



**AEP Generation Interconnection  
Facilities Study Report  
for  
DISIS-2023-001  
GEN-2023-204  
Welsh to Lydia 345 KV  
Morris County, TX**

**January 2026**

## 1 Facilities Study Summary

American Electric Power (AEP) Southwest Transmission Planning performed the following study at the request of the Southwest Power Pool (SPP) for SPP Generation Interconnection request DISIS-2023-001; GEN-2023-204. 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-2023-204 proposes to install a 914.6 MW Thermal CTG generation facility in Morris County, TX (Figure 2). The point of interconnection for the generating facility will be AEP's Welsh to Lydia 345 kV transmission line (Figure 1).

### 1.2 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the interconnection to AEP's existing Welsh to Lydia 345 kV transmission line, a new 345 kV, 3-breaker ring bus station will be installed. Also, AEP will complete any necessary remote end work at the Welsh and Lydia stations associated with this project. The design and construction of the new station will meet all AEP specifications. 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 new 345 kV ring bus station.
- Installation of associated protection and control equipment, SCADA, and revenue metering will be required at the new 345 kV ring bus 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 from the generator's terminal at the new 345 kV ring bus station to the GEN-2023-204 POI. AEP will build and own the first transmission line structure outside of new 345 kV ring bus station, to which AEP's transmission line conductor will attach. Right of Way (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-2023-204 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) 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 new 345 kV ring bus station.

### 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-2023-204 interconnection.

### 1.4 Stability Evaluation

- Based on the results of the DISIS-2023-001 DISIS 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 (Build new 345 kV 3-breaker ring bus station)	\$26,990,573
Transmission Owner Interconnection Facilities (TOIF)	\$5,034,607
Remote End Work	\$624,690
<b>Total Cost</b>	<b>\$32,649,870</b>

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

