



AEP Generation Interconnection

Facilities Study Report

for

DISIS-2022-001

GEN-2022-111

Wilkes 345 kV

Marion 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-2022-111. 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-2022-111 proposes to connect a 150 MW solar/storage generating facility at the 345 kV Wilkes AEP station (Figure 1) in Marion County, Texas (Figure 2).

1.2 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the interconnections, AEP's existing 345 kV Wilkes station will have to expand the existing 345 kV ring bus. 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 Wilkes station.
- Installation of associated protection and control equipment, SCADA, and revenue metering will be required at the AEP 345 kV Wilkes 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 Wilkes station. AEP will build and own the first transmission line structure outside of the 345 kV Wilkes 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-2022-111 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 Wilkes 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-2022-111 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-2022-011)	\$4,376,332
Transmission Owner Interconnection Facilities (TOIF)	\$8,033,377
Total Cost	\$12,409,709

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

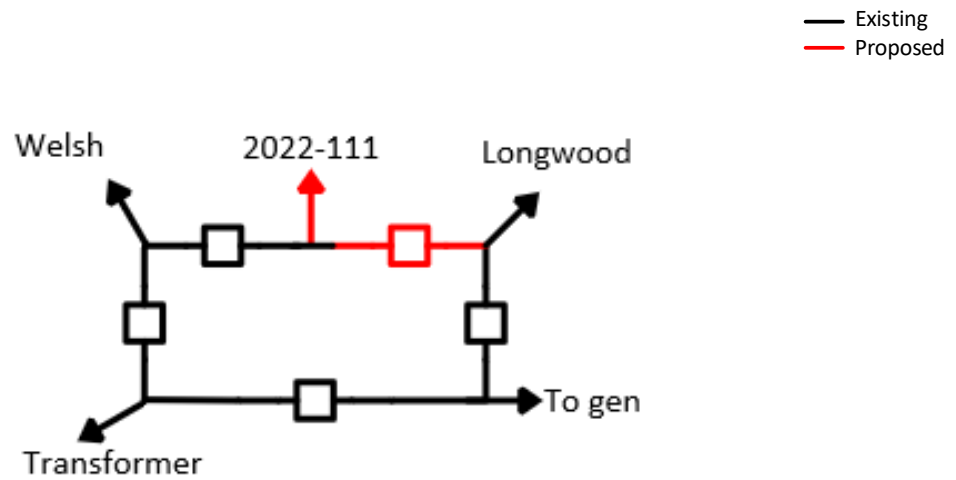


Figure 2: Point of Interconnection Maps





**AEP Generation Interconnection
Facilities Study Report
for
DISIS-2022-001
Southwest Shreveport 345 kV Bus
Reconfiguration
Caddo Parish, Louisiana**

June 2026

2 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-2022-001. Per the SPP Generator Interconnection Procedures (GIP), SPP requested that AEP perform an Interconnection Facilities Study (IFS) for Network Upgrade(s) in accordance with Attachment V, Section 8.11 of the Generator Interconnection Procedures (GIP).

Southwest Shreveport 345 kV Bus Reconfiguration

- Move the existing Diana 345 kV line terminal to a new position to create separation between the Longwood and Diana 345 kV line terminals.

1.7 Project Description

Per the DISIS-2022-001 study request, AEP proposes to complete the needed upgrades to reconfigure Southwest Shreveport 345 kV station (Figure 1) in Caddo Parish, Louisiana.

1.8 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the needed separation between the Longwood and Diana 345 kV terminals the Diana 345 kV line terminal will be moved to a new position.
- The design and construction of the new equipment will meet all AEP specifications for transmission stations. AEP will own, operate, and maintain the Southwest Shreveport 345 kV terminal and all associated equipment.
- It is understood that the Interconnection Customers are responsible for the cost of all of this work.

1.9 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 this equipment. Therefore, there are no additional short circuit upgrade costs associated with the DISIS-2022-001, UID 172104 interconnection.

1.10 Interconnection Cost of Facilities Included in the Facilities Study:

Reconfigure Southwest Shreveport 345 kV Station	\$14,496,307
Total Cost	\$14,496,307

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

1.11 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





**AEP Generation Interconnection
Facilities Study Report
for
DISIS-2022-001
Welsh 345 kV Bus Reconfiguration
Titus Parish, Louisiana**

May 2026

3 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-2022-001. Per the SPP Generator Interconnection Procedures (GIP), SPP requested that AEP perform an Interconnection Facilities Study (IFS) for Network Upgrade(s) in accordance with Attachment V, Section 8.11 of the Generator Interconnection Procedures (GIP).

Welsh 345 kV Bus Reconfiguration

- Add a new 345 kV rung to Welsh station to create adequate separation between the Wilkes and Diana 345 kV line terminals.

1.12 Project Description

Per the DISIS-2022-001 study request, AEP proposes to complete the needed upgrades to reconfigure Welsh 345 kV station (Figure 1) in Titus Parish, Louisiana.

1.13 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the needed separation between the Wilkes and Diana 345 kV terminals a new 345 kV rung will be added to Welsh station.
- The design and construction of the new equipment will meet all AEP specifications for transmission stations. AEP will own, operate, and maintain the Welsh 345 kV rung and associated equipment.
- It is understood that the Interconnection Customers are responsible for the cost of all of this work.

1.14 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 this equipment. Therefore, there are no additional short circuit upgrade costs associated with the DISIS-2022-001, UID 143323 interconnection.

1.15 Interconnection Cost of Facilities Included in the Facilities Study:

Reconfigure Welsh 345 kV Station	\$21,623,782
Total Cost	\$21,623,782

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

1.16 Project Lead time

Project in-service date is projected to be 42 months after the issuance of Authorization to Proceed from the Interconnection Customer.

Figure 1

