INTERCONNECTION FACILITIES STUDY REPORT

GEN-2020-065

Published August 2025

By SPP Generator Interconnections Dept.

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION
August 6, 2025	SPP	Initial draft report issued.
August 21, 2025	SPP	Final report issued.

CONTENTS

SUMMARY

INTRODUCTION

This Interconnection Facilities Study (IFS) for Interconnection Request GEN-2020-065 is for a 1003 MW generating facility located in Gaines County, NM. The Interconnection Request was studied in the DISIS-2020-001 Impact Study for ERIS. The Interconnection Customer's requested in-service date is 5/15/2028.

The interconnecting Transmission Owner, Southwestern Public Service Company (SPS), performed a detailed IFS at the request of SPP. The full report is included in Appendix A. SPP has determined that full Interconnection Service will be available after the assigned Transmission Owner Interconnection Facilities (TOIF), Non-Shared Network Upgrades, Shared Network Upgrades, Contingent Network Upgrades, and Affected System Upgrades that are required for full interconnection service are completed.

The primary objective of the IFS is to identify necessary Transmission Owner Interconnection Facilities, Network Upgrades, other direct assigned upgrades, cost estimates, and associated upgrade lead times needed to grant the requested Interconnection Service.

PHASE(S) OF INTERCONNECTION SERVICE

It is not expected that Interconnection Service will occur in phases. However, full Interconnection Service will not be available until all Interconnection Facilities and Network Upgrade(s) can be placed in service.

COMPENSATION FOR AMOUNTS ADVANCED FOR NETWORK UPGRADE(S)

FERC Order ER20-1687-000 eliminated the use of Attachment Z2 revenue crediting as an option for compensation. The Incremental Long Term Congestion Right (ILTCR) process will be the sole process to compensate upgrade sponsors as of July 1st, 2020.

INTERCONNECTION CUSTOMER INTERCONNECTION FACILITIES

The Generating Facility is proposed to consist of Three (3) SGT5/6-8000H MS Gas Turbine for a total generating nameplate capacity of 1003 MW.

The Interconnection Customer's Interconnection Facilities to be designed, procured, constructed, installed, maintained, and owned by the Interconnection Customer at its sole expense include:

- 34.5 kV underground cable collection circuits;
- 34.5 kV to 345 kV transformation substation with associated 34.5 kV and 345 kV switchgear;
- Two 345 kV/34.5 kV 280 MVA (ONAN/ONAF/ONAF) and One 345 kV/34.5 kV 420 MVA step-up transformers to be owned and maintained by the Interconnection Customer at the Interconnection Customer's substation;
- An Approximately 5.5 mile overhead 345 kV line to connect the Interconnection Customer's substation to the Point of Interconnection ("POI") at the 345 kV bus at existing Transmission Owner substation ("Hobbs-Andrews 345 kV Line") that is owned and maintained by Transmission Owner;
- All transmission facilities required to connect the Interconnection Customer's substation to the POI;
- Equipment at the Interconnection Customer's substation necessary to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 95% lagging and 95% leading in accordance with Federal Energy Regulatory Commission (FERC) Order 827. The Interconnection Customer may use inverter manufacturing options for providing reactive power under no/reduced generation conditions. The Interconnection Customer will be required to provide documentation and design specifications demonstrating how the requirements are met; and,
- All necessary relay, protection, control and communication systems required to protect Interconnection Customer's Interconnection Facilities and Generating Facilities and coordinate with Transmission Owner's relay, protection, control and communication systems.

TRANSMISSION OWNER INTERCONNECTION FACILITIES AND NON-SHARED NETWORK UPGRADE(S)

To facilitate interconnection, the interconnecting Transmission Owner will perform work as shown below necessary for the acceptance of the Interconnection Customer's Interconnection Facilities.

Table 1 and **Table 2** list the Interconnection Customer's estimated cost responsibility for Transmission Owner Interconnection Facilities (TOIF) and Non-Shared Network Upgrade(s) and provides an estimated lead time for completion of construction. The estimated lead time begins when the Generator Interconnection Agreement has been fully executed.

Table 1: Transmission Owner Interconnection Facilities (TOIF)

Transmission Owner Interconnection Facilities (TOIF)	Total Cost Estimate ($)	Allocated Percent (%)	Allocated Cost Estimate ($)
Transmission Owner's Hobbs-Andrews 345 kV Line GEN-2020-065 Interconnection (TOIF) (UID156910): Interconnection upgrades and cost estimates needed to interconnect the following Interconnection Customer facility, GEN-2020-065 (1003/Thermal), into the Point of Interconnection (POI) at Hobbs-Andrews 345 kV Line. Estimated Lead Time: 30 Months	$3,369,060	100.00%	$3,369,060
Total	**$3,369,060**		**$3,369,060**

Table 2: Non-Shared Network Upgrade(s)

Non-Shared Network Upgrades Description	ILTCR	Total Cost Estimate ($)	Allocated Percent (%)	Allocated Cost Estimate ($)
Transmission Owner's Hobbs-Andrews 345 kV Line GEN-2020-065 Interconnection (UID156909): Interconnection upgrades and cost estimates needed to interconnect the following Interconnection Customer facility, GEN-2020-065 (1003/Thermal), into the Point of Interconnection (POI) at Hobbs-Andrews 345 kV Line. Estimated Lead Time: 30 Months	Ineligible	$26,670,716	100.00%	$26,670,716

Non-Shared Network Upgrades Description	ILTCR	Total Cost Estimate ($)	Allocated Percent (%)	Allocated Cost Estimate ($)
Transmission Owner's Build New Andrews to Road Runner 345 kV Line (SPS) (UID 170597): Build a new 38.5 mile 345 kV circuit from Andrews to Road Runner with a standard rating of 1792 MVA. Estimated Lead Time: 36 Months	Eligible	$73,524,573	100.00%	$73,524,573
Transmission Owner's Hobbs to Andrews Voltage Conversion (SPS) (UID 170603): Convert the existing Hobbs to Andrews 230 kV line to 345 kV. Transmission line is built for 345 kV operation. Terminate the Hobbs end at the Hobbs 345 kV substation and replace the Andrews 230/115 kV transformers with a single 345/115 kV transformer. Estimated Lead Time: 36 Months	Eligible	$21,014,929	100.00%	$21,014,929
Transmission Owner's Sidewinder to Hobbs 345 kV Lidar Clearance Correction (SPS) (UID 170607): Correct existing Lidar clearance issues on Sidewinder to Hobbs 345 kV line to increase the line rating to 1400MVA SN/SE. Estimated Lead Time: 36 Months	Ineligible	$2,659,649	100.00%	$2,659,649
Transmission Owner's Sidewinder to Andrews 345 kV Lidar Clearance Correction (SPS) (UID 170606): Correct existing Lidar clearance issues on Sidewinder to Andrews 345 kV line to increase the line rating to 1400MVA SN/SE. Estimated Lead Time: 36 Months	Ineligible	$888,533	100.00%	$888,533
Total		**$124,758,400**		**$124,758,400**

SHARED NETWORK UPGRADE(S)

The Interconnection Customer's share of costs for Shared Network Upgrades is estimated in **Table 3** below.

Table 3: Interconnection Customer Shared Network Upgrade(s)

Shared Network Upgrades Description	ILTCR	Total Cost Estimate ($)	Allocated Percent (%)	Allocated Cost Estimate ($)
Transmission Owner's Build New Tolk to Potter County 345 kV Line (SPS) (UID 170628): Build a new 115.0 mile 345 kV circuit from Tolk to Potter with a standard rating of 1792 MVA. Estimated Lead Time: 36 Months	Eligible	$315,122,604	50.65%	$159,613,028
OGE's Build New 350 MVAR STATCOM at Border 345 kV (DISIS-2020-001) (OGE) (UID 170629): Build a new 350 MVAR STATCOM at Border 345 kV. Estimated Lead Time: 48 Months	Eligible	$101,237,182	42.35%	$42,870,402
Total		**$416,359,786**		**$202,483,430**

All studies have been conducted assuming that higher-queued Interconnection Request(s) and the associated Network Upgrade(s) will be placed into service. If higher-queued Interconnection Request(s) withdraw from the queue, suspend or terminate service, the Interconnection Customer's share of costs may be revised. Restudies, conducted at the customer's expense, will determine the Interconnection Customer's revised allocation of Shared Network Upgrades.

CONTINGENT NETWORK UPGRADE(S)

Certain Contingent Network Upgrades are **currently not the cost responsibility** of the Interconnection Customer but will be required for full Interconnection Service.

Table 4: Interconnection Customer Contingent Network Upgrade(s)

Contingent Network Upgrade(s) Description	Current Cost Assignment	Estimated In-Service Date
SPS Build New Phantom to Crossroads to Potter 765 kV Line: Expand the existing Phantom 345 kV substation to 765 kV with new terminals to accommodate new line from Phantom to Crossroads to Potter County. Install new 765/345 transformer at Phantom 765 kV substation Expand the existing Crossroads 345 kV substation to 765 kV with new terminals to accommodate new line from Phantom to Crossroads to Potter County. Install new 765/345 transformer at Crossroads 765 kV substation Expand the existing Potter County 345 kV substation to 765 kV with new terminals to accommodate new line from Phantom to Crossroads to Potter County. Install new 765/345 transformer at Potter County 765 kV substation Build a new Phantom to Crossroads 765 kV line (144.57 miles) to a minimum rating of 5300 MVA Build a new Crossroads to Potter County 765 kV line (148.47 miles) to a minimum rating of 5300 MVA	**$0**	36 Months
SPS/OGE Build New Beckham to Potter 345 kV Line (170624/170625): Build a new Beckham to Potter 345 kV line (149.64 miles) to a minimum rating of 1792 MVA	**$0**	36 Months
AEP/OGE Multi - Border - Woodward 345 kV Tap: Build 0.84-miles of new 345 kV line from a new tap on the Woodward to Border 345 kV line to Chisholm with a summer emergency rating of 1792 MVA. Oklahoma Gas and Electric Co. and American Electric Power shall decide who shall build how much of these Network Upgrades and shall provide such information, along with specific cost estimates for each DTO's portion of the Network Upgrades, to SPP in its response to this NTC	**$0**	36 Months
OGE/WFEC Line - Anadarko - Gracemont 138 kV double Ckt 2 & 3 (NTC 220754): Build two new 15 mile circuits from Anadarko to Gracemont 138 kV with SN/SE ratings of 478 MVA	**$0**	12/31/2027

Depending upon the status of higher- or equally-queued customers, the Interconnection Request's in-service date is at risk of being delayed or Interconnection Service is at risk of being reduced until the in-service date of these Contingent Network Upgrades.

AFFECTED SYSTEM UPGRADE(S)

To facilitate interconnection, the Affected System Transmission Owner will be required to perform the facilities study work as shown below necessary for the acceptance of the Interconnection Customer's Interconnection Facilities. **Table 5** displays the current impact study costs provided by either MISO or AECI as part of the Affected System Impact review. The Affected System facilities study could provide revised costs and will provide each Interconnection Customer's allocation responsibilities for the upgrades.

Table 5: Interconnection Customer Affected System Upgrade(s)

Affected System Upgrades Description	Total Cost Estimate ($)	Allocated Percent (%)	Allocated Cost Estimate ($)
NA			
Total	**$0**		**$0**

CONCLUSION

After all Interconnection Facilities and Network Upgrades have been placed into service, Interconnection Service for 1003 MW can be granted. Full Interconnection Service will be delayed until the TOIF, Non-Shared NU, Shared NU, Contingent NU, Affected System Upgrades that are required for full interconnection service are completed. The Interconnection Customer's estimated cost responsibility for full interconnection service is summarized in the table below.

Table 6: Cost Summary

Description	Allocated Cost Estimate
Transmission Owner Interconnection Facilities Upgrade(s)	$3,369,060
Non-Shared Network Upgrade(s)	$124,758,400
Shared Network Upgrade(s)	$202,483,430
Affected System Upgrade(s)	$0
Total	**$330,610,890**

Use the following link for Quarterly Updates on upgrades from this report: https://spp.org/spp-documents-filings/?id=18641

A draft Generator Interconnection Agreement will be provided to the Interconnection Customer consistent with the final results of this IFS report. The Transmission Owner and Interconnection Customer will have 60 days to negotiate the terms of the GIA consistent with the SPP Open Access Transmission Tariff (OATT).

APPENDICES

A: TRANSMISSION OWNER'S INTERCONNECTION FACILITIES STUDY REPORT AND NETWORK UPGRADES REPORT(S)

See next page for the Transmission Owner's Interconnection Facilities Study Report and Network Upgrades Report(s).

Facilities Study For Southwest Power Pool (SPP)

DISIS 20200-001
Group 5
GEN-2020-065

Xcel Energy Services, Inc.

Southwestern Public Service Co.
Transmission Planning South
Updated 5/5/2025

Executive Summary

The Southwest Power Pool (SPP or Transmission Provider) evaluated the generation facilities requesting to interconnect to the SPS transmission system in the Definitive Interconnection System Impact Study (DISIS-2020-001), which was completed in May, 2025. The requests for interconnection were placed with SPP in accordance with the Scope of Interconnection Facilities Study GIP Section 8.10 and the Interconnection Facilities Study Procedures in accordance with GIP Section 8.11.

GEN-2020-065 requested the interconnection of a 1003 MW thermal energy generation facility, located in Gaines County, Texas, to the Southwestern Public Service Company (SPS or Transmission Owner) transmission network. SPS will construct a new 345 kV substation to be called “Sidewinder” The new Sidewinder substation will be laid out as a breaker and one-half configuration and will allow for future expansion. After substation construction is complete, the IC will connect to the SPS 345 kV bus. The IC is required to build three 345 kV generation tie-lines from their generation facility to the SPS Sidewinder Substation. The IC will be required to maintain a Power Factor between 0.95 lagging and 0.95 leading at the Point of Interconnection (POI).

The customer will refer to the Xcel Energy Interconnection Guidelines For Transmission Interconnected Producer-Owned Generation Greater Than 20 MW for additional requirements found at the following link:
Salesforce

To fulfill this requirement, coordination with Xcel Energy is required during the under-frequency relay-setting phase for the generation. The IC is required to report their generation off-nominal frequency tripping relay settings to SPP and SPS. SPS specifies that generators shall not trip at frequencies above 58.5 Hz unless exceptions in the Transmission Provider Criteria are met. The IC agrees that the energy generating units installed at this interconnection will not be tripped for under-frequency conditions above 58.5 Hz in compliance with Transmission Provider criteria. This means that the generation subject to this Interconnection Agreement may not trip for under-frequency conditions on the transmission system until all under-frequency load shedding relays have operated. SPS will also require that the IC follow all applicable criteria, guidelines, standards, requirements, regulations, and procedures issued by the North American Electric Reliability Corporation (NERC), SPP, and the Federal Energy Regulatory Commission (FERC) or their successor organizations.

The IC is responsible for all the cost of the Interconnection Facilities, installation of the direct assigned Transmission Owner Interconnection Facilities (TOIF) which are facilities paid for by the IC but are owned, operated, and maintained by SPS; inclusive of all construction required for the IC to interconnect at SPS’ Carpenter Substation.

The shared network upgrades were determined by SPP and may impact the total overall costs for interconnection of the IC. However, SPS recommends that SPP consider the installation of a 345 kV, 350 MVAR STATCOM at Oklahoma Gas & Electric’s Border Substation as an alternative to some of the transmission line(s) that SPP named as network upgrades.

It is anticipated that the entire process of expanding the Lamb County Substation for the acceptance of the IC facility output and the network upgrades allocated to this project will require approximately 30 months to complete after an Interconnection Agreement is signed and an authorization to proceed is received. The IC's cost for the interconnection of this generation facility is shown below in Table 1.

Table 1: Cost Summary[1]

Shared Network Upgrades Total:	**$ See DISIS Report**
Non-shared Network Upgrades:	**$ 26,670,716**
Transmission Owner Interconnection Facilities:	**$ 3,369,060**
Total:	**$ 30,039,776**

[1] The cost estimates are 2025 dollars with an accuracy level of ±20%.

General Description of SPS[2] Facilities

1. **Construction at the SPS Sidewinder Substation**: See Appendix A, Figure A-1 for general vicinity location map of the SPS facility.

   Location: The IC will build a three 345 kV generation tie-lines from their generation facility to SPS' 345 kV Sidewinder Substation, in Gaines County, Texas. SPS requires the IC to run dual OPGW conductors from their generation facility to provide redundant communication. The customer will terminate their generation tie-line to a transmission terminal structure installed and owned by SPS. The transmission terminal structure will be located outside of the Lamb County Substation. SPS will install transmission jumpers at the transmission terminal structure and phase conductors along with fiber optics cable to the Point-Of-Interconnection terminal inside the Oasis Substation. The transmission terminal structure will provide a clear change-of-ownership point for the IC.

   Bus Design: The new 345 kV breaker and one-half configuration at Sidewinder Substation will be built to accommodate the output from the thermal generation facility.

   Revenue Metering: Revenue metering is not applicable for this project.

   Disturbance Monitoring Device: A Disturbance Fault Recorder (DFR), capable of recording faults, swings, and long-term trending, will be installed to monitor and record conditions in the substation and on the transmission lines. The disturbance equipment shall also be equipped with a GPS time synching clock. This equipment will have communication capability with a dedicated communication circuit. The disturbance equipment will have its own dedicated communications circuit.

   Remote Terminal Unit (RTU): A RTU will be utilized for communications with the new IC facilities. A Communication SEL Relay will be utilized for relay communications and other functions as required; these costs will be directly assigned to the IC. The IC will provide and install a RTU for metering and telemetry at the IC's facility as required by the latest Xcel Energy Interconnection Guidelines.

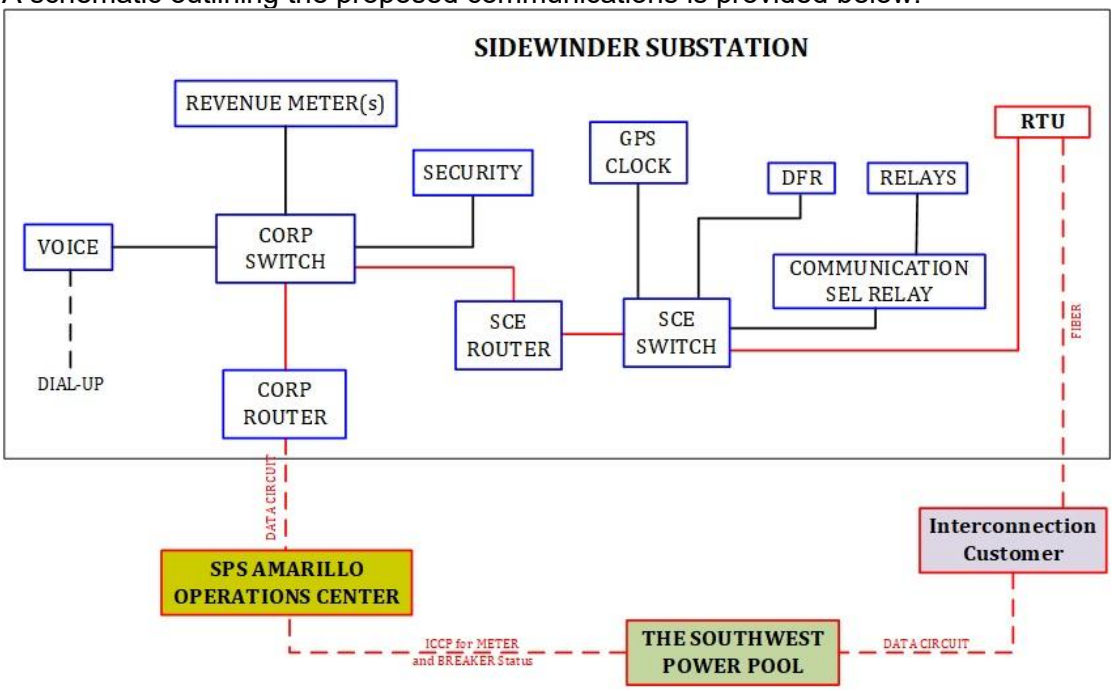
   Communications: To meet its Communications obligations, the IC shall be responsible for planning with the local phone company to provide a communication circuit as required by the Transmission Owner. Transmission Owner equipment may include but is not limited to the following: relay communication equipment, RTU, and disturbance monitoring equipment. Prior to any construction, the IC is required to contact the Transmission Owner substation-engineering department for all communication details and provide detail of the method to be used in communication.

   The following communications schematic diagram, which includes communication

[2] All modifications to SPS facilities will be owned, maintained, and operated by SPS.

equipment information for the IC, Transmission Provider (Southwest Power Pool) and Transmission Owner (Southwestern Public Service), is provided to assist the Parties as a template.

A schematic outlining the proposed communications is provided below:



IC shall be responsible for providing the dual fiber optic communication circuit installed in the overhead transmission line static wire from the customer substation to the SPS substation for protective relaying and for transmitting metering and status data to SPS. Utilizing this fiber optic connection, SPS will establish a direct connection to the IC's RTU.

SPS will not serve as a proxy for communication from the IC to SPP.

2. **Transmission and Remote Substation Work – Engineering and Construction**

   a. **Summary**: The existing transmission R04 (Hobbs Gen-Andrews County) was originally built and insulated for 345 kV but has been utilized at 230 kV since it was placed in-service. To handle the output of the GEN-2020-065 facility, the voltage will be converted to 345 kV. To accommodate this, the line terminal at the Hobbs Gen substation will be relocated from the 230 kV bus to the 345 kV bus. Andrews County substation was originally constructed as 345/115 kV insulation substation but has been operated as a 230/115 kV substation since it was also placed in-service. The existing 230/115 kV transformers at Andrews County will be removed and replaced with a new 345/115 kV, 448 MVA transformer. The transmission line R04 will be rerouted in-and-out of the Sidewinder Substation with approximately 13.3 miles of new line being added. Relay and

communication upgrades at Hobbs Gen and Andrews County substations will be needed as well. The costs for these upgrades are included in Table 1 above.

b. **Fault or Short Circuit Study**: The IC will coordinate with the System Protection Engineering department at SPS on the available fault current at the interconnection location following the acceptance of the Generator Interconnection Agreement (GIA) and prior to final design on the IC's facilities. The table below shows the approximate available fault current at the interconnection location. The fault data does not contain fault current contribution from the IC's facility.

Table 1: Available fault current at interconnection location

Short Circuit Information without contribution from new Generator Facilities (GEN 2020-065)				
Fault Location	Fault Current (Amps)		Impedance (Ω)	
	Line-to-Ground	3–Phase	Z^+	Z^0
Sidewinder kV Bus	19969	3610	7018331.1966	941456j47.3966

3. **Right-Of-Way**

   a. **Permitting**: The IC will be responsible for any permitting and right of way of their substation and their generation tie-line from their collector substation to Sidewinder Substation. The customer will refer to the Xcel Energy *Right-of-Way, Easements, and Encroachments* web page for information concerning crossing of SPS transmission lines with customer generation tie-lines: *Right of Way | Transmission | Corporate | Xcel Energy*

4. **Construction Power and Retail Service**

   a. **Responsibility**: It is the sole responsibility of the IC to arrange for both construction and station power. The IC needs to plan for retail service from the local retail provider. The retail provider and the Customer will be responsible for making any necessary transmission service arrangements as required under the SPP OATT.

5. **Project and Operating Concerns:**

   a. **Collaboration**: Close work between the Transmission group, the IC's personnel and local operating groups will be imperative in order to meet any in-service date that has been established.

   b. **Reactive Power Requirements**: The IC will be required to maintain a power factor between 0.95 lagging and a 0.95 leading at the Point of Interconnection (POI). All capacitors required will be installed on the lower voltage bus at IC's substation. This is required to maintain acceptable dynamic voltage rise as per latest revision of the Xcel Energy Interconnection Guidelines for Transmission Interconnection Producer-Owned Generation Greater than 20 MW. If switched reactive devices are used on the IC's system, they need to be switched in stages where the voltage rise is less than 3%.

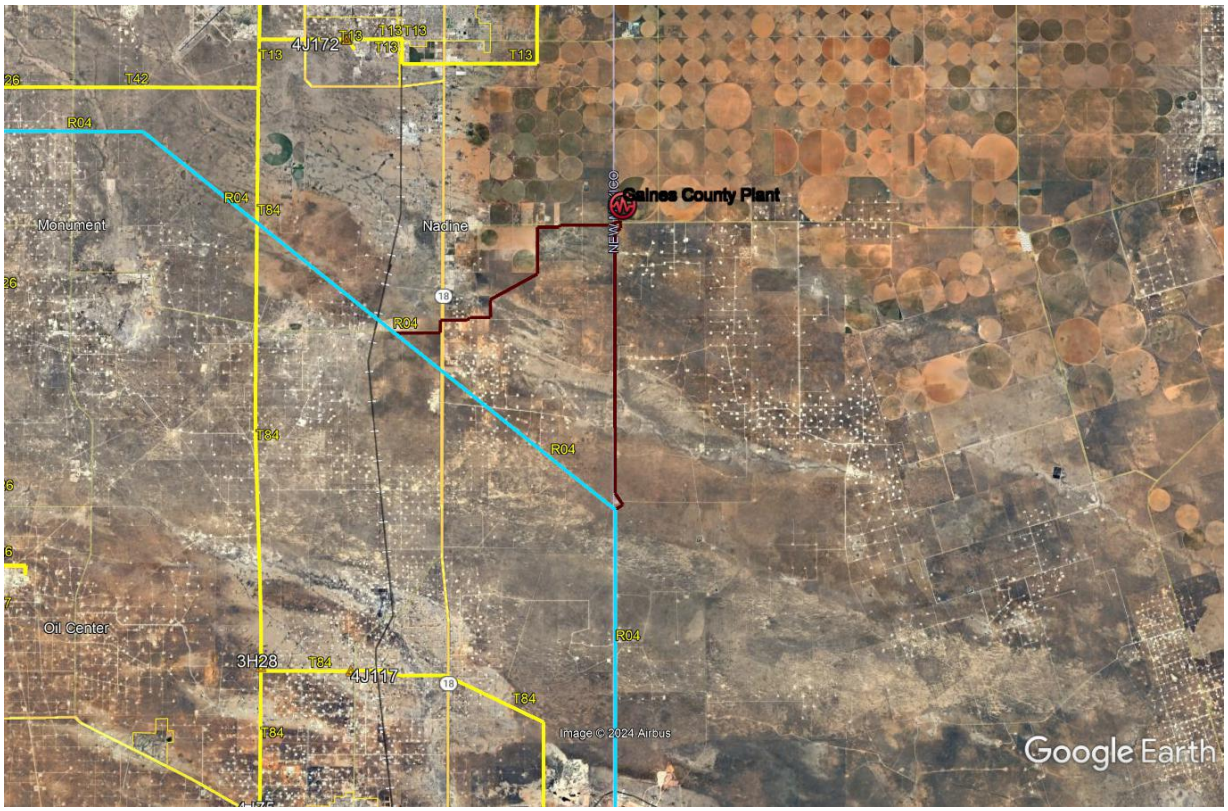
6. **Estimated Construction Costs and Schedule**
   a. **Schedule**: An engineering and construction schedule for this project is estimated at approximately 30 months. Other factors associated with clearances, equipment delays, and work schedules could cause additional delays. This is

applicable after all required agreements are signed and internal approvals are granted.

b. All additional cost for work not identified in this study is the sole responsibility of the IC unless other arrangements are made.

Appendix A

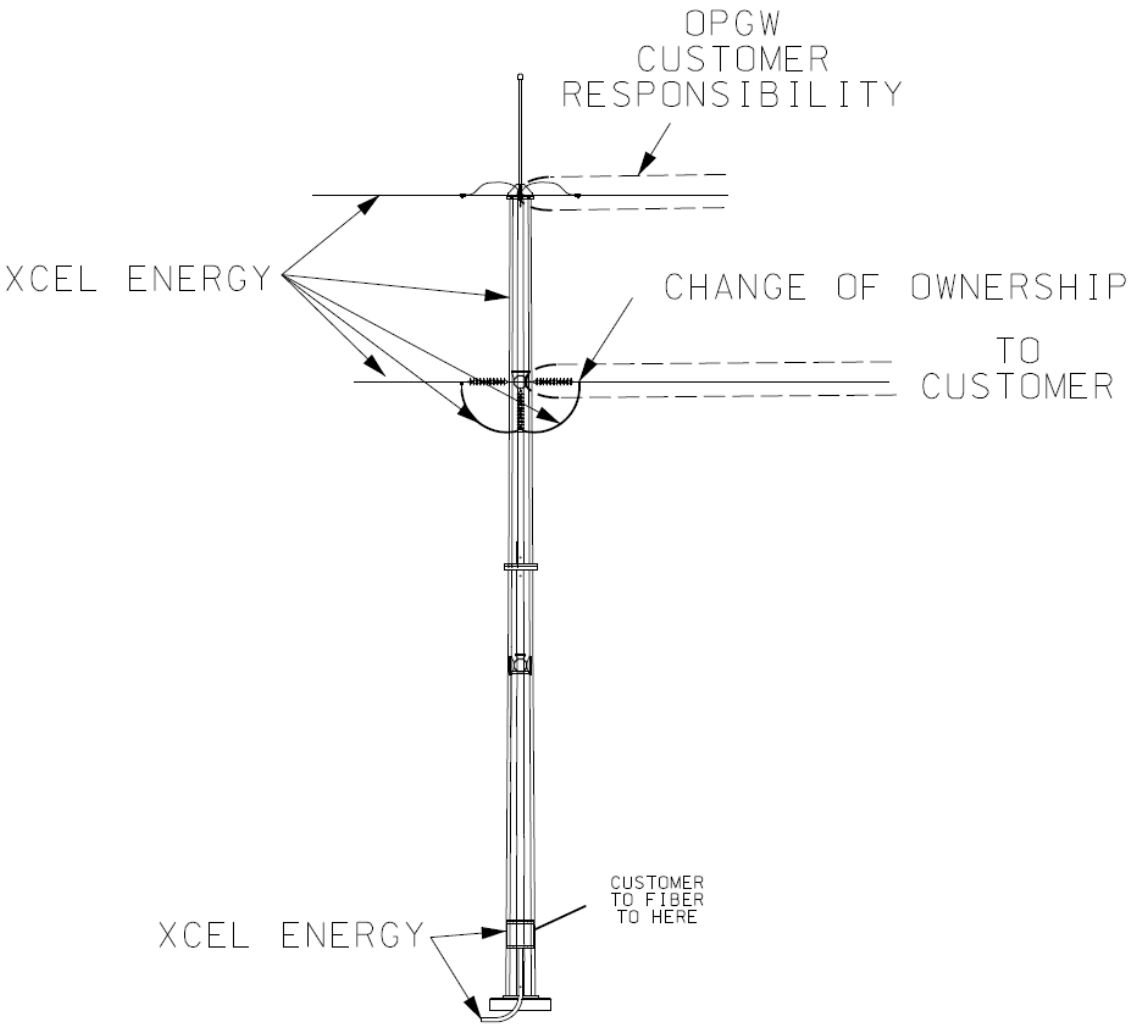
Figure A-1: General vicinity location map of the generation facility



R04 New Routes Into Sidewinder Substation Shown As Brown Lines Above

Figure A-2: Transmission Terminal Structure & Change of Ownership

DIAGRAMS ARE NOT FOR CONSTRUCTION PURPOSES



FACILITY RESTUDY

for

DISIS-2020-001 Phase 2 Restudy Request UID: 170629

Build New 350 MVAR STATCOM at Border 345kV Substation
Beckham County
Oklahoma

July 29, 2025

Rhiannon Hensley
Senior Engineer
Transmission Planning
OG&E Electric Services

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 Facility Study Agreement executed by the requesting customer for SPP DISIS-2020-001 UID 170629. The request for restudy was placed with SPP in accordance with SPP's Open Access Transmission Tariff. The requirements for installing the STATCOM consist of expanding the substation, adding a terminal, one breaker, 350MVAR STATCOM, and associated equipment, at Border 345kV Substation to be established by UID 170629. The total cost for OKGE to complete these upgrades at Border Substation is estimated at **$101,237,182.**

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Introduction

The Southwest Power Pool has requested a Facility Restudy for the purpose of installing a new STATCOM within the service territory of OG&E Electric Services (OKGE) in Beckham County Oklahoma. The proposed 345kV point of interconnection is at Border Substation in Beckham County. This substation is owned by OKGE. The cost for expanding the substation yard, adding a terminal, a 350MVAR STATCOM, and associated equipment at Border Substation, the required facility, is estimated at **$101,237,182**.

Interconnection Facilities

The primary objective of this study is to identify attachment facilities. The requirements for installation consist of expanding the substation, adding a terminal, one breaker, 350MVAR STATCOM, and associated equipment, at the injection point, Border Substation. This 345kV addition shall be constructed and maintained by OKGE.

The total cost for OKGE to complete the work is estimated at **$101,237,182**.

This Facility Study does not guarantee the availability of transmission service necessary to deliver the additional generation to any specific point inside or outside the Southwest Power Pool (SPP) transmission system. The transmission network facilities may not be adequate to deliver the additional generation output to the transmission system. If the customer requests firm transmission service under the SPP Open Access Transmission Tariff at a future date, Network Upgrades or other new construction may be required to provide the service requested under the SPP OATT.

The cost of installing the STATCOM to the OKGE transmission system is 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 re-closer de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.

For this STATCOM installation, no breakers were found to exceed their interrupting capability after the addition of the new equipment. OG&E found no breakers that exceeded their interrupting capabilities on their system. Therefore, there is no short circuit upgrade costs associated with UID 170629 interconnection.

Table 1: Required Interconnection Network Upgrade Facilities

Facility	ESTIMATED COST (2025 DOLLARS)
Lead time	48 months
OKGE – **Interconnection Facilities**- Add a single 345kV line terminal to Border Substation. Dead-end structure, line grounding switch, line relaying	**$5,194,754**
OKGE – **Network Upgrades** at Border Substation, install 1-345kV 3000A breaker, line relaying, disconnect switches, 350MVAR STATCOM, associated equipment	**$85,580,553**
OKGE – **Land or ROW** – expansion of Border Substation to accommodate upgrades	**$10,461,875**
Total	**$101,237,182**

Prepared by Rhiannon Hensley July 29, 2025
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Reviewed by:
Adam Snap, P.E.
Manager, Transmission Planning

Border Substation