

U4-007 Jennings Randolph Dam Generation Interconnection

General

The Interconnection Customer (IC) has proposed a 14 MW hydro powered generating facility to be located at the Jennings Randolph Dam in Garrett County, Maryland. The project was evaluated for compliance with reliability criteria for summer peak conditions in 2013. The in-service date is the third quarter of 2011.

Point of Interconnection

U4-007 will interconnect with the AP transmission system at the new JR Dam 138kV switching station which is a tap of the Albright-Black Oak 138kV circuit. U4-007 was studied as a 14 MW injection into the AP transmission system.

Direct Connection Requirements

Transmission Owner Scope of Direct Connection Work

The Transmission Owner's (Allegheny Power) scope of work for the direct connection facility includes:

- JR Dam 138kV Switching Station: Obtain property in the form of a permanent lease from the developer at no cost to AP. Grade the site and install an access road for a fenced area of approximately 200' x 210'. Construct a 138kV ring bus switching station consisting of: three (3) 138kV breakers, seven (7) 138kV switches, 138kV metering, 138kV bus supports, two (2) 138kV dead-end structures, one (1) 138kV power VT, foundations, a 16' x 36' metal control building, battery, control cables, panels, and associated equipment. It is assumed that the connection will be a tubing type over the fence to the developer facilities.

The estimated cost to perform this work is **\$ 3,268,000** in 2009 dollars.

- Cut the Albright-Black Oak 138kV circuit and loop the line through the new JR Dam 138kV switching station. Construct a 0.1 mile 954 kcmil ACSR 138kV loop line.

The estimated cost to perform this work is **\$210,000** in 2009 dollars.

- Install facilities for transfer trip at the Albright 138kV substation.

The estimated cost to perform this work is **\$158,000** in 2009 dollars

- Install facilities for transfer trip at the Black Oak 138kV substation.

The estimated cost to perform this work is **\$158,000** in 2009 dollars

Interconnection Customer Scope of Direct Connection Work

The Interconnection Customer (IC) has assumed full responsibility for the design and construction of all facilities associated with the U4-007 generating facility and the 138kV direct connection line on the IC side of the Point of Interconnection (POI). The IC will interconnect U4-007 with the AP transmission system by constructing a customer-owned 138kV line from the generating facility site to AP's JR Dam 138kV substation. Route selection, line design, right-of-way acquisition and construction of such lines will be entirely the responsibility of the IC. Cost estimates do not include construction of that line. It is assumed that the IC's step up transformer will conform to the AP standard of delta on the low side and grounded wye on the high side.

The IC will be required to install metering and telemetry equipment to provide revenue metering and real-time telemetry data to PJM. The requirements for this equipment are listed in Appendix 2, Section 8 of Attachment O to the PJM Tariff, as well as PJM Manuals 01 and 14D. Protective relaying and metering design and installation must comply with the Allegheny Power Applicable Standards.

Cost and Timing Summary

The estimated time to provide for the interconnection of this project is **18 months** after the receipt of a signed Interconnection Service Agreement and Construction Service Agreement.

Network Impacts

Potential network impacts are as follows:

Generator Deliverability

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

None

Multiple Facility Contingency

*(Double Circuit Tower Line, Line with Failed Breaker, and Bus Fault contingencies for the **Full** energy output.*

None

Contribution to Previously Identified Overloads

None

Short Circuit

No breakers were identified as being over their maximum interrupting rating.

Stability and Reactive Power Requirements

Will be performed during the Queue U4-007 System Impact Study.

New System Reinforcements

None

Contribution to Previously Identified System Reinforcements

None