



AEP Generation Interconnection

Facilities Study Report

for

DISIS-2023-001

GEN-2023-135

Lydia 345 KV

Bowie County, TX

January 2026

1 Facilities Study Summary

American Electric Power Southwest Transmission Planning (AEP) performed the following study at the request of the Southwest Power Pool (SPP) for SPP Generation Interconnection request DISIS-2023-001; GEN-2023-135. Per the SPP Generator Interconnection Procedures (GIP), SPP requested that AEP perform an Interconnection Facilities Studies (IFS) for Network Upgrade(s) in accordance with Section 8.11 for the following Interconnection and/or Network Upgrade(s):

1.1 Project Description

GEN-2023-135 proposes to add a 52 MW solar generation interconnect at the 345 kV Lydia AEP Substation to the existing GEN-2020-054 POI (Figure 1) in Bowie County, TX (Figure 2).

1.2 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the interconnection, work will need to be completed at the Interconnection Customer stations. Sub-metering will be needed for GEN-2023-135 and GEN-2020-054 since they are sharing the same gen tie line into AEP's Lydia station.
- Settings to the protection and control equipment will need to be evaluated at the AEP 345 kV Lydia station to determine if updates are needed. AEP reserves the right to specify the final acceptable configuration considering design practices, future expansion, and compliance requirements.
- It is understood that the Interconnection Customer is responsible for all of the connection costs associated with interconnecting GEN-2023-135 to the AEP transmission system.

1.3 Short Circuit Evaluation

- It is standard practice for AEP to recommend replacing a circuit breaker when the current through the breaker for a fault exceeds 100% of its interrupting rating with recloser de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.
- In the AEP system, no breakers were found to exceed their interrupting capability after the addition of the generation and related facilities. Therefore, there are no additional short circuit upgrade costs associated with the DISIS-2023-001; GEN-2023-135 interconnection.

1.4 Stability Evaluation

- Based on the results of the DISIS-2023-001 short circuit and stability report, AEP is not aware of any instances where the system does not meet TPL-001 stability performance requirements for the planning events and generation dispatch conditions that were considered in this DISIS study.

1.5 Interconnection Cost of Facilities Included in the Facilities Study:

Network Upgrades	\$0
Transmission Owner Interconnection Facilities (TOIF)	\$239,730
Sub-metering	\$243,003
Total Cost	\$482,733

The estimates do not include the impact that delays in obtaining ROW, permits, or other approvals may have.

1.6 Project Lead time

Project in-service date is projected to be 18 months after the issuance of Authorization to Proceed from the Interconnection Customer.

Figure 1: Point of Interconnection (POI INFORMATION) One-Line Diagram

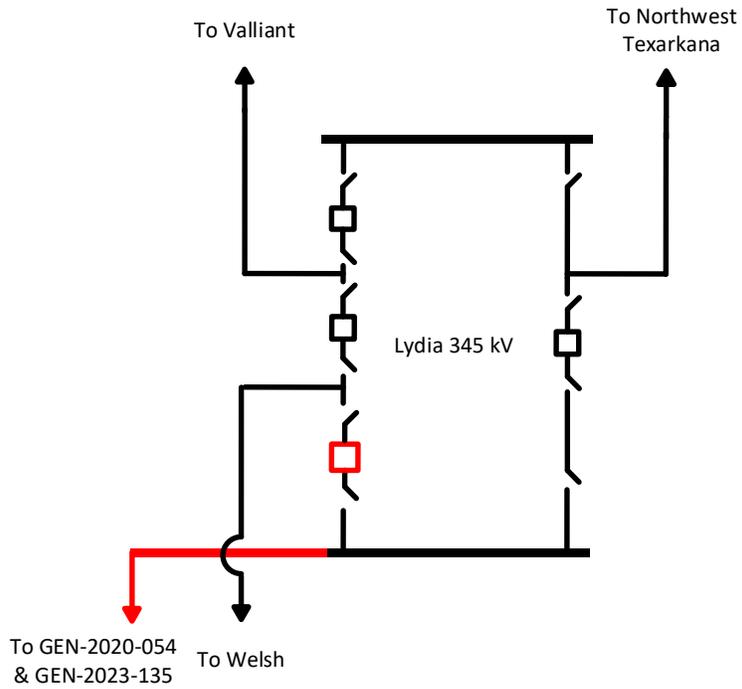


Figure 2: Point of Interconnection Maps

