PJM Generator Interconnection

W3-002 Occoquan 34.5 kV

6.4 MW Capacity

Combined Feasibility and System Impact Study Report

December 2010
DMS #624071v1

Introduction

This combined Feasibility and System Impact Study has been prepared in accordance with the PJM Open Access Transmission Tariff, §110.3, as well as the System Impact Study Agreement between LES Project Holdings LLC the Interconnection Customer (IC), , and PJM Interconnection, LLC (PJM), the Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is Virginia Electric and Power Company.

Preface

The intent of a combined Feasibility and System Impact Study is to determine a plan, with estimated cost and construction time, to connect the subject generation interconnection project to the PJM network at a location specified by IC. As a requirement for interconnection, IC may be responsible for the cost of constructing Local and Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM and underlying system. All facilities required for interconnection of a generation interconnection project must be designed to meet ITO technical specifications.

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. IC is responsible for any right of way, real estate, and construction permit issues.

General

Queue W3-002 is an IC 6.4 MW Capacity resource interconnection request, which transitions an existing retail generator to the wholesale market. The facility is comprised of two generator step up transformers (GSU). There are four reciprocating internal combustion engines sets on each GSU. Output from the generation is connected to a 34.5 kV line, #313, fed from the Occoquan substation (refer to attached one-line diagram).

Potential PJM Network Impacts

Queue project W3-002 was studied as a 6.4 Capacity injection into ITO system at the Occoquan substation. Project W3-002 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)

No problems identified.

Multiple Facility Contingency

(Double Circuit Tower Line contingencies only for the full energy output. Stuck breaker and bus fault contingencies will be performed for the Impact Study)

No problems identified.

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.

Short Circuit

No problems identified.

System Stability Analysis

Not required.

Dominion Requirements

ITO reviewed the project and determined that the existing Facilities constructed under the existing retail agreement are adequate for the requested wholesale service.

W3-002 One-line diagram