FACILITY STUDY

for

Generation Interconnect Request GEN-2023-161

74.9MW Battery/Storage Generating Facility
Blaine County
Oklahoma

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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 Generation Interconnection request GEN-2023-161. The request for interconnection was placed with SPP in accordance with SPP's Open Access Transmission Tariff, which covers new generation interconnections on SPP's transmission system. The requirements for interconnection consist of installing a new 138kV terminal, metering, and associated equipment at Roman Nose Substation. In addition, meters will be installed at the Interconnection Customer's collector substation for the purpose of revenue metering of the battery/storage generation. Network upgrades at Roman Nose Substation consist of installing switches, two breakers, and associated equipment. The total cost of OKGE is estimated at **$3,266,557.**

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Introduction

The Southwest Power Pool has requested a Facility Study for the purpose of interconnecting a Battery/Storage generating facility within the service territory of OG&E Electric Services (OKGE) in Baine County, Oklahoma. The proposed 138kV point of interconnection is at Roman Nose Substation in Blaine County. This substation is owned by OKGE. The cost for installing a new 138kV terminal, two breakers, switches, and other associated equipment, is estimated at **$3,266,557**.

Other Network Constraints in the American Electric Power West (AEPW), Southwest Public Service (SPS), OKGE and Western Farmers Electric Cooperative (WFEC) systems may be verified with a transmission service request and associated studies.

Interconnection Facilities

The primary objective of this study is to identify attachment facilities. The requirements for interconnection consist of installing a new 138kV terminal and associated metering equipment at Roman Nose Substation. Network upgrades consisting of installing two new breakers, switches, and associated equipment are also required for interconnection. This 138kV upgrade shall be constructed and maintained by OKGE. It is assumed that obtaining all necessary right-of-way for the line to the existing OKGE Roman Nose 138kV substation will be performed by the interconnection customer.

The total cost for OKGE to add a new 138kV terminal and network upgrades at Roman Nose substation is estimated at **$3,266,557**. This cost does not include the building of the 138kV line from the customer substation to the dead-end structure at Roman Nose substation. This does not include the Customer's 138-34.5kV substation and the cost estimate should be determined by the Customer.

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 costs of interconnecting the facility to the OKGE transmission system are 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 generator interconnection, no breakers were found to exceed their interrupting capability after the addition of the Customer's 74.5 MW generation and related facilities. OG&E found no breakers that exceeded their interrupting capabilities on their system. Therefore, there is no short circuit upgrade costs associated with the GEN-2023-161 interconnection.

Table 1: Required Interconnection Network Upgrade Facilities

Facility	ESTIMATED COST (2026 DOLLARS)
Lead time	36 Months
OKGE – **Interconnection Facilities (UID 115922)**- New 138kV terminal, metering equipment consisting of CT/PTs, and associated equipment	$1,764,041
OKGE – **Network Upgrades (UID 158077)-** Install two 138kV Breaker, Switches, and associated equipment	$1,502,516
OKGE – **Land or ROW**	$0
Total	**$3,266,557**

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Roman Nose Substation