

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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JOINT APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
("MAIT"); METROPOLITAN EDISON COMPANY ("MET-ED") AND
PENNSYLVANIA ELECTRIC COMPANY ("PENELEC") FOR: (1) A CERTIFICATE
OF PUBLIC CONVENIENCE UNDER 66 PA.C.S. § 1102(A)(3) AUTHORIZING THE
TRANSFER OF CERTAIN TRANSMISSION ASSETS FROM MET-ED AND PENELEC
TO MAIT; (2) A CERTIFICATE OF PUBLIC CONVENIENCE CONFERRING UPON
MAIT THE STATUS OF A PENNSYLVANIA PUBLIC UTILITY UNDER 66 PA.C.S.
§ 102; AND (3) APPROVAL OF CERTAIN AFFILIATE INTEREST AGREEMENTS
UNDER 66 PA.C.S. § 2102

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- A-2015-2488904
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Supplemental Direct Testimony
of
Jeffrey J. Mackauer

List of Topics Addressed

Responding to Questions Set Forth in the Secretarial Letter Issued on August 10, 2015

TABLE OF CONTENTS

	Page
I. INTRODUCTION AND BACKGROUND	1
II. RESPONSES TO THE COMMISSION'S DIRECTED QUESTIONS	2
III. CONCLUSION.....	7

**SUPPLEMENTAL DIRECT TESTIMONY
OF
JEFFREY J. MACKAUER**

1 **I. INTRODUCTION AND BACKGROUND**

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

3 A. My name is Jeffrey J. Mackauer. My business address is 76 South Main Street, Akron,
4 OH 44308.

5 **Q. Have you previously presented testimony in this proceeding?**

6 A. Yes, on June 19, 2015, my direct testimony, Joint Applicants' Statement No. 2, was filed
7 in this matter. My background and qualifications are fully set forth in that statement.

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

9 A. On June 19, 2015, Mid-Atlantic Interstate Transmission, LLC ("MAIT"), Metropolitan
10 Edison Company ("Met-Ed") and Pennsylvania Electric Company ("Penelec")
11 (collectively, the "Joint Applicants") filed a Joint Application requesting that the
12 Pennsylvania Public Utility Commission ("PUC" or the "Commission") authorize the
13 transfer of certain transmission assets from Met-Ed and Penelec (each a "Company" and
14 collectively the "Companies") to MAIT, grant MAIT a certificate of public convenience
15 conferring upon it the status of a Pennsylvania public utility and approve certain affiliated
16 interest agreements. In support of their Joint Application, the Joint Applicants submitted
17 my direct testimony as well as the direct testimony of Charles V. Fullem (Joint
18 Applicants' Statement No. 1), Steven R. Staub (Joint Applicants' Statement No. 3) and
19 K. Jon Taylor (Joint Applicants' Statement No. 4).

1 On August 10, 2015, the Commission issued a Secretarial Letter in which it set forth
2 thirty-eight questions, divided into eight subject areas (Parts A-H), that it requested the
3 parties to this proceeding to address on the record “in testimonial form (direct,
4 supplemental direct, rebuttal) or as exhibits” (Secretarial Letter, p. 2). My supplemental
5 direct testimony responds to the following questions in the Commission’s Secretarial
6 Letter:¹

7 Part A Question No. 5
8 Part F Question Nos. 1, 3, 4 and 5

9 **II. RESPONSES TO THE COMMISSION’S DIRECTED QUESTIONS**

10 **Q. Please respond to Part A, Question No. 5, which provides:**

11 **Jurisdictional electric utilities are required to have cyber,**
12 **physical and emergency response plans to protect their**
13 **facilities. How would the transfer of facilities to MAIT impact**
14 **those transferred facilities not covered by the North American**
15 **Reliability Corporation (NERC) Critical Infrastructure**
16 **Protection (CIP) Standards?**

17 A. The Joint Application requests that the Commission issue a certificate of public
18 convenience evidencing MAIT’s status as a Pennsylvania public utility. If the
19 Commission grants MAIT’s request and confers Pennsylvania public utility status on
20 MAIT, MAIT, following the proposed transaction, will remain subject to the provisions
21 of 52 Pa. Code Chapters 101 and 102 pertaining to Public Utility Preparedness through
22 Self-Certification and Confidential Security Information, respectively, to the same extent
23 such provisions may apply to the transmission facilities currently owned by Met-Ed and
24 Penelec.

¹ Mr. Fullem (Joint Applicants’ Statement No. 1S), Mr. Staub (Joint Applicants’ Statement No. 3S) and Mr. Taylor (Joint Applicants’ Statement No. 4S) respond to the balance of the questions in the Secretarial Letter in their respective statements of supplemental direct testimony.

1 **Q. What subject is addressed by the questions in Part F of the Secretarial Letter?**

2 A. Part F is titled “Energizing the Future Program (EtF) and Reliability Enhancement (RE)
3 Process,” and the Commission provided the following introduction to the questions posed
4 in that part:

5 FE indicates in its testimony (in considerable detail) that it is
6 proposing the EtF and RE process to substantially upgrade and
7 improve its transmission system in the service territories of the
8 operating companies. These investments are expected to cost \$2.5-
9 3.0 billion over the next 5-10 years, which is a substantial
10 investment. The parties should address the following issues with
11 regard to the EtF/RE program:

12 **Q. Please respond to Part F, Question No. 1, which provides:**

13 **Are there projects currently being undertaken or in the**
14 **planning stages at Met-Ed and Penelec that are considered to**
15 **be a part of the EtF/RE programs? Provide a description of**
16 **these projects, expected completion dates and anticipated**
17 **benefits.**

18 A. Yes, there are projects currently being undertaken or in the planning stages at Met-Ed and
19 Penelec that are considered part of the EtF/RE programs. The list of PJM
20 Interconnection LLC’s (“PJM”) Regional Transmission Enhancement Plan (“RTEP”)
21 baseline projects encompassed by the Companies’ Transmission Planning process that are
22 currently being undertaken within the Met-Ed and Penelec portions of the proposed
23 MAIT footprint and that have in-service dates after January 1, 2017 is provided later in
24 my testimony in response to Part F, Question No. 3.

25 The Reliability Enhancement process projects in the planning stages within the Met-Ed
26 and Penelec portions of the proposed MAIT footprint are currently still being evaluated.

7

1 Potential future Reliability Enhancement process PJM RTEP supplemental projects are
2 discussed later in my testimony in response to Part F, Question No. 4.

3 Potential future Reliability Enhancement process projects that will not become PJM
4 RTEP supplemental projects consist of projects such as the following:

- 5 • Replacing older vintage oil and gas insulated breakers
- 6 • Replacing existing transformers with similar size new transformers
- 7 • Upgrading and rebuilding transmission lines with similar size wire
- 8 • Installation of real time transformer and circuit breaker monitoring
- 9 • Replacing older vintage relays
- 10 • Replacing Coupling Capacitor Voltage Transformers
- 11 • Installing Supervisory Control and Data Acquisition to switching devices
- 12 • Strategically installing automatic sectionalizing switches at tapped substations
- 13 • Transmission Communications Infrastructure projects
- 14 • Transmission Physical Security Enabling projects
- 15 • Transmission Cyber Security projects

16
17
18 A list of approved future Reliability Enhancement process projects has not yet been
19 established, but it would include the types of projects I described above.

20 The typical completion dates for many of the initial Reliability Enhancement process
21 projects selected would be within a year or two after MAIT is established.

22 The anticipated benefits from the Transmission Planning process PJM RTEP baseline
23 projects can be found on the PJM RTEP website. The anticipated benefits from the
24 Reliability Enhancement process projects are discussed in my direct testimony (Joint
25 Applicants' Statement No. 2).

26

1 **Q. Please respond to Part F, Question No. 3, which provides:**

2 **To what extent are EtF/RE projects currently in the PJM**
 3 **RTEP process? Provide by project and projected cost. Please**
 4 **provide PJM project ID numbers for each indicated project.**

5 A. The table below provides a summary of baseline PJM RTEP projects within the Met-Ed
 6 and Penelec portions of the proposed MAIT footprint that have in-service dates after
 7 January 1, 2017:

FE PJM RTEP Projects with FE Projected ISD for 2017 and Beyond				
Downloaded from PJM Website 08/04/2015				
PJM Project ID #	Project Description	TO Projected InServiceDate	Transmission Zone	CostEstimate (\$M)
b1994	Convert Lewis Run-Farmers Valley to 230 kV using 1033.5 ACSR conductor. Project to be completed in conjunction with new Pierce Book Valley 345/230 kV transformation	10/1/2017	PENELEC	\$46.80
b2006.1.1	Loop the 2026 (TMI - Hosensack 500 kV) line in to the Lauschtown substation and upgrade relay at TMI 500 kV	6/1/2017	ME	\$5.25
b2304	Replace the substation conductor and switch at South Troy 115 kV substation	6/1/2017	PENELEC	\$0.15
b2371	Install 75 MVAR capacitor at the Erie East 230 kV substation	6/1/2018	PENELEC	\$1.50
b2442	Install three 230 kV breakers on the 230 kV side of the Lewistown #1, #2 and #3 transformers	6/1/2018	PENELEC	\$2.30
b2450	Construct a new 115 kV line from Central City West to Bedford North	6/1/2018	PENELEC	\$37.50
b2452	Install 2nd Hunterstown 230/115 kV transformer	6/1/2017	ME	\$8.02
b2452.1	Reconductor Hunterstown - Oxford 115 kV line	6/1/2017	ME	Included in b2452
b2463	Rebuild and reconductor 115 kV line from East Towanda to S. Troy and upgrade terminal equipment at East Towanda, Tennessee Gas and South Troy	6/1/2017	PENELEC	\$40.00
b2552.1	Reconductor the North Meshoppen - Oxbow - Lackawanna 230 kV circuit and upgrade terminal equipment (PENELEC portion)	6/1/2019	PENELEC	\$26.50
b2571	Upgrade the limiting terminal facilities at both Jackson and North Hanover	6/1/2019	ME	\$0.10
b2587	Reconfigure Pierce Brook 345 kV station to a ring bus and install a 125 MVAR shunt reactor at the substation	9/1/2018	PENELEC	\$5.53
b2588	Install a 36.6 MVAR 115 kV capacitor at North Bangor substation	6/1/2019	ME	\$0.98
b2621	Replace relays at East Towanda and East Sayre 115 kV substations (158/191 MVA SN/SE)	6/1/2018	PENELEC	\$0.10
b2637	Convert Middletown Junction 230 kV substation to nine bay double breaker configuration.	6/1/2017	ME	\$15.50
b2644	Install a 28.8 MVAR 115 kV capacitor at the Mountain substation	6/1/2019	ME	\$0.96

8
9

10
11 **Q. Please respond to Part F, Question No. 4, which provides:**

12 **What future EtF/RE projects are anticipated to be part of the**
 13 **PJM RTEP process?**

14
 15 A. Future Transmission Planning process projects will be identified by PJM and become
 16 PJM RTEP baseline projects after PJM Board approval as I previously explained.

17

1 Future Reliability Enhancement process projects that substantively change the electrical
2 parameters of the transmission system or which changes the electrical flows on that
3 system will be identified by MAIT, submitted to PJM and become PJM RTEP
4 supplemental projects without PJM Board approval. Examples of such projects are:

- 5 • Replacing existing transformers with larger size new transformers
- 6 • Upgrading and rebuilding transmission lines with larger size wire
- 7 • Strategically installing breakers at tapped substations
- 8 • Converting radially fed substations to be network fed substations
- 9 • Converting a three terminal transmission line to two independent transmission
10 lines

11
12 A list of approved future projects within the RE process has not yet been established, but
13 it would include the types of projects described above.

14 **Q. Please respond to Part F, Question No. 5, which provides:**

15 **Please provide a breakdown, based on current information, of**
16 **how current and future projects anticipated to be part of the**
17 **EtF will be allocated to PA operating companies and the New**
18 **Jersey operating company (Jersey Central Power & Light).**

19 A. The Transmission Planning process for PJM RTEP projects is designed to identify
20 projects necessary for the safe and reliable operation of the transmission system, as I
21 explained in my direct testimony (Joint Applicants' Statement No. 2). An explanation of
22 the Reliability Enhancement process employed by FirstEnergy was also provided in my
23 direct testimony. These processes do not entail an "allocation" of a pre-determined
24 number of projects or a pre-determined amount of funding between states or among
25 delivery zones. The specific projects to be undertaken in Pennsylvania will be
26 determined after a list of approved future projects within these processes has been
27 established (including the location and scope of each project).

1 **III. CONCLUSION**

2 **Q. Does this conclude your supplemental direct testimony?**

3 **A. Yes, it does.**

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Docket Nos.: A-2015-2488903, et al.

VERIFICATION

I, Jeffrey J. Mackauer, hereby state that the facts set forth in the pre-marked statements and exhibit listed below are true and correct to the best of my knowledge, information and belief. I understand that this verification is made subject to the provisions and penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Joint Applicants' Statement Nos. 2, 2S and 2-R.

Exhibit 1-Settlement

Responses to TUS Interrogatories (cosponsored)

Date: Feb 25, 2016

Jeffrey J. Mackauer
Jeffrey J. Mackauer