

Generation Interconnection Feasibility Study Report Queue Position AC2-066

General

Interconnection Customer has proposed a 75 MW uprate to prior 125 MW queue request AB1-014. The increased capability associated with queue position AC2-066 is achieved by adding similar equipment to the solar generation equipment of prior queue request AB1-014. The proposed in-service date for this project is October 31, 2018. **This study does not imply a Duke Energy commitment to this in-service date.**

Point of Interconnection

AC2-066 will interconnect with the Duke Energy transmission system by direct injection into Hillcrest 138 kV substation. The Point of Interconnection is located where Duke Energy's overhead transmission line from the Hillcrest 138 kV substation terminates at the Interconnection Customer's switch on the structure outside of substation fence.

Network Impacts

The Queue Project AC2-066 was evaluated as a 75.0 MW (Capacity 28.5 MW) injection at the Hillcrest 138 kV substation in the DEOK area. Project AC2-066 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AC2-066 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Analysis - 2020

Generator Deliverability

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

None

Multiple Facility Contingency

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

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

Steady-State Voltage Requirements

To be determined at later study phases.

Short Circuit

(Summary of impacted circuit breakers)

None

Affected System Analysis & Mitigation

LGEE Impacts:

LGEE Impacts to be determined during later study phases (as applicable).

MISO Impacts:

MISO Impacts to be determined during later study phases (as applicable).

OVEC Impacts:

OVEC Impacts to be determined during later study phases (as applicable).

Delivery of Energy Portion of Interconnection Request

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.

Only the most severely overloaded conditions are listed. 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 will study all overload conditions associated with the overloaded element(s) identified.

None

Light Load Analysis - 2020

Light Load Studies to be conducted during later study phases (as required by PJM Manual 14B).

System Reinforcements

Short Circuit

None

Stability and Reactive Power Requirement

To be determined at later study phase (If applicable).

Summer Peak Load Flow Analysis Reinforcements

None

Light Load Load Flow Analysis Reinforcements

None