PJM Generator Interconnection Request Feasibility Study Report PJM Web Version

Queue Position U1-054

April, 2009
DOCS No. 534672

General

The Interconnection Customer has proposed a 27 MWE (energy) and 27 MWC (Capacity) increase to the output of two generation units in Commonwealth Edison (ComEd) territory. The proposed increase will bring the combined maximum gross MW output of these generators to 327 MW. Since this queue request is intended to take advantage of current generating capability at the plant, the in-service date will be upon the effective date of the execution of the agreements required for this increase.

This Generation Interconnection Feasibility Study assesses the practicality and cost of incorporating the proposed 27 MW energy, and 27 MW Capacity generator increase into the ComEd system. In accordance with the process set forth in PJM's Manual 14A, *PJM Regional Planning Process,* the study was limited to short-circuit analyses as well as load flow analyses of probable contingencies. ComEd has provided preliminary estimates of the type, scope, cost, and lead time for construction of facilities, as necessary. If IC elects to pursue the System Impact Study, a more comprehensive analysis will be performed.

Network Impacts

The queue project U1-054 was studied as a capacity increase to two existing generation units in ComEd's territory. Unit 1 was increased by 12MW, while unit 2 was increased by 15MW for a total increase of 27MW. U1-054 was evaluated for compliance with reliability criteria for summer peak conditions in 2012. Potential network impacts were as follows:

Direct Connection

The proposed generation project will be connected to the ComEd transmission system at an existing point of interconnection at a Transmission Substation. The proposed interconnection will not require any additional construction.

The following assumptions were used in the preparation of this high-level cost estimate:

- The existing relay protection and communications equipment associated with the protection of the ComEd system is adequate for the increased generation.
- The customer will be responsible for the engineering, purchasing and construction of any changes required to the customer substation.
- The customer's substation and equipment beyond the ComEd metering point must be coordinated with and meet all National, State, Local, and ComEd requirements.

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.

New System Reinforcements
(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)

No system upgrades were identified during the course of this feasibility study.

Contribution to Previously Identified System Reinforcements
(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

None.

Short Circuit

The short circuit analysis was not required because there were no changes to the generators or their associated transformers

Preliminary Cost Estimate

Since there are no additional Direct Connection costs to the existing connection and no New System Reinforcements have been identified, the preliminary cost estimate for the proposed generator project is **$0.00**.

Construction Lead Time

This project will not require any additional time to complete because this project will utilize an existing interconnection point and no New System Reinforcements were identified.

If developer elects to pursue the System Impact Study, a more comprehensive analysis will be performed which could include system stability and reactive capability analysis.