



**Generation Interconnection  
Feasibility Study Report  
for  
Queue Project AG1-165  
EAST HAZELTON-WEATHERLY TAP 69 KV  
12 MW Capacity / 20 MW Energy**

January 2021

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## 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 PPL.

## 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 Interconnection Customer seeking to interconnect a wind or solar generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per Schedule H to the Interconnection Service Agreement and Section 8 of Manual 14D.

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 Solar generating facility located in Luzerne County, Pennsylvania. The installed facilities will have a total capability of 20 MW with 12 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is May 15, 2022. This study does not imply a TO commitment to this in-service date.

<b>Queue Number</b>	<b>AG1-165</b>
<b>Project Name</b>	EAST HAZELTON-WEATHERLY TAP 69 KV
<b>State</b>	Pennsylvania
<b>County</b>	Luzerne
<b>Transmission Owner</b>	PPL
<b>MFO</b>	20
<b>MWE</b>	20
<b>MWC</b>	12
<b>Fuel</b>	Solar
<b>Basecase Study Year</b>	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

AG1-165 will interconnect with the PPL system tapping the Harwood to East Hazelton #1 69 kV line between the East Hazelton #1 and Weatherly Tap 1 69 kV buses. The Point of Interconnection (POI) will be at the PPL EU owned termination structure where the Interconnection Customer's transmission. **The AG1-165 project will share the same interconnection facilities as the prior queues AF2-421 and AG1-164.**

### 5 Cost Summary

The AG1-165 project will be responsible for the following costs:

<b>Description</b>	<b>Total Cost</b>
<b>Total Physical Interconnection Costs</b>	\$ 0 <sup>1</sup>
<b>Total System Network Upgrade Costs</b>	\$ 0
<b>Total Costs</b>	\$ 0

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<sup>1</sup> The costs for the physical interconnection will be borne by the AF2-421 project. The estimated physical interconnection costs are captured in the AF2-421 study reports on the PJM website.

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 88-129. 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**

There are no physical interconnection costs allocated to AG1-165. The costs for the physical interconnection will be borne by the AF2-421 project.

## **7 Revenue Metering and SCADA Requirements**

### **7.1 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.

### **7.2 Meteorological Data Reporting Requirements**

The solar generation facility shall provide the Transmission Provider with site-specific meteorological data including:

- Temperature (degrees Fahrenheit)
- Atmospheric pressure (hectopascals)
- Irradiance
- Forced outage data

### **7.3 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:

<http://www.pjm.com/planning/design-engineering/to-tech-standards/>

## 8 Summer Peak - Load Flow Analysis

The Queue Project AG1-165 was evaluated as a 20.0 MW (Capacity 12.0 MW) injection Tapping the 69 kV Harwood - East Hazelton #1 Line in the PPL area. Project AG1-165 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AG1-165 was studied with a commercial probability of 53.0 %. Potential network impacts were as follows:

### 8.1 Generation Deliverability

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

None

### 8.2 Multiple Facility Contingency

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

None

### 8.3 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

### 8.4 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 study all shall overload conditions associated with the overloaded element identified.

None

### 8.5 System Reinforcements - Summer Peak Load Flow - Primary POI

None.

## **9 Short Circuit Analysis**

The following Breakers are overdutied:

None.

### **9.1 System Reinforcements - Short Circuit**

None.

## **10 Affected Systems**

### **10.1 NYISO**

NYISO Impacts to be determined during later study phases (as applicable).