PJM Generator Interconnection Request
Queue AB1-109
Feasibility Study Report

February 2016

Preface

The intent of the Feasibility Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation will be deferred until the System Impact Study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

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General

The Interconnection Customer (IC) has requested an increase in Maximum Facility Output (MFO) and Capacity of an existing generator by 36 MW. This will increase the unit's output from 1320 MW to 1356 MW. Queue Project AB1-109 was evaluated as a 36.0 MW (Capacity 36.0 MW) uprate to the Generating unit. Project AB1-109 was evaluated for compliance with applicable reliability planning criteria.

The requested in service date is December 1, 2018.

The objective of this Feasibility Study is to determine budgetary cost estimates and approximate construction timelines for identified transmission facilities required to connect the proposed generating facilities to the AEP transmission system. These reinforcements include the Attachment Facilities, Local Upgrades, and Network Upgrades required to maintain the reliability of the AEP transmission system.

Attachment Facilities

Station Cost:

- No work is required.

Protection and Relaying Cost:

- No work is required.

Local and Network Impacts

The impact of the proposed 36 MW generation increase on the AEP System was assessed for adherence with applicable reliability criteria. AEP planning criteria require that the transmission system meet performance parameters prescribed in the AEP FERC Form 715[1] and Connection Requirements for AEP Transmission System[2]. Therefore, these criteria were used to assess the impact of the proposed facility on the AEP System. Project AB1-109 was evaluated as a 36.0 MW (Capacity 36.0 MW) uprate to the generatong unit consistent with the interconnection application. Project AB1-109 was evaluated for compliance with reliability criteria for summer peak conditions in 2019.

Potential network impacts were as follows:

Normal System (2019 Summer Conditions Capacity Output)

- No problems identified

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1 http://www.aep.com/about/codeofconduct/OASIS/TransmissionStudies/GuideLines/2015_AEP_PJM_FERC_715_Final_Part_4.pdf

2 http://www.aep.com/about/codeofconduct/OASIS/TransmissionStudies/Requirements/AEP_Interconnection_Requirements_Rev1.pdf

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Single Contingency (2019 Summer Conditions Capacity Output)

- No problems identified

Multiple Contingency (2019 Summer Conditions Capacity Output)

- No problems identified

Contribution to Previously Identified Overloads (2019 Summer Conditions Capacity Output)

- No Problems identified.

Normal System (2019 Summer Conditions Full Output)

- No problems identified

Single Contingency (2019 Summer Conditions Full Output)

- No problems identified.

Multiple Contingency (2019 Summer Conditions Full Output)

- No problems identified

Contribution to Previously Identified Overloads (2019 Summer Conditions Full Output)

- No problems identified

Short Circuit Analysis

- Not required

Stability Analysis

- Stability study to be performed during the System Impact Study.

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Voltage Variations

- No problems identified.

Additional Limitations of Concern

- No known additional limitations of concern.

Local/Network Upgrades

- No problems identified.

Conclusion

Based upon the results of this Feasibility Study, the uprate to the existing generator unit by 36 MW (36 MW Capacity) will not require additional interconnection charges.

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