

System Impact Study Report

For

***PJM Upgrade Request
Queue Position AE1-184***

“Pontiac Midpoint – Dresden 345 kV”

December 2021

Preface

The intent of the System Impact 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 System Impact 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.

General

The New Service Customer AE1-184 has requested a Merchant Network Upgrade to support an increase of 82.7MW to the emergency rating of the 345kV Pontiac to Dresden transmission line 8014.

The proposed in-service date for this project is June 1, 2022. **This study does not imply a ComEd commitment to this in-service date.**

Cost Summary

The AE1-184 project will be responsible for the following costs:

Description	Total Cost
Attachment Facilities	\$0
Direct Connection Network Upgrades	\$0
Non Direct Connection Network Upgrades	\$0
Allocation for New System Upgrades	\$0
Contribution for Previously Identified Upgrades	\$0
Merchant Network Upgrades	\$5,000,000
Total Costs	\$5,000,000

Merchant Network Upgrades

Cost Estimates and Construction Schedule

In order to provide 82.7MW of additional emergency rating capacity to ComEd's 345kV Pontiac to Dresden transmission line 8014, ComEd estimates that it will need to replace the TSS 80 Pontiac 345kV 7-8 circuit breaker, two 345kV circuit breaker disconnect switches, and the line 8014 345kV motor-operated disconnect switch.

The estimated cost of this upgrade is \$5,000,000

The existing 8014 emergency rating of 1528 MVA will increase to an estimated 1656 MVA after the completion of this upgrade.

Cost Summary

Item	Limiting Constraint		Estimated mitigation	Estimated Cost
1	345kV Pontiac to Dresden transmission line 8014	ComEd	Replace the TSS 80 Pontiac 345kV 7-8 circuit breaker, two 345kV circuit breaker disconnect switches, and the line 8014 345kV motor-operated disconnect switch	\$5,000,000

Total estimated costs: \$5,000,000

Notes:

- These estimates are Order-of-Magnitude estimates of the costs that ComEd would bill to the customer for this Merchant Network Upgrade. Detailed Engineering & Construction Estimates will be determined during Facility Study.
- There were no site visits performed for these estimates. There may be costs related to specific site related issues that are not identified in these estimates. The site reviews will be performed during the Facilities Study or during detailed engineering.
- The estimated mitigation and rating increase identified was identified based on records available and on-hand. Site reviews will be performed during the Facilities Study or during detailed engineering that will verify the full scope and ratings change.
- These estimates are not a guarantee of the maximum amount payable by the New Service Customer and the actual costs of ComEd's work may differ significantly from these estimates. Per the PJM Tariff, the New Service Customer will be responsible for paying all actual costs of ComEd's work.

- Estimates for time required to construct the reinforcements will be identified during the Facilities Study
- The above estimate does not include 1) tax gross-up (which will be applicable), or 2) Real estate and permitting costs

ICTRs Granted for AE1-184:

Incremental Capacity Transfer Rights (ICTRs) were calculated using the 2022 RPM case. The following table provides the total ICTRs into the indicated Locational Deliverability Area (LDA) with the assumption that all active higher ordered queue projects were modeled in the 2022 RPM case. If there are any material changes associated with prior queued projects in the AE1 queue, then PJM would retool the analysis and determine the final ICTR's granted for the AE1-184 Merchant Transmission Request:

LDA	ICTRs
COMED	0

The New Service Customer's rights as described above shall become effective upon the completion of the Network Upgrades, Local Upgrades, or Merchant Network Upgrades, and the rights described above are contingent upon the successful completion of upgrades identified for the higher ordered queue projects. The ICTRs may change if there are changes to the higher ordered queue projects such as project withdraws, or other project modifications as described in PJM OATT §205.5. PJM would determine if a re-study is required and inform the New Service Customer.