrolled in the Company’s Customer Assistance Program, (3) are not enrolled in budget billing; (4) are not involved in virtual net metering; (5) have not elected to terminate service under Rider K, for any reason, within the last 12 months; and (6) affirmatively elect to receive service under this Rider and comply with its enrollment procedures.

Rates

Commercial TOU_{Default On-Peak} = Commercial Customer Class PTC_{Default} Rate x 2.0558

Commercial TOU_{Default Super Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.5298

Commercial TOU_{Default Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.7277

Residential TOU_{Default On-Peak} = Residential Customer Class PTC_{Default} Rate x 2.0180

Residential TOU_{Default Super Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.5438

Residential TOU_{Default Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.7285

On-Peak, Super Off-Peak, and Off- Peak Hours

The rates for TOU default service are different for On-Peak, Super Off-Peak and Off-Peak hours during the year, and are billed on a service rendered basis, as shown below. All times listed below are prevailing time.

TOU Pricing Period	Included Time Periods	Commercial Rate Factor	Residential Rate Factor
On-Peak	2 PM - 9 PM Monday - Friday	2.0558	2.0180
Super Off-Peak	11 PM - 6 AM Monday - Friday	0.5298	0.5438
Off Peak	All Other Hours	0.7277	0.7285

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METROPOLITAN EDISON COMPANY

Electric Pa. P.U.C. No. 52 (Supp. XX)

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RIDERS

Rider K (continued)

(C)

TOU Default

The TOU_{Default} rates by Commercial or Residential Customer Class are based on the PTC_{Default} rates, which will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six-month period ending September 30th to be effective for the six-month period beginning December 1st.

Customer Switching

A Customer that has enrolled in the TOU default service program remains eligible to return to standard Default Service. A Customer that has enrolled in the TOU default service program may, at any time, elect to receive another product from any EGS. Customers may leave Rider K at any time without incurring fees or penalties. If a Customer elects to terminate service under Rider K for any reason, the Customer cannot re-enroll in Rider K for twelve billing months.

Annual Review and Audit

The application of TOU Default rates under this Rider shall be subject to annual review and audit by the Commission.

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PENNSYLVANIA ELECTRIC COMPANY

Electric Pa. P.U.C. No. 81 (Supp. XX)

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RIDERS

(C)

RIDER K

TIME-OF-USE DEFAULT SERVICE RIDER

Availability

Time-Of-Use (“TOU”) default service (“TOU_{Default}”) is available under this Rider for Residential Customers, and Commercial Customers with demand less than 100 kW, including those served under Rider D, the Net Metering Rider, and are receiving Default Service from the Company, upon the terms and conditions set forth herein, that: (1) have had smart meters installed pursuant to the Company’s Smart Meter Technology Procurement and Installation Plan; (2) are not enrolled in the Company’s Customer Assistance Program, (3) are not enrolled in budget billing; (4) are not involved in virtual net metering; (5) have not elected to terminate service under Rider K, for any reason, within the last 12 months; and (6) affirmatively elect to receive service under this Rider and comply with its enrollment procedures.

Rates

Commercial TOU_{Default On-Peak} = Commercial Customer Class PTC_{Default} Rate x 1.9352

Commercial TOU_{Default Super Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.5582

Commercial TOU_{Default Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.7686

Residential TOU_{Default On-Peak} = Residential Customer Class PTC_{Default} Rate x 1.9367

Residential TOU_{Default Super Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.5669

Residential TOU_{Default Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.7633

On-Peak, Super Off-Peak, and Off- Peak Hours

The rates for TOU default service are different for On-Peak, Super Off-Peak and Off-Peak hours during the year, and are billed on a service rendered basis, as shown below. All times listed below are prevailing time.

TOU Pricing Period	Included Time Periods	Commercial Rate Factor	Residential Rate Factor
On-Peak	2 PM - 9 PM Monday - Friday	1.9532	1.9367
Super Off-Peak	11 PM - 6 AM Monday - Friday	0.5582	0.5669
Off Peak	All Other Hours	0.7686	0.7633

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Electric Pa. P.U.C. No. 81 (Supp. XX)

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RIDERS

(C)

Rider K (continued)

TOU Default

The TOU_{Default} rates by Commercial or Residential Customer Class are based on the PTC_{Default} rates, which will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six-month period ending September 30th to be effective for the six-month period beginning December 1st.

Customer Switching

A Customer that has enrolled in the TOU default service program remains eligible to return to standard Default Service. A Customer that has enrolled in the TOU default service program may, at any time, elect to receive another product from any EGS. Customers may leave Rider K at any time without incurring fees or penalties. If a Customer elects to terminate service under Rider K for any reason, the Customer cannot re-enroll in Rider K for twelve billing months.

Annual Review and Audit

The application of TOU Default rates under this Rider shall be subject to annual review and audit by the Commission.

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Electric Pa. P.U.C. No. 81 (Supp. XX)

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RIDERS

(C)

RIDER K

TIME-OF-USE DEFAULT SERVICE RIDER

Availability

Time-Of-Use (“TOU”) default service (“TOU_{Default}”) is available under this Rider for Residential Customers, and Commercial Customers with demand less than 100 kW, including those served under Rider D, the Net Metering Rider, and are receiving Default Service from the Company, upon the terms and conditions set forth herein, that: (1) have had smart meters installed pursuant to the Company’s Smart Meter Technology Procurement and Installation Plan; (2) are not enrolled in the Company’s Customer Assistance Program, (3) are not enrolled in budget billing; (4) are not involved in virtual net metering; (5) have not elected to terminate service under Rider K, for any reason, within the last 12 months; and (6) affirmatively elect to receive service under this Rider and comply with its enrollment procedures.

Rates

Commercial TOU_{Default On-Peak} = Commercial Customer Class PTC_{Default} Rate x 2.0271

Commercial TOU_{Default Super Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.5202

Commercial TOU_{Default Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.7409

Residential TOU_{Default On-Peak} = Residential Customer Class PTC_{Default} Rate x 2.0140

Residential TOU_{Default Super Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.5331

Residential TOU_{Default Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.7377

On-Peak, Super Off-Peak, and Off- Peak Hours

The rates for TOU default service are different for On-Peak, Super Off-Peak and Off-Peak hours during the year, and are billed on a service rendered basis, as shown below. All times listed below are prevailing time.

TOU Pricing Period	Included Time Periods	Commercial Rate Factor	Residential Rate Factor
On-Peak	2 PM - 9 PM Monday - Friday	2.0271	2.0140
Super Off-Peak	11 PM - 6 AM Monday - Friday	0.5202	0.5331
Off Peak	All Other Hours	0.7409	0.7377

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PENNSYLVANIA POWER COMPANY

Electric Pa. P.U.C. No. 36 (Supp. XX)

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RIDERS

Rider K (continued)

(C)

TOU Default

The TOU_{Default} rates by Commercial or Residential Customer Class are based on the PTC_{Default} rates, which will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six-month period ending September 30th to be effective for the six-month period beginning December 1st.

Customer Switching

A Customer that has enrolled in the TOU default service program remains eligible to return to standard Default Service. A Customer that has enrolled in the TOU default service program may, at any time, elect to receive another product from any EGS. Customers may leave Rider K at any time without incurring fees or penalties. If a Customer elects to terminate service under Rider K for any reason, the Customer cannot re-enroll in Rider K for twelve billing months.

Annual Review and Audit

The application of TOU Default rates under this Rider shall be subject to annual review and audit by the Commission.

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PENNSYLVANIA POWER COMPANY

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WEST PENN POWER COMPANY

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RIDERS

(C)

RIDER K

TIME-OF-USE DEFAULT SERVICE RIDER

Availability

Time-Of-Use (“TOU”) default service (“TOU_{Default}”) is available under this Rider for Residential Customers, and Commercial Customers with demand less than 100 kW, including those served under Rider D, the Net Metering Rider, and are receiving Default Service from the Company, upon the terms and conditions set forth herein, that: (1) have had smart meters installed pursuant to the Company’s Smart Meter Technology Procurement and Installation Plan; (2) are not enrolled in the Company’s Customer Assistance Program, (3) are not enrolled in budget billing; (4) are not involved in virtual net metering; (5) have not elected to terminate service under Rider K, for any reason, within the last 12 months; and (6) affirmatively elect to receive service under this Rider and comply with its enrollment procedures.

Rates

Commercial TOU_{Default On-Peak} = Commercial Customer Class PTC_{Default} Rate x 1.9416

Commercial TOU_{Default Super Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.5663

Commercial TOU_{Default Off-Peak} = Commercial Customer Class PTC_{Default} Rate x 0.7870

Residential TOU_{Default On-Peak} = Residential Customer Class PTC_{Default} Rate x 1.8632

Residential TOU_{Default Super Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.5749

Residential TOU_{Default Off-Peak} = Residential Customer Class PTC_{Default} Rate x 0.7821

On-Peak, Super Off-Peak, and Off- Peak Hours

The rates for TOU default service are different for On-Peak, Super Off-Peak and Off-Peak hours during the year, and are billed on a service rendered basis, as shown below. All times listed below are prevailing time.

TOU Pricing Period	Included Time Periods	Commercial Rate Factor	Residential Rate Factor
On-Peak	2 PM - 9 PM Monday - Friday	1.9416	1.8632
Super Off-Peak	11 PM - 6 AM Monday - Friday	0.5663	0.5749
Off Peak	All Other Hours	0.7870	0.7821

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WEST PENN POWER COMPANY

Electric Pa. P.U.C. No. 40 (Supp. XX)

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RIDERS

Rider K (continued)

(C)

TOU Default

The TOU_{Default} rates by Commercial or Residential Customer Class are based on the PTC_{Default} rates, which will be calculated semi-annually for the six-month period ending March 31st to be effective for the six-month period beginning June 1st; and for the six-month period ending September 30th to be effective for the six-month period beginning December 1st.

Customer Switching

A Customer that has enrolled in the TOU default service program remains eligible to return to standard Default Service. A Customer that has enrolled in the TOU default service program may, at any time, elect to receive another product from any EGS. Customers may leave Rider K at any time without incurring fees or penalties. If a Customer elects to terminate service under Rider K for any reason, the Customer cannot re-enroll in Rider K for twelve billing months.

Annual Review and Audit

The application of TOU Default rates under this Rider shall be subject to annual review and audit by the Commission.

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WEST PENN POWER COMPANY

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Metropolitan Edison Company
Estimated Administrative Costs

Line No.	Description of Administrative Costs	Residential	Commercial	Industrial	Total
1	Customer Notification	\$7,673	\$1,128	\$548	\$9,349
2	Legal and Regulatory Expenses for Default Service Program Proceeding	198,587	29,195	14,194	241,976
3	Consultant Costs for Default Service Program Proceeding and Administration of Descending Clock Auction Process	804,778	118,312	57,521	980,611
4	TOU and IT Related Expenses	<u>74,262</u>	<u>10,917</u>	<u>0</u>	<u>85,179</u>
5	Total (Lines 1 through 4)	\$1,085,300	\$159,552	\$72,263	\$1,317,115

**Pennsylvania Electric Company
Estimated Administrative Costs**

Line No.	Description of Administrative Costs	Residential	Commercial	Industrial	Total
1	Customer Notification	\$11,723	\$2,850	\$727	\$15,300
2	Legal and Regulatory Expenses for Default Service Program Proceeding	156,106	37,951	9,679	203,736
3	Consultant Costs for Default Service Program Proceeding and Administration of Descending Clock Auction Process	632,622	153,798	39,225	825,645
4	TOU and IT Related Expenses	<u>58,376</u>	<u>14,192</u>	<u>0</u>	<u>72,568</u>
5	Total (Lines 1 through 4)	\$858,827	\$208,791	\$49,631	\$1,117,249

**Pennsylvania Power Company
Estimated Administrative Costs**

Line No.	Description of Administrative Costs	Residential	Commercial	Industrial	Total
1	Customer Notification	\$2,751	\$526	\$123	\$3,400
2	Legal and Regulatory Expenses for Default Service Program Proceeding	61,876	11,831	2,771	76,478
3	Consultant Costs for Default Service Program Proceeding and Administration of Descending Clock Auction Process	250,752	47,946	11,230	309,928
4	TOU and IT Related Expenses	<u>23,138</u>	<u>4,424</u>	<u>0</u>	<u>27,562</u>
5	Total (Lines 1 through 4)	\$338,517	\$64,727	\$14,124	\$417,368

West Penn Power Company
Estimated Administrative Costs

Line No.	Description of Administrative Costs	Residential	Commercial	Industrial	Total
1	Customer Notification	\$6,327	\$1,041	\$1,132	\$8,500
2	Legal and Regulatory Expenses for Default Service Program Proceeding	263,367	43,335	47,108	353,810
3	Consultant Costs for Default Service Program Proceeding and Administration of Descending Clock Auction Process	1,067,296	175,618	190,904	1,433,818
4	TOU and IT Related Expenses	<u>98,486</u>	<u>16,205</u>	<u>0</u>	<u>114,691</u>
5	Total (Lines 1 through 4)	\$1,435,476	\$236,199	\$239,144	\$1,910,819

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
Docket No. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
Docket No. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
Docket No. P-2021-3030014**

**WEST PENN POWER COMPANY
Docket No. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2027**

**REBUTTAL TESTIMONY
OF
PATRICIA M. LARKIN**

List of Topics Addressed

**Costs Included in Default Service Rates
Schedule for Adjustment and Reconciliation of Default Service Rates
Time Of Use Default Service Rates
Network Integration Transmission Service**

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**REBUTTAL TESTIMONY
OF
PATRICIA M. LARKIN**

I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.

A. My name is Patricia M. Larkin, and my business address is 2800 Pottsville Pike, Reading, Pennsylvania 19605.

Q. Have you previously submitted testimony in this proceeding?

A. Yes. I submitted written testimony and exhibits on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West Penn Power Company (“West Penn”) (individually, a “Company” and in any combination, the “Companies”) which have been designated as Met-Ed/Penelec/Penn Power/West Penn Statement No. 5 and Exhibits PML-1 to PML-31.

Q. Please describe the purpose of your testimony.

A. I will provide rebuttal testimony responding to certain issues regarding the rate design for the Companies’ sixth default service programs (“Programs” or “DSP VI”) raised in the direct testimony of witnesses on behalf of: (1) the Office of Consumer Advocate (“OCA”); (2) the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (“CAUSE-PA”); (3) the Retail Energy Supply Association and NRG Energy, Inc (“RESA/NRG”); (4) Constellation Energy Generation, LLC and its subsidiary Constellation NewEnergy, Inc. (“Constellation”); and (5) Shipley Choice, LLC d/b/a Shipley Energy (“Shipley”).

1 Specifically, I will address the following topics: (1) issues related to costs recovered
2 through default service rates raised by RESA/NRG witness Travis Kavulla and Shipley
3 witness Laura Greenholt-Tasto; (2) alternative schedules for adjustment and reconciliation
4 of default service rates under the Companies' Price to Compare Default Service Rate
5 Riders ("PTC Riders") proposed by OCA witness Serhan Ogur and Mr. Kavulla on behalf
6 of RESA/NRG; (3) the Companies' proposed Time of Use ("TOU") Default Service Riders
7 ("TOU Riders") as addressed by Harry Geller on behalf of CAUSE-PA, Mr. Ogur and
8 Barbara R. Alexander (OCA Statement No. 2) on behalf of the OCA, and Mr. Kavulla on
9 behalf of RESA/NRG; and (4) Constellation witness Lael Campbell's recommendations
10 regarding responsibility for Network Integration Transmission Service ("NITS") charges
11 applicable to load-serving entities ("LSEs") in the Companies' service areas.

12 **Q. Have you prepared any exhibits to accompany your testimony?**

13 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits PML-32 to PML-34 were prepared
14 by me or under my supervision and are described in detail later in my testimony.

15 **II. COSTS REFLECTED IN THE COMPANIES' DEFAULT SERVICE RATES**

16 **Q. Please summarize RESA/NRG witness Kavulla's contentions regarding the costs
17 included in the Companies' PTC Rider rates.**

18 A. Mr. Kavulla contends that each Company's "Price-to-Compare," or "PTC," is artificially
19 low because the Companies improperly exclude administrative and overhead costs from
20 their PTC Riders and instead recover them through distribution rates. Mr. Kavulla
21 highlights the treatment of administrative costs categories, such as billing, collection,
22 education, tariff filings and information systems, as well as administrative and general
23 ("A&G") expenses not directly attributable to default service, as examples of the

1 Companies' alleged failure to recover all default service costs through the PTC Riders. Mr.
2 Kavulla concludes that the Companies' cost allocations are harmful to the competitive
3 retail market and contrary to industry guidelines. He recommends that the Pennsylvania
4 Public Utility Commission ("Commission" or "PUC") initiate a generic, statewide
5 proceeding to reexamine transitioning the role of default service provider from the
6 Companies and other electric distribution companies ("EDCs") to electric generation
7 suppliers ("EGSs"), as fully discussed by Ms. Joanne M. Savage in Met-Ed/Penelec/Penn
8 Power/West Penn Statement No. 1R and Drs. James D. Reitzes and Nicholas E. Powers in
9 Met-Ed/Penelec/Penn Power/West Penn Statement No. 4R. However, if the Commission
10 declines to revisit the role of the EDC as the default service provider, Mr. Kavulla proposes
11 that the Commission open a statewide, generic proceeding within 180 days of the entry of
12 a Final Order in this proceeding to review the cost categories that the Companies and other
13 EDCs currently include in their default service rates.

14 **Q. Does the Commission identify what types of costs should be included in the PTC?**

15 A. Yes. In a Policy Statement regarding default service and retail electric markets (52 Pa.
16 Code § 69.1808), the Commission identified the types of costs that should be recovered
17 from default service customers. As the Policy Statement explains:

- 18 (a) The PTC should be designed to recover all generation, transmission and other
19 related costs of default service. These cost elements include:
- 20 (1) Wholesale energy, capacity, ancillary, applicable RTO or ISO administrative
21 and transmission costs.
 - 22 (2) Congestion costs will ultimately be recovered from ratepayers. Congestion
23 costs should be reflected in the fixed price bids submitted by wholesale energy
24 suppliers.
 - 25 (3) Supply management costs, including supply bidding, contracting, hedging,
26 risk management costs, any scheduling and forecasting services provided
27 exclusively for default service by the EDC, and applicable administrative and
28 general expenses related to these activities.

- 1 (4) Administrative costs, including billing, collection, education, regulatory,
2 litigation, tariff filings, working capital, information system and associated
3 administrative and general expenses related to default service.
4 (5) Applicable taxes, excluding Sales Tax.
5 (6) Costs for alternative energy portfolio standard compliance.

6 **Q. Has the Commission previously determined that the Companies' PTC Riders are**
7 **consistent with Commission requirements?**

8 A. Yes. The Commission considered the Companies' default service rate design, including
9 the costs that would be recovered in the PTC Riders, multiple times in its approvals of the
10 Companies' prior default service programs. In addition, the Commission reviewed the
11 Companies' distribution rates twice, in 2014 and 2016, and determined that those
12 distribution rates were just and reasonable.

13 **Q. Do you believe the Companies' proposed allocation of costs to the PTC Riders in this**
14 **proceeding is consistent with Commission requirements?**

15 A. Yes, the Companies' allocations of costs between default service and distribution in this
16 proceeding are consistent with the allocations previously approved by the Commission in
17 the Companies' prior default service cases and distribution rate proceedings. Accordingly,
18 RESA/NRG's request for the PUC to examine those cost allocations in a generic
19 proceeding should be denied.

1 **Q. Describe the Companies’ approach to allocating administrative costs between**
2 **distribution and default service.**

3 A. The Companies’ allocation of costs between distribution and default service reflects
4 established cost causation principles. Although Mr. Kavulla refers to distribution and
5 default service as “two businesses,” the Companies’ default service obligations are part of
6 their duties as EDCs. Under the Pennsylvania Public Utility Code, the Companies have an
7 obligation to provide default supply to all distribution customers who do not take
8 generation service from an EGS. The Companies’ customers are not distribution customers
9 or default service customers—they are distribution customers who may or may not receive
10 default service, including in instances where shopping customers are dropped by their EGS
11 with no notice. As such, the Companies do not consider default service as a separate
12 “business”. If costs are incurred to support the Companies’ distribution customers, whether
13 shopping or non-shopping, and are not caused by fulfilling the Companies’ obligation to
14 provide default service, the Companies allocate the costs to distribution. If a cost is
15 incurred because of fulfilling the Companies’ default service obligations, the Companies
16 allocate the cost to default service. This allocation is consistent with cost causation
17 principles.

18 **Q. Mr. Kavulla observes that each Company’s current PTC contains no administrative**
19 **costs for billing, collection, education, regulatory or tariff filings. Please explain how**
20 **the Companies recover these costs from customers.**

21 A. Consistent with prior Commission approvals, billing and collection costs are recovered
22 through distribution rates. Such recovery is appropriate for billing costs because customers
23 receiving default service are also distribution customers and already receive a bill from the

1 applicable Company. In addition, nearly 100% of the billing performed for EGS-supplied
2 generation service in the Companies' service territories is through EDC consolidated
3 billing, where the EGS does not issue its own bill and its charges are included on the bills
4 issued by the Companies. The Companies also assume collection responsibility for the
5 amounts owed to EGSs who participate in the Companies' purchase-of-receivables
6 ("POR") programs under which the Companies do not discount payments to EGSs to
7 reflect collection costs. Uncollectible accounts expense attributable to default service and
8 POR-participating EGS rates is recovered through the Companies' non-bypassable Default
9 Service Support Riders ("DSS Riders"). If billing and collections costs were separated into
10 shopping and non-shopping categories, the Companies would expect to recover the
11 shopping customers' costs directly from EGSs.

12 **Q. Do the Companies' PTC Riders recover costs for education, tariff filings or**
13 **information systems?**

14 A. Yes, such costs are included in the applicable Company's PTC when appropriate. For
15 instance, the Companies are proposing to include customer education and information
16 systems costs associated with their new TOU rate options in the PTC Rider. Regulatory
17 and tariff filing costs associated with default service are de minimis and are not separately
18 tracked by the Companies.

19 **Q. Mr. Kavulla argues the Companies are improperly omitting A&G expenses from**
20 **their PTC Riders, such as those associated with Company executives and employees**
21 **spending time on issues related to default service. Do you agree?**

22 A. No. The Companies' allocation of A&G expenses is appropriate and consistent with prior
23 allocations that have been approved by the Commission. When A&G expenses are

1 incurred to fulfill the Companies' default service obligations, such as costs for external
2 consultants and the independent evaluator, those costs are included in the PTC.

3 **Q. Mr. Kavulla contends that the Companies' allocation of overhead costs to distribution**
4 **rates instead of the PTC makes it difficult for EGSs to "compete" with the PTC.**
5 **Please respond.**

6 A. First, Mr. Kavulla's statement is based on the inaccurate premise that the Companies are
7 somehow in competition with EGSs to provide a lower PTC to customers. Default service
8 is not an area in which the Companies are "directly competing" with or seeking to
9 "compete" with EGSs or any other entity. The Companies are required to be able to
10 provide default service to all of their distribution customers under Pennsylvania law and
11 the Orders of this Commission, regardless of whether the customers shop or do not shop
12 for electricity. There is no benefit to the Companies "artificially lower[ing] default service
13 prices" as Mr. Kavulla claims; the Companies make no profit from providing default
14 service to their distribution customers or standing ready to serve those customers who
15 return to default service after shopping with an EGS, or whose EGS does not provide
16 electric generation supply service. Second, as I have noted previously, the Commission
17 has repeatedly affirmed that the Companies' PTC Riders appropriately recover the costs of
18 default service and that the Companies' distribution rates appropriately recover distribution
19 costs.

1 **Q. Mr. Kavulla argues that the Companies’ cost allocations are inconsistent with**
2 **“industry guidance” and that the improper allocation of costs to distribution is**
3 **demonstrated by the fact that default service programs similar to the Companies’**
4 **would be “bankrupt in a matter of days, if not hours, if it was removed from the**
5 **distribution business.” Do you agree?**

6 A. No. The Companies’ PTC Riders are designed to be consistent with statutory, regulatory
7 and policy requirements specific to default service in Pennsylvania. The quoted National
8 Association of Regulatory Utility Commissioners Guidelines Section B.4 cited by Mr.
9 Kavulla simply do not apply to the Companies’ provision of default service because they
10 address cost allocation in the context of affiliate transactions. Notably, Mr. Kavulla admits
11 that he is not aware of a jurisdiction in the United States in which direct and indirect costs
12 are allocated to default service.¹

13 **Q. Shipley witness Greenholt-Tasto has expressed a concern about uncertainty**
14 **regarding how the Companies will recover costs associated with the proposed long-**
15 **term solar procurement and legacy solar contracts. Do you believe this is a valid**
16 **concern?**

17 A. No. Ms. Greenholt-Tasto clarified through discovery that she believes all solar
18 procurement costs, except for the legacy contracts that will expire in 2024, should be
19 recovered through default service rates.² As I explained in my direct testimony, that is
20 exactly what the Companies propose to do. *See* Met-Ed/Penelec/Penn Power/West Penn

¹ A copy of RESA/NRG’s response to Interrogatory ME/PN/PP/WP-(RESA/NRG)-I-15 is attached to my rebuttal testimony as Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-32.

² A copy of Shipley’s response to Interrogatory ME/PN/PP/WP-(Shipley)-I-1 is attached to my rebuttal testimony as Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-33.

1 Exhibits PML-7 through PML-9, page 6 of 7, and Met-Ed/Penelec/Penn Power/West Penn
2 Exhibit PML-10, page 5 of 7 (revising the definition of default service costs (“DS_{Exp2}”) in
3 each Company’s PTC Rider to include “[a]ny cost incurred by the Company associated
4 with any Commission-approved solar power purchase agreements and the administration
5 of the Company’s long-term solar procurement, including the costs associated with spot
6 purchases to satisfy a fixed quantity of default service load. These costs will be recovered
7 from the customers in the applicable procurement classes receiving an allocation of the
8 solar energy and/or the SPAECs procured.”).

9 **III. SEMI-ANNUAL ADJUSTMENT AND RECONCILIATION OF DEFAULT**
10 **SERVICE RATES UNDER THE COMPANIES’ PTC RIDERS**

11 **Q. Ms. Larkin, in your direct testimony, you explained that the Companies are**
12 **proposing to adjust and reconcile default service rates under their PTC Riders on a**
13 **semi-annual basis instead of a quarterly basis. Have any parties taken issue with that**
14 **proposal?**

15 A. Yes. While OCA witness Ogur supports semi-annual adjustment and reconciliation of
16 default service rates under the Companies’ PTC Riders, he recommends that the
17 Companies collect or refund the net overcollection or undercollection balance from each
18 reconciliation period over a prospective twelve-month period instead of a six-month
19 period. Mr. Ogur argues that his proposal will provide additional stability and certainty for
20 residential default service customers and will result in default service rates that are more
21 reflective of actual supply costs.

1 **Q. Do the Companies agree with Mr. Ogur’s recommendation to use a twelve-month**
2 **refund or recovery period for the over/undercollection component of the Companies’**
3 **PTC and HP Riders known as the E-Factor?**

4 A. No. The Companies’ proposal to recover or refund the net balances of PTC Rider revenues
5 minus costs over a six-month period will benefit customers and appropriately achieves the
6 Companies’ goal of mitigating volatility for residential and small default service
7 customers, while maintaining the PTC as a price signal correlating to underlying wholesale
8 supply costs for customers and EGSs. Mr. Ogur has not provided any analysis or other
9 evidence supporting his conclusion that semi-annual reconciliation of PTC Rider rates with
10 a twelve-month refund/recovery period for the E-Factor could provide more stable rates.

11 **IV. TIME-OF-USE DEFAULT SERVICE RIDERS**

12 **Q. RESA/NRG witness Kavulla objects to the voluntary, “opt-in” nature of the**
13 **Companies’ TOU Riders and contends that the Commission should approve the TOU**
14 **Riders as the standard default service rate for the residential and small commercial**
15 **classes to promote “effective use” of the Companies’ smart meter investments and**
16 **market-reflective pricing. Please respond.**

17 A. As the Commission has recognized, Act 129 of 2008 (“Act 129”) makes clear that an
18 EDC’s TOU program should be optional for default service customers.³ The Companies’
19 proposed voluntary TOU default service rate options and the competitive retail market are
20 the appropriate structures to optimize the Companies’ smart meter investments required
21 under Act 129 and reasonably balance customer risk mitigation with market-based pricing.

³ See *Investigation into Default Serv. and PJM Interconnection, LLC Settlement Reforms*, Docket No. M2019-3007101 (Secretarial Letter issued Jan. 23, 2020), p. 6. Act 129 provides that “[r]esidential or commercial customers *may* elect to participate in time-of-use rates or real-time pricing.” 66 Pa.C.S. § 2807(f)(5) (emphasis added).

1 **Q. Mr. Kavulla suggests that the Commission should require the Companies to permit**
2 **EGSs to display their TOU pricing on the EDC consolidated bill or provide sufficient**
3 **space for EGSs to show customers the impact of TOU pricing. Do the billing options**
4 **available to EGSs in the Companies' service areas restrict EGS TOU offerings?**

5 A. No, to the contrary. As Mr. Kavulla points out, EGSs may offer and bill TOU products
6 and services to customers today through dual billing. While Mr. Kavulla asserts that EGSs
7 face challenges in offering TOU rates because they are "limited to 4 lines on the EDC's
8 bill," the four-line limitation that Mr. Kavulla points to relates solely to bill messaging.
9 The Companies' consolidated billing options provide ample space for EGSs to display their
10 TOU pricing by allowing EGSs to request up to seven lines, with 80 characters per line to
11 describe their pricing in the supply charges section of the consolidated bill. For example,
12 an EGS could present its TOU rates on the consolidated bill by adding lines for the
13 following:

- 14 1) Energy Charges – Peak (\$[X] per kWh for [X] hours),
- 15 2) Energy Charges – Off-Peak (\$[X] per kWh for [X] hours), and
- 16 3) Savings This Month from Peak Usage Reductions ([X] kWh and \$[X]).

17 This format allows for four additional lines of text to detail the offering.

18 **Q. Mr. Kavulla contends that the Commission should revisit supplier consolidated**
19 **billing ("SCB") to address the challenges faced by EGSs in offering TOU products.**
20 **Do you agree?**

21 A. No. This issue has been extensively briefed before the Commission and has been fully
22 litigated, as described below. Over the past several years, the Commission has considered
23 the legal and public policy issues raised by SCB and declined to proceed with

1 implementation. In 2016, the Commission rejected a petition by NRG to implement its
2 version of SCB for EGSs.⁴ In the NRG SCB Order (p. 60), the Commission recognized
3 that pivotal questions remained unanswered, including the legality of SCB under Chapters
4 14 and 29 of the Public Utility Code, the risk of harm to customers and the level of interest
5 in SCB in the EGS community.

6 After denying the NRG petition for SCB, the Commission convened two en banc hearings
7 in 2018 to continue its review of SCB issues. Numerous stakeholders filed extensive
8 comments following the en banc hearings at Docket No. M-2018-2645254. On June 21,
9 2021, the Commission again declined to move forward with SCB.⁵ In the 2021 SCB
10 Secretarial Letter (p. 2), the PUC concluded that closing the proceeding at Docket No. M-
11 2018-2645254 would better enable the General Assembly to address the outstanding legal
12 and policy questions associated with SCB:

13 Even after considering the testimony and exhibits presented at the
14 two en banc hearings, and the comments and reply comments, the
15 record still lacks sufficient detail for the Commission to definitively
16 conclude that implementation of SCB would be prudent from a
17 public policy perspective or legal under Chapters 14 and 28 of the
18 Code. Outstanding questions, primarily related to consumer
19 protections and the Commission's lack of jurisdiction over EGSs
20 under current law, include, but are not limited to, (1) the legal
21 authority for SCB; (2) the legal authority for EGSs to bill and collect
22 EDC distribution charges; (3) the legal authority for EGSs to order
23 termination of a customer's electric service; (4) how to properly

⁴ See *Petition of NRG Energy, Inc. for Implementation of Elec. Generation Supplier Consol. Billing*, Docket No. P-2016-2579249 (Order entered Jan. 31, 2018) (the "NRG SCB Order").

⁵ *Notice of En Banc Hearing on Implementation of Supplier Consolidated Billing*, Docket No. M-2018-2645254 (Secretarial Letter issued June 21, 2021) ("2021 SCB Secretarial Letter").

1 account for EGS value added service charges; and (5) the
2 administration of EGS purchase of receivables programs.

3 Mr. Kavulla simply repackages various prior arguments in support of SCB from NRG's
4 2016 petition and the 2018 en banc hearings, which have already been considered and
5 rejected by the Commission – just as recently as within the past twelve months. As such,
6 the Commission should not address SCB in this proceeding.

7 **Q. Please describe and respond to the changes to customer eligibility for the Companies'**
8 **TOU Riders proposed by RESA/NRG and CAUSE-PA.**

9 A. RESA/NRG objects to excluding customers enrolled in each Company's Customer
10 Assistance Program ("CAP") from the Companies' TOU Riders. In accordance with the
11 Commission's direction on CAP customer shopping in the Companies' last default service
12 proceeding, the Companies' CAP customers may not incur generation charges above the
13 applicable PTC.⁶ Because a CAP customer would be charged a TOU rate that is above the
14 average PTC if the CAP customer is not able to shift their usage to off peak hours, the
15 Companies believe it is appropriate to exclude CAP customers from the TOU Riders.
16 Notably, the Commission previously found that a settlement regarding PPL Electric
17 Utilities Corporation's ("PPL's") TOU program implemented pursuant to Act 129 was in
18 the public interest because, among other things, the eligibility exclusion of CAP customers

⁶ See *Joint Petition of Metro. Edison Co., Pennsylvania Elec. Co. (Penelec), Pennsylvania Power Co., and West Penn Power Co. for Approval of their Default Serv. Programs for the Period Beginning June 1, 2019 through May 31, 2023*, Docket Nos. P-2017-2637855, et al. (Opinion and Order entered Sept. 4, 2018) ("September 2018 Order"). In the September 2018 Order, the Commission approved a partial settlement of the Companies' DSP V proceeding ("DSP V Settlement") and resolved the remaining contested issues, including the residential procurement schedule, continuation of the Customer Referral Program ("CRP"), and shopping by customers enrolled in the Companies' CAPs for products priced above the PTC. On February 28, 2019, the Commission entered a Final Order ("February 2019 Order" and together with the September 2018 Order, the "DSP V Orders") adopting rules and procedures for the CAP shopping programs approved in the September 2018 Order and revising the Companies' CRP scripts.

1 “protects low-income customers” by ensuring that vulnerable customers are not exposed
2 to “potential rate volatility” associated with TOU rates.⁷

3 In contrast to RESA/NRG, CAUSE-PA witness Geller supports the exclusion of CAP
4 customers from the Companies’ TOU Riders but proposes additional protections for all
5 low-income customers and customers with known medical usage. Specifically, Mr. Geller
6 proposes that the Companies conduct targeted and personalized outreach to vulnerable
7 households seeking to enroll in the Companies’ TOU Riders about available universal
8 service programs prior to enrollment. As part of such outreach, Mr. Geller recommends
9 that the Companies provide a customized bill impact assessment based on the household’s
10 actual usage patterns over the prior year to inform the customer’s decision to voluntarily
11 enroll in the Companies’ TOU Riders.

12 While the Companies recognize CAUSE-PA’s concern regarding the potential impact of
13 the Companies’ TOU Riders on vulnerable customers who may not have the ability to shift
14 their electric usage throughout the day, the additional level of outreach proposed by Mr.
15 Geller would add administrative complexity and cost. Mr. Geller’s recommendations
16 would require the Companies to screen and verify the household income and medical usage
17 of every customer interested in the optional TOU Riders.⁸ For all of these reasons, Mr.
18 Geller’s recommendations should be denied.

⁷ *Proceeding Initiated to Comply with Directives Arising from the Commonwealth Court Order in DCIDA v. PUC, 123 A3d 1124 (Pa. Cmwlth 2015) Reversing and Remanding the Order of the Comm’n Entered Sept. 22, 2014 at Docket Number P-2013-2389572 in which the Comm’n had Approved PPL’s Time of Use Plan, Docket Nos. M-2016-2578051 et al. (Recommended Decision issued Apr. 2, 2018) (“PPL TOU Recommended Decision”), p. 25. The Commission adopted the PPL TOU Recommended Decision without modification by Order entered on May 17, 2018.*

⁸ A copy of CAUSE-PA’s response to Interrogatory ME/PN/PP/WP (CAUSE-PA) I-2 is attached to my rebuttal testimony as Exhibit PML-34.

1 **Q. Do you believe the Companies must perform an analysis to determine the potential**
2 **bill impacts, peak load reductions and customer enrollment levels under their**
3 **proposed TOU rate options compared to other TOU rate designs for the Commission**
4 **to approve the TOU Riders, as suggested by the OCA?**

5 A. No. As explained in my direct testimony, the Companies' proposed TOU rate design
6 incorporates the Commission's guidance on EDC TOU rate structures to satisfy Act 129
7 requirements,⁹ reflects the Companies' prior experience with their existing TOU rate
8 options, and balances a variety of objectives, including simplicity. I note that the
9 Commission recently approved the voluntary TOU default service rate options of PPL and
10 PECO Energy Company without requiring the pre-implementation evaluation Ms.
11 Alexander and Mr. Ogur propose.¹⁰

12 **Q. Do any parties propose changes to the Companies' proposed TOU pricing**
13 **multipliers?**

14 A. Yes. If the Commission approves the Companies' proposed TOU Riders for DSP VI, OCA
15 witness Ogur recommends that the Companies recalculate the TOU multipliers each year
16 using an updated four-year rolling average of locational marginal prices, customer class
17 loads, and zonal PJM capacity prices to reflect current market conditions.

⁹ *Petition of PPL Elec. Utils. Corp. for Approval of a New Pilot Time-of-Use Program*, Docket Nos. P-2013-2389572 and M-2016-2578051 (Secretarial Letter issued Apr. 6, 2017) ("April 2017 Secretarial Letter").

¹⁰ See PPL TOU Recommendation Decision, pp. 17-18, 21-25; *Petition of PECO Energy Co. for Approval of Its Default Service Program for the Period from June 1, 2021 through May 31, 2025*, Docket No. P-2020-3019290 (Recommended Decision issued Oct. 20, 2020 and adopted by Order and Opinion entered Dec. 3, 2020), p. 82.

1 **Q. Do the Companies believe that Mr. Ogur’s proposal to update the TOU price**
2 **multipliers annually is necessary?**

3 A. No. The TOU price multipliers that the Companies are proposing for the DSP VI term are
4 simple in design and consistent with the Commission’s guidance for such multipliers to
5 appropriately motivate shifting of consumption from on-peak to off-peak periods.¹¹ Mr.
6 Ogur has not provided any empirical evidence that the use of four-year rolling average
7 market pricing data will result in significant changes to the Companies’ proposed TOU
8 price multipliers. The Companies would not expect an annual update to the multipliers to
9 be material and therefore, as I explained in my direct testimony, TOU price multipliers that
10 remain constant for the DSP VI term reduce the number of variables customers need to
11 consider to shift their consumption and save money on their electric bills.

12 **Q. Does Mr. Ogur criticize other aspects of the Companies’ TOU rate design?**

13 A. Yes. Mr. Ogur raises concerns with the lack of seasonal variation in the Companies’
14 proposed TOU rate design.¹² Mr. Ogur claims that the Companies should consider
15 allocating all capacity costs to the summer on-peak period, consistent with cost causation
16 principles, and varying the TOU pricing periods throughout the year to align with peak
17 load periods in summer, winter and shoulder periods. However, Mr. Ogur recognizes that
18 the overall benefits of aligning TOU rates with market price signals need to be balanced
19 with the user-friendliness of the program. Therefore, he does not offer any specific
20 proposals as to how the Companies’ proposed TOU rate design should be modified, but

¹¹ *Petition of PPL Elec. Utils. Corp. for Approval of a New Pilot Time-of-Use Program*, Docket Nos. P-2013-2389572 and M-2016-2578051 (Secretarial Letter issued Apr. 6, 2017) (“April 2017 Secretarial Letter”), p. 3.

¹² The Office of Small Business Advocate’s witness Robert D. Knecht does not oppose the Companies’ proposed TOU rate design but notes that the effectiveness could be improved by defining usage periods that reflect seasonal patterns.

1 instead argues that the Companies must perform an additional “foundational” analyses
2 before the Commission can approve the proposed TOU Riders. As discussed above, the
3 Companies do not believe additional analyses are necessary.

4 I also note that Mr. Ogur’s assertion that the Companies allocate capacity charges to retail
5 delivery customers is incorrect and mischaracterizes the direct testimony of the
6 Companies’ witness Tiffanne L. Cowan. Capacity related costs imposed by PJM
7 Interconnection, LLC (“PJM”) are part of the Companies’ payments to wholesale suppliers
8 for default service supply.

9 **Q. Please respond to Ms. Alexander’s recommendation that the PUC reject the proposed**
10 **TOU Riders and direct the Companies to explore a peak-time rebate program.**

11 A. The Companies, as well as other EDCs in Pennsylvania, have an unconditional statutory
12 obligation to offer TOU rate options to eligible default service customers under Section
13 2807(f)(5) of the Pennsylvania Public Utility Code. A peak-time rebate program, such as
14 Baltimore Gas and Electric Company’s “Smart Energy Rewards” program mentioned by
15 Ms. Alexander, pays customers to reduce usage during a handful of load reduction event
16 days annually. The Companies do not believe it is appropriate to consider replacing their
17 TOU Riders with peak time rebates until the Commission determines that a rebate may be
18 incorporated in a TOU rate for purposes of Section 2807(f)(5). Further, while the
19 Companies recognize that their proposed TOU offerings are relatively basic and simple by
20 design, their expectation is that the retail market is the more appropriate place for customers
21 to secure more sophisticated or alternative offerings that may be more closely tailored to
22 individual customer needs.

1 **Q. Mr. Kavulla questions the sufficiency of the projected costs and timeline for**
2 **implementation of the Companies' proposed TOU Riders. How do you respond?**

3 A. The projected costs and timeline for implementation of the Companies' TOU Riders are
4 preliminary estimates based on the proposed TOU rate design and their prior experience
5 implementing TOU rates. While the Companies have not yet developed a detailed TOU-
6 related communications and implementation plan, and given the known information at this
7 time, I believe that these estimates are reasonable.

8 **Q. Have the Companies considered CAUSE-PA's recommendation for the Companies**
9 **to track and assess the impact of TOU rates on low-income and other vulnerable**
10 **customers and the OCA's recommendation to evaluate the performance of the TOU**
11 **Riders over the DSP VI term?**

12 A. Yes. The Companies have considered the recommendation and do not believe the reporting
13 recommended by Mr. Geller is necessary at this time as this is an optional program in which
14 customers affirmatively choose to enroll. In addition, CAP customers are not eligible for
15 the Companies' TOU Riders.

16 **V. RECOVERY OF NETWORK INTEGRATION TRANSMISSION SERVICE COSTS**

17 **Q. Ms. Larkin, please summarize Constellation witness Campbell's position regarding**
18 **responsibility for NITS charges imposed by PJM on all LSEs in the Companies'**
19 **service areas, including EGSs and wholesale suppliers.**

20 A. Mr. Campbell argues that the Companies should assume responsibility on behalf of all
21 LSEs in their service areas for PJM charges for NITS and recover those costs through the
22 Companies' non-bypassable DSS Riders. According to Mr. Campbell, NITS costs are
23 unpredictable like the other non-market-based transmission charges included in the

1 Companies' DSS Riders. The Companies have historically proposed or supported non-
2 bypassable treatment for NITS, but as Mr. Campbell recognizes, the Commission has
3 previously rejected such proposals. As a result, Constellation is not proposing changes to
4 the treatment of NITS in this proceeding. However, Mr. Campbell recommends that the
5 Commission initiate a generic proceeding to consider various improvements to default
6 service procurement, including shifting responsibility for NITS costs from LSEs to EDCs.
7 In addition, Mr. Campbell notes that the Companies' affiliate, Mid-Atlantic Interstate
8 Transmission, LLC ("MAIT"), which operates the transmission assets formerly owned by
9 Met-Ed and Penelec, provides its Projected Transmission Revenue Requirement ("PTRR")
10 to PJM and other interested parties by October 5 each year in accordance with a settlement
11 approved by the Federal Energy Regulatory Commission resolving all issues related to
12 MAIT's formula rates. To enhance transparency of NITS costs charged to LSEs in the
13 Companies' service areas, Mr. Campbell recommends that each Company commit, as part
14 of this proceeding, to provide its PTRR, in the same manner as MAIT, to interested parties
15 each year prior to any fall default service auction and that this obligation continue if West
16 Penn's transmission assets are transferred to a newly formed affiliate, Keystone
17 Appalachian Transmission Co. ("KATCo").

18 **Q. Do you agree with Mr. Campbell's recommendations?**

19 A. No. The Companies do not believe that initiating separate reconsideration of the earlier
20 Commission rulings on NITS cost allocation in a generic proceeding is appropriate. This
21 is a well-settled issue, the facts or analysis of which will not change in the context of a
22 generic proceeding.

1 I also disagree with Mr. Campbell's proposed mechanism to enhance the transparency of
2 NITS charges imposed by PJM on LSEs in the Companies' service areas by requiring the
3 Companies to commit to provide their PTRR to interested parties as part of this default
4 service case. Met-Ed, Penelec, and Penn Power¹³ do not own transmission assets and
5 therefore they do not have a PTRR. I am advised by counsel that Mr. Campbell's proposal
6 raises due process concerns because it would require the Companies to make commitments
7 on behalf of their transmission affiliates that are not parties to this proceeding.

8 **VI. CONCLUSION**

9 **Q. Does this complete your rebuttal testimony?**

10 **A.** Yes, it does.

DB1/ 128488011.2

¹³ Penn Power transferred its transmission assets to American Transmission Systems, Inc. ("ATSI") in 2000. *Application Of Pennsylvania Power Co. For (1) A Certificate Of Public Convenience Authorizing The Transfer Of Certain Transmission Assets To American Transmission Systems, Inc., And (2) Approval Of Certain Affiliated Interest Agreements Necessary To Effect The Transfer*, Docket No. A-110450F0016 (Order entered July 14, 2000).

Exhibit PML-32

**Response of the Retail Energy Supply Association and NRG Energy, Inc.
to the Interrogatories of the Metropolitan Edison Company, Pennsylvania Electric
Company, Pennsylvania Power Company And West Penn Power Company, Set I
in Docket Nos. P-2021-3030012, P-2021-3030013, P-2021-3030014 and P-2021-3030021**

Request: ME/PN/PP/WP-(RESA/NRG) I-15: Reference RESA Statement No. 1, p. 45. Please identify each jurisdiction in the United States in which “indirect” or “overhead” costs are allocated to default service as RESA/NRG proposes.

Response:

Mr. Kavulla is not aware of a jurisdiction in the United States in which indirect or overhead costs are allocated to default service. The incorrect pricing of default service is a widespread problem throughout the United States, as explained by the Lacey article attached to Mr. Kavulla’s Direct Testimony as RESA/NRG Exhibit TK-2. Eventually, a jurisdiction in the United States will become the first to remedy the current flaws with default service pricing. Given Pennsylvania’s reputation as a national leader in the early days of competition, it is appropriate for the Commonwealth to take steps that are necessary to correct default service pricing so that default service rates reflect all of the costs incurred to provide default service.

Response provided by: Travis Kavulla

Dated: March 10, 2022

Exhibit PML-33

**RESPONSES OF
SHIPLEY CHOICE, LLC D/B/A SHIPLEY ENERGY
TO INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS
OF METROPOLITAN EDISON COMPANY, PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY, AND WEST PENN POWER COMPANY, SET I**

**DOCKET NOS. P-2021-3030012
P-2021-3030013
P-2021-3030014
P-2021-3030021**

ME/PN/PP/WP-(Shiplee)-I-1. Reference Shiplee Statement No. 1, p. 12, lines 2-9. Please confirm that Ms. Greenholt-Tasto is proposing that the Companies' recover all costs associated with the proposed long-term solar procurement through their Price-to-Compare Service Riders. If Ms. Greenholt-Tasto does not confirm that statement, please explain your answer.

RESPONSE:

Ms. Greenholt-Tasto confirms that it is her position that all costs associated with any solar procurement (except the legacy contracts) including energy, capacity, ancillary services, costs of the RFP process, all other direct and indirect costs, and all costs associated with the SPAECs, must be recovered only from default service customers and only through the default service rate.

Provided By: Laura Greenholt-Tasto

Exhibit PML-34

**METROPOLITAN EDISON COMPANY, PENNSYLVANIA ELECTRIC COMPANY,
PENNSYLVANIA POWER COMPANY AND WEST PENN POWER COMPANY
INTERROGATORIES TO THE COALITION FOR AFFORDABLE UTILITY
SERVICES AND ENERGY EFFICIENCY IN PENNSYLVANIA**

Set I

ME/PN/PP/WP-(CAUSE-PA)-I-2. Reference CAUSE-PA Statement No. 1, p. 44, lines 7-13.

- a. Is it CAUSE-PA's position that customers who refuse to disclose the income and demographic information identified in the referenced statement should be ineligible to participate in the TOU rate options?
- b. Please explain whether TOU participants will be required to provide updated income and demographic information on a periodic basis to remain on TOU rates.
- c. Please explain whether Mr. Geller's proposed data collection requirements apply to all members of the household or solely to the customer of record.

Response:

(a) No.

(b) Mr. Geller did not recommend ongoing or periodic income or demographic screening. His recommendations are intended to ensure that households with unique vulnerabilities to time-varying rates receive enhanced disclosures about the potential bill impacts, as well as information about how to access universal service programs that may provide more appropriate rate options.

(c) Ideally, the data collected and analyzed would include all household members. Note that Mr. Geller's recommendation is that households self-identify income and demographic information. He does not recommend that the Companies collect any subsequent documentation.

Respondent: Harry S. Geller

Date: March 10, 2022

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 – May 31, 2026**

**SUPPLEMENTAL REBUTTAL TESTIMONY
OF
PATRICIA M. LARKIN**

List of Topics Addressed

**Alternative Energy Portfolio Act Cost Recovery
Default Service Rate Design**

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1 SUPPLEMENTAL REBUTTAL TESTIMONY
2 OF
3 PATRICIA M. LARKIN

4 I. **INTRODUCTION AND PURPOSE**

5 Q. **Please state your name and business address.**

6 A. My name is Patricia M. Larkin, and my business address is 2800 Pottsville Pike, Reading,
7 Pennsylvania 19605.

8 Q. **Have you previously submitted testimony in this proceeding?**

9 A. Yes. I submitted direct and rebuttal testimony and exhibits on behalf of Metropolitan
10 Edison Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania
11 Power Company (“Penn Power”) and West Penn Power Company (“West Penn”)
12 (individually, a “Company” and in any combination, the “Companies”) which have been
13 designated as Met-Ed/Penelec/Penn Power/West Penn Statement Nos. 5 and 5R, as well as
14 Exhibits PML-1 to PML-34.

15 Q. **Please describe the purpose of your testimony.**

16 A. I will provide supplemental rebuttal testimony responding to the Direct and Second Direct
17 Testimony of David N. Hommrich on behalf of Sunrise Energy, LLC and John P. Bevec
18 (collectively, “Sunrise”) regarding the costs reflected in default service rates recovered
19 through the Companies’ Price to Compare Default Service Rate Riders (“PTC Riders”) and
20 Hourly Pricing Default Service Riders (“HP Riders”).

21 Q. **Have you prepared any exhibits to accompany your testimony?**

22 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-35 was prepared by me or
23 under my supervision and is described in detail later in my testimony.

1 **II. COSTS REFLECTED IN THE COMPANIES' DEFAULT SERVICE RATES**

2 **Q. Ms. Larkin, you explained in your direct testimony that the Companies are proposing**
3 **to maintain their existing default service rate design previously approved by the**
4 **Pennsylvania Public Utility Commission (“Commission”) as consistent with the**
5 **Public Utility Code and the Commission’s default service regulations. Does Sunrise**
6 **witness Hommrich express concerns regarding the costs recovered through the**
7 **Companies’ existing PTC and HP Riders?**

8 A. Yes. Under Section 3 of the Alternative Energy Portfolio Standards (“AEPS”) Act,¹ the
9 Companies and other electric distribution companies (“EDCs”) are required to procure a
10 percentage of electricity sold to retail customers in Pennsylvania from alternative energy
11 sources as defined in the AEPS Act and recover the associated costs through default service
12 rates. Mr. Hommrich claims that the Companies’ Commission-approved default service
13 rate design does not reflect all the costs of the “resources” the Companies procure to meet
14 AEPS Act Section 3 requirements as default service providers. According to Mr.
15 Hommrich, the costs associated with processing net metering and interconnection
16 applications for customer-generators² under Section 5 of the AEPS Act,³ including
17 interconnection application fees, engineering studies, and distribution system upgrades,
18 should be recovered through the Companies’ default service rates. Mr. Hommrich’s
19 position is simply an attempt to lower the costs customer-generators incur to interconnect
20 with the Companies’ distribution systems by characterizing such costs as AEPS

¹ See 73 P.S. § 1648.3 and related provisions of 66 Pa.C.S §§ 2813-2814.

² Customer generators are nonutility owners and operators of distributed generation systems with generating capacity of less than five megawatts. 73 P.S. § 1648.1 (definitions).

³ 73 P.S. § 1648.5.

1 compliance costs recoverable from default service customers through the Companies' PTC
2 and HP Riders. Curiously, at the same time, at several points in his Second Direct
3 Testimony, Mr. Hommrich expresses concerns that the Companies' PTC and HP Rider rate
4 calculations "overcharge" default service customers for AEPS Act compliance costs.

5 **Q. On page 14 of his direct testimony, Sunrise witness Hommrich contends that it is**
6 **"difficult to say with certainty" how the Companies recover AEPS compliance costs**
7 **as part of their proposed sixth default service programs ("DSP VI"). Please explain**
8 **how the Companies will satisfy, and recover the costs of, AEPS Act requirements**
9 **associated with default service supply during DSP VI.**

10 A. The Companies are proposing to continue to satisfy most of their AEPS Act requirements
11 through the solicitation of default service supply from wholesale suppliers. As explained
12 in the direct testimony of the Companies' witness James H. Catanach, with certain limited
13 exceptions for solar photovoltaic requirements, default service suppliers will be
14 responsible for delivering alternative energy credits ("AECs") to satisfy 100% of the Tier
15 I and Tier II AEPS Act requirements associated with the Companies' default service load.
16 The Companies therefore expect default service suppliers to include *all* AEPS compliance
17 costs, including the cost items listed in Section 3 of the AEPS Act and the Commission's
18 regulations at 52 Pa. Code § 75.67, in their wholesale power prices, which are recovered
19 through the Companies' PTC and HP Riders. There is an exception for solar AEC-related
20 costs for Met-Ed, Penelec, and Penn Power procured under existing long-term contracts
21 that expire on May 31, 2024, to satisfy all customer load (default service and shopping
22 customers) in their service territories, which are collected through the Companies' Solar
23 Photovoltaic Requirements Charge Riders on a non-bypassable basis.

1 In addition, all costs associated with the Companies' proposed long-term solar
2 procurement, which is expected to meet up to an estimated 32% of the Companies' solar
3 AEPS requirements associated with residential default service load during DSP VI as also
4 explained in Mr. Catanach's direct testimony, will be recovered through their PTC Riders.

5 **Q. Mr. Hommrich argues that the Companies are improperly omitting "indirect" costs**
6 **associated with the purchase of alternative energy resources from their PTC and HP**
7 **Riders, such as those associated with Company personnel spending time processing**
8 **net metering applications. Do you agree?**

9 A. No. Subpart D in Chapter 75 of the Commission's regulations sets forth EDC obligations
10 under the AEPS Act and addresses alternative energy cost recovery. Those regulations (52
11 Pa. Code § 75.67(a)) provide that a default service provider may recover the following
12 AEPS Act compliance costs from default service customers:

13 (1) The costs of electricity generated by an alternative energy system, purchased
14 by a default service provider, and delivered to default service customers for
15 purposes of compliance with § 75.61 (relating to EDC and [electric generation
16 supplier] obligations).

17 (2) The costs of alternative energy credits purchased and used within the same
18 reporting period for purposes of compliance with § 75.61.

19 (3) The costs of alternative energy credits purchased in one reporting period and
20 banked for use in later reporting periods, consistent with § 75.69 (relating to
21 banking of alternative energy credits).

22 (4) The costs of alternative energy credits purchased in the true-up period to satisfy
23 compliance obligations for the most recently concluded reporting period, consistent
24 with § 75.61(e).

25 (5) Payments to the alternative energy credits program administrator for its costs
26 of administering an alternative energy credits program, consistent with § 75.64
27 (relating to alternative energy credit program administrator).

1 (6) Payments to a third party for its costs in operating an alternative energy credits
2 registry, consistent with § 75.70 (relating to the alternative energy credit registry).

3 (7) The costs levied by a regional transmission organization to ensure that
4 alternative energy sources are reliable.

5 (8) The costs of alternative compliance payments made under § 75.66 (relating to
6 force majeure).

7 In Met-Ed/Penelec/Penn Power/West Penn Statement No. 8R-Supplemental, the
8 Companies' witness Edward B. Stein explains why the types of distributed generation costs
9 Mr. Hommrich cites as examples of the Companies' alleged failure to recover all AEPS
10 compliance costs through default service rates are not incurred by the Companies to meet
11 AEPS Act Section 3 requirements as default service providers. While Mr. Hommrich
12 correctly observes that the Companies recover administrative and general expenses for
13 AEPS Act compliance through distribution rates, those costs are functionalized in the same
14 manner as other indirect costs incurred by the Companies. As I explained in my rebuttal
15 testimony, the Companies' allocations of costs between default service and distribution in
16 this proceeding are consistent with the allocations previously approved by the Commission
17 in the Companies' prior default service cases and distribution rate proceedings.

18 **Q. Mr. Hommrich further argues that the Companies are incorrectly calculating AEPS**
19 **cost recovery in their PTC and HP Riders by: (1) assigning a flat kilowatt-hour**
20 **("kWh") rate to costs that are not a function of usage; and (2) including a loss factor**
21 **gross-up to costs that are not subject to line losses. He claims this has led to**
22 **"overcharging" customers for AEPS Act costs. Do you agree?**

23 A. No. The Companies' Commission-approved PTC and HP Riders detail how default
24 service-related costs will be calculated and recovered from customers. Those Riders
25 employ a simple flat per-kilowatt hour rate design and provide for the grossing up of the

1 current cost of default service supply for loss factors. The Companies are treating the
2 AEPS compliance costs embedded in wholesale contract prices in a manner consistent with
3 other default service costs included in payments to default service suppliers, which are
4 recovered through the PTC_{current} and HP_{Oth} components of the PTC Riders and HP Riders,
5 respectively. The Companies will not gross up the costs associated with their proposed
6 long-term solar procurement that will be recovered through the reconciliation component
7 of the PTC Rider rate (known as the “E-Factor”) in the DS_{Exp2} variable. In contrast to the
8 current cost of default supply, the Companies do not apply loss factors to the E-Factor in
9 the PTC and HP Riders.

10 Additionally, the Commission reviews the Companies’ default service rate calculations
11 when they are filed each quarter. The Companies are also required to file an annual
12 reconciliation statement for the default service riders with the Commission pursuant to
13 Section 1307(e)(1) of the Public Utility Code and the Companies’ default service rates are
14 subject to annual review and audit by the Commission as determined by the Commission’s
15 timing to conduct such audits. For all these reasons, Mr. Hommrich’s concerns about
16 miscalculation and overcharging are unfounded.

17 **Q. Do you agree with Mr. Hommrich’s proposal to disaggregate AEPS compliance costs**
18 **included in current generation supply costs and recover those costs in a new variable**
19 **that is not grossed up for loss factors in PTC and HP Rider rate calculations?**

20 A. No. As previously explained, the only AEPS compliance costs subject to loss factors are
21 those bundled with other default service supply costs in the payments made by the
22 Companies to default service suppliers. Default service suppliers do not quantify the costs
23 of meeting AEPS requirements associated with energy supplied to the Companies’ default

1 service customers. In Met-Ed/Penelec/Penn Power/West Penn Statement No. 8R-
2 Supplemental, Mr. Stein explains the development of a hypothetical default service
3 supplier's winning bid. I used the assumptions provided by Mr. Stein to develop the
4 illustrative example presented in Met-Ed/Penelec/Penn Power/West Penn Exhibit PML-
5 35, comparing retail default service rates with and without the use of loss factors to convert
6 wholesale power contract costs based on megawatt hours with losses to retail rates. The
7 calculation without the gross-up for loss factors results in an undercollection of current
8 costs. This, in turn, results in customers paying for those costs and additional interest costs
9 in a future PTC Rider rate period. Under the Commission's regulations at 52 Pa. Code §
10 54.190(c), when default service costs exceed revenues, the undercollections are recovered
11 from customers with interest.

12 **Q. Is it inappropriate to apply gross receipts tax ("GRT") to all components of default**
13 **service rates as Mr. Hommrich suggests?**

14 A. No. As I explained in my rebuttal testimony, the Commission identified the types of costs
15 that should be recovered from default service customers in a Policy Statement regarding
16 default service and retail electric markets (52 Pa. Code § 69.1808). The Companies include
17 a gross-up for GRT on all costs recovered through PTC and HP Riders consistent with the
18 Commission's guidance in the Policy Statement that default service rates should be
19 designed to recover applicable taxes. The Companies must remit 5.9% GRT to the
20 Pennsylvania Department of Revenue for every dollar of default service revenue collected
21 from retail electric customers even though the Companies make no profit from default
22 service. Contrary to Mr. Hommrich's contention, AEPS compliance costs recovered
23 through the Companies' default service rates are not exempt from GRT. Under Mr.

1 Hommrich’s approach, the Companies’ PTC and HP Rider rates will not recover
2 approximately \$6 out of every \$100 of AEPS compliance costs associated with default
3 service supply, resulting in customers paying for those undercollections with interest in a
4 future reconciliation period. In short, the fact that GRT is applied to all default service
5 costs does not support Mr. Hommrich’s conclusion that the Companies are “overcharging”
6 customers for AEPS Act compliance.

7 **Q. Are there any other reasons why the revisions to the Companies’ PTC Rider and HP
8 Rider formulas proposed by Mr. Hommrich should not be adopted?**

9 A. Yes. While Mr. Hommrich objects to applying the GRT gross-up factor to AEPS
10 compliance costs recovered through default service rates, his alternative PTC Rider
11 formula shown on page 5 of his Second Direct Testimony would insert the new standalone
12 PTC_{AEPS} variable within the GRT gross-up factor. This error would improperly multiply
13 the PTC Rider rate by a factor of the PTC_{AEPS} component. In sum, Mr. Hommrich has not
14 provided a valid basis for his proposed changes to the Companies’ Commission-approved
15 default service rate design.

16 **III. CONCLUSION**

17 **Q. Does this conclude your supplemental rebuttal testimony?**

18 A. Yes.

EXHIBIT PML-35

Illustrative Example of the Appropriateness of Gross-Up for Losses

Assume the following information:
Company A owes \$4.762 per MWh supplied for AECs.
Company A purchases 105 MWh of power from Default Service Suppliers
Retail customers use 100,000 kwh in the PTC period

Rate Design without Loss Gross-Up			Rate Design with Loss Gross-Up		
1	Cost of AECs in Supplier Bid /MWh	\$ 4.762	1	Cost of AECs in Supplier Bid /MWh	\$ 4.762
2	Convert MWh to kWh	<u>1,000</u>	2	Convert MWh to kWh	<u>1,000</u>
3=1/2	Cost per kWh	\$ 0.00476	3=1/2	Cost per kWh	\$ 0.00476
4	Loss Factor Gross-Up [1/(1-L)] L=0%	<u>1.000000</u>	4	Loss Factor Gross-Up [1/(1-L)] L=5%	<u>1.05263</u>
5=3x4	kWh Charge for Default Service	\$ 0.00476	5=3x4	kWh Charge for Default Service	\$ 0.00501
Default Service Reconciliation			Default Service Reconciliation		
Revenue from Customers			Revenue from Customers		
6=5	kWh Charge for Default Service	\$ 0.00476	6=5	kWh Charge for Default Service	\$ 0.00501
7	Actual usage	<u>100,000</u>	7	Actual usage	<u>100,000</u>
8=6x7	Revenue from Customers	\$ 476.20	8=6x7	Revenue from Customers	\$ 501
Expense of Default Service			Expense of Default Service		
9=1	Cost of AECs in Supplier Bid /MWh	\$ 4.762	9=1	Cost of AECs in Supplier Bid /MWh	\$ 4.762
10	MWh Supplied	<u>105</u>	10	MWh Supplied	<u>105</u>
11=9x10	Total Cost of AECs	\$ 501	11=9x10	Total Cost of AECs	\$ 501
12=8-11	Balance (owed from)/due to Customers	\$ (25)	12=8-11	Balance (owed from)/due to Customers	\$ 0

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 – May 31, 2027**

**Direct Testimony
Of
Tiffanne L. Cowan**

List of Topics Addressed

**Peak Load Contribution and Network Service Peak Load
Third-Party Data Access Tariff**

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1 **DIRECT TESTIMONY**
2 **OF**
3 **TIFFANNE L. COWAN**

4 **I. INTRODUCTION AND BACKGROUND**

5 **Q. Please state your name and business address.**

6 A. My name is Tiffanne L. Cowan, and my business address is 76 South Main Street, Akron,
7 Ohio 44308.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as the Manager, Regulated Settlements.
10 Regulated Settlements is responsible for the daily creation and submittal of aggregate
11 customer load information, including retail- and default-service-supplier load,
12 municipality/cooperative load, and other utility interconnection load, to PJM
13 Interconnection, LLC (“PJM”) for all of FirstEnergy Corp.’s (“FirstEnergy”) regulated
14 utilities. These utilities include FirstEnergy’s wholly owned Pennsylvania distribution
15 operating companies: Metropolitan Edison Company (“Met-Ed”), Pennsylvania Electric
16 Company (“Penelec”), Pennsylvania Power Company (“Penn Power”), and West Penn
17 Power Company (“West Penn”) (individually, a “Company”, and, in any combination, the
18 “Companies”).

19 **Q. What is your educational and professional background?**

20 A. I earned a Bachelor of Science in Business, Liberal Arts, and Science from the
21 Pennsylvania State University in 1992. I have over twenty-two years of experience with
22 FirstEnergy. I began as a Business Analyst for FirstEnergy Service Company and then
23 became a Supervisor in Supplier Services. Before taking my current position, I spent time

1 as Manager in Policy and Process Development and then in Regulatory Compliance and
2 Reporting.

3 **Q. On whose behalf are you testifying in this proceeding?**

4 A. I am testifying on behalf of Met-Ed, Penelec, Penn Power, and West Penn. My testimony
5 equally applies to all of the Companies, unless otherwise stated.

6 **Q. What is the purpose of your direct testimony?**

7 A. The purpose of my testimony is to describe: (i) the Companies' peak load contribution
8 ("PLC") and network service peak load ("NSPL") cost allocation calculations and why the
9 cost allocation is used; and (ii) the Companies' proposed Third-Party Data Access Tariffs
10 ("Tariffs").

11 **Q. Have you prepared any exhibits to accompany your testimony?**

12 A. Yes. Met-Ed/Penelec/Penn Power/West Penn Exhibits TLC-1 through TLC-4 were
13 prepared by me or under my supervision and are described in detail later in my testimony.

14 **II. PEAK LOAD CONTRIBUTION AND NETWORK SERVICE PEAK LOAD**

15 **Q. In response to the Commission's request in its January 2020 Secretarial Letter,¹
16 please explain the Companies' PLC and NSPL cost allocation calculations.**

17 A. The cost allocation calculations used by the Companies to determine PLC and NSPL tickets
18 are defined in PJM's Open Access Transmission Tariff ("OATT"), Attachment M-2
19 (FirstEnergy Zones). The calculations are based on several components, including
20 information provided by PJM and actual customer usage data.

¹ *Investigation into Default Serv. and PJM Interconnection, LLC Settlement Reforms*, Secretarial Letter, Docket No. M-2019-3007101, at 10 (issued Jan. 23, 2020) ("January 2020 Secretarial Letter").

1 Each Fall, PJM publishes the five coincident peaks (“5 CPs”) to aid the Companies in the
2 calculation of PLC for retail customer accounts. The 5 CPs represent the five highest
3 peaking hours occurring during the previous summer, defined as June 1 through September
4 30 (the “summer season”), for the corresponding PJM zone. PJM also publishes a single
5 coincident peak (“Single Peak”) to aid in the calculation of NSPL for retail customer
6 accounts. The Single Peak represents the highest peaking hour occurring during the period
7 of November 1 through October 31 (the “winter season”) for the corresponding PJM zone.
8 Using the 5 CPs and the Single Peak provided by PJM, the Companies calculate a PLC and
9 NSPL ticket, respectively, for each customer premise on an annual basis. The PLC
10 represents the individual customer’s average peak load contribution to the 5 CPs. The
11 NSPL represents the individual customer’s calculated load contribution to the Single Peak.
12 To create a customer’s PLC ticket, the Companies identify each customer’s actual hourly
13 usage during the 5 CPs. Distribution and transmission losses and a reconciliation factor²
14 are applied to each of the 5 CPs. The values for each of the 5 CPs are averaged to create
15 the customer’s PLC.
16 When calculating the customer’s NSPL, the Companies will first determine if the Single
17 Peak is summer or winter peaking. If summer peaking, the Companies will identify the
18 five highest electric distribution company (“EDC”) peaks (“5 EDC CPs”) occurring during
19 the summer season. Conversely, if winter peaking, the Companies will identify the 5 EDC
20 CPs occurring during the winter season. The Single Peak will always correspond with one
21 of the 5 EDC CPs. To create a customer’s NSPL ticket, the Companies identify each
22 customer’s actual hourly load during the 5 EDC CPs. Like the PLC calculation,

² The reconciliation factor is used to scale the “as-metered” customer data to the zonal PLC assigned by PJM.

1 distribution and transmission losses and a reconciliation factor are applied to the 5 EDC
2 CPs, and the values for each of the 5 EDC CPs are averaged to create the customer's NSPL.

3 **Q. In the January 2020 Secretarial Letter, the Commission directed EDCs to discuss**
4 **whether the EDC is using monthly summary usage data instead of actual customer**
5 **usage data. Do the Companies use monthly summary usage data instead of actual**
6 **customer usage data when calculating PLC and NSPL tickets?**

7 A. No, monthly summary usage data are not used to calculate PLC and NSPL tickets. The
8 only time a customer's actual usage is not used is if the customer's premise is new (i.e., a
9 new home or building) and has no existing load. In that situation, the Companies use a
10 default PLC and NSPL value based on the average PLC and NSPL for the applicable
11 customer load profile. Actual customer usage data will be used when calculating the
12 customer's PLC and NSPL values during the next annual calculation.

13 **Q. Do the Companies plan to make any changes to their PLC and NSPL calculation**
14 **process?**

15 A. No. Actual customer usage data is used for all customers in the calculation of PLC and
16 NSPL tickets, except for the previously mentioned exception, and the calculation is
17 performed in accordance with PJM's OATT, Attachment M-2 (FirstEnergy Zones) and
18 each Company's Supplier Capacity Manual.³ Given that this is the most accurate means of
19 calculating these tickets, no change to the Companies' methodology is necessary.

³ The Supplier Capacity Manual for each Company can be found at the following URLs of FirstEnergy's external website—Metropolitan Edison Company Determination of Capacity Peak Load Contributions and Network Service Peak Loads, <http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManualME.pdf>; Pennsylvania Electric Company Determination of Capacity Peak Load Contributions and Network Service Peak Loads, <http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManualPN.pdf>; Pennsylvania Power Company Determination of Capacity Peak Load Contributions and Network Service

1 **III. THIRD-PARTY DATA ACCESS TARIFFS**

2 **Q. What is the purpose of the proposed Third-Party Data Access Tariffs?**

3 A. The new Third-Party Data Access Tariffs will establish policies and procedures governing
4 access by eligible third parties to customer data maintained by the Companies.

5 **Q. Who will be subject to the Third-Party Data Access Tariffs?**

6 A. The new Third-Party Data Access Tariffs apply to any unlicensed non-EGS entity that
7 requests customer data maintained by the Companies. These entities may include (but are
8 not limited to) energy consultants, conservation service providers, curtailment service
9 providers, local government, state and federal agencies, and academic researchers. Most
10 often, third parties requesting such data seek to provide energy management services to
11 customers. Other third parties, such as academic researchers, may request aggregated or
12 anonymized, or both, types of data for the purpose of benchmarking or other academic
13 projects.

14 **Q. What is the Companies' current process for providing customer data to non-EGS
15 third parties?**

16 A. Today, the process is largely manual in nature and handled on an ad hoc basis. Third
17 parties provide a request for customer data along with a customer authorization form to
18 various departments within FirstEnergy, and the applicable Company provides data in an
19 electronic format (e.g., an Excel spreadsheet) to the third party.

Peak Loads, [http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManual PP.pdf](http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManualPP.pdf); and West Penn Power Company Determination of Capacity Peak Load Contributions and Network Service Peak Loads, [http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManual WP.pdf](http://firstenergycorp.com/content/dam/supplierservices/files/supplier-registration/PJMCapacityManualWP.pdf).

1 **Q. Why is the Companies' current process for the provision of customer data to third**
2 **parties deficient?**

3 A. The Companies believe that the current process should be standardized to provide clear
4 definitions and compliance requirements for providing customer energy usage and related
5 data to third parties. All parties will benefit from transparent, established rules that are
6 specifically calibrated for non-EGS third parties and that maintain the necessary customer
7 protections to ensure the confidentiality of customer data.

8 **Q. How would the process change under the Companies' proposed Tariffs?**

9 A. The Tariffs would establish a registration process for a non-EGS entity seeking electronic
10 access to customer data. As part of that registration process, the entity would be required
11 to accept all terms and conditions outlined in the proposed tariff, including a representation
12 that by sending an electronic request for individual customer data to a Company, the entity
13 has obtained valid and appropriate customer authorization to access or retrieve, or both,
14 data specific to such customer. The Companies plan to adopt existing software
15 infrastructure and processes to facilitate the provision of electronic access to customer data
16 and minimize costs recovered from customers.

17 **Q. Would customer consent continue to be required under the proposed Tariffs before**
18 **the Companies would grant a requesting non-EGS electronic access to customer**
19 **data?**

20 A. Yes. Customer authorization will be required for customer-specific requests. However,
21 the Companies propose that the third party requesting the data be responsible for securing
22 this authorization and maintaining records demonstrating proof thereof. The third party
23 will be required, through the registration process with the Companies, to attest that the

1 applicable customer authorizations will be obtained and maintained by the third party. This
2 process is similar to how customer authorizations are handled by EGSs today.

3 **Q. How will eligible third parties make a request to gain electronic access to customer**
4 **usage data?**

5 A. The Companies will provide automated solutions for the third party to register and request
6 customer-specific data and for the Companies to deliver the data securely in electronic
7 form. These automated solutions will adopt the self-service tools that exist on the supplier
8 portal today for EGSs, as well as electronic data interchange protocols. After completing
9 the necessary registration requirements, the third party would be provided with a username
10 and password to access the supplier portal. The Companies will also test EDI for those
11 third parties who choose to use this option. For requests that are not customer specific (i.e.,
12 aggregated customer data), the third party would also submit a data request via the portal.
13 Depending on the request, prepared data files may be placed at a secure location for the
14 third party to obtain.

15 **Q. What customer data would third parties be eligible to receive under the proposed**
16 **Tariffs if those entities satisfy the prescriptions therein?**

17 A. The customer data that a third party is eligible to receive is dependent on the request and
18 the third party making the request. Third parties working on behalf of a customer, such as
19 a consultant, conservation service provider, or curtailment service provider can request and
20 be eligible to receive customer-specific usage data and other usage-related data such as
21 PLC, NSPL, load profile, or rate class. This type of data allows the third party to assist the
22 customer in analyzing their energy usage and capabilities.

1 **Q. Are there any categories of data that may be released to eligible third parties under**
2 **the Tariffs without customer consent?**

3 A. Yes. Requests from third-party entities, such as a local government, state and federal
4 agency, and academic researchers, are typically not customer specific and are presented as
5 aggregated, anonymized data (i.e., summarized usage by geographic area). Customer
6 consent would not be necessary in this situation.

7 **Q. Will eligible third parties have any continuing obligations after they access or retrieve**
8 **customer data?**

9 A. Yes. Eligible third parties will be obligated to maintain authorization forms received from
10 customers providing access to their customer data on record. They will also be required to
11 keep any customer data received secure and confidential.

12 **Q. Do the Companies anticipate that they will incur any cost associated with the new**
13 **Tariffs? If so, how will these costs be recovered?**

14 A. No, given that the Companies propose adopting processes that exist today for electronic
15 access to customer data by EGSs, the costs for technology are expected to be nominal. As
16 such, recovery of costs would not be necessary. For customer requests that require manual
17 intervention (i.e., querying of aggregated customer data), the Companies propose to apply
18 a charge of \$53 per hour and to bill in one-minute intervals. This charge aligns with the
19 Technical Support and Assistance Charge defined in the Companies' Commission-
20 approved Electric Generation Supplier Coordination Tariffs. Although the third parties
21 that will be governed by the proposed Tariffs are not EGSs, the Companies would have to
22 employ the same processes and procedures used to extract aggregated or anonymous data

1 in response to requests from EGSs as they will in relation to such requests from non-EGSs.
2 As such, both should reflect equal pricing.

3 **Q. In the *Enerwise* Order,⁴ the Commission directed the Commission’s Law Bureau,**
4 **Bureau of Technical Utility Services, and Office of Competitive Market Oversight to**
5 **initiate a new proceeding to determine if a safe, acceptable path exists for registered**
6 **conservation service providers and other third parties to potentially gain access to**
7 **customer data electronically from EDC data systems, with customer consent. Why**
8 **do the Companies believe they should propose these Tariffs as part of a default service**
9 **proceeding in light of the Commission’s direction?**

10 A. The Companies appreciate and support the Commission’s recent Order and intend to fully
11 participate in future proceedings or working groups as initiated by the Law Bureau, Bureau
12 of Technical Utility Services, Office of Competitive Market Oversight, and Electronic Data
13 Exchange Working Group. However, in light of the increasing number and variety of
14 requests the Companies are receiving⁵ and the time that is likely to be required to complete
15 such proceedings, the Companies believe that a structured framework governing
16 electronic access to the Companies’ customer usage and usage-related data by eligible third
17 parties is appropriate to create now. The proposed Tariff will allow the Companies to
18 protect customers’ data and more efficiently manage what must be done today, while also
19 preparing for future requirements that may be established by the Commission through
20 additional proceedings.

⁴ *License Application of Enerwise Global Techs., LLC d/b/a CPower for Approval to Offer, Render, Furnish, or Supply Elec. or Elec. Generation Servs.*, Final Order, Docket No. A-2019-3009271 (entered Oct. 7, 2021).

⁵ For example, when compared to the period of 2018-2019, requests from curtailment service providers increased eighty-one percent for the period of 2020-2021 (year to date October 31).

1 IV. CONCLUSION

2 Q. Does this conclude your direct testimony?

3 A. Yes, it does.

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METROPOLITAN EDISON COMPANY

Third Party Data Access Tariff

Company Office Location

2800 Pottsville Pike
P. O. Box 16001
Reading, Pennsylvania 19612

Issued:

Effective: June 1, 2023

Samuel L. Belcher, President

NOTICE

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HOW TO USE LOOSE-LEAF TARIFF

1. This Tariff is issued on the loose-leaf plan. Each page will be issued as “original page,” consecutively numbered, commencing with the title page, which in all cases will be considered as Page No. 1—for example: “Original Page No. 2,” “Original Page No. 3,” etc.

2. All changes in, additions to, or eliminations from, original pages, will be made by the issue of consecutively numbered supplements to this Tariff and by reprinting the page or pages affected by such change, addition, or elimination. Such supplements will indicate the changes which they effect and will carry a statement of the make-up of the Tariff, as revised. The Table of Contents will be reissued with each supplement.

3. When a page is reprinted the first time, it will be designated under the P.U.C. number as “First Revised Page No....,” the second time as “Second Revised Page No....,” etc. First revised pages will supersede original pages; second revised pages will supersede first revised pages, etc.

4. When changes or additions to be made require more space than is available, one or more pages will be added to the Tariff, to which the same number will be given with letter affix. For example, if changes were to be made in Original Page No. 2 and, to show the changed matter, more than one page should be required, the new page would be issued as “First Revised Page No. 2, superseding Original Page No. 2”; and the added page would be issued as “Original Page No. 2A.” If a second added page should be required, it would be issued as “Original Page No. 2B.” Subsequent reprints will be consecutively designated as “First Revised...,” “Second Revised...,” etc.

5. On receipt of a revised page it will be placed in the Tariff immediately following the page which it supersedes, and the page which is to be superseded thereby plainly marked “See following page for pending revision.” On the date when such revised page becomes effective, the page superseded should be removed from the Tariff.

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DEFINITION OF TERMS AND EXPLANATION OF ABBREVIATIONS

Aggregated Customer Data – information pertaining to retail customers that has been (a) assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information and (b) subjected to analysis functions to develop summation average or other analytical statistics, or both, for specific groups of retail customers in a manner that precludes the determination of the individual identities of the retail customer to which such information pertains.

Anonymous Customer Data – information pertaining to retail customers that has been assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information.

AMI Interval Data – electric demand and energy usage that are measured over specific consistent incremental time periods by advanced metering infrastructure (“AMI”) metering facilities provided by the Company at a retail customer’s premises and that may or may not be subject to the Company’s validation, editing, and estimation (“VEE”) processes or directly used for the purposes of determining the amounts owed by such retail customer for electric services.

Charges - all charges stated in the “Charges” section of this Tariff that are billed by the Company (on behalf of itself or any FirstEnergy affiliate or subsidiary) for service performed hereunder.

Company – Metropolitan Edison Company (“Met-Ed”).

Competition Act - the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. § 2801, et seq.

Conservation Service Provider – an entity that provides information and technical assistance on measures to enable a person to increase energy efficiency or reduce energy consumption and that has no direct or indirect ownership, partnership, or other affiliated interest with an electric distribution company (66 Pa.C.S. § 2806.1.(m)).

Curtailement Service Provider - a PJM member or a special member, which action on behalf of itself or one or more other members or non-members, participates in the PJM Interchange Energy Market, Ancillary Services markets, Reliability Pricing Model, or any combination thereof by causing a reduction in demand.

Customer - a retail electric customer as defined in the Competition Act.

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Definitions (Continued)

Customer Data – information pertaining to retail customers, including AMI Interval Data and customer account information, such as customer address, contact information, payment history, account number, and amount billed.

Electric Distribution Company (or “EDC”) - shall have the meaning set forth in the Competition Act.

EDC Tariff - the Company’s current PaPUC approved Electric Service Tariff, Pa. P.U.C. No. 52 (Metropolitan Edison Company).

Electric Generation Supplier – any person, corporation, or other entity that has received a certification from the Commission that it is eligible and licensed to supply electric energy, capacity, transmission, and ancillary services to Customers in the Company’s service territory under and pursuant to the Competition Act.

Electronic Data Interchange (“EDI”) – guidelines that represent the standard electronic communication method for exchanging data between an EDC and an EGS.

FERC - the Federal Energy Regulatory Commission.

FirstEnergy Corp. (“FirstEnergy”) – the parent company of Cleveland Electric Illuminating Company, Jersey Central Power and Light Company, Metropolitan Edison Company, Monongahela Power Company, Ohio Edison Company (and its wholly owned subsidiary, Pennsylvania Power Company), Pennsylvania Electric Company, Potomac Edison Company, Toledo Edison Company, and West Penn Power Company.

Market Participant – has the same meaning as set forth in the PJM Tariff.

PaPUC (or “Commission”) - the Pennsylvania Public Utility Commission.

PJM - the regional transmission organization operated by PJM Interconnection, L.L.C., or its successor.

PJM Tariff – the PJM Open Access Transmission Tariff, including schedules and exhibits.

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Definitions (Continued)

Tariff – this Third-Party Data Access Tariff.

Third Party – any person or entity seeking to obtain Customer Data from the Company that is not an Electric Generation Supplier, including a Conservation Service Provider, a Curtailment Service Provider, or other Market Participant.

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RULES AND REGULATIONS

1. THE TARIFF

- 1.1 Filing and Posting.** A copy of this Tariff is on file with the Commission and is posted and open to inspection at the offices of the Company during regular business hours. A copy of this Tariff is available at the Company's website www.firstenergycorp.com.
- 1.2 Revisions.** Subject to Section 2.3, this Tariff may be revised, amended, supplemented, or otherwise changed from time to time in accordance with the Pennsylvania Public Utility Code, and such changes, when effective, shall have the same force as the present Tariff.
- 1.3 Application.** The Tariff provisions apply to all Third Parties seeking to obtain Customer Data pertaining to Customers located in the Company's service territory. The obligations and charges herein shall apply to anyone providing or receiving service unlawfully or to any unauthorized or fraudulent provision or receipt of service in addition to any other remedies available to the Company.
- 1.4 Statement by Agents.** No Company representative has authority to modify a Tariff rule or provision, or to bind the Company by any promise or representation contrary thereto or inconsistent therewith.

2. SCOPE AND PURPOSE OF TARIFF

- 2.1 Scope and Purpose of Tariff.** This Tariff defines the circumstances and terms and conditions under which the Company provides or makes available retail Customer Data to a Third Party.
- 2.2 Relationship of the Company, Customer, and Third Party.** The Company provides electric service to a Customer in accordance with the EDC Tariff. Through the course of providing this service the Company obtains, compiles, and stores Customer Data.
- 2.2.1** A Third Party must be authorized by a Customer to obtain data specific to such Customer from the Company. The Company must provide or make available, or both, such data to such Third Party subject to the terms, conditions, and limitations set forth in this Tariff.
- 2.2.2** The Company is not a party to the manner in which data are utilized by a Third Party and is not bound by any term, condition, or provision of any program or process employed by a Third Party in its utilization of such data. Any contractual arrangement to which a Third Party and Customer are parties is not part of this Tariff or the EDC Tariff. The Company is not a party to any such contractual arrangement between a Third Party and a Customer and is not bound by any term, condition, or provision of such an agreement.
- 2.2.3** A Third Party is not an agent of the Company. A Third Party has no authority to enter into any agreement on behalf of the Company; to amend, modify, or alter any of the Company's tariffs, contracts, or procedures; or to bind the Company by making any promises, representations, or omissions.
- 2.2.4** A Third Party is not an agent of the Customer. A Third Party has no authority to enter into any agreement pertaining to a Customer's electric service on behalf of such Customer or to modify or alter any such agreement on behalf of the Customer, or to bind the Customer by making any promises, representations, or omissions pertaining to such agreement.
- 2.3 FERC Jurisdictional Matters.** The inclusion of FERC-jurisdictional matters within the scope of the Tariff is intended solely for informational purposes and is not intended to accord any jurisdictional authority over such matters to the PaPUC. Furthermore, to the extent that anything stated herein is found by FERC to conflict with or to be inconsistent with any provision of the Federal Power Act ("FPA"), as amended, or any rule, regulation, order, or determination of FERC under the FPA, then such FERC rule, regulation, order, or determination of the FERC shall control. To the extent required under any provision of the FPA, or any rule, regulation, order, or determination of FERC

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under the FPA, the Company shall endeavor to secure, from time to time, all necessary orders, approvals, and determinations from FERC necessary to implement this Tariff.

3. COMMENCEMENT OF SERVICE

- 3.1 Prerequisites of Service.** Before commencing service hereunder, a Third Party must comply with the following prerequisites of service.
- 3.1.1** A Third Party must submit a completed registration form to the Company that acknowledges and accepts the Terms of Service set forth in Section 4 of this Tariff.
- 3.1.2** A Third Party must demonstrate that it can meet all applicable continuing obligations described in Section 4 of this Tariff.
- 3.1.3** A Third Party must have and demonstrate through the completion of any applicable Company testing program the ability to electronically access or retrieve, or both, data the Company provides or makes available, or both, in accordance with the Company's practices, procedures, and systems employed to provide or make available, or both, such data.
- 3.2 Incomplete Registrations.** In the event the Third Party submits an incomplete registration, the Company shall provide written notice to the Third Party of the registration's deficiencies within five (5) business days after the date of service of the registration. The Company will not process an incomplete application until the Third Party corrects the deficiencies and delivers a completed registration to the Company.
- 3.3 Commencement of Service.** Service hereunder shall commence within five (5) business days after the Company's acceptance of Third Party's complete registration provided that all of the information necessary for the Company to provide service hereunder has been submitted to the Company and any conditions established under Section 3.6 have been satisfied by the Third Party.

4. TERMS OF SERVICE

4.1 Third Party Continuing Obligations. The Third Party must continue to abide by the prerequisites of service of this Tariff, as applicable. In order to access or retrieve, or both, data specific to a Customer, the Third Party must accept the following terms of service:

- (a) The Third Party must obtain and maintain appropriate authorization from the Customer to access or retrieve, or both, data specific to the Customer, with such authorization documented in writing, electronically, or through recording of an oral communication. If an authorization obtained by a Third Party from a Customer that allows such Third Party to access or retrieve, or both, data specific to such Customer expires or is revoked for any reason, the Third Party must no longer request access to or retrieve, or both, such data.
- (b) The Third Party will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules.
- (c) The Third Party acknowledges that any data specific to a Customer that it accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes.
- (d) The Third Party agrees that data specific to a Customer must not be sold or licensed to any other entity for any purpose.
- (e) The Third Party agrees to indemnify, defend, and hold harmless the Company from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of such Third Party in connection with the performance of its obligations under this Tariff, (ii) such Third Party's use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by a Third Party of its representations and promises.

4.2 Disclosure of Information Without Customer Authorization. Customer authorization is not required for a Third Party to access or retrieve, or both, Aggregated Customer Data or Anonymous Customer Data, or both, as described in Section 5 of this Tariff.

4.3 Company Continuing Obligations. For a situation in which the Company must provide or make available, or both, to a Third Party data specific to a Customer as described in Section 5.1 of this Tariff, such data must be provided or made available, or both, within one business day after the Company determines the data are available for the Customer,

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provided the Third Party is in compliance with applicable provisions in Section 3.1 of this Tariff and submits a request for such data prior to 5:00 p.m. Eastern Prevailing Time on the previous business day. The Company is not required to provide or make available, or both, revisions to data after such data are provided or made available, or both, to a Third Party in accordance with the provisions of this Tariff. In the event a Customer notifies the Company that a Third Party's authorization to access data specific to such Customer is terminated or revoked, the Company must terminate such Third Party's further access to Customer Data under this Tariff within 5 business days after receiving such notification from the Customer.

- 4.4 Charges.** As applicable, charges are assessed by the Company for data provided or made available, or both, to such Third Party in accordance with the provisions of Section 5.2 of this Tariff. With respect to each request to access or retrieve, or both, Customer Data that is not available through standard automated processes, the Company will assess the requesting Third Party a charge of \$53 per hour, which will be billed by the Company in one-minute intervals.

5. DATA REQUEST AND RELEASE PROCESS

5.1 Data Options. A Third Party may access Customer Data in accordance with one or more of the following options, as applicable, provided such Third Party complies with applicable provisions in Section 4.1 (Third Party Continuing Obligations).

5.1.1 Individual Customer Data. As authorized by a Customer, a Third Party may access the data that are available for such Customer, including, but not limited to, usage for up to twelve consecutive months, load profile, rate class, peak load contribution, and network system peak load, via EDI or through a secure portion of the Company's website.

5.1.2 Aggregated and Anonymous Customer Data. A Third Party may request access to Aggregated Customer Data and Anonymous Customer Data as described in Section 5.2.

5.2 Requests for Aggregated and Anonymous Customer Data. A Third Party requesting Aggregated or Anonymous, or both, Customer Data will do so by submitting to the Company a data request through a secure portion of the Company's website that contains fields for the following information:

- (a) Name, address, phone, and email address of the Third Party requesting the data;
- (b) A description of the data requested and to be released;
- (c) A statement of the purpose for which the data will be used by the Third Party; and
- (d) A description of the time period for the data to be disclosed (e.g., twelve months of historical data).

5.3 Company Response to Requests for Aggregated and Anonymous Customer Data. Following the submission of a request for data by a Third Party in accordance with Section 5.2 of this Tariff, the Company will:

- (a) Confirm receipt of the request within three business days of receiving a request for data from a Third Party;
- (b) Respond within three business days of receiving a request for data from a Third Party as to whether any additional information is required for the Company to process the request;

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- (c) Inform Third Party within ten business days of receiving a completed request for data as to whether it is able to grant the request and provide a proposed schedule for providing the requested data. If the Company responds that it cannot grant access to the requested data, it will provide specific reasons for why it cannot provide the data or offer other options for providing data access; and
- (d) Notify the requesting Third Party of the data transmission and security requirements.

5.4 Standardized Data Output and Delivery. All data outputs will be in standard formats. Data will be accessible in specified formats such as XML or other agreed-upon formats. The Company will provide data through EDI or on a secure server on the Company's website where the requestor will retrieve it.

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6. CONFIDENTIALITY OF INFORMATION

- 6.1 Generally.** All confidential or proprietary information made available by one party to the other in connection with the registration by a Third Party with the Company or the subsequent provision and receipt of Customer Data under this Tariff, or both, including, but not limited to, information regarding the business processes of a party and the computer and communication systems owned or leased by a party, shall be used only for purposes of registration with the Company receiving or providing Customer Data hereunder. Other than disclosures to representatives of the Company or Third Party for the purposes of enabling that party to fulfill its obligations under this Tariff, a party may not disclose confidential or proprietary information without the prior authorization or consent, or both, of the other party.
- 6.2 Customer Information.** The Third Party shall keep all Customer-specific information supplied by the Company confidential unless the Third Party has the Customer's written authorization to do otherwise.

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7. PAYMENT AND BILLING

7.1 Third Party Payment of Obligations to the Company. A Third Party shall pay all Charges it incurs hereunder in accordance with the following provisions:

7.1.1 Billing Procedure. Each month, the Company shall submit an invoice to the Third Party reflecting all of the Charges assessed to it by the Company for all of the services provided to Third Party under this Tariff during the applicable billing period. The invoice may be transmitted to the Third Party by any reasonable method requested by the Third Party. A Third Party shall make payment for Charges incurred on or before the due date shown on the bill. The due date shall be determined by the Company and shall not be less than fifteen (15) banking days from the date of transmittal of the bill.

7.1.2 Manner of Payment. The Third Party shall remit payment to the Company by wire transfer to a bank designated in Section 7.1.3 of this Tariff. If disputes arise regarding a Third Party bill, the Third Party must pay the undisputed portion of disputed bills under investigation.

7.1.3 Wire Transfer. Payment to the Company by the Third Party must be made by electronic wire transfer or such other means as will cause payment to be available for use by the Company on the due date. All payments shall be wire transferred to:

Bank:	JP Morgan Chase
ABA No.:	021000021
Account Name:	FirstEnergy Service Company
Account No.:	323396364

7.1.4 Late Fee for Unpaid Balances. If payment is made to the Company after the due date shown on the bill, a late fee will be added to the unpaid balance until the entire bill is paid. This late fee will be two percent (2%) per month of the unpaid balance.

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8. LIABILITY

- 8.1 Limitations on Liability.** The Company is not liable for any act, omission, promise, or representation of any Third Party. To the extent that the Company receives a properly submitted request for applicable Customer Data and acts in accordance with the provisions of this Tariff, the Company is not liable for any conflict such actions may cause between a Third Party and a Customer. Although data provided or made available, or both, in accordance with the provision of this Tariff and produced and processed via Company systems and sources is considered to be reliable by the Company, no warranty expressed or implied is made regarding the accuracy adequacy, completeness, legality, reliability, or usefulness of any such data and applies to both the isolated and aggregated use of such data. The Company provides or makes available, or both, such data on an “as is” basis. All warranties of any kind expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, freedom from contamination or corruption of any kind, and noninfringement of proprietary rights are disclaimed.

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9. TERMINATION OF SERVICE

9.1 Termination. A Third Party has the right to terminate service hereunder at any time, upon notification to the Company. The Company has the right to terminate service hereunder to a Third Party if:

- (a) The Third Party fails to abide by the provisions set forth in the Third Party Continuing Obligations section of this Tariff (i.e., Section 4.1), as applicable;
- (b) The Third Party fails to make timely payments to the Company, as required by Section 7 of this Tariff, to access or retrieve, or both, data provided to or made available to, or both, such Third Party in accordance with the provisions of this Tariff; or
- (c) The Third Party is determined by the PaPUC or applicable court of law to be responsible for fraudulent representation or activity in association with this Tariff, which includes, but is not limited to, the unauthorized access or retrieval, or both, of Customer Data;

9.2 Survival of Obligations. Termination of service hereunder for any reason shall not relieve the Company or a Third Party of any obligation accrued or accruing prior to such termination.

10. ALTERNATIVE DISPUTE RESOLUTION

- 10.1 Informal Resolution of Disputes.** The Company and Third Party shall use good faith and commercially reasonable efforts to informally resolve all disputes arising out of the implementation of this Tariff or the conduct of activities, or both, hereunder. The Third Party's point of contact for all information, operations, questions, and problems under this Tariff shall be the Company's Customer Data Access Group.
- 10.2 Internal Dispute Resolution Procedures.** Any dispute between the Company and a Third Party under this Tariff shall be referred to a designated senior representative of each of the parties for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties may agree upon), such dispute, by mutual agreement, may be referred to mediation or may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.
- 10.3 External Arbitration Procedures.** The arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the parties. If the parties fail to agree upon a single arbitrator within twenty (20) days of the referral of the dispute to arbitration the parties shall request the American Arbitration Association to appoint a single neutral arbitrator. The arbitrator(s) chosen shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the then current Commercial Arbitration Rules of the American Arbitration Association.
- 10.4 Arbitration Decisions.** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of their appointment and shall notify the parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and shall have no power to modify or change any provisions in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court of competent jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in 42 Pa. C.S.A. § 7341. The final decision of the arbitrator must also be filed with FERC and PaPUC, if it affects their respective jurisdictional rates, terms, and conditions of service or facilities.

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- 10.5 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:
- (a) the cost of the arbitrator chosen by the party to sit on the three-member panel and a proportionate share of the cost of the third arbitrator chosen; or
 - (b) the proportionate share of the cost of the single arbitrator jointly chosen by the parties.
- 10.6 Rights Under the FPA.** Nothing in this Section shall restrict the rights of any party to file a complaint with FERC under relevant provisions of the FPA.
- 10.7 Rights Under the Pennsylvania Public Utility Code.** Nothing in this Section shall restrict the rights of any party to file a complaint with the PaPUC under relevant provisions of the Pennsylvania Public Utility Code.

11. MISCELLANEOUS

- 11.1 Notices.** Unless otherwise stated herein, any notice contemplated by this Tariff shall be in writing and shall be given to the Third Party at the address or email provided to the Company in its completed registration form and to the Company at the address on the first page of this Tariff or the email stated on the secure portion of the Company's website dedicated to requests for Customer Data. If given by electronic transmission, notice shall be deemed given on the date sent and shall be confirmed by a written copy sent by first class mail. If sent in writing by first class mail, notice shall be deemed given on the fifth business day following deposit in the United States mail (as noted by the postmark), properly addressed, with postage prepaid. If sent by same-day or overnight delivery service, notice shall be deemed given on the day of delivery. The Company and a Third Party may change their representative for receiving notices contemplated by this Tariff by delivering written notice of their new representatives to the other.
- 11.2 No Prejudice of Rights.** The failure by either the Company or the Third Party to enforce any of the terms of this Tariff shall not be deemed a waiver of the right of either to do so.
- 11.3 Governing Law.** To the extent not subject to the exclusive jurisdiction of FERC, the formation, validity, interpretation, execution, amendment, and termination of this Tariff shall be governed by the laws of the Commonwealth of Pennsylvania.

The Tariff, and the performance of the parties' obligations hereunder, are subject to and contingent upon (i) present and future local, state, and federal laws and (ii) present and future regulations or orders of any local, state, or federal regulating authority having jurisdiction over the matter set forth herein.

If at any time during the term of the Tariff, FERC, the PaPUC, or a court of competent jurisdiction issues an order under which a party hereto believes that its rights or interests, or both, under the Tariff are materially affected by said order, the party so affected shall within thirty (30) days of said final order provide the other party with notice setting forth in reasonable detail how said order has materially affected its rights or interests. Within thirty (30) days from the receiving party's receipt of said notice the parties agree to attempt through good faith negotiations to resolve the issue.

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Appendix A
DATA ACCESS REGISTRATION FORM

Name of Registrant:		D&B DUNS Number:	
Please state whether Registrant is a consultant, conservation service provider, academic institution, etc.:		Years in Business: URL for Registrant’s Website:	
Contact Name:		Title:	
E-mail:		Phone:	
Address:	City:	State:	Zip Code:
<p>To obtain or retrieve, or both, Customer Data maintained by Metropolitan Edison Company (“Met-Ed” or “Company”), Registrant must submit electronic requests via the secure portal available at www.firstenergy.com/. Following submission of this completed registration form, the Company will provide Registrant a username and password to access the portal.</p>			
<p>The submission of this Registration Form to Met-Ed shall constitute the Registrant’s acknowledgement and acceptance of all the terms, conditions, and requirements of the Third-Party Data Access Tariff approved by the Pennsylvania Public Utility Commission (the “Commission” or “PUC”) at Docket Nos. P-2021-_____ et al. (the “Tariff”).</p>			
<p>By sending an electronic request for Customer Data to Met-Ed, Registrant represents and warrants that:</p> <ol style="list-style-type: none"> 1. Registrant has obtained valid and appropriate customer authorization to access or retrieve, or both, data specific to such customer. 2. Registrant will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules. 3. Any customer-specific data that Registrant accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes. 4. Any data specific to a Customer must not be sold or licensed to any other entity for any purpose. 5. Registrant agrees to indemnify, defend, and hold the Company harmless from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of Registrant in connection with the performance of its obligations under the Tariff, (ii) Registrant’s use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by Registrant of its representations and promises. 			
<p>The undersigned represents and warrants that they have the authority to act on behalf of and to bind Registrant to perform the terms and conditions set forth herein.</p>			
Signature of Authorized Representative:		Date:	
Name:		Title:	

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PENNSYLVANIA ELECTRIC COMPANY

Third Party Data Access Tariff

Company Office Location

2800 Pottsville Pike
P. O. Box 16001
Reading, Pennsylvania 19612

Issued:

Effective: June 1, 2023

Samuel L. Belcher, President

NOTICE

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HOW TO USE LOOSE-LEAF TARIFF

1. This Tariff is issued on the loose-leaf plan. Each page will be issued as “original page,” consecutively numbered, commencing with the title page, which in all cases will be considered as Page No. 1—for example: “Original Page No. 2,” “Original Page No. 3,” etc.

2. All changes in, additions to, or eliminations from, original pages, will be made by the issue of consecutively numbered supplements to this Tariff and by reprinting the page or pages affected by such change, addition, or elimination. Such supplements will indicate the changes which they effect and will carry a statement of the make-up of the Tariff, as revised. The Table of Contents will be reissued with each supplement.

3. When a page is reprinted the first time, it will be designated under the P.U.C. number as “First Revised Page No....,” the second time as “Second Revised Page No....,” etc. First revised pages will supersede original pages; second revised pages will supersede first revised pages, etc.

4. When changes or additions to be made require more space than is available, one or more pages will be added to the Tariff, to which the same number will be given with letter affix. For example, if changes were to be made in Original Page No. 2 and, to show the changed matter, more than one page should be required, the new page would be issued as “First Revised Page No. 2, superseding Original Page No. 2”; and the added page would be issued as “Original Page No. 2A.” If a second added page should be required, it would be issued as “Original Page No. 2B.” Subsequent reprints will be consecutively designated as “First Revised...,” “Second Revised...,” etc.

5. On receipt of a revised page it will be placed in the Tariff immediately following the page which it supersedes, and the page which is to be superseded thereby plainly marked “See following page for pending revision.” On the date when such revised page becomes effective, the page superseded should be removed from the Tariff.

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DEFINITION OF TERMS AND EXPLANATION OF ABBREVIATIONS

Aggregated Customer Data – information pertaining to retail customers that has been (a) assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information and (b) subjected to analysis functions to develop summation average or other analytical statistics, or both, for specific groups of retail customers in a manner that precludes the determination of the individual identities of the retail customer to which such information pertains.

Anonymous Customer Data – information pertaining to retail customers that has been assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information.

AMI Interval Data – electric demand and energy usage that are measured over specific consistent incremental time periods by advanced metering infrastructure (“AMI”) metering facilities provided by the Company at a retail customer’s premises and that may or may not be subject to the Company’s validation, editing, and estimation (“VEE”) processes or directly used for the purposes of determining the amounts owed by such retail customer for electric services.

Charges - all charges stated in the “Charges” section of this Tariff that are billed by the Company (on behalf of itself or any FirstEnergy affiliate or subsidiary) for service performed hereunder.

Company – Pennsylvania Electric Company (“Penelec”).

Competition Act - the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. § 2801, et seq.

Conservation Service Provider – an entity that provides information and technical assistance on measures to enable a person to increase energy efficiency or reduce energy consumption and that has no direct or indirect ownership, partnership, or other affiliated interest with an electric distribution company (66 Pa.C.S. § 2806.1.(m)).

Curtailement Service Provider - a PJM member or a special member, which action on behalf of itself or one or more other members or non-members, participates in the PJM Interchange Energy Market, Ancillary Services markets, Reliability Pricing Model, or any combination thereof by causing a reduction in demand.

Customer - a retail electric customer as defined in the Competition Act.

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Definitions (Continued)

Customer Data – information pertaining to retail customers, including AMI Interval Data and customer account information, such as customer address, contact information, payment history, account number, and amount billed.

Electric Distribution Company (or “EDC”) - shall have the meaning set forth in the Competition Act.

EDC Tariff - the Company’s current PaPUC approved Electric Service Tariff, Pa. P.U.C. No. 52 (Pennsylvania Electric Company).

Electric Generation Supplier – any person, corporation, or other entity that has received a certification from the Commission that it is eligible and licensed to supply electric energy, capacity, transmission, and ancillary services to Customers in the Company’s service territory under and pursuant to the Competition Act.

Electronic Data Interchange (“EDI”) – guidelines that represent the standard electronic communication method for exchanging data between an EDC and an EGS.

FERC - the Federal Energy Regulatory Commission.

FirstEnergy Corp. (“FirstEnergy”) – the parent company of Cleveland Electric Illuminating Company, Jersey Central Power and Light Company, Metropolitan Edison Company, Monongahela Power Company, Ohio Edison Company (and its wholly owned subsidiary, Pennsylvania Power Company), Pennsylvania Electric Company, Potomac Edison Company, Toledo Edison Company, and West Penn Power Company.

Market Participant – has the same meaning as set forth in the PJM Tariff.

PaPUC (or “Commission”) - the Pennsylvania Public Utility Commission.

PJM - the regional transmission organization operated by PJM Interconnection, L.L.C., or its successor.

PJM Tariff – the PJM Open Access Transmission Tariff, including schedules and exhibits.

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Definitions (Continued)

Tariff – this Third-Party Data Access Tariff.

Third Party – any person or entity seeking to obtain Customer Data from the Company that is not an Electric Generation Supplier, including a Conservation Service Provider, a Curtailment Service Provider, or other Market Participant.

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RULES AND REGULATIONS

1. THE TARIFF

- 1.1 Filing and Posting.** A copy of this Tariff is on file with the Commission and is posted and open to inspection at the offices of the Company during regular business hours. A copy of this Tariff is available at the Company's website www.firstenergycorp.com.
- 1.2 Revisions.** Subject to Section 2.3, this Tariff may be revised, amended, supplemented, or otherwise changed from time to time in accordance with the Pennsylvania Public Utility Code, and such changes, when effective, shall have the same force as the present Tariff.
- 1.3 Application.** The Tariff provisions apply to all Third Parties seeking to obtain Customer Data pertaining to Customers located in the Company's service territory. The obligations and charges herein shall apply to anyone providing or receiving service unlawfully or to any unauthorized or fraudulent provision or receipt of service in addition to any other remedies available to the Company.
- 1.4 Statement by Agents.** No Company representative has authority to modify a Tariff rule or provision, or to bind the Company by any promise or representation contrary thereto or inconsistent therewith.

2. SCOPE AND PURPOSE OF TARIFF

- 2.1 Scope and Purpose of Tariff.** This Tariff defines the circumstances and terms and conditions under which the Company provides or makes available retail Customer Data to a Third Party.
- 2.2 Relationship of the Company, Customer, and Third Party.** The Company provides electric service to a Customer in accordance with the EDC Tariff. Through the course of providing this service the Company obtains, compiles, and stores Customer Data.
- 2.2.1** A Third Party must be authorized by a Customer to obtain data specific to such Customer from the Company. The Company must provide or make available, or both, such data to such Third Party subject to the terms, conditions, and limitations set forth in this Tariff.
- 2.2.2** The Company is not a party to the manner in which data are utilized by a Third Party and is not bound by any term, condition, or provision of any program or process employed by a Third Party in its utilization of such data. Any contractual arrangement to which a Third Party and Customer are parties is not part of this Tariff or the EDC Tariff. The Company is not a party to any such contractual arrangement between a Third Party and a Customer and is not bound by any term, condition, or provision of such an agreement.
- 2.2.3** A Third Party is not an agent of the Company. A Third Party has no authority to enter into any agreement on behalf of the Company; to amend, modify, or alter any of the Company's tariffs, contracts, or procedures; or to bind the Company by making any promises, representations, or omissions.
- 2.2.4** A Third Party is not an agent of the Customer. A Third Party has no authority to enter into any agreement pertaining to a Customer's electric service on behalf of such Customer or to modify or alter any such agreement on behalf of the Customer, or to bind the Customer by making any promises, representations, or omissions pertaining to such agreement.
- 2.3 FERC Jurisdictional Matters.** The inclusion of FERC-jurisdictional matters within the scope of the Tariff is intended solely for informational purposes and is not intended to accord any jurisdictional authority over such matters to the PaPUC. Furthermore, to the extent that anything stated herein is found by FERC to conflict with or to be inconsistent with any provision of the Federal Power Act ("FPA"), as amended, or any rule, regulation, order, or determination of FERC under the FPA, then such FERC rule, regulation, order, or determination of the FERC shall control. To the extent required under any provision of the FPA, or any rule, regulation, order, or determination of FERC

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under the FPA, the Company shall endeavor to secure, from time to time, all necessary orders, approvals, and determinations from FERC necessary to implement this Tariff.

3. COMMENCEMENT OF SERVICE

- 3.1 Prerequisites of Service.** Before commencing service hereunder, a Third Party must comply with the following prerequisites of service.
- 3.1.1** A Third Party must submit a completed registration form to the Company that acknowledges and accepts the Terms of Service set forth in Section 4 of this Tariff.
- 3.1.2** A Third Party must demonstrate that it can meet all applicable continuing obligations described in Section 4 of this Tariff.
- 3.1.3** A Third Party must have and demonstrate through the completion of any applicable Company testing program the ability to electronically access or retrieve, or both, data the Company provides or makes available, or both, in accordance with the Company's practices, procedures, and systems employed to provide or make available, or both, such data.
- 3.2 Incomplete Registrations.** In the event the Third Party submits an incomplete registration, the Company shall provide written notice to the Third Party of the registration's deficiencies within five (5) business days after the date of service of the registration. The Company will not process an incomplete application until the Third Party corrects the deficiencies and delivers a completed registration to the Company.
- 3.3 Commencement of Service.** Service hereunder shall commence within five (5) business days after the Company's acceptance of Third Party's complete registration provided that all of the information necessary for the Company to provide service hereunder has been submitted to the Company and any conditions established under Section 3.6 have been satisfied by the Third Party.

4. TERMS OF SERVICE

4.1 Third Party Continuing Obligations. The Third Party must continue to abide by the prerequisites of service of this Tariff, as applicable. In order to access or retrieve, or both, data specific to a Customer, the Third Party must accept the following terms of service:

- (a) The Third Party must obtain and maintain appropriate authorization from the Customer to access or retrieve, or both, data specific to the Customer, with such authorization documented in writing, electronically, or through recording of an oral communication. If an authorization obtained by a Third Party from a Customer that allows such Third Party to access or retrieve, or both, data specific to such Customer expires or is revoked for any reason, the Third Party must no longer request access to or retrieve, or both, such data.
- (b) The Third Party will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules.
- (c) The Third Party acknowledges that any data specific to a Customer that it accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes.
- (d) The Third Party agrees that data specific to a Customer must not be sold or licensed to any other entity for any purpose.
- (e) The Third Party agrees to indemnify, defend, and hold harmless the Company from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of such Third Party in connection with the performance of its obligations under this Tariff, (ii) such Third Party's use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by a Third Party of its representations and promises.

4.2 Disclosure of Information Without Customer Authorization. Customer authorization is not required for a Third Party to access or retrieve, or both, Aggregated Customer Data or Anonymous Customer Data, or both, as described in Section 5 of this Tariff.

4.3 Company Continuing Obligations. For a situation in which the Company must provide or make available, or both, to a Third Party data specific to a Customer as described in Section 5.1 of this Tariff, such data must be provided or made available, or both, within one business day after the Company determines the data are available for the Customer,

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provided the Third Party is in compliance with applicable provisions in Section 3.1 of this Tariff and submits a request for such data prior to 5:00 p.m. Eastern Prevailing Time on the previous business day. The Company is not required to provide or make available, or both, revisions to data after such data are provided or made available, or both, to a Third Party in accordance with the provisions of this Tariff. In the event a Customer notifies the Company that a Third Party's authorization to access data specific to such Customer is terminated or revoked, the Company must terminate such Third Party's further access to Customer Data under this Tariff within 5 business days after receiving such notification from the Customer.

- 4.4 Charges.** As applicable, charges are assessed by the Company for data provided or made available, or both, to such Third Party in accordance with the provisions of Section 5.2 of this Tariff. With respect to each request to access or retrieve, or both, Customer Data that is not available through standard automated processes, the Company will assess the requesting Third Party a charge of \$53 per hour, which will be billed by the Company in one-minute intervals.

5. DATA REQUEST AND RELEASE PROCESS

5.1 Data Options. A Third Party may access Customer Data in accordance with one or more of the following options, as applicable, provided such Third Party complies with applicable provisions in Section 4.1 (Third Party Continuing Obligations).

5.1.1 Individual Customer Data. As authorized by a Customer, a Third Party may access the data that are available for such Customer, including, but not limited to, usage for up to twelve consecutive months, load profile, rate class, peak load contribution, and network system peak load, via EDI or through a secure portion of the Company's website.

5.1.2 Aggregated and Anonymous Customer Data. A Third Party may request access to Aggregated Customer Data and Anonymous Customer Data as described in Section 5.2.

5.2 Requests for Aggregated and Anonymous Customer Data. A Third Party requesting Aggregated or Anonymous, or both, Customer Data will do so by submitting to the Company a data request through a secure portion of the Company's website that contains fields for the following information:

- (a) Name, address, phone, and email address of the Third Party requesting the data;
- (b) A description of the data requested and to be released;
- (c) A statement of the purpose for which the data will be used by the Third Party; and
- (d) A description of the time period for the data to be disclosed (e.g., twelve months of historical data).

5.3 Company Response to Requests for Aggregated and Anonymous Customer Data. Following the submission of a request for data by a Third Party in accordance with Section 5.2 of this Tariff, the Company will:

- (a) Confirm receipt of the request within three business days of receiving a request for data from a Third Party;
- (b) Respond within three business days of receiving a request for data from a Third Party as to whether any additional information is required for the Company to process the request;

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- (c) Inform Third Party within ten business days of receiving a completed request for data as to whether it is able to grant the request and provide a proposed schedule for providing the requested data. If the Company responds that it cannot grant access to the requested data, it will provide specific reasons for why it cannot provide the data or offer other options for providing data access; and
- (d) Notify the requesting Third Party of the data transmission and security requirements.

5.4 Standardized Data Output and Delivery. All data outputs will be in standard formats. Data will be accessible in specified formats such as XML or other agreed-upon formats. The Company will provide data through EDI or on a secure server on the Company's website where the requestor will retrieve it.

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6. CONFIDENTIALITY OF INFORMATION

- 6.1 Generally.** All confidential or proprietary information made available by one party to the other in connection with the registration by a Third Party with the Company or the subsequent provision and receipt of Customer Data under this Tariff, or both, including, but not limited to, information regarding the business processes of a party and the computer and communication systems owned or leased by a party, shall be used only for purposes of registration with the Company receiving or providing Customer Data hereunder. Other than disclosures to representatives of the Company or Third Party for the purposes of enabling that party to fulfill its obligations under this Tariff, a party may not disclose confidential or proprietary information without the prior authorization or consent, or both, of the other party.
- 6.2 Customer Information.** The Third Party shall keep all Customer-specific information supplied by the Company confidential unless the Third Party has the Customer's written authorization to do otherwise.

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7. PAYMENT AND BILLING

7.1 Third Party Payment of Obligations to the Company. A Third Party shall pay all Charges it incurs hereunder in accordance with the following provisions:

7.1.1 Billing Procedure. Each month, the Company shall submit an invoice to the Third Party reflecting all of the Charges assessed to it by the Company for all of the services provided to Third Party under this Tariff during the applicable billing period. The invoice may be transmitted to the Third Party by any reasonable method requested by the Third Party. A Third Party shall make payment for Charges incurred on or before the due date shown on the bill. The due date shall be determined by the Company and shall not be less than fifteen (15) banking days from the date of transmittal of the bill.

7.1.2 Manner of Payment. The Third Party shall remit payment to the Company by wire transfer to a bank designated in Section 7.1.3 of this Tariff. If disputes arise regarding a Third Party bill, the Third Party must pay the undisputed portion of disputed bills under investigation.

7.1.3 Wire Transfer. Payment to the Company by the Third Party must be made by electronic wire transfer or such other means as will cause payment to be available for use by the Company on the due date. All payments shall be wire transferred to:

Bank:	JP Morgan Chase
ABA No.:	021000021
Account Name:	FirstEnergy Service Company
Account No.:	323396364

7.1.4 Late Fee for Unpaid Balances. If payment is made to the Company after the due date shown on the bill, a late fee will be added to the unpaid balance until the entire bill is paid. This late fee will be two percent (2%) per month of the unpaid balance.

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8. LIABILITY

- 8.1 Limitations on Liability.** The Company is not liable for any act, omission, promise, or representation of any Third Party. To the extent that the Company receives a properly submitted request for applicable Customer Data and acts in accordance with the provisions of this Tariff, the Company is not liable for any conflict such actions may cause between a Third Party and a Customer. Although data provided or made available, or both, in accordance with the provision of this Tariff and produced and processed via Company systems and sources is considered to be reliable by the Company, no warranty expressed or implied is made regarding the accuracy adequacy, completeness, legality, reliability, or usefulness of any such data and applies to both the isolated and aggregated use of such data. The Company provides or makes available, or both, such data on an “as is” basis. All warranties of any kind expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, freedom from contamination or corruption of any kind, and noninfringement of proprietary rights are disclaimed.

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9. TERMINATION OF SERVICE

- 9.1 Termination.** A Third Party has the right to terminate service hereunder at any time, upon notification to the Company. The Company has the right to terminate service hereunder to a Third Party if:
- (a) The Third Party fails to abide by the provisions set forth in the Third Party Continuing Obligations section of this Tariff (i.e., Section 4.1), as applicable;
 - (b) The Third Party fails to make timely payments to the Company, as required by Section 7 of this Tariff, to access or retrieve, or both, data provided to or made available to, or both, such Third Party in accordance with the provisions of this Tariff; or
 - (c) The Third Party is determined by the PaPUC or applicable court of law to be responsible for fraudulent representation or activity in association with this Tariff, which includes, but is not limited to, the unauthorized access or retrieval, or both, of Customer Data;
- 9.2 Survival of Obligations.** Termination of service hereunder for any reason shall not relieve the Company or a Third Party of any obligation accrued or accruing prior to such termination.

10. ALTERNATIVE DISPUTE RESOLUTION

- 10.1 Informal Resolution of Disputes.** The Company and Third Party shall use good faith and commercially reasonable efforts to informally resolve all disputes arising out of the implementation of this Tariff or the conduct of activities, or both, hereunder. The Third Party's point of contact for all information, operations, questions, and problems under this Tariff shall be the Company's Customer Data Access Group.
- 10.2 Internal Dispute Resolution Procedures.** Any dispute between the Company and a Third Party under this Tariff shall be referred to a designated senior representative of each of the parties for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties may agree upon), such dispute, by mutual agreement, may be referred to mediation or may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.
- 10.3 External Arbitration Procedures.** The arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the parties. If the parties fail to agree upon a single arbitrator within twenty (20) days of the referral of the dispute to arbitration the parties shall request the American Arbitration Association to appoint a single neutral arbitrator. The arbitrator(s) chosen shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the then current Commercial Arbitration Rules of the American Arbitration Association.
- 10.4 Arbitration Decisions.** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of their appointment and shall notify the parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and shall have no power to modify or change any provisions in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court of competent jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in 42 Pa. C.S.A. § 7341. The final decision of the arbitrator must also be filed with FERC and PaPUC, if it affects their respective jurisdictional rates, terms, and conditions of service or facilities.
- 10.5 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

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- (a) the cost of the arbitrator chosen by the party to sit on the three-member panel and a proportionate share of the cost of the third arbitrator chosen; or
- (b) the proportionate share of the cost of the single arbitrator jointly chosen by the parties.

10.6 Rights Under the FPA. Nothing in this Section shall restrict the rights of any party to file a complaint with FERC under relevant provisions of the FPA.

10.7 Rights Under the Pennsylvania Public Utility Code. Nothing in this Section shall restrict the rights of any party to file a complaint with the PaPUC under relevant provisions of the Pennsylvania Public Utility Code.

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11. MISCELLANEOUS

- 11.1 Notices.** Unless otherwise stated herein, any notice contemplated by this Tariff shall be in writing and shall be given to the Third Party at the address or email provided to the Company in its completed registration form and to the Company at the address on the first page of this Tariff or the email stated on the secure portion of the Company's website dedicated to requests for Customer Data. If given by electronic transmission, notice shall be deemed given on the date sent and shall be confirmed by a written copy sent by first class mail. If sent in writing by first class mail, notice shall be deemed given on the fifth business day following deposit in the United States mail (as noted by the postmark), properly addressed, with postage prepaid. If sent by same-day or overnight delivery service, notice shall be deemed given on the day of delivery. The Company and a Third Party may change their representative for receiving notices contemplated by this Tariff by delivering written notice of their new representatives to the other.
- 11.2 No Prejudice of Rights.** The failure by either the Company or the Third Party to enforce any of the terms of this Tariff shall not be deemed a waiver of the right of either to do so.
- 11.3 Governing Law.** To the extent not subject to the exclusive jurisdiction of FERC, the formation, validity, interpretation, execution, amendment, and termination of this Tariff shall be governed by the laws of the Commonwealth of Pennsylvania.

The Tariff, and the performance of the parties' obligations hereunder, are subject to and contingent upon (i) present and future local, state, and federal laws and (ii) present and future regulations or orders of any local, state, or federal regulating authority having jurisdiction over the matter set forth herein.

If at any time during the term of the Tariff, FERC, the PaPUC, or a court of competent jurisdiction issues an order under which a party hereto believes that its rights or interests, or both, under the Tariff are materially affected by said order, the party so affected shall within thirty (30) days of said final order provide the other party with notice setting forth in reasonable detail how said order has materially affected its rights or interests. Within thirty (30) days from the receiving party's receipt of said notice the parties agree to attempt through good faith negotiations to resolve the issue.

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Appendix A
DATA ACCESS REGISTRATION FORM

Name of Registrant:	D&B DUNS Number:
Please state whether Registrant is a consultant, conservation service provider, academic institution, etc.:	Years in Business: URL for Registrant’s Website:
Contact Name:	Title:
E-mail:	Phone:
Address: City:	State: Zip Code:
<p>To obtain or retrieve, or both, Customer Data maintained by Pennsylvania Electric Company (“Penelec” or “Company”), Registrant must submit electronic requests via the secure portal available at www.firstenergy.com/. Following submission of this completed registration form, the Company will provide Registrant a username and password to access the portal.</p>	
<p>The submission of this Registration Form to Penelec shall constitute the Registrant’s acknowledgement and acceptance of all the terms, conditions, and requirements of the Third-Party Data Access Tariff approved by the Pennsylvania Public Utility Commission (the “Commission” or “PUC”) at Docket Nos. P-2021-_____ et al. (the “Tariff”).</p>	
<p>By sending an electronic request for Customer Data to Penelec, Registrant represents and warrants that:</p> <ol style="list-style-type: none"> 1. Registrant has obtained valid and appropriate customer authorization to access or retrieve, or both, data specific to such customer. 2. Registrant will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules. 3. Any customer-specific data that Registrant accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes. 4. Any data specific to a Customer must not be sold or licensed to any other entity for any purpose. 5. Registrant agrees to indemnify, defend, and hold the Company harmless from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of Registrant in connection with the performance of its obligations under the Tariff, (ii) Registrant’s use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by Registrant of its representations and promises. 	
<p>The undersigned represents and warrants that they have the authority to act on behalf of and to bind Registrant to perform the terms and conditions set forth herein.</p>	
Signature of Authorized Representative:	Date:
Name:	Title:

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PENNSYLVANIA POWER COMPANY

Third Party Data Access Tariff

Company Office Location

2800 Pottsville Pike
P. O. Box 16001
Reading, Pennsylvania 19612

Issued:

Effective: June 1, 2023

Samuel L. Belcher, President

NOTICE

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HOW TO USE LOOSE-LEAF TARIFF

1. This Tariff is issued on the loose-leaf plan. Each page will be issued as “original page,” consecutively numbered, commencing with the title page, which in all cases will be considered as Page No. 1—for example: “Original Page No. 2,” “Original Page No. 3,” etc.

2. All changes in, additions to, or eliminations from, original pages, will be made by the issue of consecutively numbered supplements to this Tariff and by reprinting the page or pages affected by such change, addition, or elimination. Such supplements will indicate the changes which they effect and will carry a statement of the make-up of the Tariff, as revised. The Table of Contents will be reissued with each supplement.

3. When a page is reprinted the first time, it will be designated under the P.U.C. number as “First Revised Page No....,” the second time as “Second Revised Page No....,” etc. First revised pages will supersede original pages; second revised pages will supersede first revised pages, etc.

4. When changes or additions to be made require more space than is available, one or more pages will be added to the Tariff, to which the same number will be given with letter affix. For example, if changes were to be made in Original Page No. 2 and, to show the changed matter, more than one page should be required, the new page would be issued as “First Revised Page No. 2, superseding Original Page No. 2”; and the added page would be issued as “Original Page No. 2A.” If a second added page should be required, it would be issued as “Original Page No. 2B.” Subsequent reprints will be consecutively designated as “First Revised...,” “Second Revised...,” etc.

5. On receipt of a revised page it will be placed in the Tariff immediately following the page which it supersedes, and the page which is to be superseded thereby plainly marked “See following page for pending revision.” On the date when such revised page becomes effective, the page superseded should be removed from the Tariff.

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DEFINITION OF TERMS AND EXPLANATION OF ABBREVIATIONS

Aggregated Customer Data – information pertaining to retail customers that has been (a) assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information and (b) subjected to analysis functions to develop summation average or other analytical statistics, or both, for specific groups of retail customers in a manner that precludes the determination of the individual identities of the retail customer to which such information pertains.

Anonymous Customer Data – information pertaining to retail customers that has been assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information.

AMI Interval Data – electric demand and energy usage that are measured over specific consistent incremental time periods by advanced metering infrastructure (“AMI”) metering facilities provided by the Company at a retail customer’s premises and that may or may not be subject to the Company’s validation, editing, and estimation (“VEE”) processes or directly used for the purposes of determining the amounts owed by such retail customer for electric services.

Charges - all charges stated in the “Charges” section of this Tariff that are billed by the Company (on behalf of itself or any FirstEnergy affiliate or subsidiary) for service performed hereunder.

Company – Pennsylvania Power Company (“Penn Power”).

Competition Act - the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. § 2801, et seq.

Conservation Service Provider – an entity that provides information and technical assistance on measures to enable a person to increase energy efficiency or reduce energy consumption and that has no direct or indirect ownership, partnership, or other affiliated interest with an electric distribution company (66 Pa.C.S. § 2806.1.(m)).

Curtailement Service Provider - a PJM member or a special member, which action on behalf of itself or one or more other members or non-members, participates in the PJM Interchange Energy Market, Ancillary Services markets, Reliability Pricing Model, or any combination thereof by causing a reduction in demand.

Customer - a retail electric customer as defined in the Competition Act.

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Definitions (Continued)

Customer Data – information pertaining to retail customers, including AMI Interval Data and customer account information, such as customer address, contact information, payment history, account number, and amount billed.

Electric Distribution Company (or “EDC”) - shall have the meaning set forth in the Competition Act.

EDC Tariff - the Company’s current PaPUC approved Electric Service Tariff, Pa. P.U.C. No. 52 (Pennsylvania Power Company).

Electric Generation Supplier – any person, corporation, or other entity that has received a certification from the Commission that it is eligible and licensed to supply electric energy, capacity, transmission, and ancillary services to Customers in the Company’s service territory under and pursuant to the Competition Act.

Electronic Data Interchange (“EDI”) – guidelines that represent the standard electronic communication method for exchanging data between an EDC and an EGS.

FERC - the Federal Energy Regulatory Commission.

FirstEnergy Corp. (“FirstEnergy”) – the parent company of Cleveland Electric Illuminating Company, Jersey Central Power and Light Company, Metropolitan Edison Company, Monongahela Power Company, Ohio Edison Company (and its wholly owned subsidiary, Pennsylvania Power Company), Pennsylvania Electric Company, Potomac Edison Company, Toledo Edison Company, and West Penn Power Company.

Market Participant – has the same meaning as set forth in the PJM Tariff.

PaPUC (or “Commission”) - the Pennsylvania Public Utility Commission.

PJM - the regional transmission organization operated by PJM Interconnection, L.L.C., or its successor.

PJM Tariff – the PJM Open Access Transmission Tariff, including schedules and exhibits.

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Definitions (Continued)

Tariff – this Third-Party Data Access Tariff.

Third Party – any person or entity seeking to obtain Customer Data from the Company that is not an Electric Generation Supplier, including a Conservation Service Provider, a Curtailment Service Provider, or other Market Participant.

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RULES AND REGULATIONS

1. THE TARIFF

- 1.1 Filing and Posting.** A copy of this Tariff is on file with the Commission and is posted and open to inspection at the offices of the Company during regular business hours. A copy of this Tariff is available at the Company's website www.firstenergycorp.com.
- 1.2 Revisions.** Subject to Section 2.3, this Tariff may be revised, amended, supplemented, or otherwise changed from time to time in accordance with the Pennsylvania Public Utility Code, and such changes, when effective, shall have the same force as the present Tariff.
- 1.3 Application.** The Tariff provisions apply to all Third Parties seeking to obtain Customer Data pertaining to Customers located in the Company's service territory. The obligations and charges herein shall apply to anyone providing or receiving service unlawfully or to any unauthorized or fraudulent provision or receipt of service in addition to any other remedies available to the Company.
- 1.4 Statement by Agents.** No Company representative has authority to modify a Tariff rule or provision, or to bind the Company by any promise or representation contrary thereto or inconsistent therewith.

2. SCOPE AND PURPOSE OF TARIFF

- 2.1 Scope and Purpose of Tariff.** This Tariff defines the circumstances and terms and conditions under which the Company provides or makes available retail Customer Data to a Third Party.
- 2.2 Relationship of the Company, Customer, and Third Party.** The Company provides electric service to a Customer in accordance with the EDC Tariff. Through the course of providing this service the Company obtains, compiles, and stores Customer Data.
- 2.2.1** A Third Party must be authorized by a Customer to obtain data specific to such Customer from the Company. The Company must provide or make available, or both, such data to such Third Party subject to the terms, conditions, and limitations set forth in this Tariff.
- 2.2.2** The Company is not a party to the manner in which data are utilized by a Third Party and is not bound by any term, condition, or provision of any program or process employed by a Third Party in its utilization of such data. Any contractual arrangement to which a Third Party and Customer are parties is not part of this Tariff or the EDC Tariff. The Company is not a party to any such contractual arrangement between a Third Party and a Customer and is not bound by any term, condition, or provision of such an agreement.
- 2.2.3** A Third Party is not an agent of the Company. A Third Party has no authority to enter into any agreement on behalf of the Company; to amend, modify, or alter any of the Company's tariffs, contracts, or procedures; or to bind the Company by making any promises, representations, or omissions.
- 2.2.4** A Third Party is not an agent of the Customer. A Third Party has no authority to enter into any agreement pertaining to a Customer's electric service on behalf of such Customer or to modify or alter any such agreement on behalf of the Customer, or to bind the Customer by making any promises, representations, or omissions pertaining to such agreement.
- 2.3 FERC Jurisdictional Matters.** The inclusion of FERC-jurisdictional matters within the scope of the Tariff is intended solely for informational purposes and is not intended to accord any jurisdictional authority over such matters to the PaPUC. Furthermore, to the extent that anything stated herein is found by FERC to conflict with or to be inconsistent with any provision of the Federal Power Act ("FPA"), as amended, or any rule, regulation, order, or determination of FERC under the FPA, then such FERC rule, regulation, order, or determination of the FERC shall control. To the extent required under any provision of the FPA, or any rule, regulation, order, or determination of FERC

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under the FPA, the Company shall endeavor to secure, from time to time, all necessary orders, approvals, and determinations from FERC necessary to implement this Tariff.

3. COMMENCEMENT OF SERVICE

- 3.1 Prerequisites of Service.** Before commencing service hereunder, a Third Party must comply with the following prerequisites of service.
- 3.1.1** A Third Party must submit a completed registration form to the Company that acknowledges and accepts the Terms of Service set forth in Section 4 of this Tariff.
- 3.1.2** A Third Party must demonstrate that it can meet all applicable continuing obligations described in Section 4 of this Tariff.
- 3.1.3** A Third Party must have and demonstrate through the completion of any applicable Company testing program the ability to electronically access or retrieve, or both, data the Company provides or makes available, or both, in accordance with the Company's practices, procedures, and systems employed to provide or make available, or both, such data.
- 3.2 Incomplete Registrations.** In the event the Third Party submits an incomplete registration, the Company shall provide written notice to the Third Party of the registration's deficiencies within five (5) business days after the date of service of the registration. The Company will not process an incomplete application until the Third Party corrects the deficiencies and delivers a completed registration to the Company.
- 3.3 Commencement of Service.** Service hereunder shall commence within five (5) business days after the Company's acceptance of Third Party's complete registration provided that all of the information necessary for the Company to provide service hereunder has been submitted to the Company and any conditions established under Section 3.6 have been satisfied by the Third Party.

4. TERMS OF SERVICE

4.1 Third Party Continuing Obligations. The Third Party must continue to abide by the prerequisites of service of this Tariff, as applicable. In order to access or retrieve, or both, data specific to a Customer, the Third Party must accept the following terms of service:

- (a) The Third Party must obtain and maintain appropriate authorization from the Customer to access or retrieve, or both, data specific to the Customer, with such authorization documented in writing, electronically, or through recording of an oral communication. If an authorization obtained by a Third Party from a Customer that allows such Third Party to access or retrieve, or both, data specific to such Customer expires or is revoked for any reason, the Third Party must no longer request access to or retrieve, or both, such data.
- (b) The Third Party will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules.
- (c) The Third Party acknowledges that any data specific to a Customer that it accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes.
- (d) The Third Party agrees that data specific to a Customer must not be sold or licensed to any other entity for any purpose.
- (e) The Third Party agrees to indemnify, defend, and hold harmless the Company from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of such Third Party in connection with the performance of its obligations under this Tariff, (ii) such Third Party's use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by a Third Party of its representations and promises.

4.2 Disclosure of Information Without Customer Authorization. Customer authorization is not required for a Third Party to access or retrieve, or both, Aggregated Customer Data or Anonymous Customer Data, or both, as described in Section 5 of this Tariff.

4.3 Company Continuing Obligations. For a situation in which the Company must provide or make available, or both, to a Third Party data specific to a Customer as described in Section 5.1 of this Tariff, such data must be provided or made available, or both, within one business day after the Company determines the data are available for the Customer,

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provided the Third Party is in compliance with applicable provisions in Section 3.1 of this Tariff and submits a request for such data prior to 5:00 p.m. Eastern Prevailing Time on the previous business day. The Company is not required to provide or make available, or both, revisions to data after such data are provided or made available, or both, to a Third Party in accordance with the provisions of this Tariff. In the event a Customer notifies the Company that a Third Party's authorization to access data specific to such Customer is terminated or revoked, the Company must terminate such Third Party's further access to Customer Data under this Tariff within 5 business days after receiving such notification from the Customer.

- 4.4 Charges.** As applicable, charges are assessed by the Company for data provided or made available, or both, to such Third Party in accordance with the provisions of Section 5.2 of this Tariff. With respect to each request to access or retrieve, or both, Customer Data that is not available through standard automated processes, the Company will assess the requesting Third Party a charge of \$53 per hour, which will be billed by the Company in one-minute intervals.

5. DATA REQUEST AND RELEASE PROCESS

5.1 Data Options. A Third Party may access Customer Data in accordance with one or more of the following options, as applicable, provided such Third Party complies with applicable provisions in Section 4.1 (Third Party Continuing Obligations).

5.1.1 Individual Customer Data. As authorized by a Customer, a Third Party may access the data that are available for such Customer, including, but not limited to, usage for up to twelve consecutive months, load profile, rate class, peak load contribution, and network system peak load, via EDI or through a secure portion of the Company's website.

5.1.2 Aggregated and Anonymous Customer Data. A Third Party may request access to Aggregated Customer Data and Anonymous Customer Data as described in Section 5.2.

5.2 Requests for Aggregated and Anonymous Customer Data. A Third Party requesting Aggregated or Anonymous, or both, Customer Data will do so by submitting to the Company a data request through a secure portion of the Company's website that contains fields for the following information:

- (a) Name, address, phone, and email address of the Third Party requesting the data;
- (b) A description of the data requested and to be released;
- (c) A statement of the purpose for which the data will be used by the Third Party; and
- (d) A description of the time period for the data to be disclosed (e.g., twelve months of historical data).

5.3 Company Response to Requests for Aggregated and Anonymous Customer Data. Following the submission of a request for data by a Third Party in accordance with Section 5.2 of this Tariff, the Company will:

- (a) Confirm receipt of the request within three business days of receiving a request for data from a Third Party;
- (b) Respond within three business days of receiving a request for data from a Third Party as to whether any additional information is required for the Company to process the request;

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- (c) Inform Third Party within ten business days of receiving a completed request for data as to whether it is able to grant the request and provide a proposed schedule for providing the requested data. If the Company responds that it cannot grant access to the requested data, it will provide specific reasons for why it cannot provide the data or offer other options for providing data access; and
- (d) Notify the requesting Third Party of the data transmission and security requirements.

5.4 Standardized Data Output and Delivery. All data outputs will be in standard formats. Data will be accessible in specified formats such as XML or other agreed-upon formats. The Company will provide data through EDI or on a secure server on the Company's website where the requestor will retrieve it.

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6. CONFIDENTIALITY OF INFORMATION

- 6.1 Generally.** All confidential or proprietary information made available by one party to the other in connection with the registration by a Third Party with the Company or the subsequent provision and receipt of Customer Data under this Tariff, or both, including, but not limited to, information regarding the business processes of a party and the computer and communication systems owned or leased by a party, shall be used only for purposes of registration with the Company receiving or providing Customer Data hereunder. Other than disclosures to representatives of the Company or Third Party for the purposes of enabling that party to fulfill its obligations under this Tariff, a party may not disclose confidential or proprietary information without the prior authorization or consent, or both, of the other party.
- 6.2 Customer Information.** The Third Party shall keep all Customer-specific information supplied by the Company confidential unless the Third Party has the Customer's written authorization to do otherwise.

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7. PAYMENT AND BILLING

7.1 Third Party Payment of Obligations to the Company. A Third Party shall pay all Charges it incurs hereunder in accordance with the following provisions:

7.1.1 Billing Procedure. Each month, the Company shall submit an invoice to the Third Party reflecting all of the Charges assessed to it by the Company for all of the services provided to Third Party under this Tariff during the applicable billing period. The invoice may be transmitted to the Third Party by any reasonable method requested by the Third Party. A Third Party shall make payment for Charges incurred on or before the due date shown on the bill. The due date shall be determined by the Company and shall not be less than fifteen (15) banking days from the date of transmittal of the bill.

7.1.2 Manner of Payment. The Third Party shall remit payment to the Company by wire transfer to a bank designated in Section 7.1.3 of this Tariff. If disputes arise regarding a Third Party bill, the Third Party must pay the undisputed portion of disputed bills under investigation.

7.1.3 Wire Transfer. Payment to the Company by the Third Party must be made by electronic wire transfer or such other means as will cause payment to be available for use by the Company on the due date. All payments shall be wire transferred to:

Bank:	JP Morgan Chase
ABA No.:	021000021
Account Name:	FirstEnergy Service Company
Account No.:	323396364

7.1.4 Late Fee for Unpaid Balances. If payment is made to the Company after the due date shown on the bill, a late fee will be added to the unpaid balance until the entire bill is paid. This late fee will be two percent (2%) per month of the unpaid balance.

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8. LIABILITY

- 8.1 Limitations on Liability.** The Company is not liable for any act, omission, promise, or representation of any Third Party. To the extent that the Company receives a properly submitted request for applicable Customer Data and acts in accordance with the provisions of this Tariff, the Company is not liable for any conflict such actions may cause between a Third Party and a Customer. Although data provided or made available, or both, in accordance with the provision of this Tariff and produced and processed via Company systems and sources is considered to be reliable by the Company, no warranty expressed or implied is made regarding the accuracy adequacy, completeness, legality, reliability, or usefulness of any such data and applies to both the isolated and aggregated use of such data. The Company provides or makes available, or both, such data on an “as is” basis. All warranties of any kind expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, freedom from contamination or corruption of any kind, and noninfringement of proprietary rights are disclaimed.

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9. TERMINATION OF SERVICE

9.1 Termination. A Third Party has the right to terminate service hereunder at any time, upon notification to the Company. The Company has the right to terminate service hereunder to a Third Party if:

- (a) The Third Party fails to abide by the provisions set forth in the Third Party Continuing Obligations section of this Tariff (i.e., Section 4.1), as applicable;
- (b) The Third Party fails to make timely payments to the Company, as required by Section 7 of this Tariff, to access or retrieve, or both, data provided to or made available to, or both, such Third Party in accordance with the provisions of this Tariff; or
- (c) The Third Party is determined by the PaPUC or applicable court of law to be responsible for fraudulent representation or activity in association with this Tariff, which includes, but is not limited to, the unauthorized access or retrieval, or both, of Customer Data;

9.2 Survival of Obligations. Termination of service hereunder for any reason shall not relieve the Company or a Third Party of any obligation accrued or accruing prior to such termination.

10. ALTERNATIVE DISPUTE RESOLUTION

- 10.1 Informal Resolution of Disputes.** The Company and Third Party shall use good faith and commercially reasonable efforts to informally resolve all disputes arising out of the implementation of this Tariff or the conduct of activities, or both, hereunder. The Third Party's point of contact for all information, operations, questions, and problems under this Tariff shall be the Company's Customer Data Access Group.
- 10.2 Internal Dispute Resolution Procedures.** Any dispute between the Company and a Third Party under this Tariff shall be referred to a designated senior representative of each of the parties for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties may agree upon), such dispute, by mutual agreement, may be referred to mediation or may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.
- 10.3 External Arbitration Procedures.** The arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the parties. If the parties fail to agree upon a single arbitrator within twenty (20) days of the referral of the dispute to arbitration the parties shall request the American Arbitration Association to appoint a single neutral arbitrator. The arbitrator(s) chosen shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the then current Commercial Arbitration Rules of the American Arbitration Association.
- 10.4 Arbitration Decisions.** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of their appointment and shall notify the parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and shall have no power to modify or change any provisions in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court of competent jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in 42 Pa. C.S.A. § 7341. The final decision of the arbitrator must also be filed with FERC and PaPUC, if it affects their respective jurisdictional rates, terms, and conditions of service or facilities.
- 10.5 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:

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- (a) the cost of the arbitrator chosen by the party to sit on the three-member panel and a proportionate share of the cost of the third arbitrator chosen; or
- (b) the proportionate share of the cost of the single arbitrator jointly chosen by the parties.

10.6 Rights Under the FPA. Nothing in this Section shall restrict the rights of any party to file a complaint with FERC under relevant provisions of the FPA.

10.7 Rights Under the Pennsylvania Public Utility Code. Nothing in this Section shall restrict the rights of any party to file a complaint with the PaPUC under relevant provisions of the Pennsylvania Public Utility Code.

11. MISCELLANEOUS

- 11.1 Notices.** Unless otherwise stated herein, any notice contemplated by this Tariff shall be in writing and shall be given to the Third Party at the address or email provided to the Company in its completed registration form and to the Company at the address on the first page of this Tariff or the email stated on the secure portion of the Company's website dedicated to requests for Customer Data. If given by electronic transmission, notice shall be deemed given on the date sent and shall be confirmed by a written copy sent by first class mail. If sent in writing by first class mail, notice shall be deemed given on the fifth business day following deposit in the United States mail (as noted by the postmark), properly addressed, with postage prepaid. If sent by same-day or overnight delivery service, notice shall be deemed given on the day of delivery. The Company and a Third Party may change their representative for receiving notices contemplated by this Tariff by delivering written notice of their new representatives to the other.
- 11.2 No Prejudice of Rights.** The failure by either the Company or the Third Party to enforce any of the terms of this Tariff shall not be deemed a waiver of the right of either to do so.
- 11.3 Governing Law.** To the extent not subject to the exclusive jurisdiction of FERC, the formation, validity, interpretation, execution, amendment, and termination of this Tariff shall be governed by the laws of the Commonwealth of Pennsylvania.

The Tariff, and the performance of the parties' obligations hereunder, are subject to and contingent upon (i) present and future local, state, and federal laws and (ii) present and future regulations or orders of any local, state, or federal regulating authority having jurisdiction over the matter set forth herein.

If at any time during the term of the Tariff, FERC, the PaPUC, or a court of competent jurisdiction issues an order under which a party hereto believes that its rights or interests, or both, under the Tariff are materially affected by said order, the party so affected shall within thirty (30) days of said final order provide the other party with notice setting forth in reasonable detail how said order has materially affected its rights or interests. Within thirty (30) days from the receiving party's receipt of said notice the parties agree to attempt through good faith negotiations to resolve the issue.

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Appendix A
DATA ACCESS REGISTRATION FORM

Name of Registrant:		D&B DUNS Number:	
Please state whether Registrant is a consultant, conservation service provider, academic institution, etc.:		Years in Business:	
		URL for Registrant’s Website:	
Contact Name:		Title:	
E-mail:		Phone:	
Address:	City:	State:	Zip Code:
<p>To obtain or retrieve, or both, Customer Data maintained by Pennsylvania Power Company (“Penn Power” or “Company”), Registrant must submit electronic requests via the secure portal available at www.firstenergy.com/. Following submission of this completed registration form, the Company will provide Registrant a username and password to access the portal.</p>			
<p>The submission of this Registration Form to Penn Power shall constitute the Registrant’s acknowledgement and acceptance of all the terms, conditions, and requirements of the Third-Party Data Access Tariff approved by the Pennsylvania Public Utility Commission (the “Commission” or “PUC”) at Docket Nos. P-2021-_____ et al. (the “Tariff”).</p>			
<p>By sending an electronic request for Customer Data to Penn Power, Registrant represents and warrants that:</p> <ol style="list-style-type: none"> 1. Registrant has obtained valid and appropriate customer authorization to access or retrieve, or both, data specific to such customer. 2. Registrant will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules. 3. Any customer-specific data that Registrant accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes. 4. Any data specific to a Customer must not be sold or licensed to any other entity for any purpose. 5. Registrant agrees to indemnify, defend, and hold the Company harmless from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of Registrant in connection with the performance of its obligations under the Tariff, (ii) Registrant’s use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by Registrant of its representations and promises. 			
<p>The undersigned represents and warrants that they have the authority to act on behalf of and to bind Registrant to perform the terms and conditions set forth herein.</p>			
Signature of Authorized Representative:		Date:	
Name:		Title:	

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WEST PENN POWER COMPANY

Third Party Data Access Tariff

Company Office Location

2800 Pottsville Pike
P. O. Box 16001
Reading, Pennsylvania 19612

Issued:

Effective: June 1, 2023

Samuel L. Belcher, President

NOTICE

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HOW TO USE LOOSE-LEAF TARIFF

1. This Tariff is issued on the loose-leaf plan. Each page will be issued as “original page,” consecutively numbered, commencing with the title page, which in all cases will be considered as Page No. 1—for example: “Original Page No. 2,” “Original Page No. 3,” etc.

2. All changes in, additions to, or eliminations from, original pages, will be made by the issue of consecutively numbered supplements to this Tariff and by reprinting the page or pages affected by such change, addition, or elimination. Such supplements will indicate the changes which they effect and will carry a statement of the make-up of the Tariff, as revised. The Table of Contents will be reissued with each supplement.

3. When a page is reprinted the first time, it will be designated under the P.U.C. number as “First Revised Page No....,” the second time as “Second Revised Page No....,” etc. First revised pages will supersede original pages; second revised pages will supersede first revised pages, etc.

4. When changes or additions to be made require more space than is available, one or more pages will be added to the Tariff, to which the same number will be given with letter affix. For example, if changes were to be made in Original Page No. 2 and, to show the changed matter, more than one page should be required, the new page would be issued as “First Revised Page No. 2, superseding Original Page No. 2”; and the added page would be issued as “Original Page No. 2A.” If a second added page should be required, it would be issued as “Original Page No. 2B.” Subsequent reprints will be consecutively designated as “First Revised...,” “Second Revised...,” etc.

5. On receipt of a revised page it will be placed in the Tariff immediately following the page which it supersedes, and the page which is to be superseded thereby plainly marked “See following page for pending revision.” On the date when such revised page becomes effective, the page superseded should be removed from the Tariff.

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DEFINITION OF TERMS AND EXPLANATION OF ABBREVIATIONS

Aggregated Customer Data – information pertaining to retail customers that has been (a) assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information and (b) subjected to analysis functions to develop summation average or other analytical statistics, or both, for specific groups of retail customers in a manner that precludes the determination of the individual identities of the retail customer to which such information pertains.

Anonymous Customer Data – information pertaining to retail customers that has been assembled with specific retail customer identifiers—including, but not limited to, name, address, and electric service account number—omitted from the assembled information.

AMI Interval Data – electric demand and energy usage that are measured over specific consistent incremental time periods by advanced metering infrastructure (“AMI”) metering facilities provided by the Company at a retail customer’s premises and that may or may not be subject to the Company’s validation, editing, and estimation (“VEE”) processes or directly used for the purposes of determining the amounts owed by such retail customer for electric services.

Charges - all charges stated in the “Charges” section of this Tariff that are billed by the Company (on behalf of itself or any FirstEnergy affiliate or subsidiary) for service performed hereunder.

Company – West Penn Power Company (“West Penn”).

Competition Act - the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. § 2801, et seq.

Conservation Service Provider – an entity that provides information and technical assistance on measures to enable a person to increase energy efficiency or reduce energy consumption and that has no direct or indirect ownership, partnership, or other affiliated interest with an electric distribution company (66 Pa.C.S. § 2806.1.(m)).

Curtailement Service Provider - a PJM member or a special member, which action on behalf of itself or one or more other members or non-members, participates in the PJM Interchange Energy Market, Ancillary Services markets, Reliability Pricing Model, or any combination thereof by causing a reduction in demand.

Customer - a retail electric customer as defined in the Competition Act.

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Definitions (Continued)

Customer Data – information pertaining to retail customers, including AMI Interval Data and customer account information, such as customer address, contact information, payment history, account number, and amount billed.

Electric Distribution Company (or “EDC”) - shall have the meaning set forth in the Competition Act.

EDC Tariff - the Company’s current PaPUC approved Electric Service Tariff, Pa. P.U.C. No. 52 (West Penn Power Company).

Electric Generation Supplier – any person, corporation, or other entity that has received a certification from the Commission that it is eligible and licensed to supply electric energy, capacity, transmission, and ancillary services to Customers in the Company’s service territory under and pursuant to the Competition Act.

Electronic Data Interchange (“EDI”) – guidelines that represent the standard electronic communication method for exchanging data between an EDC and an EGS.

FERC - the Federal Energy Regulatory Commission.

FirstEnergy Corp. (“FirstEnergy”) – the parent company of Cleveland Electric Illuminating Company, Jersey Central Power and Light Company, Metropolitan Edison Company, Monongahela Power Company, Ohio Edison Company (and its wholly owned subsidiary, Pennsylvania Power Company), Pennsylvania Electric Company, Potomac Edison Company, Toledo Edison Company, and West Penn Power Company.

Market Participant – has the same meaning as set forth in the PJM Tariff.

PaPUC (or “Commission”) - the Pennsylvania Public Utility Commission.

PJM - the regional transmission organization operated by PJM Interconnection, L.L.C., or its successor.

PJM Tariff – the PJM Open Access Transmission Tariff, including schedules and exhibits.

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Definitions (Continued)

Tariff – this Third-Party Data Access Tariff.

Third Party – any person or entity seeking to obtain Customer Data from the Company that is not an Electric Generation Supplier, including a Conservation Service Provider, a Curtailment Service Provider, or other Market Participant.

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RULES AND REGULATIONS

1. THE TARIFF

- 1.1 Filing and Posting.** A copy of this Tariff is on file with the Commission and is posted and open to inspection at the offices of the Company during regular business hours. A copy of this Tariff is available at the Company's website www.firstenergycorp.com.
- 1.2 Revisions.** Subject to Section 2.3, this Tariff may be revised, amended, supplemented, or otherwise changed from time to time in accordance with the Pennsylvania Public Utility Code, and such changes, when effective, shall have the same force as the present Tariff.
- 1.3 Application.** The Tariff provisions apply to all Third Parties seeking to obtain Customer Data pertaining to Customers located in the Company's service territory. The obligations and charges herein shall apply to anyone providing or receiving service unlawfully or to any unauthorized or fraudulent provision or receipt of service in addition to any other remedies available to the Company.
- 1.4 Statement by Agents.** No Company representative has authority to modify a Tariff rule or provision, or to bind the Company by any promise or representation contrary thereto or inconsistent therewith.

2. SCOPE AND PURPOSE OF TARIFF

- 2.1 Scope and Purpose of Tariff.** This Tariff defines the circumstances and terms and conditions under which the Company provides or makes available retail Customer Data to a Third Party.
- 2.2 Relationship of the Company, Customer, and Third Party.** The Company provides electric service to a Customer in accordance with the EDC Tariff. Through the course of providing this service the Company obtains, compiles, and stores Customer Data.
- 2.2.1** A Third Party must be authorized by a Customer to obtain data specific to such Customer from the Company. The Company must provide or make available, or both, such data to such Third Party subject to the terms, conditions, and limitations set forth in this Tariff.
- 2.2.2** The Company is not a party to the manner in which data are utilized by a Third Party and is not bound by any term, condition, or provision of any program or process employed by a Third Party in its utilization of such data. Any contractual arrangement to which a Third Party and Customer are parties is not part of this Tariff or the EDC Tariff. The Company is not a party to any such contractual arrangement between a Third Party and a Customer and is not bound by any term, condition, or provision of such an agreement.
- 2.2.3** A Third Party is not an agent of the Company. A Third Party has no authority to enter into any agreement on behalf of the Company; to amend, modify, or alter any of the Company's tariffs, contracts, or procedures; or to bind the Company by making any promises, representations, or omissions.
- 2.2.4** A Third Party is not an agent of the Customer. A Third Party has no authority to enter into any agreement pertaining to a Customer's electric service on behalf of such Customer or to modify or alter any such agreement on behalf of the Customer, or to bind the Customer by making any promises, representations, or omissions pertaining to such agreement.
- 2.3 FERC Jurisdictional Matters.** The inclusion of FERC-jurisdictional matters within the scope of the Tariff is intended solely for informational purposes and is not intended to accord any jurisdictional authority over such matters to the PaPUC. Furthermore, to the extent that anything stated herein is found by FERC to conflict with or to be inconsistent with any provision of the Federal Power Act ("FPA"), as amended, or any rule, regulation, order, or determination of FERC under the FPA, then such FERC rule, regulation, order, or determination of the FERC shall control. To the extent required under any provision of the FPA, or any rule, regulation, order, or determination of FERC

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under the FPA, the Company shall endeavor to secure, from time to time, all necessary orders, approvals, and determinations from FERC necessary to implement this Tariff.

3. COMMENCEMENT OF SERVICE

- 3.1 Prerequisites of Service.** Before commencing service hereunder, a Third Party must comply with the following prerequisites of service.
- 3.1.1** A Third Party must submit a completed registration form to the Company that acknowledges and accepts the Terms of Service set forth in Section 4 of this Tariff.
- 3.1.2** A Third Party must demonstrate that it can meet all applicable continuing obligations described in Section 4 of this Tariff.
- 3.1.3** A Third Party must have and demonstrate through the completion of any applicable Company testing program the ability to electronically access or retrieve, or both, data the Company provides or makes available, or both, in accordance with the Company's practices, procedures, and systems employed to provide or make available, or both, such data.
- 3.2 Incomplete Registrations.** In the event the Third Party submits an incomplete registration, the Company shall provide written notice to the Third Party of the registration's deficiencies within five (5) business days after the date of service of the registration. The Company will not process an incomplete application until the Third Party corrects the deficiencies and delivers a completed registration to the Company.
- 3.3 Commencement of Service.** Service hereunder shall commence within five (5) business days after the Company's acceptance of Third Party's complete registration provided that all of the information necessary for the Company to provide service hereunder has been submitted to the Company and any conditions established under Section 3.6 have been satisfied by the Third Party.

4. TERMS OF SERVICE

4.1 Third Party Continuing Obligations. The Third Party must continue to abide by the prerequisites of service of this Tariff, as applicable. In order to access or retrieve, or both, data specific to a Customer, the Third Party must accept the following terms of service:

- (a) The Third Party must obtain and maintain appropriate authorization from the Customer to access or retrieve, or both, data specific to the Customer, with such authorization documented in writing, electronically, or through recording of an oral communication. If an authorization obtained by a Third Party from a Customer that allows such Third Party to access or retrieve, or both, data specific to such Customer expires or is revoked for any reason, the Third Party must no longer request access to or retrieve, or both, such data.
- (b) The Third Party will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules.
- (c) The Third Party acknowledges that any data specific to a Customer that it accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes.
- (d) The Third Party agrees that data specific to a Customer must not be sold or licensed to any other entity for any purpose.
- (e) The Third Party agrees to indemnify, defend, and hold harmless the Company from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of such Third Party in connection with the performance of its obligations under this Tariff, (ii) such Third Party's use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by a Third Party of its representations and promises.

4.2 Disclosure of Information Without Customer Authorization. Customer authorization is not required for a Third Party to access or retrieve, or both, Aggregated Customer Data or Anonymous Customer Data, or both, as described in Section 5 of this Tariff.

4.3 Company Continuing Obligations. For a situation in which the Company must provide or make available, or both, to a Third Party data specific to a Customer as described in Section 5.1 of this Tariff, such data must be provided or made available, or both, within

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one business day after the Company determines the data are available for the Customer, provided the Third Party is in compliance with applicable provisions in Section 3.1 of this Tariff and submits a request for such data prior to 5:00 p.m. Eastern Prevailing Time on the previous business day. The Company is not required to provide or make available, or both, revisions to data after such data are provided or made available, or both, to a Third Party in accordance with the provisions of this Tariff. In the event a Customer notifies the Company that a Third Party's authorization to access data specific to such Customer is terminated or revoked, the Company must terminate such Third Party's further access to Customer Data under this Tariff within 5 business days after receiving such notification from the Customer.

- 4.4 Charges.** As applicable, charges are assessed by the Company for data provided or made available, or both, to such Third Party in accordance with the provisions of Section 5.2 of this Tariff. With respect to each request to access or retrieve, or both, Customer Data that is not available through standard automated processes, the Company will assess the requesting Third Party a charge of \$53 per hour, which will be billed by the Company in one-minute intervals.

5. DATA REQUEST AND RELEASE PROCESS

5.1 Data Options. A Third Party may access Customer Data in accordance with one or more of the following options, as applicable, provided such Third Party complies with applicable provisions in Section 4.1 (Third Party Continuing Obligations).

5.1.1 Individual Customer Data. As authorized by a Customer, a Third Party may access the data that are available for such Customer, including, but not limited to, usage for up to twelve consecutive months, load profile, rate class, peak load contribution, and network system peak load, via EDI or through a secure portion of the Company's website.

5.1.2 Aggregated and Anonymous Customer Data. A Third Party may request access to Aggregated Customer Data and Anonymous Customer Data as described in Section 5.2.

5.2 Requests for Aggregated and Anonymous Customer Data. A Third Party requesting Aggregated or Anonymous, or both, Customer Data will do so by submitting to the Company a data request through a secure portion of the Company's website that contains fields for the following information:

- (a) Name, address, phone, and email address of the Third Party requesting the data;
- (b) A description of the data requested and to be released;
- (c) A statement of the purpose for which the data will be used by the Third Party; and
- (d) A description of the time period for the data to be disclosed (e.g., twelve months of historical data).

5.3 Company Response to Requests for Aggregated and Anonymous Customer Data. Following the submission of a request for data by a Third Party in accordance with Section 5.2 of this Tariff, the Company will:

- (a) Confirm receipt of the request within three business days of receiving a request for data from a Third Party;
- (b) Respond within three business days of receiving a request for data from a Third Party as to whether any additional information is required for the Company to process the request;

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- (c) Inform Third Party within ten business days of receiving a completed request for data as to whether it is able to grant the request and provide a proposed schedule for providing the requested data. If the Company responds that it cannot grant access to the requested data, it will provide specific reasons for why it cannot provide the data or offer other options for providing data access; and
- (d) Notify the requesting Third Party of the data transmission and security requirements.

5.4 Standardized Data Output and Delivery. All data outputs will be in standard formats. Data will be accessible in specified formats such as XML or other agreed-upon formats. The Company will provide data through EDI or on a secure server on the Company's website where the requestor will retrieve it.

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6. CONFIDENTIALITY OF INFORMATION

- 6.1 Generally.** All confidential or proprietary information made available by one party to the other in connection with the registration by a Third Party with the Company or the subsequent provision and receipt of Customer Data under this Tariff, or both, including, but not limited to, information regarding the business processes of a party and the computer and communication systems owned or leased by a party, shall be used only for purposes of registration with the Company receiving or providing Customer Data hereunder. Other than disclosures to representatives of the Company or Third Party for the purposes of enabling that party to fulfill its obligations under this Tariff, a party may not disclose confidential or proprietary information without the prior authorization or consent, or both, of the other party.
- 6.2 Customer Information.** The Third Party shall keep all Customer-specific information supplied by the Company confidential unless the Third Party has the Customer's written authorization to do otherwise.

7. PAYMENT AND BILLING

7.1 Third Party Payment of Obligations to the Company. A Third Party shall pay all Charges it incurs hereunder in accordance with the following provisions:

7.1.1 Billing Procedure. Each month, the Company shall submit an invoice to the Third Party reflecting all of the Charges assessed to it by the Company for all of the services provided to Third Party under this Tariff during the applicable billing period. The invoice may be transmitted to the Third Party by any reasonable method requested by the Third Party. A Third Party shall make payment for Charges incurred on or before the due date shown on the bill. The due date shall be determined by the Company and shall not be less than fifteen (15) banking days from the date of transmittal of the bill.

7.1.2 Manner of Payment. The Third Party shall remit payment to the Company by wire transfer to a bank designated in Section 7.1.3 of this Tariff. If disputes arise regarding a Third Party bill, the Third Party must pay the undisputed portion of disputed bills under investigation.

7.1.3 Wire Transfer. Payment to the Company by the Third Party must be made by electronic wire transfer or such other means as will cause payment to be available for use by the Company on the due date. All payments shall be wire transferred to:

Bank:	JP Morgan Chase
ABA No.:	021000021
Account Name:	FirstEnergy Service Company
Account No.:	323396364

7.1.4 Late Fee for Unpaid Balances. If payment is made to the Company after the due date shown on the bill, a late fee will be added to the unpaid balance until the entire bill is paid. This late fee will be two percent (2%) per month of the unpaid balance.

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8. LIABILITY

- 8.1 Limitations on Liability.** The Company is not liable for any act, omission, promise, or representation of any Third Party. To the extent that the Company receives a properly submitted request for applicable Customer Data and acts in accordance with the provisions of this Tariff, the Company is not liable for any conflict such actions may cause between a Third Party and a Customer. Although data provided or made available, or both, in accordance with the provision of this Tariff and produced and processed via Company systems and sources is considered to be reliable by the Company, no warranty expressed or implied is made regarding the accuracy adequacy, completeness, legality, reliability, or usefulness of any such data and applies to both the isolated and aggregated use of such data. The Company provides or makes available, or both, such data on an “as is” basis. All warranties of any kind expressed or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, freedom from contamination or corruption of any kind, and noninfringement of proprietary rights are disclaimed.

9. TERMINATION OF SERVICE

9.1 Termination. A Third Party has the right to terminate service hereunder at any time, upon notification to the Company. The Company has the right to terminate service hereunder to a Third Party if:

- (a) The Third Party fails to abide by the provisions set forth in the Third Party Continuing Obligations section of this Tariff (i.e., Section 4.1), as applicable;
- (b) The Third Party fails to make timely payments to the Company, as required by Section 7 of this Tariff, to access or retrieve, or both, data provided to or made available to, or both, such Third Party in accordance with the provisions of this Tariff; or
- (c) The Third Party is determined by the PaPUC or applicable court of law to be responsible for fraudulent representation or activity in association with this Tariff, which includes, but is not limited to, the unauthorized access or retrieval, or both, of Customer Data;

9.2 Survival of Obligations. Termination of service hereunder for any reason shall not relieve the Company or a Third Party of any obligation accrued or accruing prior to such termination.

10. ALTERNATIVE DISPUTE RESOLUTION

- 10.1 Informal Resolution of Disputes.** The Company and Third Party shall use good faith and commercially reasonable efforts to informally resolve all disputes arising out of the implementation of this Tariff or the conduct of activities, or both, hereunder. The Third Party's point of contact for all information, operations, questions, and problems under this Tariff shall be the Company's Customer Data Access Group.
- 10.2 Internal Dispute Resolution Procedures.** Any dispute between the Company and a Third Party under this Tariff shall be referred to a designated senior representative of each of the parties for resolution on an informal basis as promptly as practicable. In the event the designated representatives are unable to resolve the dispute within thirty (30) days (or such other period as the parties may agree upon), such dispute, by mutual agreement, may be referred to mediation or may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below.
- 10.3 External Arbitration Procedures.** The arbitration initiated under the Tariff shall be conducted before a single neutral arbitrator appointed by the parties. If the parties fail to agree upon a single arbitrator within twenty (20) days of the referral of the dispute to arbitration the parties shall request the American Arbitration Association to appoint a single neutral arbitrator. The arbitrator(s) chosen shall not have any current or past substantial business or financial relationships with any party to the arbitration (except prior arbitration). The arbitrator(s) shall provide each of the parties an opportunity to be heard and, except as otherwise provided herein, shall generally conduct the arbitration in accordance with the then current Commercial Arbitration Rules of the American Arbitration Association.
- 10.4 Arbitration Decisions.** Unless otherwise agreed, the arbitrator(s) shall render a decision within ninety (90) days of their appointment and shall notify the parties in writing of such decision and the reasons therefore. The arbitrator(s) shall be authorized only to interpret and apply the provisions of the Tariff and shall have no power to modify or change any provisions in any manner. The decision of the arbitrator(s) shall be final and binding upon the Parties, and judgment on the award may be entered in any court of competent jurisdiction. The decision of the arbitrator(s) may be appealed solely on the grounds that the conduct of the arbitrator(s), or the decision itself, violated the standards set forth in 42 Pa. C.S.A. § 7341. The final decision of the arbitrator must also be filed with FERC and PaPUC, if it affects their respective jurisdictional rates, terms, and conditions of service or facilities.

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- 10.5 Costs.** Each Party shall be responsible for its own costs incurred during the arbitration process and for the following costs, if applicable:
- (a) the cost of the arbitrator chosen by the party to sit on the three-member panel and a proportionate share of the cost of the third arbitrator chosen; or
 - (b) the proportionate share of the cost of the single arbitrator jointly chosen by the parties.
- 10.6 Rights Under the FPA.** Nothing in this Section shall restrict the rights of any party to file a complaint with FERC under relevant provisions of the FPA.
- 10.7 Rights Under the Pennsylvania Public Utility Code.** Nothing in this Section shall restrict the rights of any party to file a complaint with the PaPUC under relevant provisions of the Pennsylvania Public Utility Code.

11. MISCELLANEOUS

- 11.1 Notices.** Unless otherwise stated herein, any notice contemplated by this Tariff shall be in writing and shall be given to the Third Party at the address or email provided to the Company in its completed registration form and to the Company at the address on the first page of this Tariff or the email stated on the secure portion of the Company's website dedicated to requests for Customer Data. If given by electronic transmission, notice shall be deemed given on the date sent and shall be confirmed by a written copy sent by first class mail. If sent in writing by first class mail, notice shall be deemed given on the fifth business day following deposit in the United States mail (as noted by the postmark), properly addressed, with postage prepaid. If sent by same-day or overnight delivery service, notice shall be deemed given on the day of delivery. The Company and a Third Party may change their representative for receiving notices contemplated by this Tariff by delivering written notice of their new representatives to the other.
- 11.2 No Prejudice of Rights.** The failure by either the Company or the Third Party to enforce any of the terms of this Tariff shall not be deemed a waiver of the right of either to do so.
- 11.3 Governing Law.** To the extent not subject to the exclusive jurisdiction of FERC, the formation, validity, interpretation, execution, amendment, and termination of this Tariff shall be governed by the laws of the Commonwealth of Pennsylvania.

The Tariff, and the performance of the parties' obligations hereunder, are subject to and contingent upon (i) present and future local, state, and federal laws and (ii) present and future regulations or orders of any local, state, or federal regulating authority having jurisdiction over the matter set forth herein.

If at any time during the term of the Tariff, FERC, the PaPUC, or a court of competent jurisdiction issues an order under which a party hereto believes that its rights or interests, or both, under the Tariff are materially affected by said order, the party so affected shall within thirty (30) days of said final order provide the other party with notice setting forth in reasonable detail how said order has materially affected its rights or interests. Within thirty (30) days from the receiving party's receipt of said notice the parties agree to attempt through good faith negotiations to resolve the issue.

West Penn Power Company

Electric Pa P.U.C. No. _____
 Original Page No. 23

Appendix A
DATA ACCESS REGISTRATION FORM

Name of Registrant:	D&B DUNS Number:
Please state whether Registrant is a consultant, conservation service provider, academic institution, etc.:	Years in Business: URL for Registrant’s Website:
Contact Name:	Title:
E-mail:	Phone:
Address: City:	State: Zip Code:
<p>To obtain or retrieve, or both, Customer Data maintained by West Penn Power Company (“West Penn” or “Company”), Registrant must submit electronic requests via the secure portal available at www.firstenergy.com/. Following submission of this completed registration form, the Company will provide Registrant a username and password to access the portal.</p>	
<p>The submission of this Registration Form to West Penn shall constitute the Registrant’s acknowledgement and acceptance of all the terms, conditions, and requirements of the Third-Party Data Access Tariff approved by the Pennsylvania Public Utility Commission (the “Commission” or “PUC”) at Docket Nos. P-2021-_____ et al. (the “Tariff”).</p>	
<p>By sending an electronic request for Customer Data to West Penn, Registrant represents and warrants that:</p> <ol style="list-style-type: none"> 1. Registrant has obtained valid and appropriate customer authorization to access or retrieve, or both, data specific to such customer. 2. Registrant will treat data specific to a Customer that it accesses or retrieves, or both, as confidential information and ensure the confidentiality of such data specific to such Customer in accordance with all applicable statutes and regulatory orders or rules. 3. Any customer-specific data that Registrant accesses or retrieves, or both, have no warranties with respect to accuracy, completeness, or fitness for any purposes. 4. Any data specific to a Customer must not be sold or licensed to any other entity for any purpose. 5. Registrant agrees to indemnify, defend, and hold the Company harmless from any losses, claims, or liabilities arising out of any claim alleging or arising from (i) any act or omission of Registrant in connection with the performance of its obligations under the Tariff, (ii) Registrant’s use of data specific to a Customer that it accesses or retrieves, or both, or (iii) any breach by Registrant of its representations and promises. 	
<p>The undersigned represents and warrants that they have the authority to act on behalf of and to bind Registrant to perform the terms and conditions set forth herein.</p>	
Signature of Authorized Representative:	Date:
Name:	Title:

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2026**

**REBUTTAL TESTIMONY
OF
TIFFANNE L. COWAN**

List of Topics Addressed

Third Party Data Access Tariffs

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1 **REBUTTAL TESTIMONY**
2 **OF**
3 **TIFFANNE L. COWAN**

4 **I. INTRODUCTION AND BACKGROUND**

5 **Q. Please state your name and business address.**

6 A. My name is Tiffanne L. Cowan, and my business address is 76 South Main Street, Akron,
7 Ohio 44308.

8 **Q. Have you previously submitted testimony in this proceeding?**

9 A. Yes. I have filed written testimony and exhibits on behalf of Metropolitan Edison
10 Company (“Met-Ed”), Pennsylvania Electric Company (“Penelec”), Pennsylvania Power
11 Company (“Penn Power”), and West Penn Power Company (“West Penn”) (individually,
12 a “Company” and in any combination, the “Companies”) which has been designated as
13 Met-Ed/Penelec/Penn Power/West Penn Statement No. 6 and Exhibits TLC-1 to TLC-4.

14 **Q. Please describe the purpose of your testimony.**

15 A. I will provide rebuttal testimony responding to certain recommendations and issues raised
16 in the direct testimony of witnesses on behalf of: (1) the Office of Consumer Advocate
17 (“OCA”); (2) the Coalition for Affordable Utility Services and Energy Efficiency in
18 Pennsylvania (“CAUSE-PA”); (3) the Met-Ed Industrial Users Group, the Penelec
19 Industrial Customer Alliance, and the West Penn Power Industrial Intervenors
20 (“Industrials”); (4) Enerwise Global Technologies, LLC d/b/a CPower Energy
21 Management (“CPower”); and (5) Constellation Energy Generation, LLC and
22 Constellation NewEnergy, Inc. (“Constellation”). Specifically, I will address the following
23 topics: (1) recommendations made by OCA witness Barbara R. Alexander, CAUSE-PA

1 witness Harry Geller, and Industrials witness Alex Fried to reject the Companies’ proposed
2 Third Party Data Access Tariffs (“Tariffs”) or defer consideration of the Tariffs pending
3 completion of the investigation of third party access to electric distribution company
4 (“EDC”) customer data initiated by the Pennsylvania Public Utility Commission (“the
5 Commission”) at Docket No. M-2021-3029018 (“Statewide Proceeding”)¹; (2) proposed
6 revisions to the Tariffs made by CPower witness Kenneth Schisler and Constellation
7 witness Lael Campbell; and (3) criticisms and proposed alternatives for customer data
8 security and confidentiality made by CAUSE-PA witness Harry Geller and Industrials
9 witness Alex Fried.

10 **II. REJECTION OR DEFERRAL OF THE COMPANIES’ THIRD PARTY DATA**
11 **ACCESS TARIFFS**

12 **Q. Please summarize OCA witness Alexander, CAUSE-PA witness Geller, and the**
13 **Industrials witness Fried’s position regarding the Companies’ proposed Tariffs in**
14 **this proceeding.**

15 A. OCA witness Alexander recommends that the proposed Tariffs be rejected and eliminated
16 from this default service proceeding and that policies related to allowing third parties
17 access to customer usage data should be developed, if at all, in the context of the Statewide
18 Proceeding.² In his direct testimony, CAUSE-PA witness Geller acknowledges the
19 Statewide Proceeding, but he avers that the Commission reject the proposed Tariffs
20 because they lack a specific definition of confidentiality, the necessary specificity to protect
21 customer data, any meaningful recourse if customer information is compromised, and a

¹ License Application of Enerwise Global Techs., LLC d/b/a CPower for Approval to Offer, Render, Furnish, or Supply Elec. or Elec. Generation Servs., Final Order, Docket No. A-2019-3009271 (entered Oct. 7, 2021).

² OCA St. No. 2, p. 19.

1 method for revoking third party access to customer data if the Tariffs are violated.³ Finally,
2 Industrials witness Fried raises various concerns that he believes would be more
3 appropriately addressed in the Statewide Proceeding rather than in this default service
4 proceeding, which Mr. Fried characterizes as being “limited.”⁴

5 **Q. Do you agree with the witnesses’ proposals to reject or defer the Tariffs while the**
6 **Statewide Proceeding is pending?**

7 A. No, I do not. As stated in my direct testimony, the Companies appreciate and support the
8 Commission’s undertaking in the Statewide Proceeding and intend to fully participate in
9 any activities resulting from the Statewide Proceeding, including, but not limited to, active
10 participation in working groups or providing comments as requested. However, the
11 Statewide Proceeding has no defined timeline and may remain “pending” for a very lengthy
12 period – or indefinitely. In reviewing the testimony submitted by Ms. Alexander⁵ and Mr.
13 Geller,⁶ it is not clear if these witnesses fully appreciate the volume at which requests for
14 customer data are received from third parties *today*, which the Companies must address
15 and cannot wait until the resolution of the Statewide Proceeding to address. In 2018, the
16 Companies provided data for 813 customer accounts. In 2021, the Companies provided
17 data for 1,524 customer accounts (a greater than eighty-seven percent increase since 2018).
18 Furthermore, the Companies have already seen an increase in requests of twenty-nine
19 percent in 2022 when compared to the same period in 2021.⁷ As I explained in my Direct

³ CAUSE-PA St. No. 1, p. 58.

⁴ Industrials St. No. 1, p. 6.

⁵ OCA St. No. 2, p. 19.

⁶ CAUSE-PA St. No. 1, p. 54.

⁷ Compares January and February 2022 to the same period in 2021.

1 Testimony, a structured framework, such as that proposed by the Companies in the Tariffs,
2 is appropriate in the immediate term to govern electronic access to customer usage and
3 usage related data requested by third parties while the Statewide Proceeding advances.

4 **Q. Please explain the Companies' current third party data access process.**

5 A. Currently, the process is initiated when a third party submits a request for customer data
6 via email. The email will include the list of customers for which the data is requested and
7 the customer authorization form for each customer. Often, these requests can be for
8 hundreds of customers at a time. If the third party is requesting data for one hundred
9 customers, one hundred customer authorization forms will be attached. A team member
10 manually compares the list of customers to the customer authorization forms. The
11 requested customer data (e.g., twelve months of interval usage data, peak load contribution
12 ("PLC"), network system peak load ("NSPL")) will then be obtained from the Companies'
13 customer management system. The requested customer data is then emailed back to the
14 third party.

15 This process can require extensive hours of manual data review and handling. Indeed, as
16 recognized in CPower witness Schisler's testimony, maintaining all of the customer
17 authorizations is an "administrative nightmare" for the Companies.⁸ For example, a
18 curtailment service provider recently submitted a request for customer data for over nine
19 hundred customers.⁹ Along with that request, eleven emails with zipped customer
20 authorization forms were provided. Each zipped file had thirty to forty customer

⁸ CPower St. No. 1, p. 5.

⁹ Requests received were for multiple FirstEnergy Corp. ("FirstEnergy") subsidiaries, including the Companies.

1 authorization forms within, and each customer authorization form had anywhere between
2 one to thirty accounts identified. To respond to this request, an employee had to manually
3 open every customer authorization form and compare the customer request list to the
4 customer authorization forms before any customer data could be pulled. These forms
5 contained authorizations, not only by the customer for accounts served by the Companies,
6 but also for other FirstEnergy EDCs. Among other things, the employee had to sort through
7 the multitude of account numbers to confirm a customer authorization form was available
8 for the account data requested, while also weeding out accounts that were no longer active.
9 In the end, the number of accounts that data was provided for was much less than the nine
10 hundred originally requested. This request required multiple days of entirely manual effort.
11 It is important to note that requests for data, such as the complex situation I just described,
12 cannot be reflected in a simple total of the number of requests, so the administrative burden
13 of this process is not always quantifiable. To put it bluntly, the current process is unwieldy
14 and simply cannot be sustained. Using an electronic solution, such as that provided on the
15 Companies' Supplier Portal or via electronic data interchange ("EDI") as the Companies
16 have proposed, will eliminate this manual intervention.

17 **Q. Did either of the OCA or CAUSE-PA witnesses propose alternative interim measures**
18 **to address the Companies' immediate need to establish some rules or parameters to**
19 **handle these requests?**

20 A. No, they did not.

1 **III. SUGGESTED REVISIONS TO THE TARIFFS**

2 **Q. Constellation witness Campbell recommends that the Companies' Tariffs should be**
3 **revised to reflect any best practices emerging from the Statewide Proceeding.¹⁰ Do**
4 **you support this recommendation?**

5 A. Yes. As stated previously in this testimony, the Companies intend to participate in the
6 Statewide Proceeding. The Companies will incorporate best practices resulting from the
7 Statewide Proceeding as appropriate or ordered by the Commission.

8 **Q. CPower witness Schisler suggests two changes to the Tariffs in his testimony. Please**
9 **summarize the proposed changes.**

10 A. First, CPower witness Schisler suggests deleting the first sentence in Section 2.2.4, "A
11 Third Party is not an agent of the Customer," as he believes it conflicts with Section 2.2.1.¹¹
12 Second, Mr. Schisler suggests revising the period for which customer usage data is
13 available to access by a third party from twelve consecutive months to a minimum of
14 twenty-four months in Section 5.1.1.¹²

15 **Q. Do the Companies support these two changes?**

16 A. The Companies agree with Mr. Schisler's first proposed change and disagree with his
17 second proposed revision. Removing the first sentence in Section 2.2.4 is appropriate and
18 eliminates any confusion with Section 2.1.1. While I agree with Mr. Schisler's articulation
19 of PJM Interconnection, LLC ("PJM")'s requirements for demand response capacity
20 registration, I do not necessarily support Mr. Schisler's suggestion to revise Section 5.1.1

¹⁰ Constellation Campbell St., p. 24.

¹¹ CPower St. No. 1, p. 6.

¹² *Id.*

1 to provide twelve consecutive months of customer usage to twenty-four consecutive
2 months. In the Companies' experience, third parties request twelve months of usage on
3 behalf of customers, not twenty-four months as suggested by Mr. Schisler. This twelve-
4 month period aligns with the number of months provided today via both the Companies'
5 Supplier Portal and EDI to electric generation suppliers ("EGSs"). Further, the
6 Companies' proposal includes adopting processes that exist today for electronic access of
7 customer data. Any changes to those processes (i.e., the provision of twenty-four months
8 of customer usage versus twelve) will require more extensive modifications that will incur
9 corresponding additional costs and delay implementation.

10 **IV. CRITICISMS OF OR PROPOSED ALTERNATIVES FOR CUSTOMER DATA**
11 **CONFIDENTIALITY AND SECURITY**

12 **Q. Ms. Cowan, have you reviewed the testimony prepared by CAUSE-PA witness Geller**
13 **and Industrials witness Fried specific to their concerns regarding confidentiality of**
14 **customer data?**

15 A. Yes, I have. The Companies understand and appreciate Messrs. Geller and Fried's
16 concerns about what may appear as a "hands off" approach to safeguarding customer
17 information. As I have explained, the Companies' proposed approach under the Tariffs
18 does include the exchange of information electronically. However, to obtain the
19 customer's data, a third party must first acquire the twenty-digit customer number that is
20 unique to the customer and can only be provided by the customer. Without this customer
21 number, customer data cannot be accessed electronically. Furthermore, this electronic
22 exchange of data will be accomplished through the well-established Supplier Portal or via
23 EDI, which provides a secure and established mechanism for exchanging customer
24 information. Also, there is a significant incentive to support compliance. Specifically, if

1 a third party violates the Tariff provisions, that party's access to customer data will be
2 terminated and the offending third party will be barred from access to the Companies'
3 customer data indefinitely, therefore making it difficult for the third party to conduct
4 business within the Companies' service areas.

5 **Q. Mr. Geller also expresses concern that there is no specific definition of confidentiality**
6 **or data protection standards and protocols included in the Tariffs. Do you share Mr.**
7 **Geller's concern?**

8 A. No. As Mr. Geller states, the Companies' definition of confidential information is quite
9 broad, as it encompasses *any* customer-specific information. This is the same approach
10 that the Companies have used in their Commission-approved Electric Generation Supplier
11 Coordination Tariffs. While the entities that may request data under the Tariffs will not be
12 EGSs and licensed by the Commission, we expect that the entities seeking access will be
13 sufficiently incentivized to have appropriate standard protocols in place to avoid losing
14 access to such data in the future.

15 **Q. Are the Companies willing to consider implementing any additional safeguards to**
16 **protect a customer's confidential information?**

17 A. Yes. The Companies will consider additional provisions for inclusion in the proposed
18 customer authorization form and to revise the Tariffs so that third party entities seeking
19 customer authorization for access to Company-held customer data must use the form
20 approved by the Commission in this proceeding. Entities submitting requests will be
21 required to certify that they have complied with this Tariff requirement. The Companies
22 acknowledge that third party customer data access is an issue that many entities and
23 regulators are grappling with. In light of these challenges, the Companies are open to

1 suggestions regarding safeguards that appropriately balance confidentiality, efficiency and
2 cost-effectiveness. Finally, as stated previously, the third party must first acquire the
3 twenty-digit customer number that is unique to the customer to obtain customer data. This
4 in itself is a safeguard because it is unlikely that the third party would be able to acquire
5 the customer number without the customer providing it to the third party.

6 **Q. How do you respond to Mr. Geller’s concern regarding access to customer data by**
7 **law enforcement agencies?**

8 A. Mr. Geller states that the proposed Tariffs contemplates inclusion of government and law
9 enforcement agencies.¹³ In fact, the proposed Tariff is not intended for the purpose of
10 providing customer data to local, state, or federal law enforcement agencies or immigration
11 and customs enforcement agents. In the event that local, state, or federal law enforcement
12 agencies or immigration and customs enforcement agents request customer data, which
13 does occasionally happen today, such requests are reviewed with the Companies’ Legal
14 department and handled on a case-by-case basis based on the unique facts involved (e.g.,
15 emergency safety situations, presence of subpoenas or another court order, etc.). Customer
16 data requests from law enforcement agencies or immigration and customs enforcement
17 agents will continue to be addressed on a case-by-case basis outside of the proposed Tariff,
18 which is only intended to govern aggregate data or data releases otherwise explicitly
19 consented to by the customer it belongs to.

¹³ CAUSE-PA St. No. 1, p. 56.

1 V. **CONCLUSION**

2 Q. **Does this complete your rebuttal testimony?**

3 A. Yes, it does.

4

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 to May 31, 2026**

**REBUTTAL TESTIMONY
OF
KENNETH A. STRAH**

List of Topics Addressed

Transmission of Customer Usage Data to Electric Generation Suppliers

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**REBUTTAL TESTIMONY
OF
KENNETH A. STRAH**

4 **I. INTRODUCTION AND PURPOSE**

5 **Q. Please state your name and business address.**

6 A. My name is Kenneth A. Strah, and my business address is 341 White Pond Drive, Akron,
7 Ohio 44320.

8 **Q. By whom are you employed and in what capacity?**

9 A. I am employed by FirstEnergy Service Company as Vice President, Customer Care. I
10 oversee the operations for Customer Experience and am responsible for delivering all
11 aspects of service to customers across the regulated subsidiaries of FirstEnergy Corp.
12 (“FirstEnergy”). I have four direct reports, Directors of: Contact Centers, Customer
13 Management, Revenue Operations and Compliance and Operation Support. My areas of
14 responsibility include safety, delivery of customer bills, processing of customer payments,
15 handling of customer calls, delivery of self-service options, managing the risk of
16 uncollectible customer accounts and driving improvements in all aspects of relationships
17 with customers.

18 **Q. On whose behalf are you testifying in this proceeding?**

19 A. I am testifying on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania
20 Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”) and West
21 Penn Power Company (“West Penn”) (individually referred to as “Company” and in any
22 combination as the “Companies”), unless otherwise stated.

1 **Q. Have you previously provided testimony in this proceeding?**

2 A. No. I have been called as an additional witness for the Companies to respond to the direct
3 testimony of the Retail Energy Supply Association (“RESA”) and NRG Energy, Inc.
4 (“NRG”) witness Travis Kavulla concerning the transmission of customer usage data to
5 electric generation suppliers (“EGSs”) in accordance with the Companies’ Electric
6 Generation Supplier Coordination Tariffs (“Supplier Tariffs”).

7 **Q. Please summarize your educational background and professional experience.**

8 A. I received a Bachelor of Arts in Business Administration from Baldwin-Wallace College.
9 I have been with FirstEnergy or its predecessor companies for over 42 years. I previously
10 held analyst roles in the operating companies’ state, federal rates, and regulatory areas prior
11 to moving to the Customer Service area of the company in 2001. During the past 20 years,
12 I have held various leadership positions across customer operations. Most recently, I was
13 Director of the Customer Contact Centers from May 2018 until October 2021, when I was
14 promoted to my current position. My work experience is more fully described in Appendix
15 A of my testimony.

16 **Q. What is the purpose of your rebuttal testimony?**

17 A. I will respond to the direct testimony of RESA/NRG witness Kavulla regarding the
18 timeliness of the Companies’ transmission of customer usage data to EGSs using “bill-
19 ready” utility consolidated billing and his proposed revisions to the Companies’ Supplier
20 Tariffs.

1 **II. TRANSMISSION OF CUSTOMER USAGE DATA TO EGSS USING UTILITY**
2 **CONSOLIDATED BILLING**

3 **Q. Have you reviewed Mr. Kavulla’s assertions regarding the timeliness of the meter**
4 **data provided by the Companies to those EGSs?**

5 A. Yes. Mr. Kavulla raises concerns regarding delays that EGSs have experienced in
6 receiving customer usage data from the Companies. He asserts that these delays prevent
7 timely payments to EGSs for the electric generation service rendered to the Companies’
8 shopping customers. Mr. Kavulla recommends that the Companies revise their Supplier
9 Tariffs if the Companies do not resolve the issues driving the delays in customer usage
10 data.

11 **Q. Please describe the principal reasons for the delays in transmitting usage data that**
12 **some EGSs experienced and the actions the Companies have taken to address those**
13 **delays.**

14 A. Delays increased due to several issues, including an unforeseen technical issue with some
15 smart meters that caused the meter to go into an error state. The Companies instituted
16 programming logic changes that mitigate the issues. Additionally, the Companies added
17 staff and developed escalation parameters for faster resolution for accounts missing usage
18 upon request by EGSs.

19 **Q. Have the Companies’ efforts significantly reduced delays in transmitting customer**
20 **usage data to EGSs using “bill ready” consolidated billing in 2022?**

21 A. Yes. These efforts have significantly reduced backlogs, with elimination of backlogs
22 expected by April 1, 2022.

1 **Q. Do the Companies have mitigation plans in place to reduce the potential risk of**
2 **backlogs going forward?**

3 A. Yes. The Companies have mitigated the technical issues related to the meters. The billing
4 group is adequately staffed to ensure that it can meet the timelines outlined in the Supplier
5 Tariffs for providing information to EGSs. Weekly internal reporting has also been
6 implemented to ensure awareness of the volumes and exceptions.

7 **Q. Do you agree with RESA/NRG that the Companies should revise their Supplier**
8 **Tariffs to specify a maximum 15-day period for transmitting customer usage data to**
9 **EGSs after the meter read date?**

10 A. No. Such actions are unnecessary as the Companies' backlog rate for shopping customers
11 has been substantially resolved. The backlog stands at 24 shopping customers as of the
12 date of this testimony. These numbers are down from December 2021, when the backlog
13 stood at 2,003 shopping customers. Situations requiring more than 15 days to resolve are
14 not normal but can happen periodically at no fault of the EDC. Imposing a 15-day
15 maximum will force a Company to issue a reading that may not be accurate while the
16 Company are working with a customer and/or their EGS to resolve the issue. This will add
17 unnecessary time, effort, rework and confusion to the resolution process for not only the
18 Companies, but also EGSs and customers. The Companies believe that parties working
19 together in good faith should be allowed to seek the best resolution in those individual
20 circumstances, which are expected to be very limited if and when they do occur.

1 **III. CONCLUSION**

2 **Q. Does this conclude your rebuttal testimony?**

3 A. Yes, it does.

4

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Appendix A

Resume: Education and Experience of Kenneth A. Strah

Education:

1992 Bachelor of Arts in Business Administration from Baldwin-Wallace College

Experience:

10/2021 to Present VP, Customer Care

2018-10/2021 Director, Customer Contact Centers -Customer Service-
FirstEnergy Service Company

2013-2018 Director, Revenue Operations & Customer Service Analytics –
Customer Service- FirstEnergy Service Company

2011-2013 Director, Customer Service Analytics – Customer Service-
FirstEnergy Service Company

2009-2011 Manager, Process & Performance Analytics – Customer Service
– FirstEnergy Service Company

2008-2009 Director, Meter Reading – Meter Reading- FirstEnergy Service
Company

2004-2008 Manager, Meter Reading – Meter Reading- FirstEnergy Service
Company

8/2001-2004 Regional Billing Supervisor – Northern Region – FirstEnergy
Service Company

2001-7/2001 Advance Business Analyst – Business Services – FirstEnergy
Service Company

1999-2000 Business Analyst – Transmission Regulatory Affairs –
FirstEnergy Service Company

1994-1998	Rates/Business Analyst – Rates Department - Centerior Service Co.
1980-1994	Various Clerical Positions - Cleveland Electric Illuminating Co & Centerior Service Company

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**METROPOLITAN EDISON COMPANY
DOCKET NO. P-2021-3030012**

**PENNSYLVANIA ELECTRIC COMPANY
DOCKET NO. P-2021-3030013**

**PENNSYLVANIA POWER COMPANY
DOCKET NO. P-2021-3030014**

**WEST PENN POWER COMPANY
DOCKET NO. P-2021-3030021**

**DEFAULT SERVICE PROGRAMS
June 1, 2023 – May 31, 2026**

**SUPPLEMENTAL REBUTTAL TESTIMONY
OF
EDWARD B. STEIN**

List of Topics Addressed

**Default Service Rate Calculations
Compliance with the Alternative Energy Portfolio Standards Act
Excess Energy from Net-Metered Customer Generators
Losses
Interconnection Costs and Application Process**

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1 SUPPLEMENTAL REBUTTAL TESTIMONY
2 OF
3 EDWARD B. STEIN

4 I. **INTRODUCTION AND PURPOSE**

5 Q. Please state your name and business address.

6 A. My name is Edward B. Stein, and my business address is 76 South Main Street, Akron,
7 Ohio 44308.

8 Q. By whom are you employed and in what capacity?

9 A. I am employed by FirstEnergy Service Company (“FirstEnergy”) as Director, Regulated
10 Settlements where I am responsible for: (a) coordinating accurate and complete load data
11 submittals to PJM Interconnection, LLC (“PJM”); (b) ensuring balance in the energy
12 accounting equation; (c) validating and accounting of PJM billings associated with the
13 FirstEnergy subsidiaries’ regional transmission organization (“RTO”) activity; and (d)
14 testifying before various state public utility commissions and the Federal Energy
15 Regulatory Commission (“FERC”) on RTO settlements, cost of service and other matters.

16 Q. What is your educational and professional background?

17 A. I hold a B.S. in Electrical Engineering and a Master of Business Administration. I am a
18 registered Professional Engineer in the State of Ohio. Outside of Regulated Settlements, I
19 have worked in the following divisions of FirstEnergy: (a) Regulated Commodity
20 Sourcing, where I managed compliance with various state renewable energy programs,
21 supported procurements of electricity and testified before state commissions on related
22 subjects; (b) Rates and Regulatory Affairs, where I supported rate cases in multiple
23 jurisdictions and testified on cost of service matters; (c) FirstEnergy Solutions, where I

1 hedged natural gas retail sales and priced gas and electric contracts to retail customers; and
2 (d) Power Plant Engineering, where I was involved in projects to modernize power plant
3 control systems, focused on burner management systems.

4 Prior to FirstEnergy, I was employed with WCI Steel, a 100 megawatt (“MW”) integrated
5 steel mill once located in eastern Ohio. In that position, I oversaw operation of the high
6 voltage distribution system (138 kilovolts to 480 volts) and 20 MW of on-site generation,
7 including operation of a ‘microgrid’ where blast furnace facilities could operate in an
8 ‘island’ state, or separated from the electric utility. I also engineered and oversaw the
9 installation of various electrical construction projects.

10 **Q. Have you previously testified before the Pennsylvania Public Utility Commission**
11 **(“Commission”)?**

12 A. Yes, I have testified in cases P-2013-2391368, P-2013-2391372, and P-2013-2391375
13 which dealt with matters associated with default service. I also testified in cases R-
14 00061366 and R-00061367, which dealt with cost-of-service-related matters.

15 **Q. Have you previously submitted testimony in this proceeding?**

16 A. No.

17 **Q. On whose behalf are you testifying in this proceeding?**

18 A. I am testifying on behalf of Metropolitan Edison Company (“Met-Ed”), Pennsylvania
19 Electric Company (“Penelec”), Pennsylvania Power Company (“Penn Power”), and West
20 Penn Power Company (“West Penn”) (individually referred to as a “Company” and in any
21 combination as the “Companies”).

1 **Q. Please describe the purpose of your testimony.**

2 A. I will provide supplemental rebuttal testimony responding to the Direct and Second Direct
3 Testimony of David N. Hommrich on behalf of Sunrise Energy, LLC and John P. Bevec
4 (“Sunrise”). I will focus on the following topics to ensure the record is clear and factually
5 accurate: (1) default service rate calculations; (2) compliance with the Alternative Energy
6 Portfolio Standards (“AEPS”) Act¹; (3) excess generation from net-metered customer
7 generators; (4) losses; and (5) interconnection costs and application process.

8 **II. DEFAULT SERVICE RATE CALCULATIONS**

9 **Q. In his Second Direct Testimony, Mr. Hommrich contends that loss factors are being**
10 **improperly applied to AEPS Act compliance costs included in the Companies’ rate**
11 **calculations under their Price to Compare Default Service Rate Riders (“PTC**
12 **Riders”) and Hourly Pricing Default Service Riders (“HP Riders”) and therefore**
13 **“more money is recovered than the underlying cost.” Do you agree?**

14 A. No. When AEPS Act costs are embedded in wholesale default service bid prices, the
15 Companies are appropriately applying a loss conversion factor in default service rate
16 calculations for the reasons I explain below. These calculations have been previously
17 approved by the Commission. The Companies do not apply a loss factor when they are
18 directly purchasing alternative energy credits (“AECs”) to satisfy AEPS Act obligations
19 associated with default service load, such as the long-term solar proposal described in the
20 direct and rebuttal testimony of the Companies’ witness James H. Catanach (Met-
21 Ed/Penelec/Penn Power/West Penn St. Nos. 2 and 2R).

¹ 73 P.S. §§ 1648.1-1648.8.

1 **Q. Why is it appropriate to apply a loss conversion factor to wholesale default service**
2 **bids that include AEPS compliance costs?**

3 A. It is reasonable to apply a loss conversion factor because wholesale supplier bids are based
4 on retail megawatt-hours (“MWh”) with losses. A hypothetical example is helpful to show
5 the impact of accounting for losses. First, we assume that a default service bidder will
6 price the AEPS cost component of their default service bid using retail MWh multiplied by
7 the then-going forecast rate for AECs at the appropriate annual percentages the default
8 service product timeframe covers. Using some illustrative numbers, if the obligation was
9 for 100 MWh of retail non-shopping load, and the market rate for AECs is \$50, the
10 percentage in effect for AEPS compliance obligation is 10%, and the wholesale loss factor
11 is 5%, then the bidder would have an aggregate AEPS cost of 100 MWh times 10%, or 10
12 MWh, of compliance at a price of \$50, which equals \$500 of total compliance cost. Using
13 the retail MWh without accounting for losses would result in a price of \$500/100 MWh =
14 \$5/MWh cost component of the total wholesale bid price.

15 However, the default service bidders *are not bidding using retail MWh without losses*, they
16 are using MWh with losses in their bids. This means rather than dividing the \$500
17 aggregate cost by 100, a bidder would instead divide it by the wholesale quantity or 100
18 multiplied by 1 plus the loss factor (1+5%) or 105 MWhs. Therefore, the portion of a
19 default service bidders’ wholesale bid price as it relates to AEPS compliance would be
20 \$500/105 MWh or \$4.762/MWh of the default service bidders’ price at the wholesale level.

21 It is this amount Ms. Larkin used in Met-Ed/Penelec/Penn Power West Penn Exhibit PML-
22 35 to convert the wholesale price back to a retail price to show how the Companies in fact
23 are not collecting more than what the expense is expected to be at the time demonstration

of compliance is required. Figure 1 pictorially shows the development of the compliance cost. Figure 2 shows how this cost gets into default service bids.

Figure 1

	MWh	Compliance Amount	Rate	Cost	Rate Per MWh
Development of Cost	100	10	\$50	\$500	\$5

Figure 2

	Compliance Cost (From Figure 1)	MWh	Rate Per MWh in bid price
Default service Bids	\$500	$100 * (1 + .05) = 105$	\$4.762

III. COMPLIANCE WITH THE AEPS ACT

Q. Mr. Hommrich claims in his Second Direct Testimony that the Companies are looking to “outsource their AEPS Act compliance obligations” and are “falling short of their compliance obligations under the AEPS Act today.” Please respond.

A. There is no support for either of Mr. Hommrich’s claims. Section 3 of the AEPS Act² requires electric distribution companies (“EDCs”), in their role as default service providers, and electric generation suppliers (“EGSs”) to acquire and retire AECs in quantities equal to a percentage of their total retail sales of electricity in Pennsylvania. In recognition of the Companies’ AEPS Act obligations as default service providers, the Companies have explained in detail how they will procure the AECs necessary to satisfy AEPS Act requirements associated with default service load. Consistent with prior default service plans approved by the Commission, the Companies have proposed to procure all the

² 73 P.S. § 1648.3.

1 necessary Tier I – Non-Solar and Tier II AECs, and a portion of the necessary solar AECs
2 as part of the overall default service supply that will be provided by winning default service
3 bidders. The Companies are also proposing to make some direct solar AEC purchases as
4 part of the long-term solar proposal.³

5 Regardless of the source of the AECs, the obligation to satisfy AEPS Act requirements
6 associated with default service load remains with the Companies as default service
7 providers. The Companies have consistently complied with such obligations, as
8 demonstrated by the annual AEPS compliance reports prepared by the Commission in
9 cooperation with the Pennsylvania Department of Environmental Protection and the
10 absence of any AEPS Act penalties assessed against the Companies.⁴

11 **IV. EXCESS ENERGY FROM NET-METERED CUSTOMER GENERATORS**

12 **Q. Mr. Hommrich makes several claims concerning excess energy from customer-**
13 **generators and the impact of that energy on default service supply purchases. Could**
14 **you please define excess energy?**

15 A. Excess energy is kilowatt-hours (“kWh”) received from the customer-generator in excess
16 of the kWh delivered by the Company to the customer-generator. On an annual basis, the
17 Companies will compensate customer-generators taking service under their respective net
18 metering riders for excess energy during the preceding year at the “full retail value for all

³ Met-Ed, Penelec and Penn Power also have long-term contracts to purchase Tier I – Solar AECs for both shopping and non-shopping load that expire May 31, 2024.

⁴ See, e.g., Alternative Energy Portfolio Standards Act of 2004 Compliance for Reporting Year 2021 (Pa. P.U.C. Mar. 2022); Alternative Energy Portfolio Standards Act of 2004 Compliance for Reporting Year 2020 (Pa. P.U.C. Feb. 2021); Alternative Energy Portfolio Standards Act of 2004 Compliance for Reporting Year 2019 (Pa. P.U.C. Sept. 2020). The annual AEPS Act reports for compliance years prior to 2019 are available on the Commission’s website at <https://www.puc.pa.gov/filing-resources/reports/alternative-energy-portfolio-standards-aeps-reports/>.

1 energy produced” consistent with Section 5 of the AEPS Act⁵ and the Commission’s net
2 metering regulations (52 Pa. Code § 75.13). Further, if a customer has produced more
3 energy than load overall over that annual timeframe, that energy will be credited at the
4 PTC.

5 **Q. Does the AEPS Act prescribe that all excess energy from all customer-generators,**
6 **both shopping and non-shopping, be the responsibility of only the Companies in all**
7 **cases?**

8 A. No, the Companies have a responsibility to compensate non-shopping customers taking
9 service under the Companies’ net metering riders for excess generation. Customer-
10 generators are free to shop and those taking service from an EGS will receive compensation
11 for excess energy from their EGS, not the Companies.

12 **Q. Are customer-generator net-metered projects recognized as “supply” in the wholesale**
13 **markets?⁶**

14 A. No. Customer-generator net metered projects do not register with PJM nor go through the
15 PJM queue process to be recognized as a supply resource. Further, these projects do not
16 sign on to PJM’s Reliability Assurance Agreement or other governing documents that
17 request certain types of asset performance. Instead, customer-generator net metered assets
18 are compensated via retail programs where the goal of the program is to utilize intermittent

⁵ 73 P.S. § 1648.5.

⁶ FERC Order No. 2222 will allow customer-generator net meter customers to aggregate, sign on the PJM agreements and operate on the ^{supply} side of the equation. *See Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 172 FERC ¶ 61,247 (2020), pp. 90-185. However, FERC No. Order 2222 also requires RTOs to create tariffs that prohibit double counting, or compensation for the same service from both wholesale markets and retail programs. This means an asset cannot be operating/compensated on the supply side and the demand side of the energy accounting equation for the same product/service. *Id.*, pp. 272-330.

1 resources to deliver aggregate load reductions on the demand side of the energy accounting
2 equation.

3 **Q. Do the Companies incorporate excess energy from net-metered customer generators**
4 **into their default service supply plans?**

5 A. No. Non-shopping load is served by winning bidders in the Companies' default service
6 supply auctions. Excess energy from intermittent net-metered customer generators is not
7 used as supply to serve default service load and instead is properly recognized financially
8 as aggregate load reduction.

9 **Q. Do the Companies perform any part of the energy accounting equation by substation**
10 **or customer, as Mr. Hommrich asserts?**

11 A. No. The energy balancing equation is done at a macro level, not the micro level, as Mr.
12 Hommrich desires. The accounting of supply and demand is accomplished at PJM. The
13 Companies submit demand information to PJM, and generators providing supply to PJM
14 typically submit their own information for PJM's accounting.

15 **Q. Do you agree with Mr. Hommrich's assertions on page 6 of his Second Direct**
16 **Testimony that default service supply is now being served locally?**

17 A. No. Net metering is a retail load reduction mechanism and not a supply side mechanism.
18 Net metering and all its mathematics are coordinated on the demand side of the equation.

19 **Q. Do the Companies know the amount of projected energy from a customer-generator,**
20 **as Mr. Hommrich states on page 7, line 10, of his Second Direct Testimony?**

21 A. No. The Companies do not function as a local balancing authority, nor do they have
22 systems put in place to do so. Net metering is merely reducing load, no different than

1 turning off the lights. There are no controls, dispatch signals, nor operational status being
2 coordinated between metering customers and the Companies on those net metering projects
3 below 1000 kilowatts (“kW”). Although projects above 1000 kW do introduce a bit more
4 telemetry and basic system separation control, no net metered projects (regardless of size)
5 are dispatched to meet load or perform any kind of balancing function to match usage and
6 production on distribution circuits over any kind of time interval. Finally, not all net
7 metering customers are non-shopping customers; therefore, the Companies would be in no
8 position to forecast the output of net meter customers that have elected to shop with an
9 EGS.

10 **Q. So how is excess energy from net-metered customer generators recognized by the**
11 **Companies?**

12 A. Financially. Since the advent of advanced metering infrastructure (“AMI”), the entire net
13 metering equation is part of a financial netting paradigm instead of a physical load netting
14 paradigm.

15 **Q. Please explain what you mean by financial recognition as mentioned on page 8.**

16 A. Customers are measured on an hourly basis as either a load where the Companies have
17 delivered power to the customer or as injection where the Companies receive energy onto
18 the distribution system from the customer. When a customer has produced energy from a
19 net meter project for a given hour the resulting load reduction is credited to the customer
20 at full retail rate by their respective retail supplier. Further, that load reduction is submitted
21 to PJM under the account of the LSE with the obligation to recognize the load reduction
22 and credit is given to the LSE valued at the locational marginal price (“LMP”). Figure 3
23 shows what is occurring.

1
2

Figure 3

Customer	Action	Customer Bill	PJM Accounting	PJM Account
Shopping	Energy Delivered to Customer	Charged at Retail	Load * Loss	EGS
Shopping	Energy Received on System (Excess Energy)	Credited at Full Retail	Negative Load – 60 days later	EGS
Non-Shopping	Energy Delivered to Customer	Charged at Retail	Load * Loss	Default Service Supplier
Non-Shopping	Energy Received on System (Excess Energy)	Credited at Full Retail	Negative Load – 60 days later	Companies

3 **Q. Does this mean the load reductions have a zero cost as Mr. Hommrich alludes to on**
4 **page 9, lines 4-5, of his Second Direct Testimony?**

5 A. No. It has been accounted for and valued. Nowhere has the energy been borrowed – it is
6 accounted for in the hour in which its effects are felt. Financially netting all aspects of the
7 load allows for the macro energy accounting equation to remain in balance. Let’s walk
8 through an example with two customers over a few hours to see how this works. Figure 4
9 shows two customers’ metered load over a few hours in which energy is delivered to each
10 customer and received by the Companies from each customer. We will keep this example
11 focused on non-shopping customers only.

Figure 4

HR	Customer1		Customer2		TOTAL	
	Delivered	Received	Delivered	Received	Delivered	Received
13	100	0	100	0	200	0
14	100	0	0	100	100	100
15	0	50	100	0	100	50
16	0	100	50	0	50	100
TOTAL	200	150	250	100	450	250

13
14

1 **Q. What do Customer1 and Customer2 retail bills look like?**

2 A. Customer1 will get a bill that shows 200 kWh of load priced at all the proper billing
3 components. Customer1 will also get a credit of 150 kWh at full retail rate for excess
4 energy. The net financial outcome is that Customer1 paid for 50 kWh of load at full retail
5 rates (but that is not how Customer1 used power in each hour). Customer2 is a similar
6 outcome, 250 kWh charged at full retail rate, 100 kWh credited at full retail rate resulting
7 in a net financial outcome of 150 kWh of load at full retail rates. Prior to AMI, these net-
8 meter customers would first have their physical kWh netted monthly and then multiplied
9 by billing determinants arriving at a final net bill with no accompanying details of what
10 occurred. The updated approach after AMI deployment arrives at the same total dollar
11 amount on the customer bill, except rather than physically netting kWh (which is no longer
12 possible under AMI), the netting is now performed financially. In fact, in conjunction with
13 AMI deployment, the Companies updated their customer bill presentation to be more
14 transparent to net-meter customers to more clearly show what was billed as load at retail
15 rates and what was credited for net meter excess energy in the month.

16 **Q. What gets submitted to PJM on the demand side of the equation (i.e., the PJM**
17 **Inschedule system)?**

18 A. In hour 13, Figure 4 shows the sum of Customer1 and Customer2 to be 200 kWh delivered
19 for both customers. This means default service suppliers will serve 200 kWh multiplied
20 by losses of 10% or 220 kWh in hour 13. Further, because the Companies via their net
21 metering tariff provisions are providing aggregate off-time load reduction (and not the
22 default service suppliers), a negative load Inschedule will be assigned of zero for Hour 13.

1 Figure 5 shows all the hours and the values submitted to PJM Inschedule following the
2 same methodology for each hour.

3 **Figure 5**

	Inschedule	Negative Inschedule
HR	DS Supplier	Companies
13	220	0
14	110	100
15	110	50
16	55	100
TOTAL	495	250

4
5 **Q. How much are default service suppliers paid then?**

6 A. Using a few more illustrative parameters for pricing as shown in Figure 6, we arrive at the
7 table in Figure 7. Figure 6 shows illustrative billing determinants for various parts
8 important to the financial netting mechanism. The Default Service Rate is the rate the
9 Companies pay default service suppliers. The Net Meter Rate is the ‘full retail value’ the
10 Companies pay to net-meter customers for aggregate load reductions. The Spot MKT Rate
11 (AVG) is an average spot market energy price arbitrarily set to be equal to the illustrative
12 default service rate for simplicity in understanding the complete outcome of the financial
13 netting process.

14 **Figure 6**

Default Service Rate	0.06	cents/kwh
Net Meter Rate	0.14	cents/kwh
Spot MKT Rate (AVG)	0.06	cents/kwh

15
16 The Companies will pay default service suppliers according to Figure 7.

1

Figure 7

<u>HR</u>	KWH	DS	
		Contract \$	Total
13	220	0.06	\$ 13.20
14	110	0.06	\$ 6.60
15	110	0.06	\$ 6.60
16	55	0.06	\$ 3.30
TOTAL	495		\$ 29.70

2

3 **Q. How is the off-time net meter load reduction handled?**

4 A. Using the spot market energy rate from Figure 6, and the negative Inschedule value in
5 Figure 5, we arrive at Figure 8. This credit will show up 60 days later.

6

Figure 8

<u>HR</u>	KWH	Spot MKT	
		\$	Total
13	0	0.06	\$ -
14	100	0.06	\$ 6.00
15	50	0.06	\$ 3.00
16	100	0.06	\$ 6.00
TOTAL	250		\$ 15.00

7

8 **Q. What does the total financial outcome look like when employing such a detailed and**
9 **transparent approach to capturing the value of net metering?**

10 A. Figure 9 brings it all together. For the net meter payment, recall that we have 250 kWh
11 excess energy to credit from the net meter projects in Figure 4. Using the net meter rate
12 from Figure 6 of \$0.14/kWh, we arrive at the total cost of serving non-shopping customer
13 load shown in Figure 9 (250 kWh x \$0.14/ kWh = \$35.00).

14

Figure 9

Line Item	Component	Total	Source
A	Payments to DS Suppliers	\$ 29.70	Figure 7
B	Load Reduction Credit From PJM	\$ 15.00	Figure 8
C = A - B	Net	\$ 14.70	
D	Net Meter Payment to Customers	\$ 35.00	Figure 4 & 6
E = C + D	Total	\$ 49.70	

15

1 **Q. What does this calculation show?**

2 A. The calculation refutes Mr. Hommrich's assertion of zero value for the use of net metering
3 in the default service calculations and shows that as more net metering is used, default
4 service rates will become more expensive. Because the value of net metering excess energy
5 has been set at the full retail rate for the Companies by law, default service customers
6 effectively pay \$0.14/kWh for intermittent retail load reductions instead of \$0.06/kWh for
7 default service supply.

8 **V. LOSSES**

9 **Q. Mr. Hommrich shows a table on page 4 of his Direct Testimony identifying loss factors**
10 **for each Company. Please explain what those factors represent.**

11 A. The table Mr. Hommrich shows are the conversion factors used in the calculation of default
12 service rates under the Companies' PTC and HP Riders to convert wholesale dollars to
13 retail dollars, as described by Ms. Larkin. They are not the loss factors contained in the
14 Companies' Supplier Tariffs that are used to gross up customer loads for coordination of
15 load and supply – which appear to be the factors of concern for Mr. Hommrich. Using
16 Penelec as an example, Mr. Hommrich's table shows residential and commercial classes
17 using a loss factor of 1.0537. The value contained in Penelec's Rider H is also 1.0537.
18 However, the real, physical power losses experienced by the Company, which are the focus
19 of concerns identified in Mr. Hommrich's testimony, are as shown in Section 6.3 of the
20 Supplier Tariff as follows:

ENERGY	PENELEC
Rate Schedule LP	1.0407
GP	1.0606
All other rate schedules	1.0945

1 **Q. Mr. Hommrich notes that the Companies’ Supplier Tariff loss factors have not been**
2 **updated for many years. How do the Companies know their loss factors are**
3 **appropriate?**

4 A. The Companies know their loss factors are appropriate through monitoring the energy
5 accounting equation and, specifically, a metric called unaccounted for energy (“UFE”),
6 which is the difference of the aggregate zonal load (top down) and the retail load grossed
7 up for losses (bottom up).

8 **Q. What are the average levels of UFE for the Companies?**

9 A. The Companies’ average monthly UFE sits between 1.68% and -1.55%, with most months
10 well within this range. The bandwidth experienced is reasonable when considering the
11 factors that impact UFE such as, but not limited to: the accuracy tolerances of all meters;
12 estimated meter reads; broken meters; theft; and electricity production not measured (e.g.,
13 a customer that installs a battery without notifying the utility).

14 **Q. Would the Companies realize any kind of a windfall if there were errors in loss factors**
15 **as Mr. Hommrich postulates on page 11, lines 14-15, of his Second Direct Testimony?**

16 A. No. The Companies do not retain any dollars associated with default service.

1 **Q. Mr. Hommrich recommends that line losses be calculated “in real-time down to the**
2 **substation level” on page 11, line 26 through page 12, line 17 in his Second Direct**
3 **Testimony. Do you agree with the need to implement such a complex solution?**

4 A. No. Mr. Hommrich introduces new concepts and presents them as ‘simple’ to switch from
5 calculating/coordinating the energy accounting equation on a macro level to now doing it
6 by substation. Mr. Hommrich offers no discussion on how to incorporate substation-based
7 loss factors into the retail shopping construct – i.e., what loss factors would suppliers use
8 to gross up retail load values for the customer served by EGSs and how would they use
9 such an equation for forecasting losses. Also, distribution lines are routinely switched from
10 one substation to the next and Mr. Hommrich offers no explanation for how such situations
11 would be handled. In addition, he excludes EGSs’ load from the equation. Mr.
12 Hommrich’s recommended formula would also bring UFE back into the load equation that
13 would be used in determining supplier load obligations. The Companies removed UFE
14 from being allocated to all suppliers in previous default service programs due to the
15 negative impacts it has on coordinating the retail and wholesale load obligations, pricing
16 of energy contracts, and transparency offered by the Companies directly accounting for
17 UFE impacts with a separate PJM subaccount. In sum, the development and
18 implementation of a new line loss methodology is unnecessary as the Companies monitor,
19 and will continue to monitor, UFE to ensure loss factors are within a reasonable range.

1 **VI. INTERCONNECTION COSTS AND APPLICATION PROCESS**

2 **Q. In his Direct Testimony, Mr. Hommrich argues that costs related to interconnecting**
3 **distributed generation to the Companies' distribution systems should be recovered**
4 **through their PTC and HP Riders consistent with how the Companies recover**
5 **default-service related AEC costs. Do you agree?**

6 A. No. The Companies handle interconnection matters in their capacity as distribution
7 utilities, not default service providers. The shopping status of a customer is unrelated to
8 the interconnection process or interconnection costs. Consistent with each Company's
9 distribution service tariff, a customer seeking interconnection is charged an application fee
10 in recognition of interconnection costs incurred by the Company where such studies may
11 lead or require additional costs for certain system improvements required for
12 interconnection. As system planning and connections of any kind are a well-established
13 distribution function, the Companies' costs related to interconnection of customer-owned
14 small generation facilities to their distribution systems (net of interconnection application
15 fees) are recovered through contributions in aid of construction and distribution base rates.
16 Socializing the fees charged to distributed generation interconnection applicants among all
17 default service customers, as Mr. Hommrich would prefer, is not consistent with long-
18 standing cost-of-service principles.

19 **Q. Can we look to a similarly situated principle from which to draw conclusions on how**
20 **interconnection costs should be functionalized and recovered?**

21 A. Yes. The work and costs to interconnect generators to the transmission system has been
22 and is functionalized to transmission and not generation, as Mr. Hommrich argues. Using
23 FERC's universal system of accounts, costs associated with studying new generation plants

1 connecting to the transmission system would settle to FERC Account 561.7, ‘Generation
2 Interconnection Studies,’ which is a transmission function account. The description of the
3 account states “[t]his account shall include the cost of labor, materials used and expenses
4 incurred to conduct generation interconnection studies for proposed interconnections with
5 the transmission system. Detailed records shall be maintained for each study undertaken
6 and all reimbursements received for conducting such a study.” Clearly, system planning
7 and interconnection is a utility function (either transmission or distribution) and not in any
8 sense a competitive generation function.

9 **Q. Please summarize Mr. Hommrich’s concerns regarding the Companies’ handling of**
10 **net metering and interconnection applications.**

11 A. On page 12 line 21 of his Direct Testimony, Mr. Hommrich contends the Companies are
12 “woefully understaffed” when it comes to processing of net metering and interconnection
13 applications, as well as handling any impact studies, engineering design and construction.
14 According to Mr. Hommrich, reviewing a net metering or interconnection application takes
15 only one hour, but the Companies are “chronically late” in working on such applications
16 as compared to timelines in the Commission’s regulations.

17 **Q. Please describe the steps taken by the Companies to process distributed generation**
18 **interconnection requests and how the different steps are “staffed” by the Companies.**

19 A. The Commission’s regulations at 52 Pa. Code §§ 75.34-75.40 provide a detailed review
20 process for each of the four levels of interconnection requests, including milestones that
21 must be satisfied, such as the customer demonstrating that it has received approvals from
22 the appropriate electric code officials. The Companies’ procedures and requirements for
23 small generation interconnections are consistent with those regulations.

1 Applications submitted by customers and developers interested in interconnecting small
 2 generation with a Company’s distribution system, pursuant to its Net Energy Metering
 3 Rider, are first reviewed by the Companies’ Engineering Services department to ensure
 4 that the application information is complete, associated fees have been paid, and the design
 5 is consistent with published Company requirements and applicable Commission
 6 interconnection standards. After the engineering review, the customer will be notified as
 7 to whether the application is complete. The additional steps that follow are based on the
 8 size of the project. Level 1 applications for interconnection of generation facilities with an
 9 electric nameplate capacity of 10 kW or less are typically approved after initial review to
 10 verify that the small generation facility equipment can be interconnected safely and
 11 reliably. Interconnection requests for Levels 2 through 4, which cover a broader range of
 12 equipment installations, are more complicated and require additional technical review.
 13 Interconnections for Level 2 facilities above 500 kW and Level 3 applications require
 14 eligibility approval by the Commission and then a detailed system impact study. The
 15 estimated number of personnel dedicated to tracking the status and progress of applications
 16 over the 2018-2021 period is shown in Table 1 below. Additionally, there are many
 17 employees across the Companies that are involved in the interconnection application
 18 review and evaluation process; their time incurred specific to these tasks is not tracked.

19 **Table 1**

Company	2018	2019	2020	2021
Met-Ed	3 Part Time	3 Part Time	3 Part Time	3 Part Time
Penelec	3 Part Time	1 Full Time 1 Part Time	1 Full Time 1 Part Time	1 Full Time 2 Part Time
Penn Power	1 Part Time	1 Part Time	1 Part Time	1 Part Time
West Penn	1 Full Time	1 Full Time 1 Part Time	2 Full Time	2 Full Time

1 Following approval of the application, the customer installs the facility and submits final
2 completed documents, including a Level 1 Application/Agreement or Level 2, 3, or 4
3 Agreement, a Certificate of Completion and evidence of approvals from the appropriate
4 electric code officials.

5 **Q. Do you believe the Companies' staffing levels are appropriate?**

6 A. Yes. From 2018 through 2021, the Companies received over 9,000 interconnection
7 requests. The Companies reviewed and evaluated the vast majority of these applications
8 in a timely manner in accordance with the Commission's regulations. In fact, each
9 Company's average number of days to complete Level 1 and Level 2 interconnection
10 request approvals was within the Commission's review timelines and lower than most other
11 Pennsylvania electric distribution companies.⁷

12 **Q. How long does it typically take each Company to review applications for service under**
13 **the Companies' Net Energy Metering Riders?**

14 A. Contrary to Mr. Hommrich's assertion that it only takes one hour to review a net metering
15 application, on average, an estimated *minimum* of two person-hours is spent on the
16 Company's review of the application, as shown in Table 2 below.

⁷ See Bureau of Technical Utility Services Policy and Planning Section, *Net Metering & Interconnection Report 2019-2021* (Pa. P.U.C. Oct. 2021), available at https://www.puc.pa.gov/media/1693/net_metering_interconnection_report_2019-21.pdf.

1

Table 2

Application Type	Minimum Person-Hours
Level 1 Net Metering Application (< 10 kW)	2 hours
Level 2 Net Metering Application (< 300 kW)	5 hours
Level 2 Net Metering Application (300 – 500 kW)	15 hours
Level 2 or 3 Net Metering Greater than 500 kW	40 hours

2

VII. CONCLUSION

3

Q. Does this conclude your supplemental rebuttal testimony?

4

A. Yes.