



## **Generation Interconnection**

# **Combined Feasibility/System Impact Study Report**

**for**

**Queue Project AF1-150**

**MIDFIELD 22.9 KV**

**4.28 MW Capacity / 14.4 MW Energy**

January 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 a Natural Gas generating facility located in Allegheny County, Pennsylvania. The installed facilities will have a total capability of 14.4 MW with 4.28 MW of this output being recognized by PJM as Capacity. The proposed in-service date for this project is May 27, 2021. This study does not imply a TO commitment to this in-service date.

Final attachment facilities and local upgrades (if required) along with terms and conditions to interconnect AF1-150 will be specified in a separate two party Interconnection Agreement (IA) between DL and the Interconnection Customer as this project is considered FERC non-jurisdictional per the PJM Open Access Transmission Tariff (OATT).

From the transmission perspective, no network impacts were identified as detailed in the “Network Impacts” section below.

<b>Queue Number</b>	<b>AF1-150</b>
<b>Project Name</b>	MIDFIELD 22.9 KV
<b>State</b>	Pennsylvania
<b>County</b>	Allegheny
<b>Transmission Owner</b>	DL
<b>MFO</b>	14.4
<b>MWE</b>	14.4
<b>MWC</b>	4.28
<b>Fuel</b>	Natural Gas
<b>Basecase Study Year</b>	2023

## 2.1 Point of Interconnection

AF1-150 will interconnect with the DL transmission system at the Pittsburgh INTL Airport Midfield 22.9 kV substation.

## 3 Transmission Owner Scope of Work and Cost Summary

Scope, cost and schedule for the final attachment facilities and local upgrades (if required) to interconnect AF1-150 will be specified in a separate two party Interconnection Agreement (IA) between DL and the Interconnection Customer as this project is considered FERC non-jurisdictional per the PJM Open Access Transmission Tariff (OATT).

From the transmission perspective, no network impacts were identified as detailed in the “Network Impacts” section below.

## 4 Schedule

To be provide by Duquesne Light under their state tariff.

## 5 Interconnection Customer Requirements

Duquesne Light Company’s “Facility Interconnection Requirements” document dated 12/30/2015:

<http://www.pjm.com/planning/design-engineering/to-tech-standards/private-duquesne.aspx>

## 6 Revenue Metering and SCADA Requirements

### 6.1 PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Section 8 of Attachment O.

### 6.2 DL Requirements

The Transmission Owner will install, own and maintain the metering equipment at the Point of Interconnection. The IC’s facility shall be independently metered, and the IC shall provide the communication link required to send the Revenue Metering and real time data directly to PJM. All costs associated with the installation and maintenance of the metering equipment (including upgrades) shall be the responsibility of the IC.

## 7 Network Impacts

The Queue Project AF1-150 was evaluated as a 14.4 MW (Capacity 4.3 MW) injection at the Pittsburgh INTL Airport Midfield 22.9 kV substation in the DL area. Project AF1-150 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AF1-150 was studied with a commercial probability of 1.00. Potential network impacts were as follows:

## 8 Generation Deliverability

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

None

## 9 Multiple Facility Contingency

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

None

## 10 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

## 11 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

## **12 System Reinforcements**

None.

## **13 Short Circuit**

Not applicable