



***Facility Study
For
Generation Interconnection
Request
GEN-2008-127***

SPP Tariff Studies

(#GEN-2008-127)

July 2010

Summary

Westar Energy performed the following Study at the request of the Southwest Power Pool (SPP) for Generation Interconnection request Gen-2008-127. 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.

Pursuant to the tariff, Westar Energy was asked to perform a detailed Facility Study of the generation interconnection request to satisfy the Facility Study Agreement executed by the requesting customer and SPP.

Interconnection Customer Interconnection Facilities

The Interconnection Customer will be responsible for the 345kV transmission line from the point of interconnection to its 345/34.5kV substation that will contain its 345/34.5kV transformer(s) and wind turbine collector feeders. In addition, the Customer will be required to maintain a +/- 95% power factor at the point of interconnection (WERE Woodward 345kV substation).

Transmission Owner Interconnection Facilities and Non Shared Network Upgrades

The interconnection customer was studied within the DISIS-2009-001 Impact Study. The Interconnection Customer is responsible for \$960,000 of Transmission Owner Interconnection Facilities and \$8,200,000 of non shared Network Upgrades. At this time, the Interconnection Customer is allocated \$0 of shared network upgrades. If higher queued interconnection customers withdraw from the queue, suspend or terminate their LGIA, restudies will have to be conducted to determine the Interconnection Customers' allocation of shared network upgrades.



**Generation Interconnection Facilities
Study**

For

**Generation Interconnection Request
GEN-2008-127**

June 18, 2010

Introduction

This report summarizes the results of a Generation Interconnection Facilities Study performed for the Southwest Power Pool (SPP) by Westar Energy, Inc. (WR) to evaluate a generation interconnection request by the Interconnection Customer for 200 MW of wind-powered generation in Sumner County, Kansas, to the transmission system of Kansas Gas and Electric Company, a subsidiary of Westar Energy, Inc. The proposed interconnection is on the WR transmission system on the planned Rose Hill – Sooner 345 kV transmission line on the east side where the line crosses US-160 just west of Oxford, Kansas. The Rose Hill – Sooner 345 kV transmission has a Notification To Construct required date of January 2013. The projected in-service date for this new 345 kV transmission line is June 2012. Prior to this study, both a Feasibility Study and a System Impact Study were completed. The requested in-service date of the generating facility is October 1, 2012. It is not feasible to meet the expected Initial Energization Date of first quarter 2012.

Project Location and Existing Facilities

The project is located near Oxford, Kansas, in Sumner County, approximately 2 miles west of Oxford, Kansas, adjacent to the planned Rose Hill – Sooner 345 kV transmission line. The proposed interconnection is located on the east side of the planned 345 kV transmission line. The planned 345 kV transmission line will be built double circuit with the existing El Paso – Creswell 138 kV transmission line. The projected in-service date for this new transmission line is June 2012. The planned 345 kV transmission line crosses the property of the proposed development. The interconnection will be effected at a new 345 kV ring-bus substation approximately 2 miles west of Oxford, Kansas, near the existing Oxford 138 kV substation. The substation will connect to Customer facilities at 345 kV. Figure 1 shows the Westar Energy regional transmission facilities and Figure 2 shows the Westar Energy transmission facilities in the local area as well as the service areas of other utilities at the point of interconnection. The proposed project is not within the Westar Energy service area.

Interconnection Facilities

Interconnection to the WR transmission system will be by way of a new 345 kV three position ring-bus switching station on the planned Rose Hill – Sooner 345 kV transmission line. The new substation terminal will look east towards Customer's facilities. Construction of this new substation terminal requires 10 acres of additional land adjacent to the existing transmission line right-of-way.

Stand Alone Network Upgrades (345 kV Ring Bus Substation)

The estimated cost is for three (3) 345 kV 3000 Amp breakers, six (6) 345 kV 3000 Amp double end break switches, three (3) 345 kV 3000 Amp double end break motor operated switches, six (6) 345 kV CCVTs, six (6) 345 kV redundant primary relaying, two (2) 345 kV heavy dead end structures, and all associated site, yard and conduit work. This estimate includes all equipment inside the substation fence up to the Point of Change of Ownership.

\$7,450,000

Transmission Owner Interconnection Facilities (345 kV Interconnection Metering)

The estimated cost is for three (3) 345 kV VTs, three (3) 345 kV CTs, two (2) 3-phase 345 kV bus supports, three (3) 345 kV VT stands, three (3) 345 kV CT stands, one (1) 345 kV 300 double end break switch, three (3) 345 kV arresters, one (1) 345 kV high switch stand, one (1) 345 kV heavy dead end structure, revenue interconnection metering, and all associated site, yard and conduit work.

\$ 960,000

345 kV Transmission Line Work

The estimated cost is for two steel full-tension / turning structures to connect the proposed Rose Hill – Sooner 345 kV transmission line into the interconnection substation plus associated foundations and labor. The planned transmission line is equipped with optical shield wire for communications.

\$750,000

The total cost estimate for Transmission Owner Interconnection Facilities (Interconnection Metering) and Stand Alone Network Upgrades (345 kV Ring-bus Substation and Transmission Line Work) is:

\$7,450,000 345 kV Ring-bus Substation
\$ 960,000 345 kV Interconnection Metering
\$ 750,000 345 kV Transmission Line Work
\$9,160,000

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 escalations in materials are very significant and the accuracy of this estimate at the time of actual construction cannot be assured.

The following approximate time lines for the project are based on WR’s engineering time, average procurement time, and good weather during construction. The amount of time per task may change if consultants are hired to perform this work.

16 weeks	Engineering Time
24 weeks	Procurement Time
24 weeks	Construction Time
68 weeks	Total

The design and material ordering will only commence following execution of the Southwest Power Pool Generation Interconnection Agreement pursuant to Attachment V of the Open Access Transmission Tariff.

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

Figure 1 – Westar Energy Regional Transmission

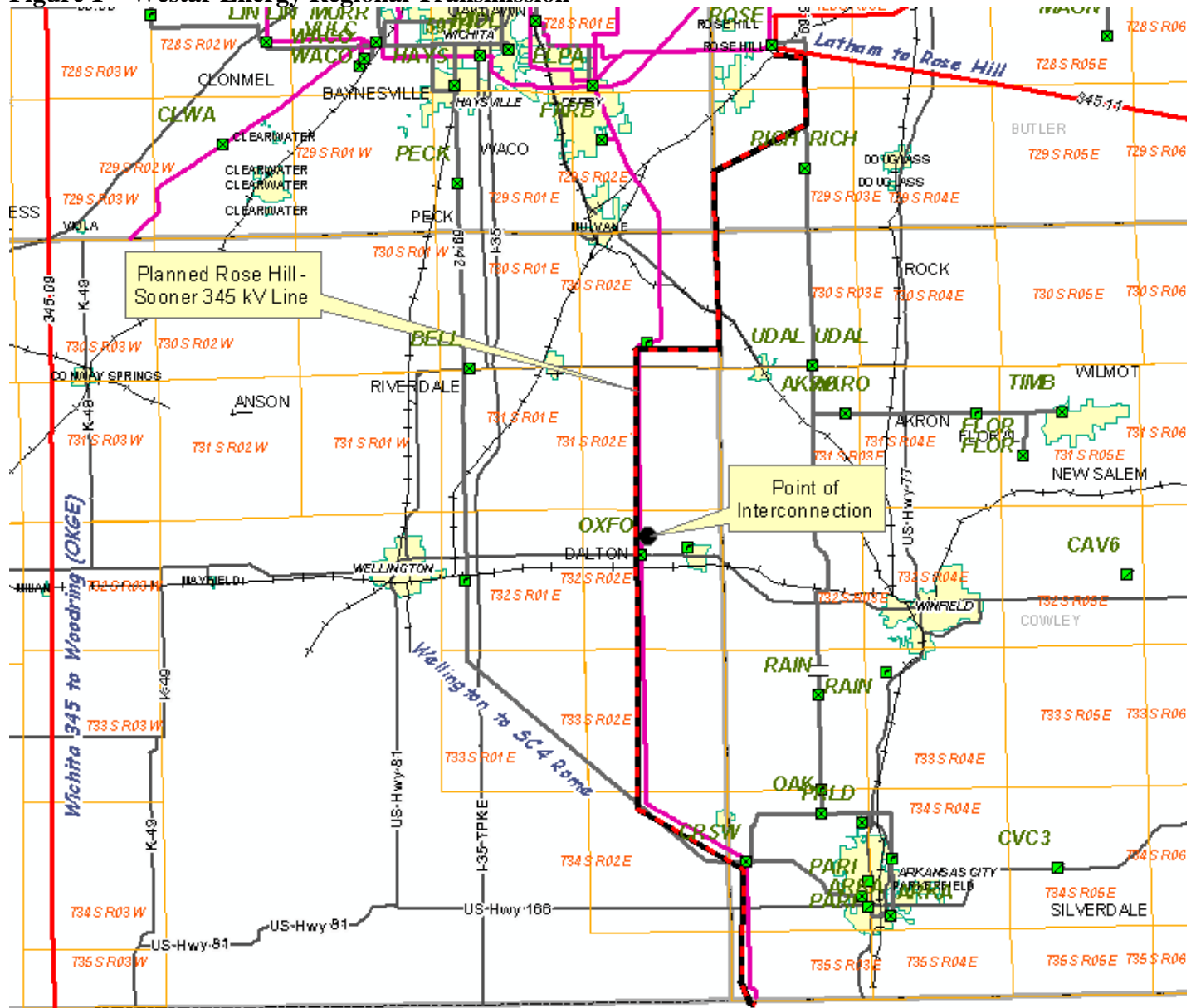
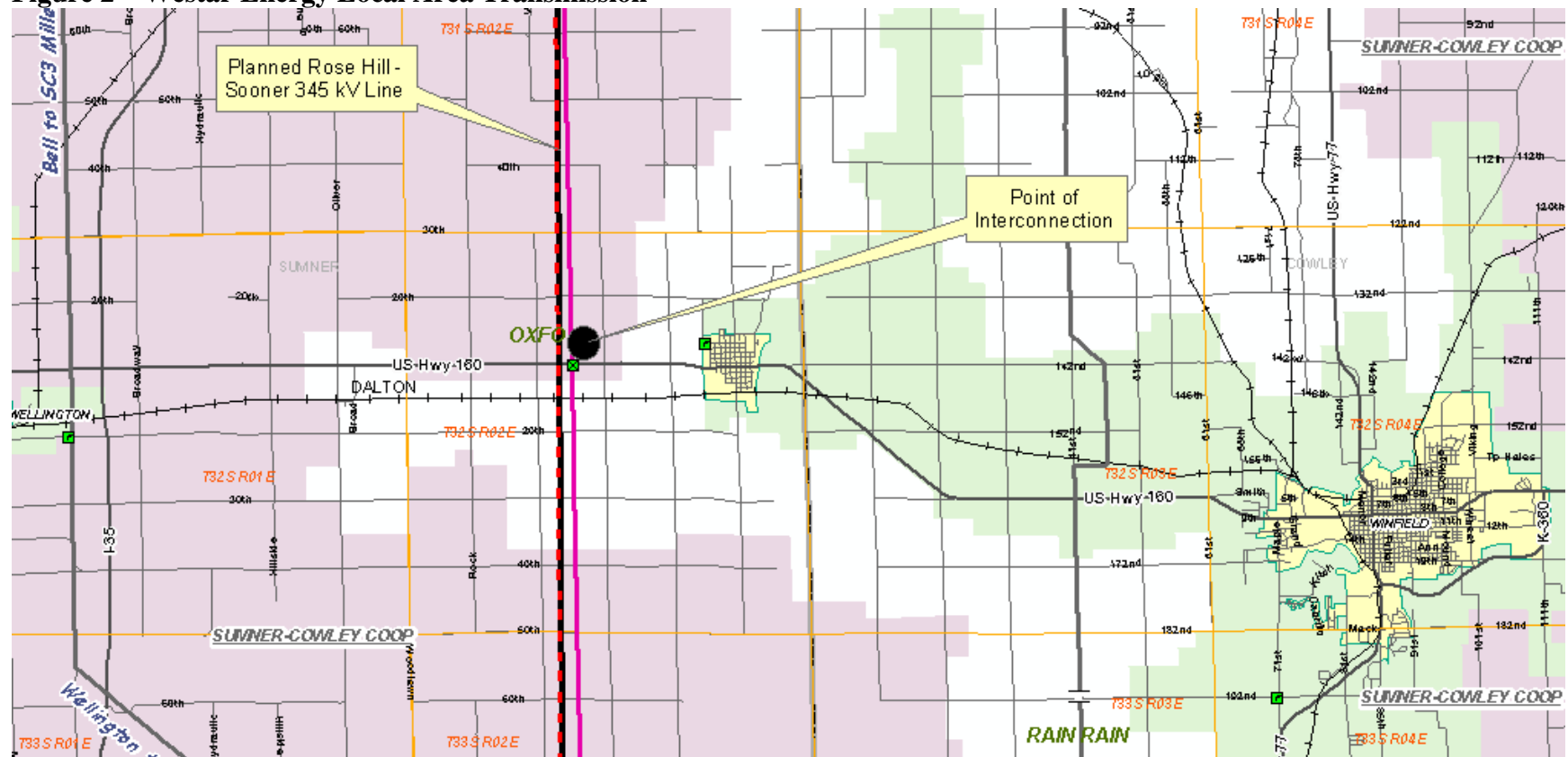


Figure 2 – Westar Energy Local Area Transmission



The shaded areas show the other utility service areas with their names.

Figure 3 – Interconnection Substation One-Line

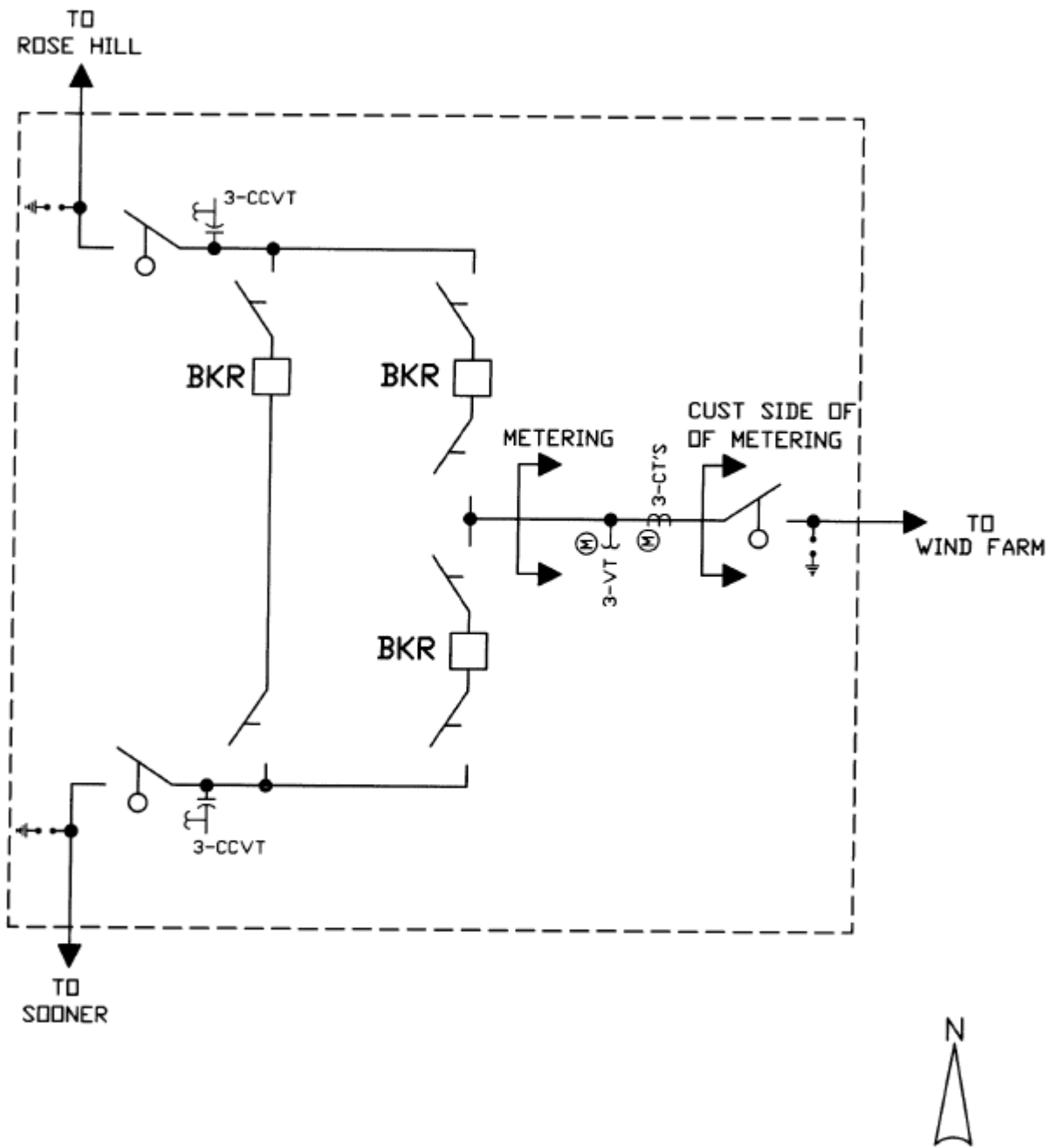


Figure 4 – Interconnection Substation Layout

