

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

FILED

July 26, 2017

INDIANA UTILITY  
REGULATORY COMMISSION

PETITION OF INDIANA MICHIGAN POWER )  
COMPANY, AN INDIANA CORPORATION, FOR )  
(1) AUTHORITY TO INCREASE ITS RATES AND )  
CHARGES FOR ELECTRIC UTILITY SERVICE )  
THROUGH A PHASE IN RATE ADJUSTMENT; (2) )  
APPROVAL OF: REVISED DEPRECIATION )  
RATES; ACCOUNTING RELIEF; INCLUSION IN )  
BASIC RATES AND CHARGES OF QUALIFIED )  
POLLUTION CONTROL PROPERTY, CLEAN )  
ENERGY PROJECTS AND COST OF BRINGING )  
I&M'S SYSTEM TO ITS PRESENT STATE OF )  
EFFICIENCY; RATE ADJUSTMENT MECHANISM )  
PROPOSALS; COST DEFERRALS; MAJOR )  
STORM DAMAGE RESTORATION RESERVE )  
AND DISTRIBUTION VEGETATION )  
MANAGEMENT PROGRAM RESERVE; AND )  
AMORTIZATIONS; AND (3) FOR APPROVAL OF )  
NEW SCHEDULES OF RATES, RULES AND )  
REGULATIONS. )

CAUSE NO. 44967-NONE

SUBMISSION OF DIRECT TESTIMONY OF  
KAMRAN ALI

Petitioner, Indiana Michigan Power Company (I&M), by counsel, respectfully  
submits the direct testimony of Kamran Ali in this Cause.



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## CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing was served upon the following via electronic email, hand delivery or First Class, or United States Mail, postage prepaid this 26th day of July, 2017 to:

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Exhibit I&M: \_\_\_\_\_

**INDIANA MICHIGAN POWER COMPANY**

**PRE-FILED VERIFIED DIRECT TESTIMONY**

**OF**

**KAMRAN ALI**

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**PRE-FILED VERIFIED DIRECT TESTIMONY OF KAMRAN ALI  
ON BEHALF OF  
INDIANA MICHIGAN POWER COMPANY**

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

2 A. My name is Kamran Ali. My business address is 8500 Smiths Mill Road, New  
3 Albany, Ohio 43054.

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

5 A. I am employed by the American Electric Power Service Corporation (AEPSC) as  
6 Director of Transmission Planning. AEPSC supplies engineering, financing,  
7 accounting, planning, advisory, and other services to the subsidiaries of the  
8 American Electric Power (AEP) system, one of which is Indiana Michigan Power  
9 Company (I&M or the Company).

10 **Q. Please briefly describe your educational background and business  
11 experience.**

12 A. I received a Bachelor of Science – Electrical Engineering degree from the  
13 University of Alabama in Tuscaloosa, Alabama and a Master of Science –  
14 Electrical Engineering degree from Kansas State University in Manhattan, Kansas.  
15 I also received a Master of Business Administration degree from Ohio University  
16 in Athens, Ohio. I was employed by SMC Electrical in 2004 as an electrical  
17 engineer. In 2006, I joined AEP as a Substation Engineer. In 2007, I transferred  
18 to Transmission Planning, where I advanced through increasing levels of  
19 responsibility. In June 2016, I assumed the position of Director, Transmission  
20 Planning, which includes organizing and managing all activities related to

1 assessing the adequacy of AEP's transmission network in the PJM Regional  
2 Transmission Organization (RTO) region to meet the needs of its customers in a  
3 reliable, cost effective, and environmentally compatible manner.

4 **PURPOSE OF TESTIMONY**

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

6 A. My testimony describes the transmission system that is necessary for the provision  
7 of retail service and supports the recovery of the transmission costs charged to  
8 I&M as a result of its membership in the PJM RTO. In particular, I&M incurs  
9 charges under the PJM tariffs approved by the Federal Energy Regulatory  
10 Commission (FERC), including the PJM Open Access Transmission Tariff (PJM  
11 OATT). My testimony supports the nature and reasonableness of those costs.  
12 Company witness Williamson explains I&M's proposal to include these costs in  
13 I&M's PJM Cost Rider. Company witness Nollenberger describes how I&M's  
14 traditional embedded transmission costs, as well as I&M's revenues as a PJM  
15 transmission owner, are removed from I&M's cost of service for purposes of this  
16 proceeding.

17 **I&M'S TRANSMISSION SYSTEM**

18 **Q. Please describe I&M's transmission system.**

19 A. I&M's transmission system is a highly networked grid that delivers electricity from  
20 generation sources to the retail and wholesale consumers served by I&M. There  
21 are approximately 5,160 circuit miles of transmission lines in the I&M system,  
22 stretching from the eastern Indiana border with Ohio to the shore of Lake Michigan

1 in southeastern Michigan, as well as extending to western and southeastern  
2 Indiana, connecting current and former I&M generation sources with the  
3 Company's service territory. Approximately 4,300 of these circuit miles are within  
4 Indiana. The voltage levels of I&M's transmission system range from 34.5 kV to  
5 765 kV and can be divided into three categories based on voltage level: extra high  
6 voltage (EHV), transmission, and sub-transmission. Finally, I&M's transmission  
7 system includes approximately 180 transmission substations.

8 **Q. Please explain how I&M'S transmission system is interconnected with the**  
9 **transmission system of other electric utilities.**

10 A. The I&M transmission system is part of the PJM RTO and is interconnected with  
11 Ohio Power Company, American Transmission Systems, Inc., Dayton Power and  
12 Light Co., ComEd, and transmission providers in the Midcontinent Independent  
13 System Operator (MISO) RTO.

14 **Q. Please describe the overall condition of I&M'S transmission plant.**

15 A. The Company's transmission facilities are revitalized and maintained in  
16 accordance with AEP standards that are based on industry regulations and good  
17 utility practices. Like other members of our industry, the Company is addressing  
18 the challenges of aging infrastructure, the need to modernize transmission  
19 facilities, comply with expanding regulations, and the need to adapt to a changing  
20 generation portfolio.

1 **Q. Please explain.**

2 A. The AEP transmission system has evolved over the last century. Over recent  
3 decades, the majority of transmission investment has been directed towards  
4 constructing facilities to address RTO identified constraints due to a shift in  
5 generation portfolio. In addition, some investment has focused on connecting new  
6 demand while maintaining compliance with changing federal and regional reliability  
7 standards. Consequently, there is a need to refocus investment on the aging grid  
8 infrastructure and resilience to maintain and improve reliability in light of changing  
9 weather patterns and increased reliance on technology by society and to protect  
10 the grid from physical and cyber threats.

11 To address this aging transmission infrastructure issue, AEP and I&M are  
12 prioritizing transmission projects based on the performance and condition of each  
13 asset and the risk that the failure of each poses to the system and connected  
14 customers. In addition, we expect that the generation portfolio will continue to shift,  
15 and this shift in the location and magnitude of the generation fleet is likely to result  
16 in the need for new transmission upgrades due to changes in the flow of energy  
17 across the electric markets.

18 **Q. Is I&M'S transmission system currently adequate to serve its customers'**  
19 **load reliably?**

20 A. Yes. I&M's transmission system is compliant with all federal and regional reliability  
21 standards. I&M will continue to invest in its transmission assets to provide reliable  
22 electric service to its customers.



**PJM INTERCONNECTION**

1

2 **Q. What is PJM?**

3 A. PJM is a FERC-approved and regulated RTO that coordinates and administers the  
4 movement of wholesale electricity in all or parts of thirteen states and the District  
5 of Columbia. The Indiana Utility Regulatory Commission (Commission) approved  
6 I&M's transfer of functional operation of its transmission facilities to PJM by order  
7 dated September 20, 2003 in consolidated Cause Nos. 42350 and 42352. The  
8 AEP System–East Zone (AEP Zone), which includes I&M, integrated its operations  
9 with PJM and began participating in the PJM energy market on October 1, 2004.

10 As a member of PJM and a load serving entity (LSE), costs are billed to I&M  
11 for functional operation of the transmission system, management of the PJM  
12 markets, and general administration of the RTO. The costs include charges for  
13 I&M's purchase of Network Integration Transmission Service (NITS) under the  
14 PJM OATT to serve its retail customers. NITS is also provided under the PJM  
15 OATT to serve loads of other utilities, cooperatives, and municipalities.

16 **Q. How does I&M participate in PJM?**

17 A. I&M currently has three distinct roles within PJM: (1) Generator, (2) LSE, and (3)  
18 Transmission Owner (TO). There are various charges and credits that the  
19 Company experiences resulting from each role. I will primarily discuss the roles of  
20 an LSE and TO.

1 **Q. How is I&M charged for using the PJM transmission system?**

2 A. As an LSE, I&M is charged for using the PJM transmission system irrespective of  
3 whether it owns the facilities that are being used. As such, I&M pays to use the  
4 PJM transmission system, including its own transmission assets, through charges  
5 that are based upon I&M's demand on the system. In addition, costs can be  
6 incurred by I&M due to projects constructed by other transmission owners within  
7 the AEP Zone or socialized costs for the entire PJM system. The costs are based  
8 on the principle of "beneficiary pays".

9 **Q. Does I&M receive compensation from PJM as a TO?**

10 A. Yes. I&M is compensated by PJM for owning and operating transmission assets  
11 as a TO.

12 **Q. How is I&M'S transmission system planned and operated?**

13 A. I&M's transmission system is part of the AEP transmission system. Planning and  
14 operation of the system is integrated through the coordinated efforts of the AEP  
15 Transmission Department (AEP Transmission), a business unit of AEPSC, and  
16 PJM. AEP Transmission works closely with neighboring utilities, other  
17 interconnected entities, and PJM to plan and operate the transmission grid. RTOs  
18 align the transmission planning and operating requirements set out in each RTO's  
19 protocols and operating criteria, as further defined through North American Electric  
20 Reliability Corporation (NERC) requirements. I&M has input into the RTO planning  
21 process through AEP Transmission, but the costs allocated to I&M for the grid

1 infrastructure investment in PJM outside I&M's service territory are not within I&M's  
2 direct control.

3 **Q. What are the major factors that drive the need for transmission infrastructure**  
4 **investment?**

5 A. There are several factors that drive the need for transmission infrastructure  
6 investment. Transmission infrastructure investment is needed to maintain system  
7 reliability, including changes resulting from retirement of existing generation  
8 resources; to replace obsolete or deteriorating equipment and facilities (aging  
9 infrastructure); to relieve transmission congestion to enhance market efficiency; to  
10 interconnect new generation resources and allow delivery of the associated energy  
11 production; to meet customer demand through new or modified points of delivery  
12 and transmission service from generation to load; and to improve grid resilience to  
13 respond to natural disasters, physical attacks, and cyber threats.

14 In addition to the above, there is a growing need for investment in better  
15 telecommunication connectivity on the transmission system to support supervisory  
16 control, data acquisition, and protection systems, which will lead to improved  
17 physical security of critical assets and a reduction in Customer Minutes of  
18 Interruptions (CMI) related to transmission outages

19 **Q. Is the need for transmission infrastructure investment unique to I&M or**  
20 **AEP?**

21 A. No. Industry wide, utilities are investing in the transmission system to meet the  
22 needs described above. According to an October 2015 report by the Edison

1 Electric Institute,<sup>1</sup> its members invested \$82.6 billion in transmission assets from  
2 2009 to 2014 and plan to invest an additional \$85 billion through 2018.

3 **COSTS RECOVERED THROUGH THE PJM RIDER**

4 **Q. Which I&M witnesses explain how I&M plans to recover PJM costs through**  
5 **the retail ratemaking process?**

6 A. Company witness Williamson supports and describes the request to recover PJM  
7 costs through the OSS/PJM Rider proposal, and Company witness Halsey  
8 calculates the rider revenue requirement.

9 **Q What does your testimony address?**

10 A. My testimony identifies these PJM costs and explains that these costs are  
11 significant in volume, variable in nature, and largely outside I&M's direct control.  
12 The incremental growth is clearly evidenced by the change in expenses over the  
13 period 2012 through 2016 as well as I&M's forward-looking test year January 1,  
14 2018 through December 31, 2018 (Test Year) and beyond.

15 **Q. Please identify the types of PJM transmission costs incurred by I&M.**

16 A. I&M incurs costs and offsetting revenues for its membership in PJM and for  
17 transmission service. These costs are charged to I&M in accordance with the  
18 FERC-approved PJM OATT and Operating Agreement and currently include the  
19 following:

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<sup>1</sup> See Edison Electric Institute (EEI), Actual and Planned Transmission Investment by Investor-Owned Utilities (2009-2018), October 2015, *available at* [http://www.eei.org/issuesandpolicy/transmission/documents/bar\\_transmission\\_investment.pdf](http://www.eei.org/issuesandpolicy/transmission/documents/bar_transmission_investment.pdf).

- 1 • NITS pursuant to PJM OATT Attachments H-14 and H-20.
- 2 • Firm and Non-Firm Point-to-Point (PTP) Revenues pursuant to PJM OATT
- 3 Attachment H-14.
- 4 • TO Scheduling, System Control, and Dispatch Service pursuant to PJM OATT
- 5 Schedule 1A.
- 6 • AEP RTO Start-up Cost Recovery Charges (SCRC) pursuant to PJM OATT
- 7 Attachment H-14.
- 8 • PJM RTO Administration fees and other charges pursuant to PJM OATT
- 9 Schedules 9 and 10.
- 10 • PJM Transmission Enhancement charges pursuant to PJM OATT Schedule
- 11 12.
- 12 • Default Allocation Assessments, and any refunds of such assessments,
- 13 pursuant to Section 15.2 of the PJM Operating Agreement.

14 From time to time PJM modifies the charges and revenues related to  
15 membership within PJM and for transmission service; as a result, the list above  
16 may not be fully representative of I&M's PJM-related charges and revenues in the  
17 future.

18 **Q. Please identify the other PJM costs incurred by I&M.**

19 A. I&M incurs expenses and receives credits from PJM for other activities associated  
20 with I&M's role as a Generator and LSE. These charges and credits include net  
21 transmission congestion charges and other ancillary services such as regulation,

1 black start, and spinning reserve. These expenses are included in the “Non-NITS”  
2 costs in Figure KA-1 below.

3 **Q. Are these costs consistent with the costs currently recovered through I&M’S**  
4 **PJM Cost Rider?**

5 A. Yes. As explained by Company witness Williamson, all PJM costs described  
6 above are currently recovered in I&M’s PJM Cost Rider.

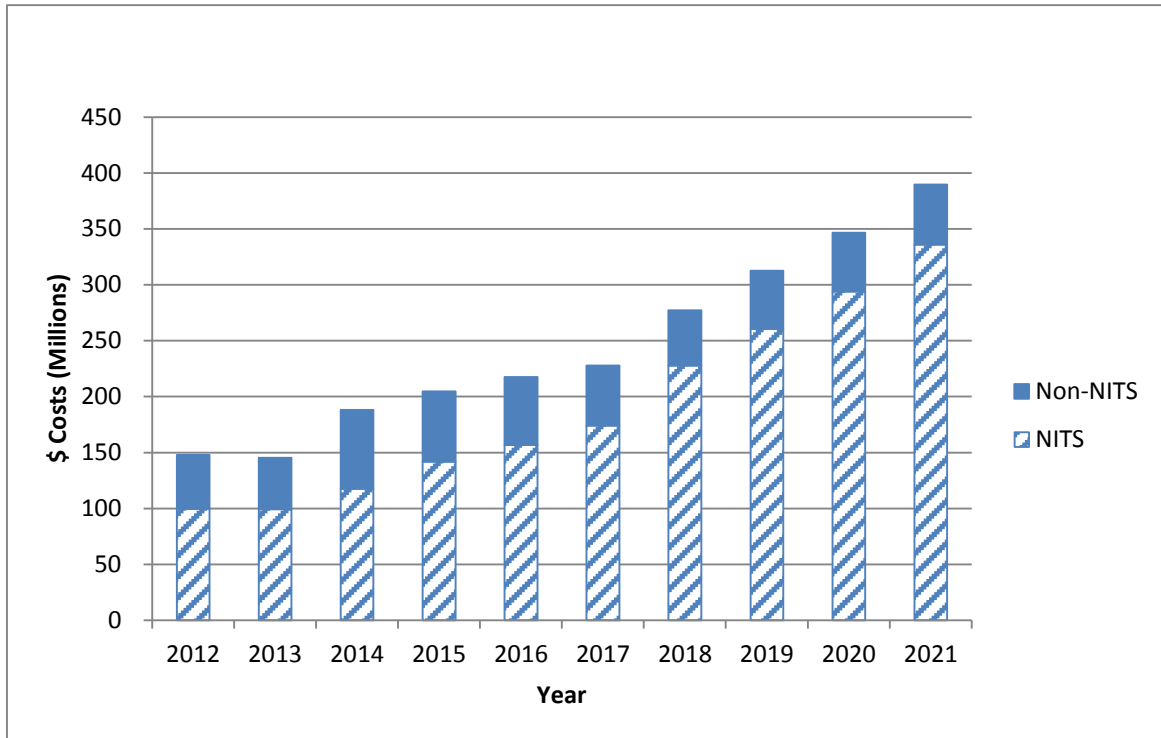
7 **Q. Are the PJM costs charged to I&M variable as to timing and substantial in**  
8 **amount?**

9 A. Yes. There are costs related to ensuring an adequate transmission system is  
10 available to provide service. These costs flow to I&M through the PJM tariffs and,  
11 as shown below in Figure KA-1, vary from year to year. The costs have been and  
12 are projected to continue increasing.

13 **Q. What has been the Company’s PJM cost trend since 2011, and what is the**  
14 **expected forecast?**

15 A. I&M’s total PJM costs for 2012-2016 are shown in Figure KA-1 below. The forecast  
16 period from 2017 through 2021, including the 2018 Test Year, is also provided.

**Figure KA-1  
I&M Historical and Forecasted PJM Costs**



1 As stated above and discussed below, increases in the Company's PJM costs are  
 2 being driven primarily by the PJM NITS costs. In particular, PJM NITS costs are  
 3 growing primarily due to charges in Accounts 4561035 and 5650016, which are  
 4 billed by PJM to I&M in its role as the Load Serving Entity (LSE) for I&M's native  
 5 load customers. Charges to these, and other NITS accounts, will continue to be  
 6 incurred and are forecasted to be approximately \$227.4 million for the Test Year.  
 7 In addition, I&M is forecasted to incur approximately \$49.4 million in non-NITS  
 8 costs in the Test Year. As explained later in my direct testimony, I&M is  
 9 responsible for the costs associated with infrastructure investment in the greater

1 region of PJM's transmission system, and thus the charges for which I&M is  
2 responsible are not fully controllable by the Company.

3 **Q. Please explain the development of the forecasted costs?**

4 A. The forecasted PJM charges are developed internally by AEP and its affiliated  
5 companies that have projected transmission investments over the forecasted time  
6 period. From a high level, the projected necessary capital investment, combined  
7 with the required operations and maintenance expense, is modeled to develop an  
8 estimated revenue requirement for its projected transmission in service. Through  
9 a series of historical and forecasted transmission system usage, the forecasted  
10 amount to be allocated to I&M through its role as an LSE is determined. The  
11 results of that process are included in Figure KA-1 shown above.

12 **Q. What is the Company's forecast of PJM costs for beyond the Test Year?**

13 A. Total forecasted PJM costs are shown in Figure KA-1 from 2017 to 2021. Figure  
14 KA-1 also breaks out the amount of PJM NITS costs to demonstrate the  
15 significance of the PJM NITS costs compared to the total PJM costs, and the bar  
16 graph is intended to demonstrate the contribution of the NITS costs to the overall  
17 PJM costs. I discuss the nature of NITS costs in detail below.

18 **TRANSMISSION PLANNING AND EXPANSION**

19 **Q. What are PJM NITS charges?**

20 A. NITS charges represent the cost for I&M and other PJM network customers to  
21 integrate, economically dispatch, and regulate their current and planned network



1 resources to service their network load. NITS charges in the AEP Zone are derived  
2 from the transmission investments of all TOs in the AEP Zone.

3 **Q. Are the PJM NITS charges reasonable and necessary?**

4 A. Yes, the PJM NITS charges relate to transmission projects that have determined  
5 to be reasonable and necessary for the provision of transmission service.

6 **Q. Are NITS charges significant?**

7 A. Yes. As indicated in Figure KA-1, the charges for NITS are increasingly the  
8 largest portion of PJM's bill to I&M, and will continue to increase throughout the  
9 next several years. Figure KA-1 shows I&M's total Company forecast of annual  
10 NITS charges through 2021, including the forecasted Test Year NITS expense of  
11 \$227.4 million.

12 **Q. What is driving the increase in NITS charges for I&M?**

13 A. The increase in NITS charges is driven by the increasing investment in  
14 transmission infrastructure. As previously described, the transmission system  
15 operated by PJM has required and continues to require substantial investment to  
16 address aging infrastructure, cyber and physical security threats, modernization of  
17 protection and control equipment, and changes in industry regulations. Historically,  
18 transmission investment was focused on system needs arising from retirement of  
19 generation due to environmental regulations. This requires infrastructure  
20 improvements occurring both within I&M's service territory and the remainder of  
21 the AEP Zone. These investments are billed to the AEP Zone and charged to I&M  
22 through the monthly PJM bill.

1 **Q. Are zonal projects the only project type driving the increased transmission**  
2 **charges from PJM?**

3 A. No. In addition to Zonal projects, which flow through the NITS charge, there are  
4 several Regional projects in PJM, both within and outside the AEP Zone that lead  
5 to increased transmission costs for I&M. Zonal projects are the infrastructure  
6 investment that PJM determines solely benefit the AEP Zone. The cost impacts  
7 for Zonal projects placed in-service are fully allocated to all LSEs in the AEP Zone,  
8 including I&M. The costs of Regional Projects that benefit a greater area and  
9 additional PJM participants beyond the AEP Zone are shared over that larger  
10 footprint and less of the total cost is allocated to I&M. These costs flow through  
11 the PJM Transmission Enhancement Charges and are not included in NITS.

12 **Q. What type of projects result from the PJM RTEP?**

13 A. The RTEP Process results in transmission expansions or enhancements that are  
14 required to achieve compliance with respect to PJM's system reliability, operational  
15 performance, or market efficiency as determined by PJM's Office of the  
16 Interconnection, as well as projects that are needed to meet Transmission Owners'  
17 local transmission planning criteria (Baseline Upgrades). Also included are  
18 transmission projects that result from transmission customer requests for  
19 generator interconnection, merchant transmission additions, and long-term  
20 transmission service (Network Upgrades), as well as projects needed to maintain  
21 the existing grid as designed and to meet regulatory requirements, and TO and  
22 industry standards (Supplemental Upgrades). Examples of Supplemental

1 Upgrades include interconnection of new retail demand, modification to existing  
2 delivery points, replacing failed equipment, proactive replacement of deteriorating  
3 assets, modernization of the grid, and installation and expansion of supervisory  
4 control and data acquisition..

5 Largest among the PJM projects in Indiana is an estimated \$107 million  
6 investment in northeastern Indiana which includes rebuilding the transmission line  
7 between the Auburn, Butler, and North Hicksville stations. It also includes  
8 construction of two new 345/138-kV stations, Sowers and Varner. Sowers will be  
9 a 138-kV switching station, and Varner will be a 345-kV to 138-kV step down  
10 station. Part of this project involves upgrading some 13 miles of 69-kV line to 138-  
11 kV standards and building 12 miles of new 138-kV line.

12 **Q. How are costs for RTEP projects allocated in PJM?**

13 A. In PJM, the cost allocation for RTEP projects is based on the type of project and  
14 its voltage level. The costs of Supplemental Upgrades are allocated to the  
15 transmission zone in which they are built. The costs of Network Upgrades are  
16 assigned to the interconnecting generator or customer. The cost of Baseline  
17 Upgrades is allocated to the benefiting zone based on the following mechanism:

- 18 • 345 kV single-circuit or lower voltage facilities are cost allocated based on  
19 solution-based distribution factors (DFAX). The costs of a 345 kV double  
20 circuit or higher voltage facilities are allocated as follows:

- 1           ○ 50% of project costs are allocated to all PJM zones based on load
- 2           ratio share.
- 3           ○ 50% of project costs are allocated on DFAX basis.
- 4           • For market efficiency projects, Net Load Payment savings is used instead
- 5           of DFAX to determine cost allocation. The AEP Zone load share
- 6           percentage for January to December, 2016 was 15.18%.

7 **Q. Are the infrastructure improvements related to reliability needs?**

8 A. Reliability-based transmission needs are determined based upon assessments of

9 transmission system performance relative to established federal, regional, and

10 company-specific reliability standards. These standards apply to all transmission

11 facilities regardless of cost recovery assignment. To the extent the transmission

12 system fails to meet a reliability standard, an enhancement must be initiated. In

13 addition, a transmission line that has been in service for numerous years is

14 expected to be maintained to ensure a reliable transmission electrical grid. To

15 rebuild facilities, the operations and maintenance (O&M) costs as well as the

16 condition and performance of and risk of failure posed by such facilities are

17 evaluated to determine if the facilities need to be replaced to ensure continued

18 reliability.

19 **Q. How are these transmission reliability standards established?**

20 A. The federal reliability standards are developed and enforced by the NERC, which

21 is the electric reliability organization certified by FERC to establish and enforce

22 reliability standards for the bulk power system. ReliabilityFirst (RF) is one of eight

1 NERC Regional Entities and is responsible for overseeing regional reliability  
2 standards development and enforcing compliance. I&M's transmission facilities  
3 are wholly located within the RF region. Company-specific reliability standards are  
4 developed consistent with federal and regional standards and are filed with FERC  
5 in the Annual Transmission Planning and Evaluation Report (FERC Form 715). In  
6 addition, company-specific standards are developed to ensure transparency and  
7 comparability. I&M, as a PJM member, must adhere to the NERC and PJM  
8 reliability standards, as well as the AEP reliability standards.

9 **Q. Are there penalties if the NERC reliability standards are not met?**

10 A. Yes. There are categories of fines which owners are assessed if found in violation  
11 of NERC Reliability Standards, with a maximum fine of up to \$1,200,000 per day.

12 **Q. Do the reliability standards change over time?**

13 A. Yes. In fact, FERC tasked NERC with ensuring that lessons learned from past  
14 blackouts of the bulk electric system are implemented. To that end, NERC  
15 undertook an effort to update the Transmission Planning Standards (TPL  
16 Standards). On October 17, 2013, FERC issued an Order approving TPL-001-4  
17 which became effective on December 23, 2013.

18 Both PJM Criteria and AEP Transmission Reliability Criteria also changed  
19 to meet NERC requirements as well as any other changes deemed necessary to  
20 maintain system reliability.

1 **Q. Are the changes to the NERC transmission planning standards intended to**  
2 **improve the level of system reliability?**

3 A. Yes. The NERC TPL Standards are focused on the Bulk Electric System (BES)  
4 lines that serve as the highways for energy that is ultimately delivered to customer  
5 load. Certain system contingency conditions that in the past could be handled  
6 through the curtailment of load, if it was necessary to maintain system reliability,  
7 are no longer acceptable under the new NERC TPL Standards.

8 **Q. Have additional reliability standards been adopted by PJM prior to the NERC**  
9 **TPL standards modifications?**

10 A. Yes. In some instances, an RTO such as PJM will adopt criteria based on scenario  
11 assessments to complement NERC reliability standards to ensure reliability of the  
12 electric grid in their respective region. These criteria are considered as the  
13 policies, standards, or principles of conduct by which the coordinated planning and  
14 operation of the interconnected electric system is achieved and apply to all  
15 transmission facilities in an RTO such as PJM regardless of ownership or cost  
16 allocation. PJM has adopted reliability standards that complement the current  
17 NERC TPL Standards. This is done to consider the variations across the various  
18 geographic sub-regions within the PJM region. It is likely that PJM will continue  
19 with the additional reliability criteria already in use and also require an improved  
20 level of transmission reliability in the future, given the current activity related to  
21 improved NERC TPL Standards.

1 **Q. How will these changes affect I&M and its need for transmission investment?**

2 A. As a TO member of the PJM RTO, I&M is obligated to complete transmission  
3 projects identified by PJM. In addition, AEP has a fundamental obligation to  
4 ensure that the system is being revitalized and maintained to ensure proper  
5 operation and adequate reliability. With the revision of the NERC TPL Standards,  
6 or subsequent revisions to the PJM reliability standards, it may be necessary for  
7 I&M to invest in new transmission infrastructure to meet the new standards.

8 **Q. Are there any pending FERC proceedings that are not reflected in the**  
9 **forecasted Transmission O&M expenses?**

10 A. Yes. There are two FERC proceedings that could impact the amount of PJM  
11 transmission expense that I&M incurs that are not reflected in the forecasted  
12 Transmission O&M expenses due to their timing. The first is a filing made by AEP  
13 pursuant to Section 205 of the Federal Power Act that makes certain revisions to  
14 I&M and its PJM transmission-owning affiliates' formula rates and protocols. The  
15 second filing is a complaint, filed under Section 206 of the Federal Power Act,  
16 seeking a reduction in the return on common equity used in the formula  
17 transmission rates of the AEP operating and transmission companies. These  
18 proceedings remain pending before FERC. As discussed by Company witness  
19 Williamson, I&M will address any impact associated with these proceedings in a  
20 subsequent PJM Rider filing.

**SUMMARY**

1

2 **Q. Please summarize your testimony.**

3 A. The transmission system is necessary for the provision of retail service. The  
4 forecasted PJM charges are both reasonable and necessary. The reasonableness  
5 is derived from the PJM vetting process and extensive review process by  
6 stakeholders and review committees for all projects approved for construction.  
7 Transmission infrastructure is needed to support customer growth and expansion.  
8 Depending upon the magnitude and location of the customer growth, new  
9 transmission investment will be needed to interconnect the new load and provide  
10 reliable service to meet their energy requirements.

11 In addition, aging infrastructure, better telecommunication connectivity to  
12 support supervisory control, data acquisition & protection systems, physical  
13 security of critical assets, and reduction in Customer Minutes of Interruptions (CMI)  
14 related to transmission outages will continue to drive transmission investment.

15 Finally, I&M customers benefit from a reliable transmission system and the  
16 oversight and membership in the PJM RTO.

17 **Q. Does this conclude your pre-filed verified direct testimony?**

18 A. Yes.



## VERIFICATION

I, Kamran Ali, Director of Transmission Planning for American Electric Power Service Corporation, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: JULY 07, 2017



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Kamran Ali