AEP Generation Interconnection

Facilities Study Report

for

DISIS-2022-001

GEN-2022-139

Pirkey 345 kV

Harrison County, Texas

November 2025

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-2022-001; GEN-2022-139. 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-2022-139 proposes to connect a 300 MW battery/storage generating facility at the 345 kV Pirkey AEP station (Figure 1) in Harrison County, Texas (Figure 2).

1.2 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the interconnections, AEP's existing 345 kV Pirkey station will have to expand the existing 345 kV ring bus configuration. Bus work and disconnect switches will be designed to accommodate the loading requirements, and circuit breakers will be rated to ensure adequate load and fault interrupting capability. AEP will own, operate, and maintain the 345 kV Pirkey station.
- Installation of associated protection and control equipment, SCADA, and revenue metering will be required at the AEP 345 kV Pirkey station. AEP reserves the right to specify the final acceptable configuration considering design practices, future expansion, and compliance requirements.
- AEP will extend one span of 345 kV transmission line for the generation lead going to the 345 kV Pirkey station. AEP will build and own the first transmission line structure outside of the 345 kV Pirkey station, to which AEP's transmission line conductor will attach. ROW will be required for this span.
- It is understood that the Interconnection Customer is responsible for all of the connection costs associated with interconnecting GEN-2022-139 to the AEP transmission system. The cost of the customer's generating facility and the costs for the line connecting the generating facility to AEP's transmission system (Beyond the first span exiting the POI station) are not included in this report; these are assumed to be the Customer's responsibility.
- The customer will be responsible for the cost of constructing a fiber-optic connection from their telecom equipment to AEP's 345 kV Pirkey control house.

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-2022-001; GEN-2022-139 interconnection.

1.4 Stability Evaluation

- Based on the results of the DISIS-2022-001 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 (Expanding existing ring bus station for GEN-2022-139)	$4,178,188
Transmission Owner Interconnection Facilities (TOIF)	$5,407,966
Total Cost	$9,586,154

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 36 months after the issuance of Authorization to Proceed from the Interconnection Customer.

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

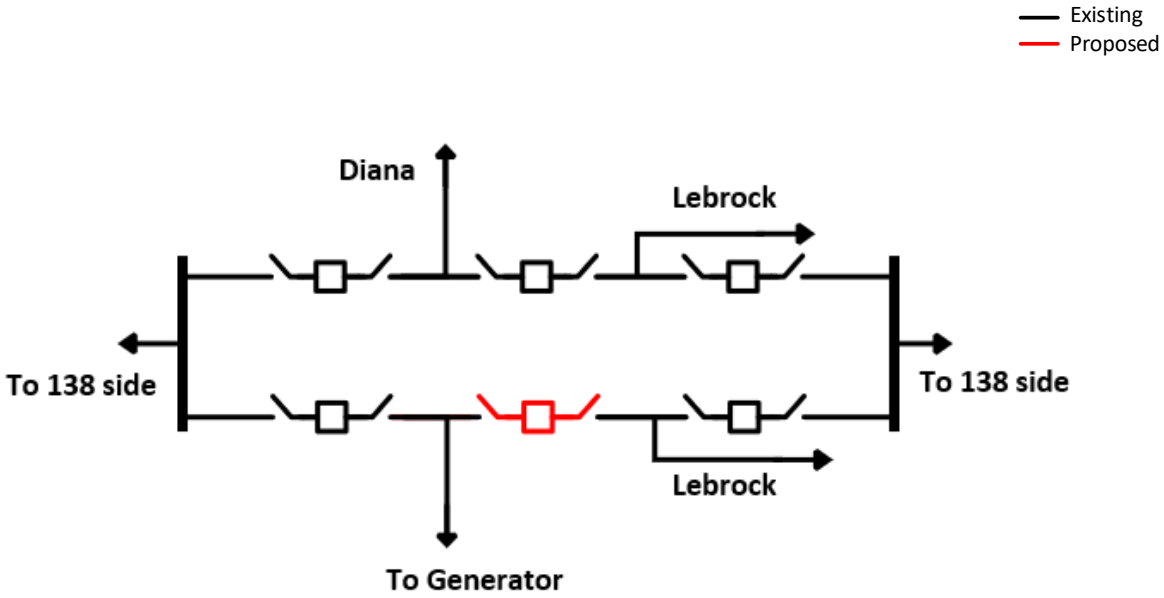

Figure 2: Point of Interconnection Maps