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BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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 P A.C.S. §102; and )  
(3) Approval of Certain Affiliate Interest )  
Agreements under 66 Pa. C.S. §2102 )

Docket Nos. A-2015-2488904  
A-2015-2488905  
G-2015-2488906  
G-2015-2488907

DIRECT TESTIMONY

OF

RICHARD S. HAHN

REGARDING MID-ATLANTIC INTERSTATE TRANSMISSION, LLC

ON BEHALF OF THE

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

December 22, 2015

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1 **I. INTRODUCTION**

2

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

4

5 A. My name is Richard S. Hahn. My business address is Daymark Energy Advisors,  
6 Inc., One Washington Mall, Boston, Massachusetts 02108. On November 9, 2015, La  
7 Capra Associates, Inc. officially changed its name to Daymark Energy Advisors, Inc.

8

9 **Q. On whose behalf do you testify in this proceeding?**

10

11 A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate  
12 (“OCA”).

13

14 **Q. What is the purpose of your testimony in this proceeding?**

15

16 A. Daymark Energy Advisors was retained by the OCA to assist in its review of a  
17 transaction proposed by FirstEnergy and its affiliates to transfer ownership of certain  
18 Met-Ed and Penelec transmission assets to a newly created business entity named the  
19 Mid-Atlantic Interstate Transmission, LLC. I refer to Met-Ed and Penelec collectively as  
20 the “Operating Companies.” Our assignment was to review the proposed transaction and  
21 address issues identified by the Commission’s August 10th Secretarial Letter that need to  
22 be further examined if the proposed transaction is approved.

23

24 To the extent that an issue has been specified in the Secretarial Letter, but not  
25 addressed in this testimony, I have reviewed the Company responses and do not offer a  
26 position at this time. Should new information or analysis become available through this  
27 proceeding, I retain the right to address this additional material.

1 **Q. Please summarize your experience and qualifications.**

2  
3 A. I have a Bachelor's of Science in Electrical Engineering ("BSEE") and a Master's  
4 of Science in Electrical Engineering ("MSEE") in power systems engineering, and a  
5 Master's in Business Administration ("MBA") degree. I have worked in the electric  
6 utility business for over 45 years. From 1970 to 2003, I worked at NSTAR Electric &  
7 Gas ("NSTAR"). I have held many technical and managerial positions in both regulated  
8 and unregulated subsidiaries covering all aspects of utility planning, rates, operations,  
9 regulatory activities, and finance. In 2004, I joined Daymark Energy Advisors (formerly  
10 La Capra Associates). Since then, I have worked on projects related to utility planning,  
11 rates, mergers and acquisitions, asset valuations, analyzing market rules and prices, and  
12 litigation support. I am a registered professional engineer in Massachusetts. My resume  
13 is provided in Exhibit OCA-RSH-1.

14  
15 **Q. Have you previously testified before this Commission?**

16  
17 A. Yes. I testified before this Commission on behalf of the OCA on several  
18 occasions. I submitted testimony in the Commission's review of PECO's DSP I and DSP  
19 II proceedings. I also testified in the proceeding to review the proposed default service  
20 plan for Allegheny Power. I have testified in several merger cases, including Exelon –  
21 Constellation, PECO – NRG, FirstEnergy – Allegheny Energy, PECO – PSEG, and  
22 FirstEnergy – GPU. I have provided testimony that reviewed Energy Efficiency plans for  
23 Pennsylvania's electric distribution companies ("EDCs"), and have reviewed time of use  
24 ("TOU") rates proposed by PPL in two separate dockets. These projects are listed in  
25 Exhibit OCA-RSH-1.

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30

1 **II. SUMMARY AND RECOMMENDATIONS**

2  
3 **Q. Please summarize your conclusions and recommendations.**

4  
5 A. My conclusions and recommendations can be summarized as follows:

- 6  
7
- 8 • There are no affirmative benefits to the public from the proposed transaction.
  - 9 • There will be considerable harm to the public if the proposed transaction is approved and implemented, both immediately and in the long term.
  - 10 • The proposed transaction is not necessary for Met-Ed or Penelec to fulfill their responsibilities as electric utilities in Pennsylvania.
  - 11 • If the Commission does approve the proposed transaction, it should establish several conditions of approval. In a later section of this testimony, I provide a reasonable set of conditions that should be part of any approval.
- 12  
13  
14  
15

16 **III. OVERVIEW OF THE PROPOSED TRANSACTION**

17  
18 **Q. Please briefly describe the proposed Transaction.**

19 A. MAIT will be a newly created entity whose business activities are to build and own high voltage electric transmission facilities. To create this entity, Met-Ed and Penelec, along with Jersey Central Power & Light (“JCP&L”), will contribute their existing transmission assets at book value to MAIT in exchange for Class B equity shares in MAIT. First Energy Transmission (FET) will contribute cash and receive Class A equity shares in MAIT. According to the application, FET’s contribution will be such that FET’s initial equity share will be 5%. The Applicants assert that the transaction will be tax free. Using book values as of December 31, 2014, the equity contribution would be as follows.<sup>1</sup>

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<sup>1</sup> See the Applicants response to OCA-II-10

	<u>Member</u>	<u>Contribution</u>	<u>share</u>	<u>Class</u>
1				
2	Met-Ed	\$260.1 million	17%	B
3	Penelec	\$353.7 million	23%	B
4	JCP&L	\$837.3 million	55%	B
5	<u>Subtotal</u>	<u>\$1,451.1 million</u>	<u>95%</u>	
6	FET	\$76.4 million	5%	A
7	<u>Total</u>	<u>\$1,527.5 million</u>	<u>100%</u>	
8				

9 As an LLC, the profits and earnings of MAIT will be distributed to its members in  
10 proportion to their equity shares. Although it may be possible that Met-Ed, Penelec, and  
11 JCP&L could make further contributions to MAIT after the initial contributions, I believe  
12 that this is unlikely to occur. As MAIT invests in new transmission, FET could invest  
13 funds and receive more shares and /or MAIT could incur its own debt. As this occurs,  
14 the shares in MAIT of Met-Ed, Penelec, and JCP&L will decrease. The initial equity  
15 ratio<sup>2</sup> of MAIT will be 100%. If MAIT incurs new debt as transmission facilities are  
16 built, MAIT's equity ratio will decrease and its debt ratio<sup>3</sup> will increase. It is my  
17 understanding that Class A and B shares are economically equal, but Class A shares  
18 owned by FET have greater control over business activities.

19  
20 Met-Ed, Penelec, and JCP&L will retain ownership of land, easements, and  
21 rights-of-way that its transmission facilities were built on, and receive a payment from  
22 MAIT for the use of those assets (ground leases).

23  
24 MAIT will establish a formula rate under Federal Energy Regulatory Commission  
25 ("FERC") jurisdiction to charge transmission customers that use MAIT's facilities.  
26 Basically, all load serving entities in the service territories of Met-Ed and Penelec will be  
27 transmission customers of MAIT.

---

<sup>2</sup> Equity ratio equals equity capital divided by total capital.

<sup>3</sup> Debt ratio equals debt divided by total capital.

1 **Q. Can you explain what a formula rate is?**

2  
3 A. A formula rates is a rate that is determined by specifying certain input variables  
4 and calculations or formulae to arrive at the rate to be charged. The inputs may change to  
5 establish rates for a certain period, but the calculations or formulae do not change in  
6 between rate cases. Once FERC has approved the formula, rates for each year can be set  
7 using updated input variables. For transmission formula rates, the calculations are very  
8 similar to a cost of service where inputs such as O&M expenses, depreciation, return on  
9 rate base, and quantities sold are combined to yield a rate. The input variables typically  
10 come from readily identifiable sources, such as the FERC Form 1 reports, and in theory  
11 at least can be readily reproduced. Formula rates can be set based upon historical values  
12 for the input variables, or they can be set using forecasted values for input variables with  
13 a true-up or reconciliation for actual values. The Applicants have not indicated the exact  
14 nature of the formula they intend to use. The Applicants state that they will use a 50/50  
15 debt equity capital structure for ratemaking purposes for two years.  
16

17 **IV. STANDARD OF REVIEW**

18  
19 **Q. Does the proposed transaction require Commission approval?**

20  
21 A. Yes. As an application for the transfer of assets from Penelec and Met-Ed to  
22 MAIT, the Joint Applicants would need to receive certificate of public convenience from  
23 the Commission.<sup>4</sup>  
24

25 **Q. What are the standards of review for the proposed transaction?**

26  
27 A. While I am not an attorney, and will leave the debate over the exact legal meaning  
28 of the standard of review to counsel, it is my understanding that, in order for the  
29 Commission to approve the proposed transaction, it must determine that the proposed

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<sup>4</sup> 66 Pa. C. S. § 1102(a)(3).

1 transaction will produce affirmative benefits to the public with reference to service,  
2 accommodation, convenience and safety in some substantial way.<sup>5</sup>

3  
4 **Q. Does the existence of a potential benefit or benefits necessarily mean the**  
5 **Commission should grant the certificate of public convenience?**

6  
7 A. No, the Commission engages in a weighing process to determine whether on the  
8 whole there will be net benefits to the public resulting from the transaction. In other  
9 words, benefits must be weighed against costs or detriments in this evaluation, and the  
10 Commission has considerable discretion to balance the various factors I will discuss  
11 below.

12  
13 **Q. Should the Commission consider quantified benefits when it balances them against**  
14 **the costs?**

15  
16 A. Yes. Although the Commission can weight factors without precise quantification  
17 when it is impossible, burdensome or impractical to do so, when the Company can  
18 reasonably be expected to quantify the cost or a benefit, the Company should do so and  
19 not rely on generalizations to support its case. This caveat should be especially true when  
20 the transaction involves factors that directly affect concrete and measurable parts of a  
21 utility business, like rates.

22  
23 **V. ANALYSIS OF THE PROPOSED TRANSACTION**

24  
25 **Q. What is the purpose of this section of your testimony?**

26 A. In the Secretarial Letter, the Commission raised numerous issues and directed the  
27 Applicants to address those issues, as applicable. The letter also sought input from the  
28 Parties to this proceeding. In this section of my testimony, I provide my initial response  
29 to those issues.

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<sup>5</sup> York v. Pa. PUC, 449 Pa. 136 (1972).



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**A. Transmission Assets to be Transferred**

**Q. What are the standards or guidelines for determining whether assets are transmission?**

A. Transmission and generation assets that operate at or above 100KV are included in FERC’s definition of Bulk Electric System (“BES”) and are subject to the North American Electric Reliability Corporation’s (“NERC’s”) mandatory reliability standards. FERC has established processes for excluding certain assets at or above 100 KV and for including assets below 100 KV in the BES. Thus, transmission assets are generally considered to be those facilities that operate at 100 KV and above, although some facilities that operate at lower voltages are considered to be transmission. In this proceeding, the Commission has identified certain facilities between 34.5 KV and 69 KV for which the designation as transmission or distribution is at issue. In Order No. 888, FERC established a seven factor test to determine if facilities are transmission or distribution. FERC will give deference to state commission determinations, but that is limited by the expectation that the state follows the multi-factor test.

**Q. How did the Applicants determine which assets of Met-Ed and Penelec to transfer to MAIT?**

A. The Applicants retained Navigant Consulting to perform a study to determine which assets should be defined as transmission and therefore be transferred to MAIT and which assets should be distribution facilities and remain under the ownership of the Operating Companies. Using geographical images and maps and power flow analysis, Navigant Consulting applied FERC’s seven factor test (“Navigant Report”).<sup>6</sup>

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<sup>6</sup> Exhibit CVF-2.

1 **Q. What are the seven factors that FERC would apply?**

2

3 A. The factors that FERC considers to determine if a facility should be classified as  
4 primarily transmission or distribution are as follows:

5 1. Local distribution facilities are normally in close proximity to retail customers.

6 2. Local distribution facilities are primarily radial in character.

7 3. Power flows into local distribution systems; it rarely, if ever, flows out.

8 4. When power enters a local distribution system, it is not re-consigned or  
9 transported on to some other market.

10 5. Power entering a local distribution system is consumed in a comparatively  
11 restricted geographic area.

12 6. Meters are based at the transmission/local distribution interface to measure  
13 flow into the local distribution system.

14 7. Local distribution systems will be of reduced voltage.<sup>7</sup>

15 The Navigant Report describes how it applied each of the factors in sequence and  
16 evaluated the results of its survey work.

17

18 **Q. Please summarize the results of the study.**

19

20 A. Navigant determined that the “JCP&L 34.5 kV facilities and all facilities with a  
21 voltage level greater than 34.5 kV are transmission facilities. The 34.5 kV Met-Ed lines,  
22 34.5 kV Penelec lines and all lines with a voltage levels less than 34.5 kV are local  
23 distribution.”<sup>8</sup> The ultimate classification of the facilities is proposed to be as follows:<sup>9</sup>

24

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<sup>7</sup> Exhibit CVF-2, p. 4 of 28, *referencing* Promoting Wholesale Competition through Open-Access Non-Discriminatory Transmission Serv. by Pub. Utils. & Recovery of Stranded Costs by Pub. Utils. & Transmitting Utils., Order No. 888, FERC Stats. & Regs., Regulations Preambles January 1991 - June 1996 ¶ 31,036, 31,771, 31,981 (1996).

<sup>8</sup> Exhibit CVF-2, p. 28 of 28.

<sup>9</sup> Id.

Voltage Levels	Operating Companies		
	Penelec	Met-Ed	JCP&L
500 kV	T	T	T
345 kV	T	-	-
230 kV	T	T	T
138 kV	T	T	-
115 kV	T	T	T
69 kV	-	T	-
46 kV	T	-	-
34.5 kV	D	D	T
19.9/34.5 kV wye	D	D	D
13.2/23 kV wye	D	-	-
7.62/13.2 kV wye	-	D	-
7.2/12.5 kV wye	D	-	D
12.0 kV delta	D	-	-
4.8/8.32 kV wye	D	-	-
7.2 kV delta	D	-	-
2.4/4.8 kV delta	D	-	-
4.8 kV delta	D	D	D
2.4/4.16 kV wye	D	-	D

1  
2

3 **Q. In its August 10, 2015 Secretarial Letter, the Commission directed the parties to**  
4 **address this issue. What is your opinion of the Applicants' proposal here?**

5

6 A. I have reviewed the Navigant study. While I did not perform an independent  
7 study to apply the seven factor test, I find the Navigant study at a high level to be  
8 reasonable for the purposes of this proceeding.

9

10 **Q. The Secretarial Letter also directs the parties to comment on whether regulatory**  
11 **assets related to transmission facilities should be transferred to MAIT. How do you**  
12 **respond?**

13

14 A. I believe that the regulatory assets related to storm damage and vegetation  
15 management that are associated with transmission facilities being transferred to MAIT  
16 should also be transferred to MAIT if the proposed transaction is approved. These

1 regulatory assets were created through the ownership of transmission facilities, and thus  
2 should be transferred with the transmission assets.  
3

## 4 **B. Anti-Competitive Impacts**

5  
6 **Q. How will this transaction impact the competitiveness of transmission service in the**  
7 **Commonwealth and the ability of the PAPUC to monitor and investigate anti-**  
8 **competitive behavior?**

9  
10 A. Currently, the transmission assets owned by Met-Ed and Penelec are operated and  
11 controlled by PJM under PJM's Open Access Transmission Tariff ("OATT"). The  
12 OATT is designed for transmission owners in the bulk power system to provide non-  
13 discriminatory access to all shippers on a comparable basis to the service the owners  
14 provide to themselves. Through the OATT, PJM provides non-discriminatory access to  
15 these facilities at published rates. The Application states that if these assets are  
16 transferred to MAIT, these asset will remain under the control of PJM. As long as the  
17 transferred assets remain under PJM's control, the proposed transaction should not  
18 adversely impact the competitiveness of transmission service. If MAIT were to remove  
19 these assets from PJM's control, there could be an adverse impact. Therefore, if the  
20 proposed transaction is approved, the Commission should impose a condition that MAIT  
21 will place its assets under, and not remove its transmission assets from, PJM's control  
22 without Commission approval.  
23  
24  
25  
26  
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29

1       **C. Reliability**

2  
3       **Q.     The Secretarial Letter directs the parties to address the reliability impact of the**  
4       **proposed transaction and whether the Commission will retain the oversight they**  
5       **currently have. How do you respond?**

6  
7       A.           The Commission should retain all of the oversight rights it currently has. I see no  
8       reason to change these, even if the proposed transaction is approved and the assets are  
9       transferred. If the Commission’s rights to oversee transmission activities for assets  
10      currently owned by Met-Ed and Penelec are in dispute, then that dispute should be  
11      resolved before the proposed transaction is considered. Once the Commission’s current  
12      oversight rights are established for assets owned by the Operating Companies, the  
13      retention of those rights should be made a specific condition of the Commission’s  
14      approval of the proposed transaction.

15  
16      **D. The Operation of Ground Leases**

17  
18      **Q.     Do the Applicants plan to transfer all of the rights-of-way to MAIT for the**  
19      **operation of rights-of-way associated with the transmission assets?**

20  
21      A.           No. The related land and other real estate interests will be leased to MAIT under  
22      Ground Leases between each of the Operating Companies and MAIT.<sup>10</sup> The transmission  
23      facilities themselves, however, are transferred to MAIT by a separate agreement,<sup>11</sup> so the  
24      Ground Leases should only cover real estate assets or interest.

25  
26  
27  

---

<sup>10</sup>     Application, p. 8.

<sup>11</sup>     Exhibit KJT-1 (capital contribution agreement).

1 **Q. Why will the Operating Companies retain title to the real property interests**  
2 **associated with the transmission corridors?**

3  
4 A. The Joint Applicants explain that the Transaction is structured in this way to be  
5 more “efficient” and avoid the need for deeds, surveys, etc., that may otherwise be  
6 associated with the transfer of real property.<sup>12</sup>

7  
8 **Q. Do you find this explanation sufficient?**

9  
10 A. Not completely. While it is not uncommon for utilities to encounter logistical or  
11 other difficulties transferring rights-of-way and easements that may have been acquired  
12 piecemeal over a great number of years, I am not fully convinced that the Joint  
13 Applicants have demonstrated that the task is not feasible in this case. I would expect  
14 that the Operating Companies have real estate departments and / or right-of-way agents  
15 whose job it is to ensure that the Operating Companies place and maintain facilities  
16 within the metes-and-bounds of the established transmission corridors, so the practical  
17 location of the rights-of-way could not be seriously in doubt.

18  
19 **Q. Will MAIT pay rent to the Operating Companies for the use of the transmission**  
20 **corridors?**

21  
22 A. Yes. The Ground Lease describes the elements that would be considered in the  
23 determination of the rent payment:<sup>13</sup>

24  
25 

Section 3.1 <u>Base Rent during the Term.</u> As provided at Schedule A herein. Lessor calculate an annual Base Rent using the following inputs: (i) net book value of the Premises; (ii) MAIT’s weighted average cost of capital as reviewed and approved by the Federal Energy Regulatory Commission; (iii) MAIT’s statutory tax rate; (iv) property taxes; and (v) all other expenses, liabilities or charges that may be incurred by Lessor pursuant to any lease agreement, license agreement, consent agreement or other similar agreement relating to the Premises. Base
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<sup>12</sup> Direct Testimony of K. Jon Taylor, pp. 6-7. See also Exhibit KJT-2 to the Direct Testimony of K. Jon Taylor for a form lease.  
<sup>13</sup> Exhibit KJT-2, p.3.

1 Schedule A to the Ground Lease contains the precise rent payment formula that the Joint  
2 Applicants intend to use:<sup>14</sup>

**"Base Rent"** = (Net Book Value of Premises - ADITs) \* Pre-Tax WACC ÷ Book Depreciation Expense ÷ Property Taxes ÷ All other costs, expenses, liabilities or charges that may be incurred by Lessor pursuant to any lease agreement, license agreement, consent agreement or other similar agreement relating to the Premises

For purposes of this definition:

**"ADIT"** means Accumulated Deferred Income Taxes associated with the Premises.

**"Pre-Tax WACC"** = 
$$\frac{\text{WACC}}{(1 - \text{Statutory Tax Rate})}$$

**"Weighted Average Cost of Capital ("WACC")"** = 
$$\frac{((\text{Debt Ratio} * \text{MAIT's Effective Cost of Outstanding Long-Term Debt}) * (1 - \text{Statutory Tax Rate})) + (\text{Equity Ratio} * \text{MAIT's Authorized Rate of Return on Equity})}{1}$$

3  
4  
5 **Q. How should Ground Lease payments from MAIT to the Operating Companies be**  
6 **reflected in future distribution rates?**

7  
8 A. As credits to the revenue requirement of the Operating Companies in order to help  
9 show some customer benefits associated with the Transaction.

10  
11 **Q. What if the Operating Companies need to use the facilities that are subject to the**  
12 **Ground Lease for their own purposes in the future?**

13  
14 A. In the Operating Companies' responses to TUS, they claim that future distribution  
15 lines may need to be built within the same rights-of-way, but if that occurs, no diminution  
16 in Ground Lease payments from MAIT would occur. There are terms in the Ground  
17 Leases that provide offsetting benefits to the Operating Companies if the right-of-way  
18 cannot be used for distribution because of a transmission need. For example, Section 7.2  
19 of the Ground Lease states that:<sup>15</sup>

<sup>14</sup> Exhibit KJT-2, Schedule A.  
<sup>15</sup> Exhibit KJT-2, p. 6 (Section 7.2).

1 To the extent that Lessor [meaning the Operating Companies] proposes to  
2 install Distribution Facilities on or in Transmission Facilities or Premises  
3 that MAIT regards as conflicting with MAIT's planned installation of  
4 additional transmission lines thereon therein, MAIT may preclude  
5 Lessor's use for such installation. In such event, MAIT shall reimburse  
6 Lessor for the additional incremental cost of the alternative required in  
7 order to the Distribution Facilities proposed by Lessor (it being recognized  
8 that alternative rights-of-way for electric distribution lines are less difficult  
9 to obtain and less costly than MAIT alternative rights-of-way for  
10 transmission lines) over the cost Lessor would have incurred if  
11 Distribution Facilities were installed on Transmission Facilities or  
12 Premises.  
13

14 According to the terms of the Ground Lease, the Operating Companies would be  
15 entitled to reimbursement of the incremental costs associated with finding an alternative  
16 should planned distribution facilities conflict with transmission facilities. While the  
17 terms "additional incremental costs" are not defined in the agreement, it would be  
18 reasonable to assume they would include the costs associated with acquiring additional  
19 land rights, engineering and equipment to connect the new route.  
20

21 As another example, Section 7.3 of the Ground Lease addresses instances where  
22 distribution equipment may need to be relocated because of need for added transmission  
23 facilities:<sup>16</sup>

24 Lessor and MAIT also recognize Distribution Facilities may presently be  
25 installed on or in Transmission Facilities or Leased Property or hereafter  
26 installed thereon or therein that MAIT subsequently determines preclude  
27 installation of additional transmission lines unless such Distribution  
28 Facilities are removed and relocated. In such event, MAIT shall have the  
29 right to require Lessor to remove such Facilities provided MAIT has  
30 reimbursed Lessor for alternative rights-of-way such that Lessor may  
31 install Distribution Facilities that are a suitable alternative to the existing  
32 Distribution Facilities that are to be removed and relocated. MAIT shall  
33 also reimburse Lessor for the cost of removing its Distribution Facilities  
34 from Transmission Facilities or Leased Property and for the cost of  
35 installing the alternative Distribution Facilities and shall pay to Lessor a  
36 lump sum equal the fair market value of the property rights reserved or  
37 used for MAIT's additional transmission lines if the same result in an  
38 additional burden on the Premises.  
39

---

<sup>16</sup> Exhibit KJT-2, p. 6 (Section 7.3).



1           Here, the Ground Lease would require the Operating Companies to relocate the  
2 conflicting distribution equipment, but MAIT needs to compensate the Operating  
3 Companies for the alternative rights-of-way, as well as the cost of removal and  
4 installation of the alternative distribution equipment.

5  
6 **Q.    What happens if any potential environmental issues arise while the rights-of-way  
7 are used by MAIT and the Operating Companies?**

8  
9 A.           Each party is responsible for their own costs imposed onto the rights-of-way due  
10 to environmental issues.

11  
12 **Q.    Do you have any concerns with the Ground Lease arrangements?**

13  
14 A.           While the Ground Lease is comprehensive and appears to be designed to address  
15 a variety of issues that may arise during its term given the overlapping nature of the  
16 interests in the transmission corridors among the Joint Applicants, I would be concerned  
17 if the Joint Applicants interpreted the rent formula variables in a manner that was  
18 inconsistent with Commission ratemaking since it would decrease the predictability of  
19 resulting rent costs.

20  
21 **Q.    Can you elaborate on what you mean regarding concerns about the Joint Applicants  
22 interpreting the rent formula rate variables in a manner that is inconsistent with  
23 Commission ratemaking?**

24  
25 A.           Yes. The formula rate defines some, but not all, of the variables used to calculate  
26 the rent payments, and the natural expectation is that all the terms would have the same  
27 meaning and associated cost accounting as would apply to ratemaking before the  
28 Commission. For example, since the Commission does not allow a return of land as a  
29 rate base item, the Operating Companies should not construe the variable for “Book  
30 Depreciation Expense” to include any land values for purposes of calculating the rent  
31 payment since this would act as a proxy for recovery of land values. While I would not

1 expect the Operating Companies to apply that interpretation, however, the Ground Leases  
2 could be more precise on the exact meanings of these key variables in the rent formula to  
3 minimize later disputes about the calculation of the rent.  
4

5 **Q. How would you remedy this situation?**

6  
7 The formula in the Ground Lease and its input variables should be defined with  
8 greater specificity.  
9

## 10 **E. Financing Arrangement**

11  
12 **Q. Do you have any comment regarding the overall structure of the proposed**  
13 **transaction?**

14  
15 A. Under the proposed transaction, FET will contribute 5% of the total initial  
16 capitalization of MAIT, and receive all of the class A shares, which provides FET with  
17 more control over MAIT. I find this situation to be unusual. In a typical LLC formation,  
18 members are granted control rights based upon the level of their contributions. If that  
19 principle were applied here, the Operating Companies and JCPL would retain control of  
20 MAIT because they are providing 95% of the initial contribution.  
21

22 **Q. The Secretarial Letter poses six questions regarding financing arrangements.**  
23 **Please address those questions.**

24  
25 A. Questions 1 and 3 deal with MAIT's capital structure. Even though MAIT  
26 initially has a 100% equity ratio, the Applicants have proposed to use a 50% equity ratio  
27 for ratemaking purposes for two years following approval of the transaction. After two  
28 years, there is no restriction on the capital structure for ratemaking purposes. In other  
29 transmission rates where the owner has an unusually high or low equity ratio, I am aware  
30 that a 50/50 capital structure has been used as a proxy. After two years, MAIT could and

1 likely will use an equity ratio higher than 50%. The Applicants have stated that they  
 2 intend to invest \$2.5 billion to \$3.0 billion in new transmission investments over the next  
 3 ten years. Table 1 below shows what happens to the equity ratio of MAIT after a \$1.0  
 4 billion investment in new transmission facilities, assuming that the new investment is  
 5 funded by 50% new debt and 50% new equity. In this scenario, the equity ratio is 80%.  
 6  
 7

Table 1

<b>MAIT CAPITALIZATION EXAMPLE</b>					
<b>(\$millions)</b>					
entity	Initial		new investment	Future	
	capital	dividend share		capital	dividend share
Met-Ed	\$260.1	17%	\$0.0	\$260.1	13%
Penelec	\$353.7	23%	\$0.0	\$353.7	17%
JCP&L	\$837.3	55%	\$0.0	\$837.3	41%
FET	\$76.4	5%	\$500.0	\$576.4	28%
Total MAIT Equity	\$1,527.5	100%	\$500.0	\$2,027.5	100%
Total MAIT Debt	\$0.0		\$500.0	\$500.0	
Total MAIT Capital	\$1,527.5		\$1,000.0	\$2,527.5	
MAIT Equity ratio	100%			80%	
MAIT Debt ratio	0%			20%	

8  
 9  
 10 Table 2 below illustrates the impact of a \$3.0 billion investment in new  
 11 transmission facilities, using the same assumption that the new investment is funded by  
 12 50% new debt and 50% new equity. In this scenario, the equity ratio becomes 67%.  
 13

1

Table 2

<b>MAIT CAPITALIZATION EXAMPLE</b>					
<b>(\$millions)</b>					
entity	Initial		new investment	Future	
	capital	dividend share		capital	dividend share
Met-Ed	\$260.1	17%	\$0.0	\$260.1	9%
Penelec	\$353.7	23%	\$0.0	\$353.7	12%
JCP&L	\$837.3	55%	\$0.0	\$837.3	28%
FET	\$76.4	5%	\$1,500.0	\$1,576.4	52%
Total MAIT Equity	\$1,527.5	100%	\$1,500.0	\$3,027.5	100%
Total MAIT Debt	\$0.0		\$1,500.0	\$1,500.0	
Total MAIT Capital	\$1,527.5		\$3,000.0	\$4,527.5	
MAIT Equity ratio	100%			67%	
MAIT Debt ratio	0%			33%	

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Thus, even after significant new investment by MAIT, MAIT's equity ratio is likely to remain high, significantly higher than 50% for the foreseeable future. A higher equity ratio results in higher rates, all else equal. Without some constraint of the equity ratio to be used by MAIT for ratemaking purposes after the two year period proposed by the Applicants, transmission rates are likely to increase with MAIT. Based upon discussion with the OCA, I believe that a 55% equity ratio would be the approximate upper bound of the acceptable range for utilities in Pennsylvania. This would be the likely upper equity ratio if the Operating Companies continued to own the transmission assets. Therefore, some limit on the equity ratio for ratemaking purposes needs to be established beyond two years. I will recommend a specific condition later in this testimony.

1 **Q. Question 2 seeks information about the implications on Operating Company capital**  
2 **structure of a transfer of equity associated with transmission assets while**  
3 **transmission-related debt remains on the books of the Operating Companies. How**  
4 **do you respond?**  
5

6 A. I believe that the Operating Companies will be adversely affected by the structure  
7 of the proposed transaction. Regulated electric utilities typically have cost of service  
8 rates with a return on rate base, and the financial health of such companies is linked to  
9 asset ownership, which in large part establishes their profitability. Financial institutions  
10 that loan funds to such companies and entities that buy shares of their stock will look at,  
11 among other things, the level of assets owned relative to the level of financial obligations  
12 in both debt and equity capitalization. As shown in Table 3 below, the Operating  
13 Companies will have fewer assets supporting the same debt, equity, and total  
14 capitalization after the proposed transaction than before. For example, as shown in Table  
15 3, which uses 2014 actual data, Penelec has \$2.1 billion of net plant in-service and \$2.1  
16 billion in total debt and equity before the proposed transaction. The ratio of net plant to  
17 total capitalization is 100%. If the proposed transaction is approved, Penelec will transfer  
18 \$330 million in net transmission plant to MAIT, leaving Penelec with \$1.8 billion in net  
19 plant in-service to support \$2.1 billion in total capitalization. The ratio of net plant to  
20 total capitalization falls to 84%. For Met-Ed, a similar drop in this key ratio also occurs.  
21 The ratio of net plant to total capitalization for Met-Ed is 113% without the proposed  
22 transaction but 98% after the transaction. I believe that ownership of MAIT shares by the  
23 Operating Companies will be viewed as less secure than ownership of assets. Therefore,  
24 the proposed transaction will result in degraded financial health and could result in lower  
25 credit ratings for the Operating Companies.  
26

1

Table 3

<b>2014 FINANCIAL STATISTICS</b>			
(\$millions)			
item	Penelec	Met-Ed	Combined Operating Companies
<b>Total Electric Plant Before Transaction</b>			
gross plant in-service	\$ 3,170	\$ 2,735	\$ 5,905
accum depreciation	\$ 1,031	\$ 886	\$ 1,917
net plant in-service	\$ 2,139	\$ 1,849	\$ 3,988
<b>Transmission Plant To Be Transferred</b>			
gross plant in-service	\$ 524	\$ 396	\$ 920
accum depreciation	\$ 194	\$ 150	\$ 345
net plant in-service	\$ 330	\$ 245	\$ 575
<b>Total Electric Plant After Transaction</b>			
gross plant in-service	\$ 2,645	\$ 2,339	\$ 4,985
accum depreciation	\$ 837	\$ 736	\$ 1,573
net plant in-service	\$ 1,809	\$ 1,604	\$ 3,412
Long Term Debt	\$ 1,023	\$ 849	\$ 1,872
Equity	\$ 1,123	\$ 793	\$ 1,916
Total Capitalization	\$ 2,146	\$ 1,642	\$ 3,787
<b>Ratio: net plant / capitalization</b>			
without transfer	100%	113%	105%
with transfer	84%	98%	90%
Source: 2014 FERC Form 1 Reports			

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1 **Q. Question 4 seeks information regarding the frequency of dividends from MAIT to**  
2 **the Operating Companies. How do you respond?**

3  
4 A. The Restated LLC Agreement discusses “distributions” and states that frequency  
5 of dividends will be determined by the Board of MAIT:<sup>17</sup>  
6

(b) Distributions shall be made in cash to the Members of each Class pro rata in accordance with each Member’s capital account balance, at the times and in the aggregate amounts determined by the Board.

7  
8  
9 **Q. Questions 5 and 6 ask how the initial dividend distribution of 5% to FET and 95%**  
10 **will change over time. Please address this issue.**

11  
12 A. Tables 1 and 2 above provide examples of how the dividend shares will change if  
13 MAIT is approved and it invests in new transmissions facilities, with no new equity  
14 contributions from the Operating Companies. The dividend shares of the Operating  
15 Companies will decrease. The example in Table 1 above assumes that MAIT funds this  
16 investment with \$500 million in new debt and \$500 million in new equity from FET. In  
17 this scenario, Met-Ed’s share in MAIT falls to 13% from 17% and Penelec’s share in  
18 MAIT falls to 17% from 23%. The example in Table 2 shows the impact of a \$3.0 billion  
19 investment by MAIT with no contribution from the Operating Companies or JCPL. In  
20 this scenario, Met-Ed’s share in MAIT falls to 8% from 17% and Penelec’s share in  
21 MAIT falls to 11% from 23%. With the new investment and proposed formula rate,  
22 MAIT’s earnings and dividends should increase. However, it is unclear if the Operating  
23 Companies will receive more or less financial support from MAIT earnings and  
24 dividends compared to if they continued to own the assets.  
25

26 The MAIT Operating Agreement seems to allow the Operating Companies to  
27 invest additional equity in MAIT.<sup>18</sup> If the Operating Companies do invest in MAIT, it

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<sup>17</sup> Exhibit SRS-1, p.6

1 should be done only pursuant to Commission approval, as this would be a transaction  
2 between affiliates. However, I believe that it is unlikely to occur. I believe that  
3 FirstEnergy will want to capture as much of the higher profits from its transmission  
4 investments through FET, rather than through the Operating Companies. Having the  
5 profits from transmission activities removed from the Operating Companies will cause  
6 these entities to have lower earnings and be financially less secure, which would harm  
7 ratepayers.  
8

## 9 **F. Energizing the Future**

### 10 11 **Q. What is the Energizing the Future Program?**

12  
13 A. According to the testimony of Mr. Mackauer, Energizing the Future (“EtF”) is a  
14 FirstEnergy program that has as its goal improving transmission system reliability by  
15 building the transmission projects identified by the Transmission Planning and Reliability  
16 Enhancement processes. The current EtF program encompassing the Operating  
17 Companies’ Zones is primarily focused on projects identified through FirstEnergy’s  
18 Transmission Planning process. FirstEnergy proposes to expand the EtF program to  
19 provide a more targeted focus on projects identified for the Operating Companies’ Zones  
20 through the Reliability Enhancement process. The Applicants also claim that the  
21 formation of MAIT and the consummation of the Transaction will enable the expansion  
22 of the EtF program to complete the FirstEnergy Reliability Enhancement process  
23 investments in an accelerated manner, which will, in turn, improve the reliability,  
24 capacity, operating flexibility and security of the transmission system for existing and  
25 new customers in the Operating Companies’ Zones.  
26  
27

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<sup>18</sup> Exhibit SRS-1, p. 4 (“No Member shall be required to make additional capital contributions to the Company. Any additional capital contributions made by any Member shall only be made with the consent of the Board.”)



1 **Q. The Applicants have proposed investments of \$2.5 - \$3.0 billion over the next ten**  
2 **years if MAIT is approved. How do you respond?**

3  
4 A. PJM conducts long-range planning studies and analyzes future demands on the  
5 transmission system serving 61 million people. These studies identify changes and  
6 additions needed to ensure grid reliability for the future. This process culminates in the  
7 PJM annual Regional Transmission Expansion Plan. This transmission planning process  
8 is governed by PJM procedures, and allows for stakeholder input. The investment in new  
9 transmission should not be dependent upon the creation of MAIT and the approval of the  
10 proposed transaction. The need for new transmission facilities is driven by reliability  
11 assessments, load growth, maintenance, and potential economic benefits such as reduced  
12 congestion. The level of transmission investment should not change with or without  
13 MAIT.

## 14 **G. Rate Impacts**

15  
16  
17 **Q. If approved, how will the proposed transaction impact the rates charged for**  
18 **transmission?**

19  
20 A. Currently, there is one common rate for transmission service for Met-Ed, Penelec,  
21 and JCP&L. The Operating Companies refer to this as a fixed rate, which was approved  
22 in a FERC settlement in 1998 and has not changed since 1998.<sup>19</sup> The Applicants state  
23 that because this rate was the result of settlement, the ROE that is included in the rate is  
24 unknown.<sup>20</sup> The ROE to be included in MAIT's proposed formula rate has not yet been  
25 established.<sup>21</sup> However, TRAILCo is an existing transmission company owned by FET,  
26 and its rates are based upon an ROE of 12.7%. Table 4 below provides an illustration of  
27 the impact of a higher ROE on rates. Consider a utility with a 50% equity ratio, a cost of  
28 debt of 5%, and an allowed ROE of 10%. The weighted average cost of capital

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<sup>19</sup> See the response to OCA-II-5

<sup>20</sup> See the response to OCA-II-5

<sup>21</sup> See the response to OCA-III-2

1 (“WACC”) is 7.5%. Assume that this utility retained its equity ratio, but increased its  
 2 ROE to 12.7%. Even if it’s cost of debt declined by 30 basis points to 4.7% from 5.0%,  
 3 the WACC would increase to 8.7%, or by 16%. Table 4 also shows what happens if the  
 4 equity ratio increases to 67%. With this change, the WACC increases by 34% to 10.06%.  
 5 Without the 30 basis point reduction in debt cost in the Table 4 calculations, these  
 6 percentage increases would be even greater. Therefore, it is almost certain that rates for  
 7 transmission service will increase as a result of the transaction, even if no new investment  
 8 is made. Such an outcome would not benefit the public.

10 Table 4

COST OF CAPITAL EXAMPLE			
Scenario A	Debt	Equity	Cost of Capital
ratio	50.00%	50.00%	
cost	5.00%	10.00%	
weighted cost	2.50%	5.00%	7.50%
Scenario B	Debt	Equity	Cost of Capital
ratio	50.00%	50.00%	
cost	4.70%	12.70%	
weighted cost	2.35%	6.35%	8.70%
			% change 16%
Scenario C	Debt	Equity	Cost of Capital
ratio	33.00%	67.00%	
cost	4.70%	12.70%	
weighted cost	1.55%	8.51%	10.06%
			% change 34%

11  
12

1           It should be noted that many transmission-only companies seek premium ROEs  
2           for their FERC-regulated formula transmission rates, including a provisions that the  
3           increases the ROE because they are a new company with no credit rating or that they are  
4           a single purpose entity which causes greater risk. Since the Applicants have asserted that  
5           MAIT will be more creditworthy than the Operating Companies, the Applicants should  
6           agree as part of approval conditions not to make such assertions and seek such ROE  
7           premiums at FERC.  
8

## 9           **H. Affiliated Agreements**

10  
11       **Q.     Do the Joint Applicants propose any affiliate agreements in connection with the**  
12       **proposed Transaction?**

13  
14       A.           Yes, there are several agreements involved in the Transaction between the Joint  
15       Applicants that are proposed for approval under 66 Pa. C.S. § 2102 (“Section 2102”).  
16       Given the potential for self-dealing among affiliates, Section 2102 provides various  
17       protections related to denying recovery from excessive costs for affiliate services.<sup>22</sup>  
18       According to the filing, the proposed affiliate agreements are as follows:<sup>23</sup>  
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<sup>22</sup> 66 Pa. C.S. § 2102(a) to (d).

<sup>23</sup> Application, p.p. 12-13.

1

Table 5

Name	Nature of Agreement	Reference
FirstEnergy Service Agreement	MAIT entitled to receive administrative, management, and other services from FirstEnergy Service Company.	Exhibit KJT-5
Mutual Assistance Agreement	MAIT entitled to non-power goods and services from any of the FirstEnergy Operating Companies, including the Joint Applicants, technical support services and workers to assist MAIT in the performance of its operations as a stand-alone transmission asset owner	Exhibit KJT-6
Intercompany Income Tax Allocation Agreement	MAIT will be able to participate in FirstEnergy's filing of a consolidated tax return	Exhibit KJT-7
FirstEnergy Regulated Money Pool Agreement	MAIT will become a member of FirstEnergy Regulated Money Pool Agreement and will be able to borrow from, or lend to, other regulated companies to manage its working capital requirements.	Exhibit SRS-4
Ground Lease	MAIT pays rent to the Operating Companies for right to use transmission rights-of-way.	Exhibit No. KJT-2

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**Q. Have you reviewed the agreements the Joint Applicants have proposed and do you have any concerns?**

10

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16

**A.** Yes, I have reviewed the affiliate agreements and my concern is that the Joint Applicants did not expressly submit the Capital Contribution Agreement<sup>24</sup> for approval under Section 2102. It is unclear from the Application why the agreement under which the Operating Companies will exchange their transmission assets to MAIT in return for Class B membership interests in MAIT would not be considered an affiliate transaction. The Operating Companies and MAIT are obviously affiliates and creation of MAIT as a functioning company requires the exchange of transmission facilities for stock, both valuable

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<sup>24</sup> Exhibit SRS-1 (Capital Contribution Agreement).

1 assets, after MAIT itself comes into being as an entity.<sup>25</sup> While the Capital Contribution  
2 Agreement is referenced in other affiliate agreements specifically submitted for approval,<sup>26</sup>  
3 an explanation for why the Capital Contribution Agreement itself was not submitted under  
4 Section 2102 was not offered in the Application.  
5

## 6 **VI. NECESSITY OF THE PROPOSED TRANSACTION**

7

8 **Q. Do you believe that the transaction is necessary in order for the operating**  
9 **companies to fulfill their responsibilities as an electric utility to provide safe,**  
10 **reliable, and least cost service to their customers?**  
11

12 A. No. The Applicants have provided no evidence that Met-Ed or Penelec could not  
13 continue to successfully own, operate, maintain, finance, and expand as necessary their  
14 transmission systems, even if considerable expansion and investment is required to meet  
15 reliability standards.  
16

17 **Q. In data request OCA-II-3, the Applicants were asked if the proposed transaction is**  
18 **not approved, will Met-Ed and Penelec be able to implement the reliability**  
19 **enhancement process described in Mr. Mackauer's testimony. What was the**  
20 **response?**  
21

22 A. The response stated that under a no-transaction scenario, Met-Ed and Penelec do  
23 not currently expect to be able to accomplish all of the Reliability Enhancement projects

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<sup>25</sup> Section 2102 states: "no contract or arrangement for the purchase, sale, lease, or exchange of any property, right, or thing . . . shall be valid or effective unless and until such contract or arrangement has received the written approval of the commission." 66 Pa. C.S. § 2102(a).

<sup>26</sup> For example, the Ground Lease uses the Capital Contribution Agreement as the source for the definition of what constitutes "Transmission Facilities:"

On the date of this Lease, Lessor has transferred to MAIT all of the electric energy transmission system of Lessor including, without limitation, all high tension electric transmission lines, towers, poles, posts, cables, conduits, transformers, insulators, meters, electrical connections, fuses, junction boxes and other fixtures and equipment, together with various substations and switching stations, all as more particularly described in the *Capital Contribution Agreement* executed and delivered by Lessor to MAIT on the date hereof (collectively the "Transmission Facilities").

See Exhibit KJT-2, p. 1 (emphasis added).

1 described in the Direct Testimony of Jeffrey J. Mackauer as would be the case if  
2 undertaken on an accelerated basis by MAIT.<sup>27</sup>

3  
4 **Q. How do you respond?**

5  
6 A. I find this answer to be both surprising and disturbing. First of all, the investment  
7 in new transmission facilities should not be accelerated if MAIT is approved.  
8 Transmission investments should be driven by technical needs, such as reliability  
9 assessments or the need to reduce congestion, and these projects should emerge from the  
10 PJM planning process. The pace of investment should not be accelerated more than  
11 would otherwise occur without the proposed transaction just as a means to allow MAIT  
12 to generate higher earnings through higher transmission rates. Secondly, this response  
13 implies, but does not state explicitly, that the Operating Companies would not be able to  
14 implement such projects. I do not agree that the Operating Companies would not be able  
15 to finance and construct any needed transmission upgrades without the Transaction.

16  
17 **Q. Have the Operating Companies provided any evidence that they cannot finance  
18 needed new transmission investment without creating MAIT?**

19  
20 A. No.

21  
22 **Q. Have the Operating Companies provided any evidence that they cannot construct  
23 needed new transmission investment without creating MAIT?**

24  
25 A. No.

26  
27 **Q. In your experience, are you aware of any instance where a utility has been unable to  
28 finance or construct needed new transmission facilities?**

29  
30 A. No.

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<sup>27</sup> See the response to OCA-II-3.

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**Q. In your experience, have utilities that are regulated at the state level that own transmission assets been able to finance or construct needed new transmission facilities?**

A. Certainly. The vast majority of transmission assets in-service throughout the ISO-NE control area are owned by utilities that are regulated by state commissions. In the past ten years, this system has undergone a substantial expansion resulting in the expenditure of billions of dollars on new transmission assets. The utilities have demonstrated that such expansions can be financed and constructed under the status quo for Met-Ed and Penelec.

**Q. What do you conclude regarding the need for the proposed transaction?**

A. I conclude that the proposed transaction is not necessary for Met-Ed or Penelec to fulfill their responsibilities as electric utilities in Pennsylvania.

**VII. HARMS AND BENEFITS OF THE TRANSACTION**

**Q. Please generally summarize the harms and benefits of this transaction.**

A. There are no affirmative benefits of this transaction to the public. In contrast, there are a number of harms to the public that will result immediately and in the future. Additionally, further potential harms may result. I describe the lack of benefits and the harms to the public in this section.

**Q. What benefits have the Applicants claimed the proposed transaction will provide?**

A. The Applicants claim benefits of reduced cost of capital, reduced competition of capital, larger scale will make MAIT borrowing easier and more efficient, operational benefits, and job creation.

1  
2 **Q. Have any of these benefits been quantified by the Applicants?**

3  
4 A. The Applicants have asserted that MAIT will have a better credit rating than Met-  
5 Ed and Penelec, and will be able to borrow funds at a 30 basis points price advantage. If  
6 new transmission investments are \$1.5 billion, the Applicants claim that this 30 basis  
7 point advantage will save customers \$135 million over 30 years.<sup>28</sup>

8  
9 **Q. Please respond?**

10  
11 A. Table 6 below provides a summary of the latest credit ratings for FirstEnergy  
12 companies. While TRAILCo does have a higher credit rating from Moody's, the S&P  
13 LT issuer rating are the same for all FirstEnergy Companies at BBB-. Therefore, there is  
14 no assurance or even likely expectation that MAIT is expected to have a better credit  
15 rating than the Operating Companies. Furthermore, even if the Applicants are correct  
16 that transmission activities are more creditworthy, removing transmission assets and  
17 activities from the Operating Companies would lower their credit rating, resulting in  
18 higher, offsetting costs. I do not believe that there will be a benefit from credit ratings if  
19 the transaction is approved.

20  
21 Table 6

CREDIT RATINGS FOR FIRSTENERGY COMPANIES						
Institution Name	S&P			Moody's		
	LT Issuer Rating	Senior Secured	Senior Unsecured	LT Issuer Rating	Senior Secured	Senior Unsecured
American Transmission Systems, Incorporated	BBB-		BBB-			Baa2
FirstEnergy Corp.	BBB-		BB+	Baa3		Baa3
FirstEnergy Solutions Corporation	BBB-		BBB-	Baa3		Baa3
FirstEnergy Transmission, LLC	BBB-		BB+	Baa3		Baa3
Jersey Central Power & Light Company	BBB-		BBB-	Baa2		Baa2
Metropolitan Edison Company	BBB-	BBB	BBB-	Baa1		Baa1
Pennsylvania Electric Company	BBB-	A	BBB-	Baa2		Baa2
Trans-Allegheny Interstate Line Company	BBB-		BBB-	A3		A3
West Penn Power Company	BBB-	BBB+	BBB-	Baa1	A2	

Source: SNL Energy

22  
<sup>28</sup> See the Staub testimony on page 13 at 7-23.



1  
2           However, even if a 30 basis point benefit does materialize, it would likely be  
3 more than offset by a higher ROE and / or a higher equity ratio, as illustrated in Table 4  
4 above. Further, MAIT only speculates that MAIT will have lower debt costs without  
5 supporting this statement with any evidence. This potential, speculative benefit does not  
6 appear to meet the City of York's affirmative public benefits standard.  
7

8           I note that after the transfer, MAIT will be smaller than either Met-Ed or Penelec,  
9 not larger, so there will be no benefit of size, even if size does produce lower costs. The  
10 transmission assets will be operated and controlled by PJM with or without the  
11 transaction, so there is no real benefit here. Job creation will be accomplished through  
12 expansion of the transmission system, and can be done with or without the asset transfer,  
13 since only truly needed projects should be built with or without asset transfer.  
14

15 **Q.    What do you conclude regarding potential benefits from the proposed transaction?**  
16

17 A.           I conclude that the Applicants have failed to demonstrate that the proposed  
18 transaction will yield benefits to Pennsylvania ratepayers.  
19

20 **Q.    Are there harms to Pennsylvania ratepayers that will result from the Transaction?**  
21

22 A.           I believe that there are harms certain to affect Pennsylvania ratepayers, as well as  
23 other potential harms. Those harms certain to affect the public include immediate and  
24 future harms:  
25

- 26           • The MAIT profit sharing arrangement is not as financially valuable to the  
27           Operating Companies as asset ownership. Currently, with Met-Ed and  
28           Penelec owning transmission assets, Met-Ed and Penelec receive weekly  
29           payments from PJM for allowing PJM to manage their transmission assets.  
30           This gives Met-Ed and Penelec more revenues to support their debt. This  
31           arrangement also allows the transmission assets to generate positive cash flow

1 to help fund operations. If transmission assets are transferred to MAIT, these  
2 benefits will be lost and ratepayers will be harmed by the transaction. This  
3 harm to the public will occur immediately when the transaction is approved  
4 and the assets transferred.

- 5 • With MAIT, there is no set timetable or frequency of the payment of  
6 dividends. That is controlled by the MAIT Board. The Operating  
7 Companies' membership shares in MAIT could decline over time as FET  
8 invests more capital and more transmission is built, and there is no assurance  
9 that shares in MAIT will provide the same benefits over time as asset  
10 ownership. MAIT profits can be adversely affected by FET changing cost  
11 allocations or assigning additional costs to MAIT without affecting formula  
12 rates. And transferring assets while retaining all debt weakens the Operating  
13 Companies, as shown in Table 3 above. This harm to the public would likely  
14 occur over time.
- 15 • With the transfer of the transmission assets to MAIT, certain Operating  
16 Companies' costs that were allocated to transmission activities may be  
17 charged to distribution rates after the transfer. In a conference call to discuss  
18 the filing, the Applicants stated that it is not their intention to do so, and that  
19 any costs previously allocated to Operating Companies' transmission  
20 activities will be assigned to MAIT if the proposed transaction is approved. It  
21 is unclear if there is a mechanism to ensure that this happens. This harm to  
22 the public would likely occur over time.
- 23 • The implementation of a formula rate will increase the cost of transmission  
24 service to Pennsylvania ratepayers, and will cause more frequent transmission  
25 rate increases. This harm to the public will occur immediately and over time.

26  
27 **Q. Have you discovered any situations where transmission-only businesses were**  
28 **adversely affected by rating agencies?**

29  
30 A. On June 10, 2013, Moody's Investors Service downgraded the senior unsecured  
31 ratings for ATSI (which is a stand-alone FirstEnergy transmission subsidiary) to Baa2

1 from Baa1 and TRAILCo (also a stand-alone FirstEnergy transmission subsidiary) to  
2 Baa1 from A3. The downgrades were triggered by FirstEnergy's corporate decision to  
3 borrow against the future cash flows of its transmission businesses to enhance the parent  
4 company's liquidity position. This was achieved by having FET borrow \$1.0 billion  
5 under a \$1.0 billion revolving credit facility, proceeds which FET has largely loaned to  
6 its affiliates through the company's money pool. This information indicates that  
7 transmission-only businesses will not always have superior credit ratings.  
8

9 **Q. What do you conclude regarding potential benefits and harms from the proposed**  
10 **Transaction?**

11  
12 A. I conclude that no reasonable benefits are likely accrue to the public from the  
13 proposed transaction. In contrast, I believe that there will be considerable harm to the  
14 public if the proposed transaction is approved and implemented.  
15

## 16 **VIII. CONDITIONS OF APPROVAL**

17  
18 **Q. If the Commission approves the transaction, what conditions should it attached to**  
19 **its approval?**

20  
21 A. I believe that if the proposed transaction is approved, the Commission should  
22 establish several conditions. These conditions are provided in the list below.  
23

- 24 • The Commission shall retain all of the oversight rights over MAIT that it  
25 currently has over the Operating Companies.
- 26 • To the extent that there is any controversy regarding the Commission's  
27 jurisdiction over the assets being transferred, that jurisdiction should be  
28 clarified in this proceeding prior to approval.
- 29 • Any Ground Lease Payments from MAIT to the Operating Companies shall  
30 be reflected as a credit in future distribution rate cases.

- 1 • The formula in the Ground Lease and its input variables should be defined  
2 with greater specificity.
- 3 • Since Joint Applicants claim the transaction will not trigger the payment of  
4 ADIT, but have not submitted a private letter ruling to confirm, customers  
5 should be held harmless for the loss of the ADIT credit if the Joint Applicants  
6 are required to pay ADIT.
- 7 • A cap of 55% on the MAIT equity ratio to be used for ratemaking purposes  
8 after 2 years.
- 9 • All “costs to achieve” the Transaction will be excluded from distribution and  
10 transmission rates and the FirstEnergy companies will not seek, at any point in  
11 the future, to recover those costs from customers. Customers will forever be  
12 held harmless from the costs to achieve the Transaction.
- 13 • Any Operating Company costs that were previously allocated to transmission  
14 activities shall be assigned to MAIT, and shall not be included in distribution  
15 rates.
- 16 • MAIT should not seek an ROE premium at FERC on the basis that it is a new  
17 company with no credit rating or that they are a single purpose entity which  
18 causes greater risk.
- 19 • The formula rate to be developed by MAIT shall include the benefits of any  
20 ADIT, ITCs, or deferred taxes associated with the transferred assets.
- 21 • Any Operating Companies’ investment in MAIT should require Commission  
22 approval.
- 23 • The level of future transmission investment should not change with or without  
24 MAIT.
- 25 • The OCA shall have the right to review in detail any transmission rate filing  
26 made by MAIT, and MAIT shall cooperate and assist the OCA in its review.
- 27 • The formula rate to be developed by MAIT and the ROE to be requested shall  
28 be provided to the statutory advocates at least 60 days before filing at FERC.
- 29 • MAIT will place its assets under PJM control and will not remove its  
30 transmission assets from PJM’s control without Commission approval.  
31

1 **IX. CONCLUSION**

2

3 **Q. Does this conclude your testimony?**

4 A. At this time, yes. Should additional information become available through the  
5 discovery process, I will seek to supplement this testimony as appropriate.

6

7 215232

**LIST OF EXHIBITS – SEPARATELY ATTACHED**

Exhibit OCA-RSH-1  
Resume of Richard S. Hahn



## **Richard S. Hahn**

Principal Consultant

### **SUMMARY**

Mr. Hahn is a senior executive in the energy industry, with diverse experience in both regulated and unregulated companies. He joined La Capra Associates in 2004. Mr. Hahn has a proven track record of analyzing energy, capacity, and ancillary services markets, valuation of energy assets, developing and reviewing integrated resource plans, procurement of power supplies and portfolio management, transmission planning, rates, financial analysis, mergers and acquisitions, creating operational excellence, managing full P&Ls, and developing start-ups. He has demonstrated expertise in electricity markets, utility planning and operations, sales and marketing, engineering, business development, and R&D. Mr. Hahn has testified on numerous occasions before state utility commissions, and has also testified before FERC.

### **DETAILED CHRONOLOGY – DAYMARK ENERGY ADVISORS, INC.**

- Daymark Energy Advisors was retained by the Wisconsin Citizens Utility Board to evaluate the application Wisconsin Power & Light for a Certificate of Public Convenience and Necessity to construct a 650 MW natural gas -fired combined cycle plant. We also reviewed a Purchased Power Agreement that was proposed as an alternative to the new plant.
- Reviewed a purchased power agreement between National Grid and Copenhagen Wind for the Rhode Island Division of Public Utilities and Carriers
- Performed an audit of Rocky Mountain Power Company's 2014 Energy Balancing Account, including a review of the Company's hedging program.
- Reviewed National Grid's 2016 Standard Offer Supply ("SOS") and Renewable Energy Standard ("RES") Procurement Plans
- In 2014 and 2015, Daymark Energy Advisors was retained by the Wisconsin Citizens Utility Board (WI CUB) to evaluate the application American Transmission Company ("ATC") for a Certificate of Public Convenience and Necessity (CPCN) to construct a 345 kV and a 230 KV transmission line from eastern Wisconsin to the Upper Peninsula of Michigan.
- Daymark Energy Advisors was retained by the Citizens Utility Board of Wisconsin (WI CUB) to evaluate the proposed merger between WEC and Integrys. Our assignment was to review the transaction and determine whether it complied with the Wisconsin merger standard, and if not, to develop implementable actions to ensure compliance.
- Maine Public Utilities Commission ("MPUC") retained Daymark Energy Advisors to evaluate possible non-transmission alternatives ("NTAs") to a proposed transmission substation and other ancillary transmission upgrades in the Lakes Region. This transmission project is proposed by Central Maine Power Company ("CMP"). CMP has filed for a Certificate of Public Convenience and Necessity ("CPCN") for the proposed transmission enhancements and its filing states that this project is needed to resolve reliability concerns. Daymark Energy Advisors performed an independent reliability assessment and developed Alternative Resource Configurations ("ARCs") that could serve as NTAs and adequately

address the reliability issues over the 2015 to 2030 planning horizon for this project. Daymark Energy Advisors also performed a life-cycle economic analysis of the ARCs versus the transmission project.

- Maine Public Utilities Commission (“MPUC”) retained Daymark Energy Advisors to evaluate possible non-transmission alternatives (“NTAs”) to a proposed transmission substation and other ancillary transmission upgrades in the Waterville-Winslow Region. This transmission project is proposed by Central Maine Power Company (“CMP”). CMP has filed for a Certificate of Public Convenience and Necessity (“CPCN”) for the proposed transmission enhancements and its filing states that this project is needed to resolve reliability concerns. Daymark Energy Advisors performed an independent reliability assessment and developed Alternative Resource Configurations (“ARCs”) that could serve as NTAs and adequately address the reliability issues over the 2015 to 2030 planning horizon for this project. Daymark Energy Advisors also performed a life-cycle economic analysis of the ARCs versus the transmission project.
- Reviewed and analyzed a proposed pilot program to implement a new street lighting program in Rhode Island that included metered, directly controlled LED street lights
- Reviewed and analyzed a risk assessment model prepared by Black and Veatch for Duke Energy Indiana, which was utilized to identify investments for the replacement of Transmission and Distribution (“T&D”) infrastructure for its Transmission, Distribution, and Storage System Improvement Charges 7-year plan (“T &D Plan”)
- Reviewed the Application of Rocky Mountain Power seeking approval from the Public Service Commission of Utah to increase electric rates. The scope of the assignment was to review the proposed additions to plant in-service
- Performed an audit of Rocky Mountain Power Company's 2013 Energy Balancing Account, including a review of the Company's hedging program.
- Performed an asset valuation to estimate the market value of all power plants owned by Public Service of New Hampshire. Presented results to the New Hampshire Public Utilities
- Reviewed a proposed Default Service Procurement Plan for PECO Energy for 2015-2017
- Reviewed a proposed Default Service Procurement Plan for PPL Electric Utilities for 2015-2017
- Reviewed a request by Wisconsin Public Service to increase retail rates.
- Reviewed and analyzed a proposed tariff and related documents for Rhode Island to acquire street lighting assets owned by NGRID. Presented findings to the Rhode Island Public utilities Commission.
- Analyzed a proposed interconnection of a 30mw off-shore wind project to the ISO New England grid. Presented findings to the Rhode Island Public Utilities Commission
- Reviewed NGRID's 2014 Electric Retail Rate Filing requesting Commission approval of various charges and adjustment factors as well as NGRID's 2014 RES Charge and Reconciliation filing.
- Reviewed proposed TOU rates by PPL Electric on behalf of the Pennsylvania Office of Consumer Advocate
- Performed an analysis of a proposal to convert the Valley Power Plant in Milwaukee to switch from coal to natural gas; included a reliability assessment of the need for the plant to maintain local reliability
- Reviewed the adequacy of the supply of renewable energy certificates for 2015 and 2016 for impact on the Rhode Island Renewable Energy Standard



- Reviewed a purchased power agreement between National Grid and Champlain / Bowers Wind for the Rhode Island Division of Public Utilities and Carriers
- Daymark Energy Advisors was retained by the Nova Scotia Small Business Advocate to review and analyze the 2013 Annual Capital Expenditure ("ACE") Plan for Nova Scotia Power Incorporated ("the Company" or "NSPI"). I served as a key member of the team responsible for reviewed transmission projects.
- Served as an advisor to the Belmont Municipal Light Department in its efforts to upgrade its transmission interconnection to 115KV
- Performed an assessment of the proposed merger of Peoples Natural Gas and Equitable Gas Company for the Pennsylvania Office of Consumer Advocate.
- Reviewed the proposed default service procurement of UGI Utilities to procure standard offer service power supplies for its non-shopping customers for 2014 to 2017.
- Performed an audit of Rocky Mountain Power's 2012 Energy Balancing Account, including a review of the Company's hedging program.
- Reviewed a request by Wisconsin Public Service to implement the System Modernization and Reliability Project, a large-scale capital program to improve system reliability in Northern Wisconsin
- Served as a member of a Daymark Energy Advisors team advising the Arkansas Public Service Commission Staff regarding Entergy's Application to transfer ownership of transmission assets to ITC
- Reviewed and analyzed NGRID proposed 2013 LTCRER factor; provided written comments to RI PUC
- Reviewed Rocky Mountain Power Company's Energy Balancing Account filing for 2011; filed testimony before the Utah PSC
- Reviewed NGRID proposed tariff revisions for recovery of Long-Term Renewable Energy Contracts; provided written comments to RI PUC
- Analyzed proposed environmental upgrades to the Flint Creek coal unit in Arkansas; filed written testimony before the Arkansas PSC
- WI CUB WEPCO 2013 Rate Case; review prudence of capital and fuel costs; filed written testimony before the Wisconsin PSC
- Reviewed and analyzed a request for an Advanced Determination of Prudence for a new wind generation facility; filed written testimony before the North Dakota PSC
- Reviewed proposed 2013 -2015 Default Service Procurement Plan for PPL Utilities; filed written testimony before the Pennsylvania PUC.
- Analyzed forecast of projected capital additions to plant in service for forward-looking test year in Utah rate case. Filed testimony before the Utah Public Service Commission.
- Review and analysis of National Grid's proposed 2013 Standard Offer Service and Renewable Energy Standard procurement plan on behalf of the Rhode Island Division of Public utilities and Carriers.
- Review and analysis of National Grid's proposed long term renewable contracting plan on behalf of the Rhode Island Division of Public utilities and Carriers.
- Review and analysis of a long-term renewable energy contract between Black Bear Hydro and National Grid on behalf of the Rhode Island Division of Public Utilities and Carriers.

- Reviewed proposed 2013 -2015 Default Service Procurement Plan for PECO Energy on behalf of the Pennsylvania Office of Consumer Advocate
- Review National Grid's 2012 Electric Retail Rate Filing requesting Commission approval of various charges and adjustment factors for the Rhode Island Division of Public Utilities and Carriers
- Analyzed the request to the Wisconsin Public Service Commission for a CPCN for the Hampton - Rochester - La Crosse Baseline Reliability Project
- Performed an assessment of the TOU rates proposed by PPL Electric Utilities before the Pennsylvania Public Utilities Commission; Presented expert testimony providing the results of that assessment
- Reviewed the proposed merger between Exelon and Constellation Energy for its impact on market power; filed testimony before the Pennsylvania Public Utilities Commission
- Reviewed the proposed merger between Exelon and Constellation Energy for its impact on market power; filed testimony before the Federal Energy Regulatory Commission and the Maryland Public Service Commission
- Conducted an assessment of the request to the North Dakota Public Service Commission for an Advanced Determination of Prudence for the Montana Dakota Utilities GT; filed testimony before the North Dakota Public Service Commission
- Conducted an assessment of the request to the North Dakota Public Service Commission for an Advanced Determination of Prudence for the Big Stone Air Quality Control System; filed testimony before the North Dakota Public Service Commission
- Analyzed proposed 2012 monitored and non-monitored fuel costs, market sales and revenues, capacity position, and performance parameters for Wisconsin Electric Power; filed testimony before the Public Service Commission of Wisconsin
- Analyzed proposed ceiling prices for Distributed Generation procurement for the Rhode Island Division of Public Utilities and Carriers in Docket 4288
- Reviewed proposed changes to National Grid's Distributed Generation Enrollment Process for the Rhode Island Division of Public Utilities and Carriers in Docket 4276
- Reviewed proposed changes to National Grid's interconnections standards for the Rhode Island Division of Public Utilities and Carriers in Docket 4277
- Analyzed proposed 2012 monitored and non-monitored fuel costs, market sales and revenues, capacity position, and performance parameters for Northern States Power Wisconsin; filed testimony before the Public Service Commission of Wisconsin
- Analyzed proposed 2012 monitored and non-monitored fuel costs, market sales and revenues, capacity position, and performance parameters for Madison Gas & Electric; filed testimony before the Public Service Commission of Wisconsin
- Analyzed proposed 2012 monitored and non-monitored fuel costs, market sales and revenues, capacity position, and performance parameters for Wisconsin Public Service; filed testimony before the Public Service Commission of Wisconsin
- Reviewed the proposed merger between Duke Energy and Progress Energy for compliance with merger approval standards and the impact of the merger on customers; filed testimony before the North Carolina Public Utilities Commission and the South Carolina Public Service Commission

- Analyzed the De-List Bid submitted by Vermont Yankee in ISO-NE capacity auctions. Filed statement at FERC presenting the results of that assessment.
- Performed an assessment of a proposal by Nova Scotia Power to increase spending on vegetation management activities as part of the 2012 rate case; filed testimony before the Nova Scotia Utility and Review Board
- Reviewed and analyzed a proposed Purchased Power Agreement between National Grid and Orbit Energy; filed testimony before the Rhode Island Public Utility Commission in Docket 4265
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Ascutney Vermont
- Reviewed and analyzed NGRID proposed SOS procurement plan and RES Compliance plan for 2012; provided testimony before the Rhode Island Public Utility Commission in Docket 4227
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Bennington Vermont
- Prepared follow-on analysis of Utah resource acquisition in rate case in Docket 10-035-124
- Reviewed and analyzed a proposed retail rate increase by Fitchburg Gas and Electric Company before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Capital Spending Plan, and an accompanying recovery mechanism
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Georgia, Vermont
- Reviewed and analyzed damages claimed in litigation between a developer of renewable energy facilities and the owner of the host site
- Evaluated the decision of PacifiCorp to acquire new generating resources in Utah. Filed testimony before the Public Service Commission of Utah
- Served as a principal advisor and key team member in Daymark Energy Advisors' assessment of strategic options for Entergy Arkansas, Inc. subsequent to its withdrawal from the Entergy System Agreement
- Reviewed the issues and documentation related to a complaint regarding the net metering issues for the Portsmouth Wind Turbine for the Rhode Island Divisions of Public Utilities and Carriers
- Conducted a study of non-transmission alternatives to a proposed substation and related transmission upgrades in Jay, Vermont
- Reviewed and evaluated the construction and cost recovery of a large cogeneration plant for a mid-west utility; utilized heat balance analysis to develop new cost allocators between steam and electric sales.
- Analyzed fuel costs, market sales and revenues, capacity position, and performance parameters for a large- mid-west utility.
- Performed a review and analysis of the proposed merger between FirstEnergy and Allegheny Energy. Provided expert testimony before the FERC and the Pennsylvania Public Utilities Commission regarding merger policy, benefits and market power issues.

- Performed a study of non-transmission alternatives to a proposed transmission project in the Lewiston-Auburn area of Central Maine Power Company's service territory. Testified before the Maine Public Utilities Commission.
- Analyzed a proposed plan by National Grid to procure 2011 default service power supplies and comply with Renewable Energy Standards. Provided expert testimony before the Rhode Island Public Utilities Commission in Docket 4149.
- Served as an advisor to the Pennsylvania Office of Consumer Advocate in reviewing 2011 default service plans for PECO Energy
- Served as an advisor to the Pennsylvania Office of Consumer Advocate in reviewing 2011 default service plans for PPL Electric Utilities.
- Analyzed a purchase power agreement between National Grid and on offshore wind project in Rhode Island. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Reviewed and analyzed a proposed retail rate increase by Western Massachusetts Electric Company before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Capital Plan, and an accompanying recovery mechanism.
- Served as an advisor to the developer of a utility-scale Solar PV facility in Massachusetts.
- Evaluated a proposed Solar PV installation for a large retail customer in Massachusetts. Performed an analysis of the appropriate rate of return and its impact on facility electric costs and financial feasibility.
- Assessed the economic impact of an additional interconnection between ISO-NE and NYISO; analyzed impact on market prices and congestion.
- Reviewed and analyzed the capacity position of a large mid-west utility and the impact of that position on electric rates.
- Performed an economic evaluation of a proposed transmission line in New England. Assessed the project's ability to deliver renewable energy to load centers and the impact of the project on Locational Marginal Prices.
- Analyzed a proposed interconnection of a large new industrial load in Massachusetts. Evaluated proposed substation configuration and developed alternatives that achieved comparable reliability at lower costs. Assessed cost recovery options.
- Reviewed the Energy Efficiency and Conservation Programs proposed by Pennsylvania Power & Light in response to Act 129, Pennsylvania legislation that requires Electric Distribution Companies to achieve certain annual consumptions and demand reduction by 2013. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding program design, benefit cost analyses, and cost recovery.
- Reviewed the Energy Efficiency and Conservation Programs proposed by Philadelphia Electric Company in response to Act 129, Pennsylvania legislation that requires Electric Distribution Companies to achieve certain annual consumptions and demand reduction by 2013. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding program design, benefit cost analyses, and cost recovery.
- Assisted in the review and analysis of a proposed retail rate increase by National Grid before the Rhode Island Public Utilities Commission. Provided expert testimony before the Rhode Island Public Utilities

Commission regarding the Company's proposed Inspection & Maintenance Program, its Capital Plan, its Storm Funding Plan, and its Facilities Plan

- Reviewed and analyzed Time-of-Use rates proposed by Pennsylvania Power & Light. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding compliance with Commission requirements, rate design, cost recovery, and consumer education issues.
- Assisted in the review and analysis of a proposed retail rate increase by National Grid before the Massachusetts Department of Public Utilities. Provided expert testimony before the Massachusetts Department of Public Utilities regarding the Company's proposed Inspection & Maintenance Program, its Capital Plan, its Storm Funding Plan, and its Facilities Plan.
- Performed a review and analysis of the proposed merger between Exelon and NRG. Provided expert testimony before the Pennsylvania Public Utilities Commission regarding merger policy, benefits and market power issues.
- Reviewed the needs analysis and load forecast supporting a proposed Transmission Project in Rhode Island. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Performed an assessment of plans to procure Default Service Power Supplies for a Rhode Island utility. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Served as an advisor to Vermont electric utilities regarding the evaluation of new power supply alternatives. Developed and applied a probabilistic planning tool to model uncertainty in costs and operating parameters.
- Conducted a review of Massachusetts Electric Company's proposal to construct, own, and operate large scale PV solar generating units. Served as an advisor to the Massachusetts Attorney General in settlement negotiations. Performed an analysis of the appropriate rate of return and its impact on ratepayer costs and financial feasibility. Provided expert testimony before the Massachusetts Department of Public Utilities.
- Conducted a review of Western Massachusetts Electric Company's proposal to construct, own, and operate large scale PV solar generating units. Served as an advisor to the Massachusetts Attorney General in settlement negotiations. Performed an analysis of the appropriate rate of return and its impact on ratepayer costs and financial feasibility. Provided expert testimony before the Massachusetts Department of Public Utilities.
- Served as a key member of a Daymark Energy Advisors Team evaluating wind generation RFPs in Oklahoma.
- Performed an assessment of plans to procure Default Service Power Supplies for Pennsylvania utilities. Provided expert testimony before the Pennsylvania Public Utilities Commission.
- Performed an assessment of a merchant generator proposal to construct, own, and operate 800 MW of large scale PV solar generating units in Maine.
- Analyzed proposed environmental upgrades to the Edgewater 5 coal-fired generating unit in Wisconsin, including an economic evaluation of this investment compared to alternative supply resources. Provided expert testimony before the Public Service Commission of Wisconsin.
- Analyzed proposed environmental upgrades to the Columbia Energy Center coal-fired generating units in Wisconsin, including an economic evaluation of this investment compared to alternative supply resources. Provided expert testimony before the Public Service Commission of Wisconsin.

- Analyzed proposed environmental upgrades to the Oak Creek coal-fired generating units in Wisconsin, including an economic evaluation of this investment compared to alternative supply resources. Provided expert testimony before the Public Service Commission of Wisconsin.
- Reviewed Pennsylvania Act 129 and Commission rules for Energy Efficiency Plans
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Maine.
- Served as a key member of the Daymark Energy Advisors Team advising the Connecticut Energy Advisory Board (CEAB) on a wide range of energy issues, including integrated resources plan and the need for and alternatives to new transmission projects.
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Vermont.
- Served as an advisor to the Delaware Public Service Commission and three other state agencies in the review of Delmarva Power & Light's integrated resource plan and the procurement of power supplies to meet SOS obligations.
- Served as an expert witness in litigation involving a contract dispute between the owner of a merchant power plant and the purchasers of the output of the plant.
- Served as an advisor to the Maryland Attorney General's Office in the proposed merger between Constellation Energy and the FPL Group.
- Reviewed and analyzed outages for Connecticut utilities during the August 2006 heat wave. Prepared an assessment of utility filed reports and corrective actions.
- Conducted a study of required planning data and prepared forecasts of the key drivers of future power supply costs for public power systems in New England.
- Reviewed and analyzed Hawaiian Electric Company integrated resource plan and its DSM programs for the State of Hawaii. Prepared written statement of position and testified in panel discussions before the Hawaii Public Utility Commission.
- Assisted the Town of Hingham, MA in reviewing alternatives to improve wireless coverage within the Town and to leverage existing telecommunication assets of the Hingham Municipal Light Plant.
- Conducted an extensive study of distributed generation technologies, options, costs, and performance parameters for VELCO and CVPS.
- Analyzed and evaluated proposals for three substations in Connecticut. Prepared and issued RFPs to seek alternatives in accordance with state law.
- Performed an assessment of merger savings from the First Energy – GPU merger. Developed a rate mechanism to deliver the ratepayers share of those savings. Filed testimony before the PA PUC.
- Prepared long term price forecasts for energy and capacity in the ISO-NE control area for evaluating the acquisition of existing power plants.
- Conducted an assessment of market power in PJM electricity markets as a result of the proposed merger between Exelon and PSEG. Developed a mitigation plan to alleviate potential exercise of market power. Filed testimony before the PA PUC.
- Performed a long-term locational installed capacity (LICAP) price forecast for the NYC zone of the NYISO control area for generating asset acquisition.

- Served as an Independent Evaluator of a purchase power agreement between a large mid-west utility and a very large cogeneration plant. Evaluated the implementation of amendments to the purchase power agreement, and audited compliance with very complex contract terms and operating procedures and practices.
- Performed asset valuation for energy investors targeting acquisition of major electric generating facility in New England. Prepared forecast of market prices for capacity and energy products. Presented overview of the market rules and operation of ISO-NE to investors.
- Assisted in the performance of an asset valuation of major fleet of coal-fired electric generating plants in New York. Prepared forecast of market prices for capacity and energy products. Analyzed cost and operations impacts of major environmental legislation and the effects on market prices and asset valuations.
- Conducted an analysis of the cost impact of two undersea electric cable outages within the NYISO control area for litigation support. Reviewed claims of cost impacts from loss of sales of transmission congestion contracts and replacement power costs.
- Reviewed technical studies of the operational and system impacts of major electric transmission upgrades in the state of Connecticut. Analysis including an assessment of harmonic resonance and type of cable construction to be deployed.
- Conducted a review of amendments to a purchased power agreement between an independent merchant generator and the host utility. Assessed the economic and reliability impacts and all contract terms for reasonableness.
- Assisted in the development of an energy strategy for a large Midwest manufacturing facility with on-site generation. Reviewed electric restructuring rules, electric rate availability, purchase & sale options, and operational capability to determine the least cost approach to maximizing the value of the on-site generation.
- Assisted in the review of the impact of a major transmission upgrade in Northern New England.
- Negotiated a new interconnection agreement for a large hotel in Northeastern Massachusetts.

## **SELECTED EXPERIENCE – NSTAR ELECTRIC & GAS**

### **President & COO of NSTAR Unregulated Subsidiaries**

*Concurrently served as President and COO of three unregulated NSTAR subsidiaries: Advanced Energy Systems, Inc., NSTAR Steam Corporation, and NSTAR Communications, Inc.*

#### **Advanced Energy Systems, Inc.**

*Responsible for all aspects of this unregulated business, a large merchant cogeneration facility in Eastern Massachusetts that sold electricity, steam, and chilled water. Duties included management, operations, finance and accounting, sales, and P&L responsibility.*

#### **NSTAR Steam Corporation**

*Responsible for all aspects of this unregulated business, a district energy system in Eastern Massachusetts that sold steam for heating, cooling, and process loads. Duties included management, operations, finance and accounting, sales, and P&L responsibility.*

#### **NSTAR Communications, Inc.**

*Responsible for all aspects of this unregulated business, a start-up provider of telecommunications services in Eastern Massachusetts. Duties included management, operations, finance and accounting, sales, and P&L responsibility.*

*Established a joint venture with RCN to deliver a bundled package of voice, video, and data services to residential and business customers. Negotiated complex indefeasible-right-to-use and stock conversion agreements.*

*Installed 2,800 miles of network in three years. Built capacity for 230,000 residential and 500 major enterprise customers.*

*Testified before the Congress of the United States on increasing competition under the Telecommunications Act of 1996.*

#### **VP, Technology, Research, & Development, Boston Edison Company**

*Responsible for identifying, evaluating, and deploying technological innovation at every level of the business.*

*Reviewed Electric Power Research Institute (EPRI), national laboratories, vendor, and manufacturer R&D sources. Assessed state-of-the-art electro-technologies, from nuclear power plant operations to energy conservation.*

#### **VP of Marketing, Boston Edison Company**

*Promoted and sold residential and commercial energy-efficiency products and customer service programs.*

*Conducted market research to develop an energy-usage profile. Designed a variable time-of-use pricing structure, significantly reducing on-peak utilization for residential and commercial customers.*

*Designed and marketed energy-efficiency programs.*

*Established new distribution channels. Negotiated agreements with major contractors, retailers, and state and federal agencies to promote new energy-efficient electro-technologies.*

#### **Vice President, Energy Planning, Boston Edison Company**

*Responsible for energy-usage forecasting, pricing, contract negotiations, and small power and cogeneration activities. Directed fuel and power purchases*

*Implemented an integrated, least-cost resource planning process. Created Boston Edison's first state-approved long-range plan.*

*Assessed non-traditional supply sources, developed conservation and load-management programs, and purchased from cogeneration and small power-production plants.*

*Negotiated and administered over 200 transmission and purchased power contracts.*

*Represented the company with external agencies. Served on the Power Planning Committee of the New England Power Pool.*

*Testified before federal and state regulatory agencies.*

## **EMPLOYMENT HISTORY**

**Daymark Energy Advisors, Inc. (formerly La Capra Associates, Inc.)**  
*Principal Consultant*

Boston, MA  
2004 – present

**Advanced Energy Systems, Inc.**  
*President and COO*

Boston, MA  
2001-2003

**NSTAR Steam Corporation**  
*President and COO*

Cambridge, MA  
2001-2003



<b>NSTAR Communications, Inc.</b> <i>President and COO</i>	1995-2003
<b>Boston Edison Company</b> <i>VP, Technology, Research, &amp; Development</i>	Boston, MA 1993-1995
<i>VP, Marketing, Boston Edison Company</i>	1991-1993
<i>Vice President, Energy Planning, Boston Edison Company</i>	1987-1991
<i>Manager, Supply &amp; Demand Planning</i>	1984-1987
<i>Manager, Fuel Regulation &amp; Performance</i>	1982-1984
<i>Assistant to Senior Vice President, Fossil Power Plants</i>	1981-1982
<i>Division Head, Information Resources</i>	1978-1981
<i>Senior Engineer, Information Resource Division</i>	1977-1978
<i>Assistant to VP, Steam Operations</i>	1976-1977
<i>Electrical Engineer, Research &amp; Planning Department</i>	1973-1976
<i>Engineering co-op student</i>	1970-1973

## EDUCATION

<b>Boston College</b> <i>Masters in Business Administration</i>	Boston, MA 1982
<b>Northeastern University</b> <i>Masters in Science, Electrical Engineering</i>	Boston, MA 1974
<b>Northeastern University</b> <i>Bachelors in Science, Electrical Engineering</i>	Boston, MA 1973

## PROFESSIONAL AFFILIATIONS

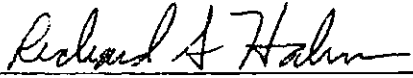
<b>Director, La Capra Associates, Inc.</b>	2005-2015
<b>Elected Commissioner – Reading Municipal Light Board</b>	2005-2012
<b>Director, NSTAR Communications, Inc.</b>	1997-2003
<b>Director, Advanced Energy Systems, Inc.</b>	2001-2003
<b>Director, Neuco, Inc.</b>	2001-2003
<b>Director, United Telecom Council</b>	1999-2003
<b>Head, Business Development Division, United Telecom Council</b>	2000-2003
<b>Registered Professional Electrical Engineer in Massachusetts</b>	

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Joint Application of Mid-Atlantic	:	
Interstate Transmission, LLLC	:	
("Mait"); Metropolitan Edison	:	
Company ("Met -Ed") and	:	
Pennsylvania Electric Company	:	
("Penelec") for: (1) A Certificate	:	Docket No. A-2015-2488903
of Public Convenience Under 66	:	Docket No. A-2015-2488904
Pa.C.S. §1102(A)(3) Authorizing the	:	Docket No. A-2015-2488905
Transfer of Certain Transmission	:	Docket No. G-2015-2488906
Assets from Met-Ed and Penelec to	:	Docket No. G-2015-2488907
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	:	

VERIFICATION

I, Richard S. Hahn, hereby state that the facts above set forth in my Testimony, OCA Statement 1 are true and correct and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

Signature:   
Richard S. Hahn

DATED: December 22, 2015