



***FCS-2011-001 Shared Facility Study
for
Transmission Facilities***

***Spearville – Mullergren – Circle 345kV Transmission
Line***

(SUNC)

SPP Tariff Studies

(#FCS-2011-001)

July 2012

Summary

Sunflower Electric Power Corporation (SUNC) provided Facility Studies at the request of the Southwest Power Pool (SPP) for generation interconnection requests included in FCS-2011-001 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, SUNC was requested to provide costs for required network upgrades to satisfy the Facility Study Agreement executed by the requesting customer and SPP. The specific network upgrade is the addition of a 345kV transmission line from Spearville to Mullergren to Circle.

Generation Interconnection Customers

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

GEN-2010-029
GEN-2011-008
GEN-2011-016
GEN-2011-017
GEN-2011-023

These interconnection customers are included in the DISIS-2011-001 Impact Study which identified the required network upgrades for each customer in order to interconnect to the transmission system.

Shared Interconnection Upgrade Facilities Costs

The cost to add the 345kV transmission line from Spearville to Mullergren to Circle is \$353,383,059. The Interconnection Customers' total shared upgrade costs are broken down as follows for each project:

Project	Shared Upgrade Cost
GEN-2010-029	\$101,224,200.20
GEN-2011-008	\$104,965,282.79
GEN-2011-016	\$44,988,533.42
GEN-2011-017	\$49,897,343.33
GEN-2011-023	\$52,307,699.26

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-2011-001 Impact Study that withdraw their interconnection request or suspend, terminate, or request unexecuted filings of their GIAs.

Executive Summary

Pursuant to the tariff and at the request of the Southwest Power Pool (SPP), Sunflower Electric Power Corporation (SUNC) performed the following Facility Study to satisfy a Southwest Power Pool request in conjunction with DISIS-2011-001. The requirements of the study consists of installing six (6) breakers and two (2) new line terminals at the Spearville substation, and constructing 153 miles of the proposed double circuit transmission line between Spearville Substation, Mullergren Substation, and Circle Substation. The total cost for SUNC to install 345kV breakers, line terminals, and 153 miles of the proposed double circuit transmission line from Spearville substation to Mullergren substation to Circle substation is estimated at \$353,383,059¹.

¹ The SCERT provided by Sunflower called for the addition of a 345/230kV substation at Great Bend. Withdrawals of higher queued projects in the Interconnection queue have eliminated the need and cost allocation of that project to the DISIS-2011-001 interconnection customers. SPP has removed this cost from the Facility Study.

1. Introduction

The Southwest Power Pool has requested a Facility Study for the purpose of building a new line from Spearville Substation in Ford County, Kansas to Mullergren Substation in Barton County, Kansas to Circle Substation. This facility Study is for the cost of adding two (2) new breakers, and two (2) new line terminals to the Spearville Substation, and constructing 153 miles of the proposed double circuit transmission line between Spearville Substation, Mullergren Substation, and Circle substation. The cost for adding new breakers and new 345kV terminals to the Spearville Substation, and constructing approximately 153 miles of double circuit transmission line with bundled 1590 MCM ACSR conductor, is estimated at \$353,383,059.

2. Interconnection Facilities and Network Upgrades

The cost for the Interconnection Facilities and Network Upgrades is listed below in Table 1. The one-line diagram is shown in Figure 1.

Table 1: Required Interconnection Facilities and Non Shared Network Upgrades

Project	Description	Estimated Cost
1	Add 345kV two rung breaker and half expansion to the ring bus at the Spearville substation, and terminate (reactor included).	\$19,959,816
2	Spearville – Mullergren – Circle 345kV CKT 1 & 2 Build approximately 153 miles of 345kV double circuit transmission line with bundled 1590 MCM ACSR conductor.	\$333,423,243
	Total:	\$353,383,059²

² See Footnote 1.

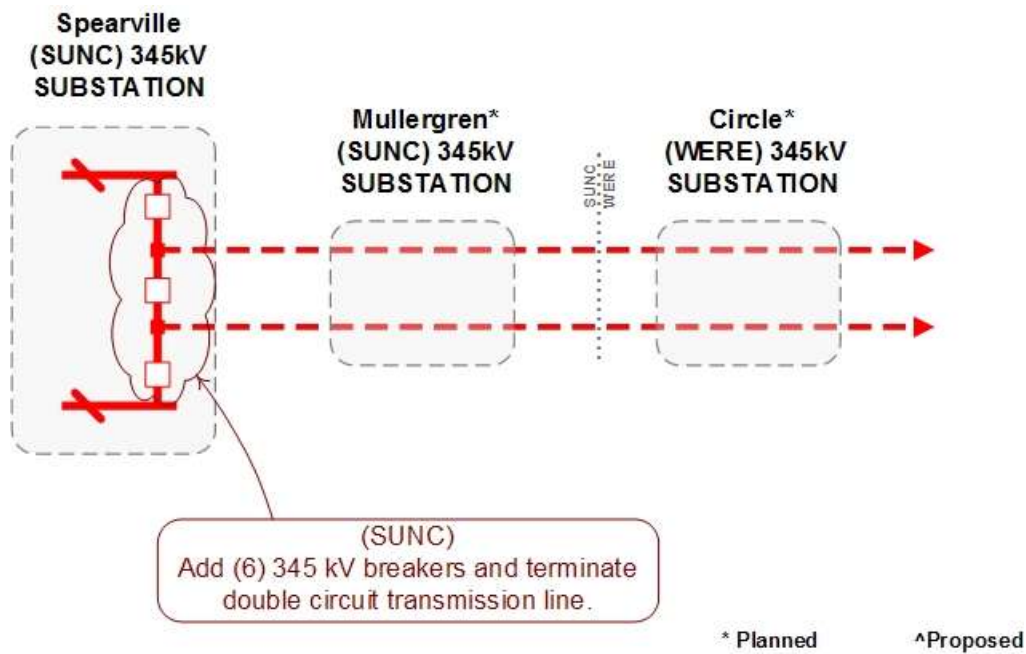


Figure 1. Mullergren 345kV Substation

3. Conclusion

The costs to add 153 miles of 345kV double circuit transmission line and add two (2) 345kV line terminals to the Spearville Substation are estimated at \$353,383,059³.

³ See Footnote 1.