Generation Interconnection

Combined

Feasibility/System

Impact Study Report

for

Queue Project AF1-159

MARTINSVILLE-WILMINGTON 69 KV

11 MW Capacity / 0 MW Energy

January 2020

Revised February 2020

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1 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 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.

2 General

The Interconnection Customer (IC), has proposed an uprate to an existing Solar generating facility located at 39.3386690 latitude and -83.770092 longitude in Clinton County, Ohio. This project requests a 0 MW increase to the installed capability and an 11 MW uprate of the output being recognized by PJM as Capacity. The installed facilities will have a total capability of 50 MW with 30 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is **March 31, 2021. This study does not imply The Dayton Power and Light Company commitment to this in-service date.**

Queue Number	**AF1-159**
Project Name	MARTINSVILLE-WILMINGTON 69 KV
State	Ohio
County	Clinton
Transmission Owner	Dayton
MFO	50
MWE	0
MWC	11
Fuel	Solar
Basecase Study Year	2023

2.1 Point of Interconnection

AF1-159 will interconnect with the Dayton transmission system tapping the Wilmington to Martinsville 69 kV line.

2.2 Cost Summary

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

3 Transmission Owner Scope of Work

4 Attachment Facilities

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

5 Direct Connection Cost Estimate

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

6 Non-Direct Connection Cost Estimate

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

7 Schedule

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

8 Transmission Owner Analysis

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

9 Interconnection Customer Requirements

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

10 Revenue Metering and SCADA Requirements

The AF1-159 project will utilize the same Interconnection Facilities as AD2-031

11 Network Impacts

The Queue Project AF1-159 was evaluated as an 11.0 MW (Capacity 11.0 MW) injection tapping the Wilmington to Martinsville 69 kV line in the Dayton area. Project AF1-159 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF1-159 was studied with a commercial probability of 1.00. Potential network impacts were as follows:

12 Generation Deliverability

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

None

13 Multiple Facility Contingency

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

None

14 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

15 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 shall study all overload conditions associated with the overloaded element(s) identified.

None

16 System Reinforcements

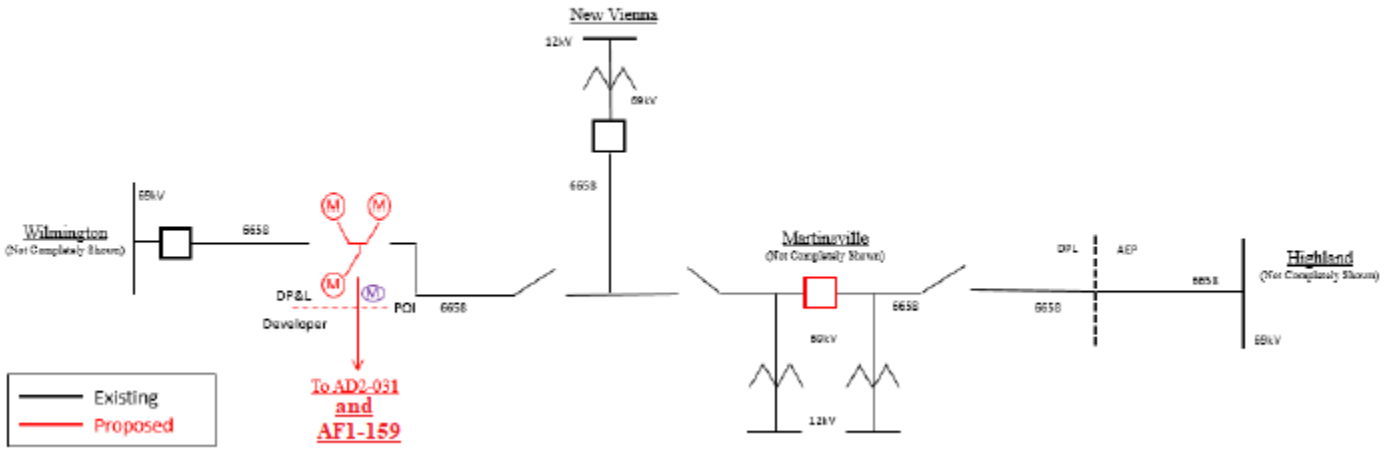
None

17 Short Circuit

The following Breakers are overdutied

None

Attachment 1 – One Line



Note: A single Proposed IC 69kV circuit breaker will be installed by the AD2-031 Project.

Attachment 2 – Project Location