



***Facility Study for Generation  
Interconnection Request  
GEN – 2005 – 003***

***SPP Coordinated Planning  
(#GEN-2005-003)***

**October 2005**

## Summary

Pursuant to the tariff and at the request of the Southwest Power Pool (SPP) Western Farmers Electric Cooperative (WFEC) performed the following Facility Study to satisfy the Facility Study Agreement executed by the requesting customer for SPP Generation Interconnection request Gen-2005-003. 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 30.6 MW to the existing facilities.

***Generation Interconnection  
Facilities Study***

***For***

***GEN-2005-003***

***Western Farmers Electric Cooperative***

**October 2005**

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## **Introduction**

The Southwest Power Pool (SPP) has requested a Facility Study for interconnecting a 138kV interconnection for an additional 30.6W to a previously studied 194.85 wind farm facility near Apache, Oklahoma. This wind farm will be interconnected to the Washita switch station owned by Western Farmers Electric Cooperative (WFEC). This would make phase I and phase II wind farm of 224.65MW. The phase I wind-farm consists of 45 NEG Micon NM72 IEC I (1.65 MW) and phase II wind farm will now consists of 84 Vestas V80 (1.80 MW) with total capacity of 151.2 MW. The proposed in service date is December 1<sup>st</sup>, 2005.

The wind farm is connected to Washita switching Station owned by Western Farmers Electric Cooperative (WFEC) with an existing 26 mile 138 kV transmission line.

The purpose of this study is to identify the facilities and their costs that are needed to interconnect additional capacity at the Customer's wind farm with the Southwest Power Pool transmission system. This facilities study is done in conjunction with SPP Feasibility and Impact Studies for Generation Interconnection Request GEN-2005-003.

According to earlier submitted Facility Study for Generation interconnection request (GEN – 2003 – 004) submitted to SPP for Phase II, WFEC will construct approximately three miles of 138 kV transmission line from WFEC's Washita Switching Station to Southwestern station of AEP. WFEC will expand the Washita Switch Station from 4 breaker ring to a 5 breaker ring. AEP will construct an additional bay at the Southwestern Station.

Since the interconnection of additional 30.6 MW study project is to the same facility as of the phase II project. No additional facilities are to be connected.

Therefore, there is no additional cost associated with this interconnection and there are no new construction schedule is needed.

## **Interconnect to Existing Facilities (See Figures 1 and 2)**

Interconnecting additional 30.6MW to existing 138kV interconnection between WFEC Washita station to AEP South West station does not need additional facilities.

## **Interconnection Costs**

There are no additional costs associated with interconnecting the Customer's 30.6MW wind farm generation facility to the Southwest Power Pool transmission system.

## **Short Circuit Fault Duty Evaluation**

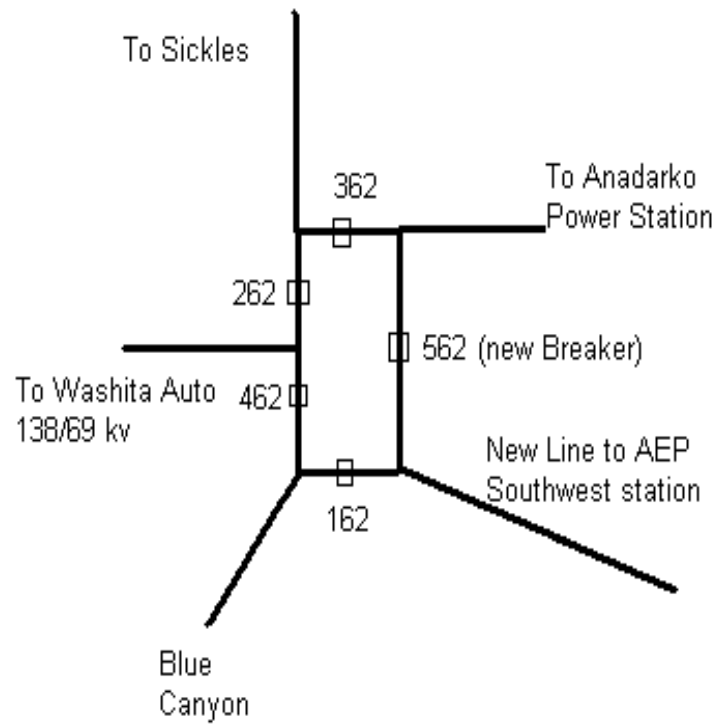
It is standard practice for WFEC to recommend replacing a circuit breaker when the current through the breaker for a fault exceeds 100% of its interrupting rating with recloser de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.

For this generator interconnection, no breakers were found to exceed their interrupting capability after the addition of the Customer's 30.6 MW generation and related facilities. WFEC found no breakers that exceeded their interrupting capabilities on the their systems. Therefore there are no short circuit upgrade costs associated with the Gen-2005-003 interconnection.

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

In the AEP system, no breakers were found to exceed their interrupting capability after the addition of the generation and related facilities at the Gen-20056-003 addition to the Wind Farm.

# Washita Switching Station One-line Diagram



WFEC lines  
(Washita to Southwestern Station shown in Green)

