Facility Study for Generation Interconnection Request GEN – 2006 – 038

SPP Tariff Studies
(#GEN-2006-038)

May 2008

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-2006-38. 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.

Affected System Facilities

American Electric Power (AEP) was asked to perform short circuit analysis on its transmission system to determine if any transmission facilities were affected by the addition of GEN-2006-038. No AEP facilities were deemed to be affected by the addition of GEN-2006-038.

Generation Interconnection Facilities Study

For

GEN-2006-038

Western Farmers Electric Cooperative

March 2008

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Introduction

The Southwest Power Pool (SPP) has requested a Facility Study for interconnecting a 345kV interconnection for a 750 MW coal-fired central station power generation facility to be built at the Western Farmers Electric Cooperative Hugo Power Station.

The purpose of this study is to identify the facilities and their costs that are needed to interconnect the Customer's generator 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-2006-038.

Interconnection facilities include additional breaker positions in a 345 kV switching station to be constructed at the Hugo Power Station.

Interconnect to Existing Facilities and Interconnection Costs (See Figure 1 and Table 1)

The interconnection customer will be responsible for the cost to construct two 345 terminals in the 345 KV switchyard at the Hugo Station including one generator terminal and a startup/auxiliary power terminal, at an estimated cost of $3,000,000.

The Impact Study determined system reinforcements required for stable system operation. With the loss of the proposed Hugo - Valiant 345 kV transmission line, the generator may lose synchronism, and the best available option to mitigate this instability would be the addition of a Hugo-Sunnyside 345 KV transmission line, with an estimated construction cost of $50,750,000. The Hugo-Sunnyside 345kv transmission line has been assigned to previous transmission customers in the aggregate study process as part of SPP-2006-AG3 study. In the event that Hugo – Sunnyside is not built for SPP-2006-AG3 transmission service, the interconnection customer will be responsible for costs associated with this line.

Short Circuit Duty Evaluation:

A short circuit duty evaluation was conducted for impacts that could be contributed to the new generator. It is standard practice to upgrade breakers when available fault current through the existing breakers exceeds 100% of its interrupting rating with recloser deratings applied.

In the WFEC system, no breakers were found to exceed their interrupting rating after the addition of the new generation and related interconnection facilities.

Hugo 345 KV Switching Station Diagram

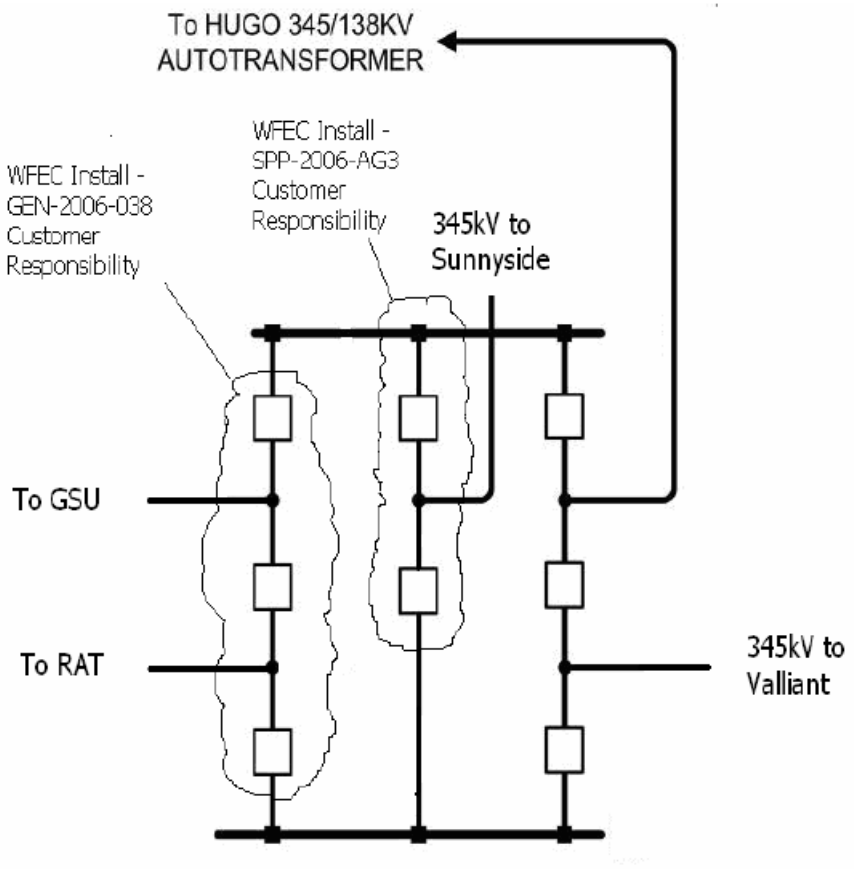

Figure 1

Table 1: Required Interconnection Network Upgrade Facilities

Facility	**Estimated Cost (2008 dollars)**
Install two (2) 345 kV breaker positions in the Hugo Station 345 kV Switchyard. This switching station is already proposed for other service.	**$3,000,000**
Total	**$3,000,000**

Table 2: Additional Required Interconnection Network Upgrade Facilities (if Transmission Customers in SPP-2006-AG3 do not construct Hugo-Sunnyside)

Facility	**Estimated Cost (2008 dollars)**
WFEC - Install one (1) 345 kV line terminal in the Hugo 345 Switchyard. (This switchyard is proposed for other service.)	**$2,000,000**
WFEC - Install 345 kV transmission line from Hugo to Sunny Side.	**$48,000,000**
OG&E – Install one 345 kV line terminal at the Sunnyside 345KV switchyard.	**$750,000**
Total	**$50,750,000**