Generation Interconnection

Combined Feasibility / Impact Study Report

for

Queue Project AG2-135

Hoffman Estates 12.5 KV

0 MW Capacity / 0.28 MW Energy

August 2021

Table of Contents

1 Introduction

This Feasibility Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 36.2, as well as the Feasibility Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is Commonwealth Edison Company (ComEd).

2 Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. Cost allocation rules for network upgrades can be found in PJM Manual 14A, Attachment B. 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 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.

3 General

The Interconnection Customer (IC) has proposed a Storage generating facility located in Pickaway County, Ohio. The installed facilities will have a total capability of 0.28 MW with 0 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is July 30, 2021. This study does not imply a TO commitment to this in-service date.

Queue Number	AG2-135
Project Name	Hoffman Estates 12.5 KV
State	Ohio
County	Pickaway
Transmission Owner	ComEd
MFO	0.28
MWE	0.28
MWC	0
Fuel	Storage
Basecase Study Year	2024

Any new service customers who can feasibly be commercially operable prior to June 1st of the basecase study year are required to request interim deliverability analysis.

4 Point of Interconnection

AG2-135 will interconnect with the Dominion transmission system via the Hoffman Estates 12.5 kV Circuit E1411Y.

5 Cost Summary

The AG2-135 project will be responsible for the following costs:

Description	Total Cost
Total Physical Interconnection Costs	$ 0[1]
Total System Network Upgrade Costs	$ 0
Total Costs	$ 0

This cost excludes a Federal Income Tax Gross Up charges. This tax may or may not be charged based on whether this project meets the eligibility requirements of IRS Notice 2016-36, 2016-25 I.R.B. (6/20/2016). If at a future date it is determined that the Federal Income Tax Gross charge is required, the Transmission Owner shall be reimbursed by the Interconnection Customer for such taxes.

Cost allocations for any System Upgrades will be provided in the System Impact Study Report.

6 Transmission Owner Scope of Work

Any required tansmission owner work will be outlined in the two party agreement between the Interconnection Customer and the Transmission Owner.

7 Transmission Owner Schedule

The estimated schedule for completion of the Tranmission Owner work is **4 months**.

[1] Any costs associated with the physical interconnection will be outlined in a separate two party Interconnection Agreement between the Transmission Owner and the Interconnection Customer.

8 Interconnection Customer Requirements

The IC will be required to comply with all Interconnection Customer requirements for generation interconnection customers located at the following link:

https://www.pjm.com/-/media/planning/plan-standards/private-ce/der-interconnection-guidelines-for-customers.ashx

9 Revenue Metering and SCADA Requirements

9.1 PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

9.2 Interconnected Transmission Owner Requirements

The IC will be required to comply with all Interconnected Transmission Owner's revenue metering requirements for generation interconnection customers located at the following link:

https://www.pjm.com/-/media/planning/plan-standards/private-ce/der-interconnection-guidelines-for-customers.ashx

10 Summer Peak - Load Flow Analysis

The Queue Project AG2-135 was evaluated as a 0.28 MW (0 MW) injection at the Hoffman 12.5 kV substation in the ComEd area. Project AG2-135 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG2-135 was studied with a commercial probability of 100.0 %. Potential network impacts were as follows:

10.1 Generation Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

10.2 Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

10.3 Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

10.4 Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

None

10.5 System Reinforcements - Summer Peak Load Flow - Primary POI

ID	Idx	Facility	Upgrade Description	Cost
			TOTAL COST	**$0**

10.6 Queue Dependencies

The Queue Projects below are listed in one or more indices for the overloads identified in your report. These projects contribute to the loading of the overloaded facilities identified in your report. The percent overload of a facility and cost allocation you may have towards a particular reinforcement could vary depending on the action of these earlier projects. The status of each project at the time of the analysis is presented in the table. This list may change as earlier projects withdraw or modify their requests.

None

11 Short Circuit Analysis

The following Breakers are overdutied:

None.

11.1 System Reinforcements - Short Circuit

None.

12 Affected Systems

None.

13 Attachment 1: One Line Diagram