



***Facility Study
For
Generation Interconnection
Request
GEN-2008-079***

SPP Tariff Studies

(#GEN-2008-079)

July 2010

Summary

Mid Kansas Power Company, LLC (MKEC) performed the following Study at the request of the Southwest Power Pool (SPP) for Generation Interconnection request Gen-2008-079. The request for interconnection was placed with SPP in accordance SPP's Open Access Transmission Tariff, which covers new generation interconnections on SPP's transmission system.

Pursuant to the tariff, MKEC was asked to perform a detailed Facility Study of the generation interconnection request to satisfy the Facility Study Agreement executed by the requesting customer and SPP.

Interconnection Customer Interconnection Facilities

The Interconnection Customer will be responsible for the 115 kV transmission line from the point of interconnection to its 115/34.5 kV substation that will contain its 115/34.5 kV transformer(s) and wind turbine collector feeders. In addition, the Customer will be required to maintain a power factor from 1.00 lagging to 0.960 leading at the point of interconnection (a new MKEC 115 kV switching station on the Judson Large-Cudahy 115 kV transmission line).

Transmission Owner Interconnection Facilities and Non Shared Network Upgrades

Per the following Facility Study, the Interconnection Customer is responsible for \$3,267,727 of Transmission Owner Interconnection Facilities and non-shared network upgrades.

Additional Network Upgrades

In addition, SPP has identified the following network upgrades, which are the sole responsibility of the Interconnection Customer (non-shared). At this time, Sunflower has not provided a Facility Study estimate for these facilities. Listed below are the SPP estimated costs for such facilities.

- Spearville Substation – Add second 230/115kV autotransformer and 230kV and 115kV terminal positions for autotransformer and new line terminal to Judosn Large
 - Cost - \$3,000,000
- Spearville – Judson Large 115kV transmission line – Build approximately 16 miles of 115kV transmission line.
 - Cost - \$8,000,000
- Judson Large Substation – Add 115kV line terminal
 - Cost - \$1,000,000

Executive Summary

<OMITTED TEXT> (Customer) has requested a Facility Study under the Southwest Power Pool Open Access Transmission Tariff (OATT) for interconnecting a 100.5 MW wind powered generation facility in Gray County, Kansas to the transmission system of Mid Kansas Power Company, LLC (MKEC). The wind powered generation facility studied was proposed to comprise of sixty-seven (67) GE 1.5 MW wind turbines. The wind powered generation facility will interconnect into a new 115 kV switching station on the Judson Large-Cudahay 115 kV transmission line.

MKEC will build a new 115 kV switching station and terminate Gen-2008-079 wind farm. The Interconnection Customer's non shared network upgrades and interconnection facilities are estimated at \$3,267,727.

The Customer will have certain facility requirements in its substation to interconnect the generation facility. The Customer will be required to maintain a power factor from 1.00 lagging to 0.960 leading at the point of interconnection.

1. Introduction

<OMITTED TEXT> (Customer) has requested a Facility Study under the Southwest Power Pool Open Access Transmission Tariff (OATT) for interconnecting a 100.5 MW wind powered generation facility in Gray County, Kansas to the transmission system of Mid Kansas Power Company, LLC (MKEC). The wind powered generation facility studied was proposed to comprise of sixty-seven (67) GE 1.5 MW wind turbines. The wind powered generation facility will interconnect into a new 115 kV switching station on the Judson Large-Cudahay 115 kV transmission line.

2. Interconnection Facilities and Network Upgrades

The cost for the Interconnection Facilities and Network Upgrades is listed below in Table 1. The one-line diagram is shown in Figure 1.

Table 1: Required Interconnection Facilities and Non Shared Network Upgrades

Project	Description	Estimated Cost
1	MKEC-Build 115 kV switching station, breakers, and terminate GEN-2008-079 wind farm.	\$3,267,727
	Total:	\$3,267,727

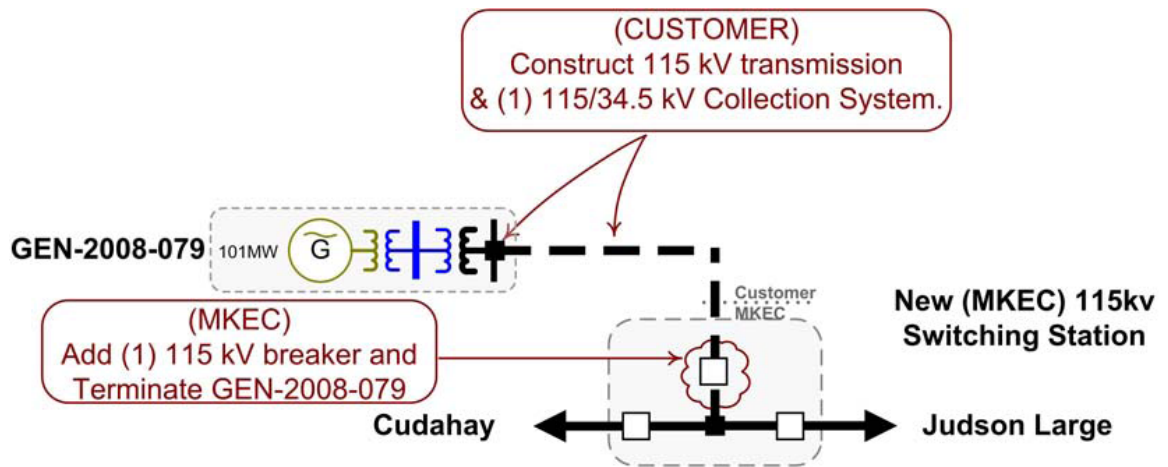


Figure 1. Interconnection Configuration for GEN-2008-079

2.1. Customer Facilities – The Customer will be responsible for its Generating Facility and its 115/34.5 kV substation that will contain its 115/34.5 kV transformer(s) and wind turbine collector feeders. In addition, the Customer will be required to install the following equipment in its facilities.

2.1.1. Reactive Power Equipment – Per the Impact Study, the Interconnection Customer may be required to install capacitor banks as necessary in addition to the studied GE 1.5 MW wind turbines to maintain the required 1.00 lagging to 0.960 leading power factor at the point of interconnection.

3. Conclusion

The Interconnection Customer's interconnection facilities are estimated at \$3,267,727.