

# ***Generation Interconnection Feasibility Study Report Queue Position AC1-021***

## **General**

Interconnection Customer has proposed an *uprate* to prior queue projects T174 and AB1-106 consisting of 2 x 1 combined cycle natural gas generation facility located in Westmoreland County, PA. The increased capability associated with queue position AC1-021 is achieved through efficiencies that maximizes the utilization of existing plant equipment. In addition, this project will share the same POI and land (Location site) with prior queue positions T174/AB1-106.

- AC1-021 has requested MW increase of 110 MW Energy and 0.0 MW Capacity Rights.
- T174/AB1-106 combined will have 940 MW Energy and 940 Capacity Rights.
- All three projects combined, i.e. T174/AB1-106/AC1-021, will have a total capability (MFO) of 1050 MW with 940.0 MW of this output being recognized by PJM as capacity.

The proposed in-service date for the AC1-021 project is 3-1-2019.

**This study does not imply a West Penn Power (“Transmission Owner”) commitment to this in-service date.**

## **Point of Interconnection**

AC1-021 will interconnect with the West Penn Power transmission system through the same POI of prior projects T174/AB1-106. Please refer to the single-line diagram in Appendix 2 for system configuration.

## **Network Impacts**

The Queue Project AC1-021 was evaluated as a 110.0 MW (Capacity 0.0 MW) injection into the T-174/AB1-106 substation (which is a tap of the Hatfield – Yukon 500 kV line) in the APS area. Project AC1-021 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AC1-021 was studied with a commercial probability of 53%. Potential network impacts were as follows:

### **Summer Peak Analysis - 2020**

#### **Generator Deliverability**

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

None.

#### **Multiple Facility Contingency**

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

None.

#### **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.

#### **Steady-State Voltage Requirements:**

None.

#### **Short Circuit:**

None.

### **Affected System Analysis & Mitigation**

#### **NYISO Impacts:**

None.

### **Delivery of Energy Portion of Interconnection Request**

*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.*

*Only the most severely overloaded conditions are listed. 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 will study all overload conditions associated with the overloaded element(s) identified.*

Not Applicable.

### **Light Load Analysis – 2020:**

None.

## **System Reinforcements**

### **Short Circuit:**

None.

### **Stability and Reactive Power Requirement:**

To be determined during the system impact study phase.

### **Summer Peak Load Flow Analysis Reinforcements:**

#### **New System Reinforcements:**

*(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation):*

None.

#### **Contribution to Previously Identified System Reinforcements:**

*(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study):*

None.

### **Light Load Load Flow Analysis Reinforcements:**

#### **New System Reinforcements:**

*(Upgrades required for mitigating reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation):*

None

**Contribution to Previously Identified System Reinforcements:**

*(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study):*

None

# **Appendix 1**

## **Facility Location**

**PJM Queue Position: AC1-021**

**Appendix 2**  
**Interconnection One-Line Diagram**  
**PJM Queue Position: AC1-021**