Southwest Power Pool

Facility Study
For
Generator Interconnection Request
GEN-2013-012

SPP Generator Interconnection Studies

(#GEN-2013-012)

October 2013

Revision History

Date	Author	Change Description
10/16/2013	SPP	Facility Study Report Issued

Summary
Oklahoma Gas and Electric (OKGE) performed a detailed Facility Study at the request of Southwest Power Pool (SPP) for Generation Interconnection request GEN-2013-012 (68.0 MW Summer Peak Increase and 147.0 MW Winter Peak Increase / Combustion Turbines) located in Oklahoma County, Oklahoma. Full Interconnection Service will require the Network Upgrades listed in the "Other Network Upgrades" section. The request for interconnection was placed with SPP in accordance with SPP's Open Access Transmission Tariff, which covers new generation interconnections on SPP's transmission system.

Phases of Interconnection Service
It is not expected that interconnection service will require phases however, interconnection service will not be available until all interconnection facilities and network upgrades can be placed in service.

Interconnection Customer Interconnection Facilities
The Interconnection Customer will be responsible for all of the transmission facilities connecting the customer owned substation to the Point of Interconnection (POI), at the existing Oklahoma Gas and Electric (OKGE) 345kV Redbud Substation. The Interconnection Customer will also be responsible for any equipment located at the Customer substation necessary to maintain a power factor of 0.95 lagging to 0.95 leading at the POI.

Transmission Owner Interconnection Facilities and Non-Shared Network Upgrades
To allow interconnection the Transmission Owner has verified the associated terminal equipment is adequate for acceptable for the addition of the Interconnection Customer's Interconnection Facilities. At this time GEN-2013-012 is responsible for $0.00 of Transmission Owner Interconnection Facilities and Non-Shared Network Upgrades.

Shared Network Upgrades
The Interconnection Customer was studied within the DISIS-2013-001 Impact Study. At this time, the Interconnection Customer is allocated $0.00 for Shared Network Upgrades. If higher queued interconnection customers withdraw from the queue, suspend or terminate their GIA, restudies will have to be conducted to determine the Interconnection Customers' allocation of Shared Network Upgrades. All studies have been conducted on the basis of higher queued interconnection requests and the upgrades associated with those higher queued interconnection requests being placed in service. At this time, the Interconnection Customer is allocated the following cost for Shared Network Upgrade:

Share Network Upgrade Description	Allocated Cost	Total Cost
None	$0.00	$0.00
Total	$0.00	

Other Network Upgrades
Certain Other Network Upgrades are currently not the cost responsibility of the Customer but will be required for full Interconnection Service. These Other Network Upgrades include:

1. Redbud – Arcadia 345kV circuit #1 and #2 terminal equipment upgrade, assigned in SPP 2013 ITP NT, scheduled in-service November 2013

Depending upon the status of higher or equally queued customers, the Interconnection Customer's in-service date is at risk of being delayed or their Interconnection Service is at risk of being reduced until the in-service date of these Other Network Upgrades.

Other Considerations
The Definitive Interconnection System Impact Study (DISIS-2013-001) identified certain n-1-1 outage conditions that will require the GEN-2013-012 generation to be limited to 0MW. While in operation, for certain outage conditions on the transmission system, the generation will be limited to 0MW during the duration of the outage. The outages listed in the DISIS-2013-001 study are:

1. 3 phase fault on the Redbud to Arcadia 345kV circuit #1, near Redbud with Redbud to Arcadia 345kV circuit #2 modeled out of service
2. 3 phase fault on the Redbud to Arcadia 345kV circuit #2, near Redbud with Redbud to Arcadia 345kV circuit #1 modeled out of service

Conclusion
The Interconnection Customer is responsible for $0.00 of Transmission Owner Interconnection Facilities and Non-Shared Network Upgrades. At this time, the Interconnection Customer is allocated $0.00 for Shared Network Upgrades. After all Interconnection Facilities and Network Upgrades have been placed into service, Interconnection Service for 68.0 MW increase in Summer Peak and 147.0 MW increase in Winter Peak, as requested by GEN-2013-012, can be allowed.
At this time the total allocation of costs assigned to GEN-2013-012 for Interconnection Service are estimated at $0.00.

FACILITY STUDY

for

Gen-2013-012

Addition of
68 MW-Summer 147 MW-Winter
to the Existing 1,164MW-Summer 1,273MW-Winter OG&E Generating Facility
near
Luther, Oklahoma

June 19, 2013

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Summary

Pursuant to the tariff and at the request of the Southwest Power Pool (SPP), Oklahoma Gas and Electric (OG&E) performed the following Facility Study to satisfy the Facility Study Agreement executed by the requesting customer for SPP Generation Interconnection request Gen-2013-012. 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. No new facilities are needed for interconnecting additional 68 MW-Summer 147 MW-Winter to the existing 1,164MW-Summer 1,273MW-Winter OG&E Generating Facility.

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Introduction

OG&E Power Supply requested an additional 68 MW-Summer 147 MW-Winter to an existing 1,164MW-Summer 1,273MW-Winter OG&E generating facility interconnected to the OG&E Electric Services transmission system. The additional generating capacity will be at a currently interconnected generator that is interconnected to the existing OG&E Redbud substation located in Oklahoma County, Oklahoma, near Luther Oklahoma.

The existing generating plant consists of four turbines capable of generating 1,164MW in summer and 1,273MW in winter. Upgrades will performed on the turbines to increase their capability to 1,232MW in Summer and 1,420MW in Winter.

Interconnection Facilities

The project requires no upgrades at the interconnection point located in the existing OG&E substation.

This Facility Study does not guarantee the availability of transmission service necessary to deliver the additional generation to any specific point inside or outside the Southwest Power Pool (SPP) transmission system. The transmission network facilities may not be adequate to deliver the additional generation output to the transmission system. If the customer requests firm transmission service under the SPP Open Access Transmission Tariff at a future date, Network Upgrades or other new construction may be required to provide the service requested under the SPP OATT.

Short Circuit Fault Duty Evaluation

It is standard practice for OG&E to recommend replacing a circuit breaker when the current through the breaker for a fault exceeds 100% of its interrupting rating with re-closer de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.

For this increase to an existing generator interconnection, no breakers were found to exceed their interrupting capability after the addition of the Customer's additional 68 MW-Summer and 147 MW-Winter. OG&E found no breakers that exceeded their interrupting capabilities on their system. Therefore there is no short circuit upgrade costs associated with the Gen-2013-012 interconnection.

Interconnection Costs

Facility	ESTIMATED COST (2013 DOLLARS)
OKGE – No additional facilities are required in the existing 345kV substation that is located in the Redbud substation	$0
Total	**$0**

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Reviewed by:

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