

**PJM RTEP – 2016/17 RTEP Long Term Proposal Window  
Meadow Lake-Pike Creek 345 kV**

**A Proposal to PJM Interconnection February 28, 2017**

**Submitted by**

**AEP and Exelon Corporation**



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**10 S. Dearborn Street, Chicago, IL 60603**



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## A. Executive Summary

AEP and Exelon (herein referred to as the “Project Team”) are pleased to provide the following proposal to PJM in response to the *PJM RTEP-2016/17 RTEP Long Term Proposal Window Problem Statement & Requirements Document*. AEP is located at 1 Riverside Plaza in Columbus, Ohio. Exelon is located at 10 South Dearborn Street, Chicago, IL 60603.

### A.1. General Description of Proposed Project

The Project Team proposes to build the “Meadow Lake – Pike Creek 345 kV Project” (or, “the Project”) in Indiana and Illinois. The Project will establish a new 63.4-mile 345 kV double circuit transmission line from the existing Meadow Lake station to a new 345 kV switching station called “Pike Creek.” Pike Creek station will tie in the existing Davis Creek – Bloom and Davis Creek – Burnham 345 kV lines as well as the proposed line from Meadow Lake.

The Project Team has completed the necessary preliminary project development work to determine project constructability, preliminary cost estimates, and a construction schedule. Experienced AEP and Exelon engineering, siting, permitting, project management, and construction personnel were the primary resources for this work.

### A.2. Market Efficiency Flowgates Addressed

This project will address RPM constraints identified by PJM in the Commonwealth Edison Company zone. Specifically, the Project is designed to address the Thermal and Voltage constraints for transfers into the COMED zone as seen in the previous PJM 2019-2020 BRA Planning Parameters and Capacity Market Results as well as the newly released 2020-2021 BRA Planning Parameters. The 2019-2020 Parameters identified the CETL constraint as being a voltage collapse (occurring at approximately 5160 MW transfer level) while the 2020-2021 Parameters identify the CETL constraint as being a thermal limit of the Dequine – Eugene 345 kV circuit for the loss of the Greentown – Jefferson 765 kV circuit (occurring at approximately 4234 MW transfer level). This project should be considered as both a standalone project in PJM as well as a potential JOA project with MISO.



The Project has also been found to significantly reduce one of the identified market efficiency flowgates for the 2016/17 RTEP Long Term Proposal Window. Flowgate ME-4, Bosserman – Olive 138kV for the loss of New Carlisle – Olive 138kV, is an interregional constraint between PJM and MISO. The Project provides the following approximate congestion reduction for years 2021, 2024, and 2027 of the PJM model (year 2017 did not show ME-4 congestion in the base case):

	Percent Congestion Reduction		
FG#	2021	2024	2027
ME-4	40%	70%	90%

Furthermore, the Project Team performed analysis of existing and new contingencies that the Project may create and found no planning criteria violations.

### **A.3. Overall Schedule Duration**

The Project is expected to be placed in service 47 months after execution of the PJM Designated Entity Agreement (DEA). Assuming the DEA is executed by February 1, 2018, The Project Team could place the Project in service December 2021.

### **A.4. Overview of Estimate**

The estimated capital cost of the Project is approximately \$167,412,825 (in 2017 dollars). This estimated cost includes all Project components, including work that PJM may consider as upgrades. Please refer to Section E of this proposal for details on the project cost.

### **A.5. Designated Entity Statement of Intent**

AEP and Exelon seek to be the Designated Entities for the Meadow Lake – Pike Creek 345kV Project. Ultimately, AEP and Exelon intend to construct, own, and operate respective portions of the project through their established joint venture companies, RITELine Indiana, LLC and RITELine Illinois, LLC (“RITELine Companies”). RITELine Indiana, LLC intends to construct own and operate the transmission assets for the Meadow Lake – Pike Creek 345kV Project that reside within the state boundary of Indiana. Likewise, RITELine Illinois, LLC intends to construct



own and operate the transmission assets for the Meadow Lake – Pike Creek 345kV Project that reside with the state boundary of Illinois.

Additional information regarding AEP and Exelon’s qualifications and the qualifications of the intended owners of the Project are found in Section B.



## B. Company Evaluation Information

AEP and Exelon seek to be the Designated Entities for the Meadow Lake – Pike Creek 345kV Project. Ultimately, AEP and Exelon intend to construct, own, and operate respective portions of the project through their established joint venture companies, RITELine Indiana, LLC and RITELine Illinois, LLC (“RITELine Companies”). The figure below provides a diagram of the existing ownership structure for AEP, Exelon and the RITELine Companies.

[REDACTED IMAGE]

The RITELine Companies received approval from the Federal Energy Regulatory Commission (FERC) in Docket Nos. ER11-4069-000 and ER11-4070-000 to establish formula rates and protocols that became effective October 17, 2011.

### B.1. AEP and Exelon Contacts

Primary Contact (AEP)	Adam Hickman Manager, Transource Business Development	AEP 1 Riverside Plaza Columbus, Ohio 43215-2372 Telephone: 614-716-2854 Email: ajhickman@aep.com
Primary Contact (Exelon)	Jeff Yuknis Chief Operating Officer, Exelon Transmission Company	Exelon Telephone: 312-394-3661 Email: Jeffrey.yuknis@exeloncorp.com
Secondary Contact (AEP)	Takis Laios Manager, Transmission Asset Strategy	AEP 1 Riverside Plaza Columbus, Ohio 43215-2372 Telephone: 614-716-3462 Email: tlaios@aep.com




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Secondary Contacts (Exelon)	John Garavaglia Director, Transmission Operations & Planning	ComEd 2 Lincoln Center Oakbrook Terrace, IL 60181 630-576-6522 Email: John.garavaglia@comed.com
	William Allen Manager, Interregional & Long Range Planning	ComEd 2 Lincoln Center Oakbrook Terrace, IL 60181 630-437-2795 Email: William.allen@comed.com

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## **B.2. Status / Pre-Qualification**

Exelon has received Pre-Qualification status from PJM under ID 13-04 indicating satisfaction of the pre-qualification requirements for Designated Entity status as defined in the PJM Amended and Restated Operating Agreement (PJM OA) in section 1.5.8(a). Consequently, Exelon is eligible as a Designated Entity to construct, own and operate facilities within PJM’s footprint. The information as posted on PJM’s website reflects the Company’s current qualifications.

AEP has received Pre-Qualification status from PJM under ID 13-05 indicating satisfaction of the pre-qualification requirements for Designated Entity status as defined in the PJM OA in section 1.5.8(a). Consequently, AEP is eligible as a Designated Entity to construct, own and operate facilities within PJM’s footprint. The information as posted on PJM’s website reflects the Company’s current qualifications.

AEP and Exelon will execute the Meadow Lake - Pike Creek 345kV Project using the combined proven resources and standardized practices to develop, own, operate, and maintain transmission assets. AEP and Exelon have successfully executed similar projects within their territories. These capabilities are detailed in the prequalification submittals to PJM.



### **B.3. Overview of AEP**

AEP is one of the largest electric utility holding companies in the United States. AEP is headquartered in Columbus, Ohio. AEP delivers electricity to more than five million customers in 11 states. AEP operating utilities provide service to retail and wholesale customers in Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia and West Virginia. AEP directly or indirectly serves about 10 percent of the electricity demand in the Eastern Interconnection and approximately 11 percent of the electricity demand in the Electric Reliability Council of Texas region.

AEP owns, operates and maintains the largest transmission system in the United States, across the widest spectrum of voltage classes, with nearly \$10 billion in net transmission plant in 2016. This 40,000-mile network includes 2,110 miles of 765 kV Extra-High Voltage (EHV) transmission lines, which is more than all other U.S. transmission systems combined.

The entire AEP transmission system is planned and operated on an integrated basis through the coordinated efforts of the AEP Transmission Department (“AEP Transmission”), a business unit of American Electric Power Service Corporation. AEP Transmission employs over 2,600 professionals with the capability to develop, engineer, design, construct, operate and maintain transmission assets at any voltage. AEP Transmission coordinates all development and operational aspects, including engineering, project management, design, development, rights-of-way acquisition, construction, operation and maintenance, of AEP’s transmission business on behalf of its utility operating companies and transmission companies.

AEP Transmission employs nearly 450 professionals in line, station, and protection and control engineering functions. In-house engineering expertise allows AEP to consistently deliver high-quality results and advanced technical innovations that both improve the transmission system and add value for customers. These skills have been developed over a 100+ year history of siting, designing, constructing and operating over 40,000 miles of transmission lines and over 4,000 substations.







## C. Proposed Project Constructability Information

[REDACTED]



## D. Analytical Assessment

[REDACTED]



## E. Cost

[REDACTED]



## F. Schedule

[REDACTED]



## G. Operations/Maintenance

### G.1. Operational Plan

The Project Team is flexible regarding Project operations that can be provided using one of the following approaches:

- The Project Team can operate the new facilities directly using the capabilities of the AEP Transmission Operations (TOps) organization or from ComEd's current transmission control center in suburban Chicago. ComEd currently owns and operates 5,581 miles of transmission in northern Illinois from this control center.
- The Project Team can work with the incumbent transmission owner to facilitate their operations of the new facilities.

#### *AEP's Tops Organization*

The TOps organization operates from a state-of-the-art System Control Center (SCC) located in New Albany, Ohio. AEP TOps also operates five Transmission Operations Centers that coordinate transmission switch orders and interface with field personnel. The SCC and Transmission Operations Centers are staffed with NERC and PJM-Certified operators.

Operator tools include a State Estimator covering AEP's 11-state transmission system, real-time contingency analysis, and visualization and situational awareness tools. TOps has a back-up control center that can be staffed and fully functional within one hour from declaration of an emergency. TOps completes approximately 18,000 switching jobs totaling over 200,000 switching steps with an accuracy rate exceeding 99.99 percent annually.

### G.2. Maintenance Plan

[REDACTED]



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