



***FCS-2010-002 Facility Study  
for  
Transmission Facilities in WERE  
(Huntsville – Hutchinson Energy Center 115kV)***

***SPP Tariff Studies***

***(#FCS-2010-002)***

**February 2012**

## **Summary**

Westar Energy. (WERE) 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, WERE 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 Customers**

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

GEN-2010-049

These interconnection customers are included in the DISIS-2010-002 Impact Study which identified the required network upgrades for each customer in order to interconnect to the transmission system.

### **Non Shared Interconnection Upgrade Facilities Costs**

The cost to rebuild approximately 7.7 miles of 115kV line from Huntsville to Hutchinson Energy Center is **\$5,082,661**. The Interconnection Customers' shared upgrade costs are shown in the following table:

<b>Project</b>	<b>Shared Upgrade Cost</b>
GEN-2010-049	\$5,082,661

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.



**Generation Interconnection Facilities  
Study**

**For**

**Generation Interconnection Request  
SPP-GEN-2010-049**

**January 17, 2012**

## **Introduction**

This report summarizes the results of a Generation Interconnection Facilities Study performed for the Southwest Power Pool (SPP) by Westar Energy (WR) to evaluate generation interconnection request GEN-2010-049. The request is to interconnect 50 MW of wind-powered generation in Pratt County, Kansas, to the transmission system of Sunflower Electric Power Corporation (SUNC). The proposed interconnection is on the SUNC transmission system at the Pratt 115 kV substation. A Feasibility Study and a System Impact Study have been completed for this project. The requested in-service date of the generating facility is September, 2012.

## **Project Location and Existing Facilities**

The project is located in Pratt County in central Kansas. The proposed interconnection is on the SUNC transmission system at the existing Pratt 115 kV substation. Figure 1 shows the Regional Transmission Facilities. The proposed project is not within the WR service area, however, one of the upgrades identified is the WR owned portion of a tie line between MWE and WR.

## **Interconnection Facilities**

Interconnection to the SUNC transmission system will be by way of the existing Pratt 115 kV substation. The WR owned portion of the 28.8 mile Hutchinson Energy Center-Huntsville 115 kV tie line will need to be torn down and rebuilt in support of this interconnection to prevent N-1 contingency overloads. WR owns approximately 7.7 miles of this line. Terminal Equipment at Hutchinson Energy Center 115 kV will also need to be upgraded.

### **115 kV Transmission Line Work**

The estimated cost is for sixty (60) double circuit H-Frame wood tangent structures, three (3) three-pole steel dead ends, two (2) single-pole steel dead ends, 7.7 miles of single 6-1192.5 kcmil ACSR conductor, and 7.7 miles of 64 mm OPGW and 3/8 EHS plus associated foundations and labor.

**\$4,988,791**

### **115 kV Substation Work at Hutchinson Energy Center**

The estimated cost is to upgrade the 115 kV Huntsville terminal at Hutchinson Energy Center to 1200 Amps. The wave trap, tuner, CCVT, and associated equipment on this terminal will be upgraded to meet this requirement.

**\$93,870**

The total cost estimate for the Stand Alone Network Upgrades (115 kV Substation Work at Hutchinson Energy Center 115 kV and 115 kV Transmission Line Work) is:

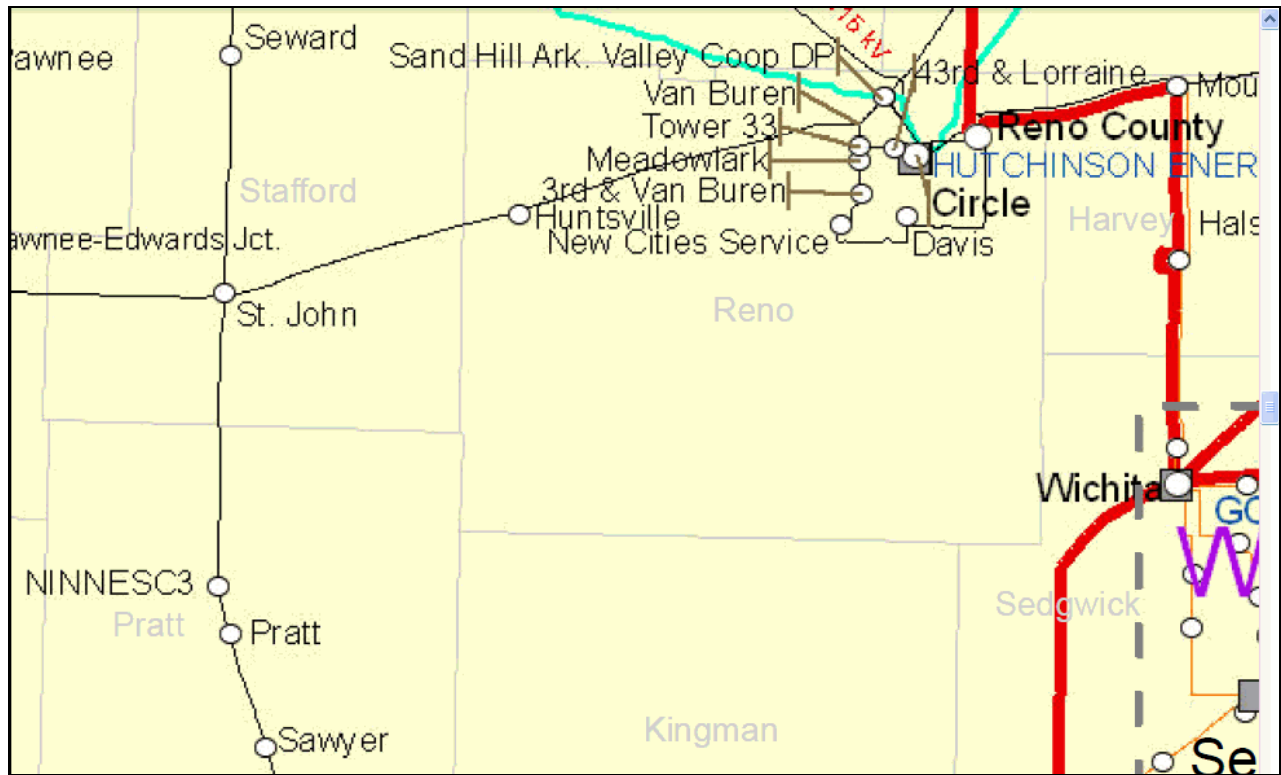
<b>\$ 4,988,791</b>	<b>115 kV Substation Work at Hutchinson Energy Center 115 kV</b>
<b>\$ <u>93,870</u></b>	<b>115 kV Transmission Line Work</b>
<b>\$ 5,082,661</b>	

This estimate is accurate to +/- twenty (20) percent, based on current prices, in accordance with Attachment A of Appendix 4 of the Interconnection Facilities Study Agreement. However, recent cost fluctuations in materials are very significant and the accuracy of this estimate at the time of actual settings cannot be assured.

16 weeks	Engineering Time
16 weeks	Procurement Time
24 weeks	Construction Time
<b>56 weeks</b>	<b>Total</b>

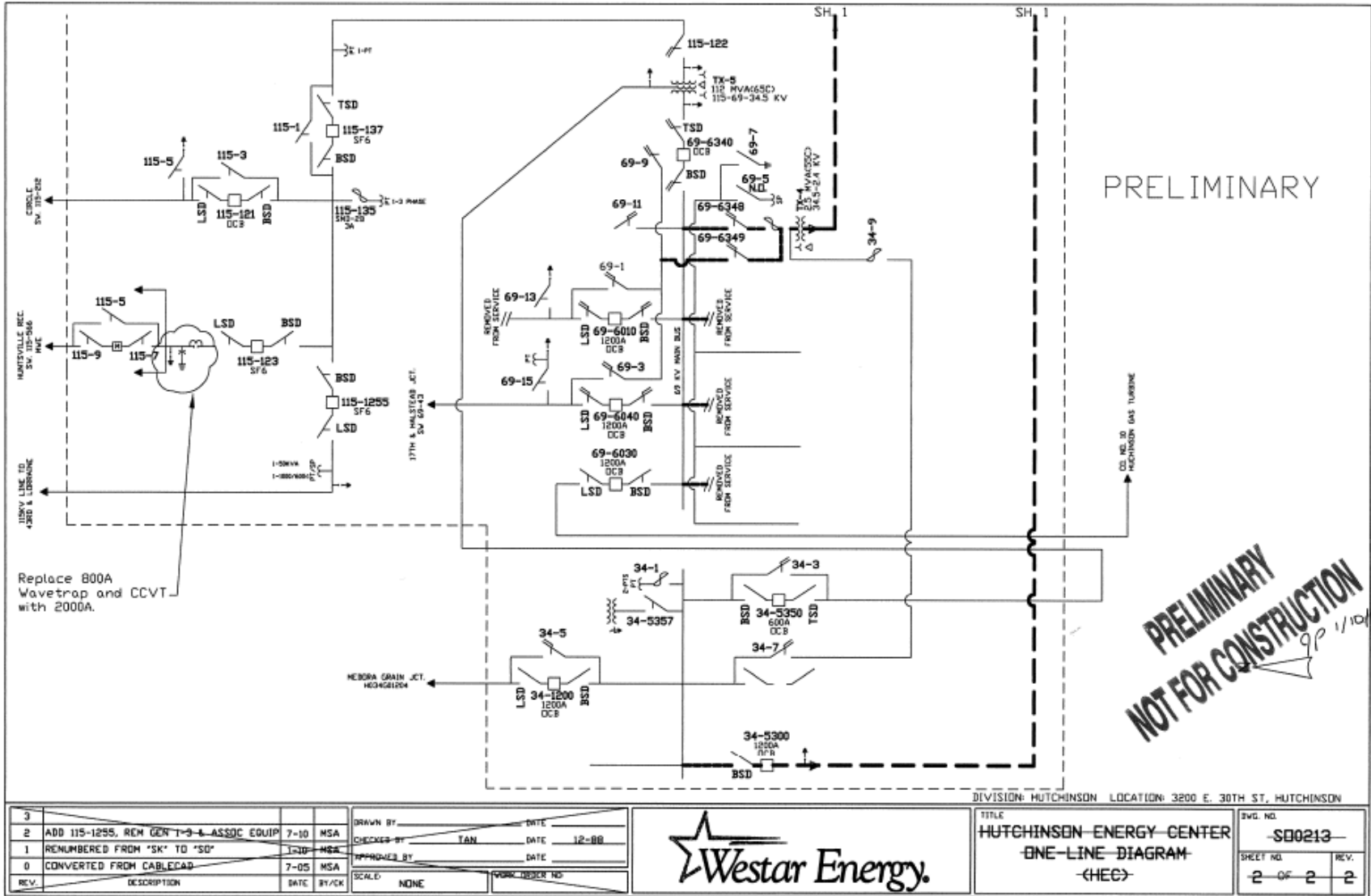
Westar Energy also maintains its own Facility Connection Requirements, which may be found at ([www.westarenergy.com](http://www.westarenergy.com)).

**Figure 1 – Regional Transmission Facilities**



The proposed interconnection project is not within the Westar Energy service area.

Figure 2 – Hutchinson Energy Center Substation Upgrades One-Line



**Figure 3 – Hutchinson Energy Center Substation Upgrades Layout**

