



***FCS-2010-002 Facility Study
for
Transmission Facilities in AEP***

(Clinton Junction – Elk City 138kV)

SPP Tariff Studies

(#FCS-2010-002)

July 2011

Summary

American Electric Power (AEP) provided a Facility Study grade estimate at the request of the Southwest Power Pool (SPP) for generation interconnection requests included in FCS-2010-002 Facilities Clustered Study. The requests for generation 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, AEP was requested to provide a Facility Study grade estimate for required network upgrades to satisfy the Facility Study Agreement executed by the requesting customers and SPP.

Generation Interconnection Customer

The generation interconnection request covered in this document is GEN-2010-012. This interconnection customer is included in the DISIS-2010-002 Impact Study which identified the required network upgrades for the customer in order to interconnect to the transmission system.

Interconnection Upgrade Facilities Costs

The cost to rebuild the Clinton Junction – Elk City 138kV transmission line is **\$20,300,007**. GEN-2010-012 will be responsible entire cost of rebuilding the 138 transmission line. 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-2010-002 Impact Study that withdraw their interconnection request or suspend, terminate, or request unexecuted filings of their GIAs.

Facilities Study

For

*Southwest Power Pool
GI Cluster Study
DISIS-2010-002*

*American Electric Power
Southwest Transmission Planning*

April 2011

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Introduction

The Southwest Power Pool (SPP) has requested a Facility Study for AEP's Elk City to Clinton Junction. The purpose of this study is to identify the facilities and their costs that are needed to raise the thermal limit of this line above 225MVA rating. To raise AEP's facilities to the requested thermal will require upgrades at both substations and the line connecting the two. A detailed description of all costs associated with the construction of this study is shown in Table 1. Lead time will begin with a successfully executed agreement between AEPSC and the generator and may be affected by outage availability. Facility upgrades provide full compliance with transmission reliability requirements set forth by American Electric Power Service Corporation(AEPSC), Southwestern Power Pool(SPP), and North American Electric Reliability Council(NERC).

Affected Facilities

138 kV Elk City Substation

As a result of the thermal limit being raised to 225 MVA, 4-138kV V-Switches, 3-138kV CCVT's, and 1-138kV Line Trap will need to be replaced to meet the new limit. Relay settings will be modified to meet load limits. The estimated time to complete this work is 9 months.

138 kV Clinton Junction Substation

As a result of the thermal limit being raised to 225 MVA, 8-138kV V-Switches, 1-138kV Vertical Break Switch, 3-138kV CCVT's, and 1-138kV Line Trap will need to be replaced to meet the new limit. Relay settings will be modified to meet load limits. The estimated time to complete this work is 9 months.

138 kV Elk City to Clinton Junction Line

As a result of the thermal limit being raised to 225 MVA, the transmission line will need to be upgraded to 636-T2 Rook ACSR 24/7 and existing structures will be replaced with single pole, anchor bolt structures. The estimate time to complete this work is 33 months.

Rating Upgrade Costs

Listed below are the costs associated with raising the thermal limit of the AEP's 138kv line between AEP's Elk City and Clinton Junctions.

Table 1

System Improvement	Cost(2011 Dollars)
Transmission Line: 138kV line between Elk City and Clinton Junction Substations.	\$19,475,307
Elk City Substation: Replace 4-138kV Switches, 3-138kV CCVT, 1-138kv Line Trap and all associated equipment.	\$307,439
Clinton Junction Substation: Replace 9-138kV Switches, 3-CCVTs, 1-138kv Line Trap, and all associated equipment.	\$517,261
Total	\$20,300,007

Elk City to Clinton Junction Area Map

