



***FCS-2010-001 Shared Facility Study
for
Transmission Facilities in OKGE
(Hitchland-Border Network Upgrades)***

***SPP Generation
Interconnection***

(#FCS-2010-001)

April 2011

Summary

Oklahoma Gas and Electric Company (OKGE) performed a detailed Facility Study at the request of the Southwest Power Pool (SPP) for generation interconnection requests included in FCS-2008-001 Facilities Clustered Study. The requests for interconnection were placed with SPP in accordance with SPP's Open Access Transmission Tariff, which covers new generation interconnections on the SPP transmission system.

Pursuant to the tariff, Oklahoma Gas and Electric Company was asked to provide costs for required network upgrades to satisfy the Facility Study Agreement executed by the requesting customer and SPP.

Generation Interconnection Customers

The generation interconnection requests covered in this document are as follows:

ASGI-2010-011
GEN-2008-047
GEN-2008-088
GEN-2008-110
GEN-2010-007
GEN-2010-014

These interconnection customers are included in the DISIS-2010-001 Impact Restudy which identified the required network upgrades for each customer in order to interconnect to the OKGE transmission system.

Shared Interconnection Upgrade Facilities Costs

As shown in the attached OKGE Facility Study, the total shared upgrade cost is **\$143,904,845**. The Interconnection Customers' shared upgrade costs are broken down as follows for each project:

Project	Shared Upgrade Cost
ASGI-2010-011	\$6,868,824
GEN-2008-047	\$17,936,366
GEN-2008-088	\$3,051,713
GEN-2008-110	\$50,002,460
GEN-2010-007	\$6,209,205
GEN-2010-014	\$59,836,277
TOTAL	\$143,904,845

This cost allocation is subject to change for restudies conducted by the Transmission Provider in response to the higher queued customers or other customers in the DISIS-2010-001 Impact Restudy that withdraw their interconnection request or suspend, terminate, or request unexecuted filings of their LGIAs.



FACILITY STUDY

for

Facility Request DISIS-2010-001

345kV Double Circuit Transmission Line
From Border Substation
Near
Texola, Oklahoma
To
Midway Point Between Border Substation SPS Hitchland

March 23, 2011

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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 request by the SPP for Facility request DISIS-2010-001. The SPP request consists of adding five new 345kV breakers and five terminals in the Border Substation and constructing approximately 66 miles of double circuit 345kV H frame transmission line with 3000A capacity, each circuit. The total cost for OKGE to add five new 345kV breakers and five new terminals in the Border Substation and construct 66 miles of double-circuit 345kV H-frame transmission line, one half of the line from Border substation to SPS Hitchland substation, is estimated to be \$143,904,845.

The five breaker ring will accommodate the new double circuit transmission line as well as the line from Woodward District EHV substation, a line from SPS Tuco substation, and a line from OG&E Gracemont substation. This facility study does not include the cost of the line from Woodward District EHV substation, the line from SPS Tuco substation, or the line from OG&E Gracemont substation. The costs for these lines were estimated in previous facility studies.

The proposed time line for construction would be approximately forty-two months after an NTC is received by OG&E to allow for right of way procurement, engineering, construction and completion.

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Introduction

The Southwest Power Pool has requested a Facility Study for the purpose of interconnecting a new 345kV transmission line within the service territory of OG&E Electric Services (OKGE) in Beckham County Oklahoma and building out the new Border substation to a five breaker ring. The proposed 345kV point of interconnection is at the Border Substation in near Texola Oklahoma. This substation will be owned by OKGE.

Interconnection Facilities

The primary objective of this study is to identify attachment facilities. The requirements for interconnection consist of adding five (5) - 345kV terminals in the Border Substation. This 345kV addition shall be constructed and maintained by OKGE. No route was proposed for the 345kV line. OG&E will determine a preferred route once the project has been approved.

The total cost for OKGE to add five new 345kV breakers and five new 345kV terminals in the Border Substation, the interconnection facility, is estimated at \$11,904,845.

The costs of building out the Border substation and constructing the new 345kV transmission line to the OKGE transmission system are listed in Table 1.

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 recloser de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.

For this interconnection, no breakers were found to exceed their interrupting capability after the addition of the related facilities. OG&E found no breakers that exceeded their interrupting capabilities on their system. Therefore, there is no short circuit upgrade costs associated with the DISIS-2010-001 interconnection.

Table 1: Required Interconnection Network Upgrade Facilities

Facility	ESTIMATED COST (2011 DOLLARS)
OKGE – Network Upgrades at Woodward District EHV sub, 5-345kV breaker, 5 terminals, line relaying, disconnect switches, metering, and associated equipment	\$11,904,845
OKGE – Transmission line H frame, bundled 1590ACSR, 3000A, steel shield wire, 66 miles	\$ 124,080,000
OKGE - Right-of-Way (150ft) for 345kV transmission line, 66 miles	\$ 7,920,000
Total	\$ 143,904,845

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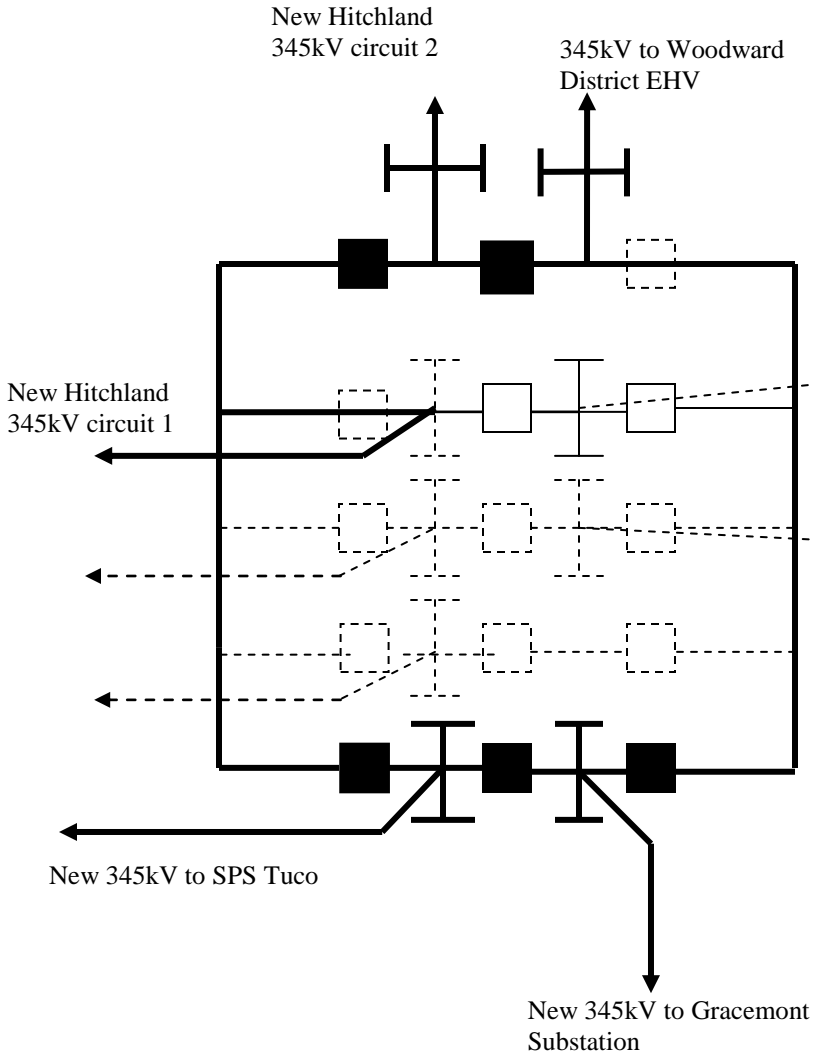
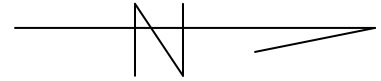
March 23, 2011

Reviewed by:

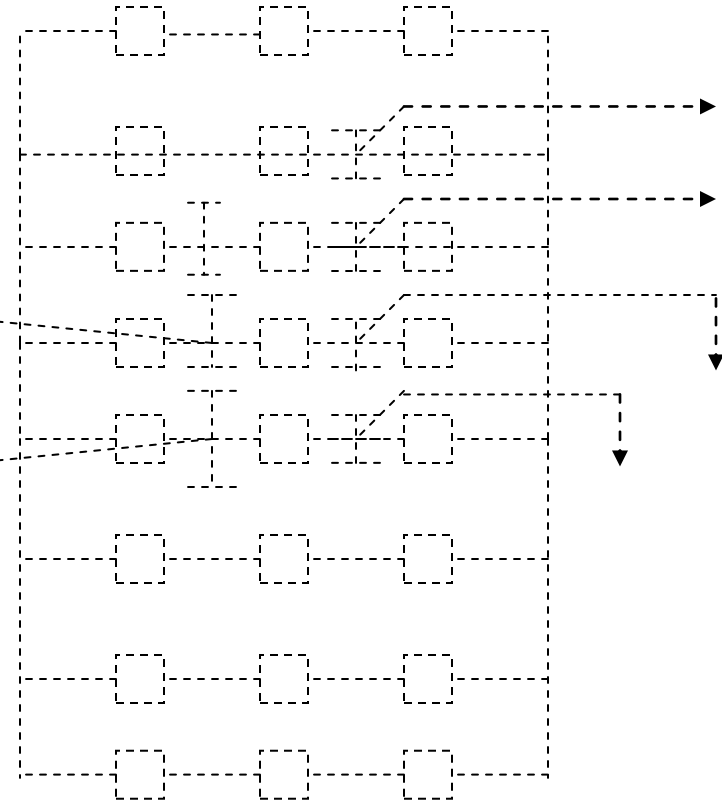
Philip L. Crissup
Director, Regional Transmission Affairs

April 11, 2011

Border Substation



Future Transformer
Area



Future 138kV Section