System Impact Study Report

for

Queue Project AF2-028

Pumphrey 115 kV

February 2021

Table of Contents

1 Introduction

This System Impact Study has been prepared in accordance with the PJM Open Access Transmission Tariff, 205, as well as the System Impact Study Agreement between the Interconnection Customer (IC), and PJM Interconnection, LLC (PJM), Transmission Provider (TP). The Interconnected Transmission Owner (ITO) is BGE.

2 Preface

The intent of the System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. 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 System Impact Study is performed.

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. 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 New Services Customer, Calpine Mid-Atlantic Development, LLC, has requested an Upgrade Request pursuant to Parts IV and VI of the PJM Tariff. The New Services Customer has proposed to install a 120 MVAR Capacitor at the Pumphrey 115kV substation located in Baltimore County, Maryland. The proposed in-service date for this project is June 1, 2021. This study does not imply a TO commitment to this in-service date.

Queue Number	**AF2-028**
Project Name	Pumphrey 115 kV Capacitor
State	Maryland
County	Baltimore County
Transmission Owner	BGE
Basecase Study Year	2023

4 Transmission Owner Scope of Work

Description	Total Cost
120 mvar Capacitor/Breaker Associated Equipment Installation	$7,500,000
Total Estimated Costs	$7,500,000

5 Schedule

Based on the extent of the BGE work required to support the AF2-028 project, it is expected to take approximately 24-36-months from the date of a fully executed Interconnection Construction Service Agreement to complete the installation.

6 ICTR Analysis

Incremental Capacity Transfer Rights (ICTRs) were calculated using the 2023 RPM case. The Queue Project AF2-028 was evaluated as the addition of a 120 mvar capacitor to the Pumphrey 115 kV substation in the BGE area. The LDAs that were evaluated are SWMAAC, Eastern MAAC and BGE.

6.1 SWMAAC

263 ICTRs

6.2 Eastern MAAC

0 ICTRs

6.3 BGE

119 ICTRs

6.4 Simultaneous ICTRs

Simultaneous ICTRs will be computed in the facility study phase.