PJM Generator Interconnection
W2-009 Hopewell 230-kV
8 MWC / 18 MWE
Combined Feasibility & System Impact Study

October 2010
DMS #616486v1

Introduction

This combined Feasibility and System Impact Study has been prepared in accordance with the PJM Open Access Transmission Tariff, Sections 36 and 205, as well as the Feasibility Study Agreement between Hopewell Cogeneration Limited Partnership, (Interconnection Customer (IC)) and PJM Interconnection, LLC (Transmission Provider (TP)).

General

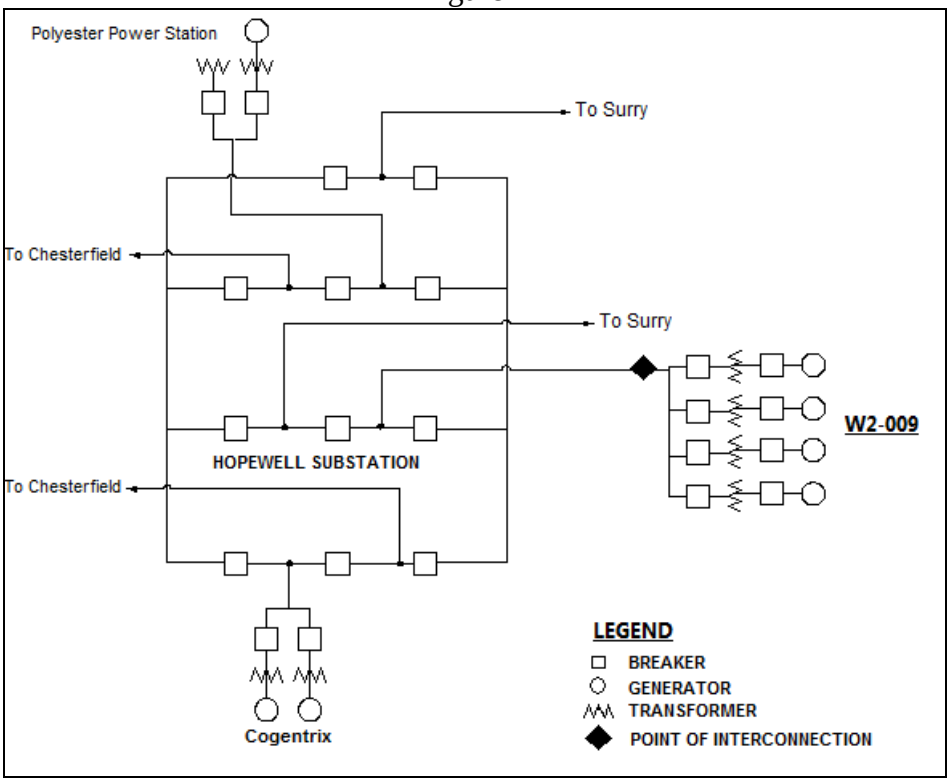
IC requested an 18 MW energy increase for Hopewell Cogeneration Facility (HCF). 8 MW of the 18 MW were requested to be eligible as PJM Capacity. Turbine blade upgrades increased the facility's capability. This project is a re-submittal of the R31 project. HCF is located in Hopewell, Virginia. The facility is a non-utility generator owned by Hopewell Cogeneration Limited Partnership. Currently, Dominion Virginia Power has exclusive rights to the output of the facility by virtue of a pre-existing Power Purchasing and Operating Agreement.

The intent of the System Impact study is to determine system reinforcements and associated costs and construction time estimates required to facilitate the addition of the new generating plant to the transmission system. The reinforcements include the direct connection of the generator to the system and any network upgrades necessary to maintain the reliability of the transmission system.

Summary

There are no upgrades required to accommodate the increased output from HCF.

Figure 1



Attachment Facilities

The existing Attachment Facilities are capable of handling the requested increase in output.

Dominioin System Impact Results

Not required.

PJM Network Upgrades Analysis

The queue project, W2-009, was studied as an 18 MW Energy and 8 MW Capacity injection at Hopewell 230KV substation in the Dominion area. W2-009 was evaluated for compliance with reliability criteria for summer peak conditions in 2014. Potential network impacts were as follows:

Generator Deliverability

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

None.

Multiple Facility Contingency

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

None.

Short Circuit

(Summary form of Cost allocation for breakers will be inserted here if any)

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.

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; Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)

None.

Stability (Applying Dominion Criteria)

Not required.