AEP Generation Interconnection

Facilities Study Report

for

DISIS-2023-001

GEN-2023-230

Red Point 138 kV

Bossier Parish, LA

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-2023-230. 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-2023-230 proposes to connect a 150 MW hybrid solar/storage generating facility at the 138 kV Red Point AEP station (Figure 1) in Bossier Parish, LA (Figure 2).

1.2 AEP's Scope of Work to Facilitate Interconnection

- To accommodate the interconnections, AEP's existing 138 kV Red Point station will be expanded to a breaker and a half 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 138 kV Red Point station.
- Installation of associated protection and control equipment, SCADA, and revenue metering will be required at the AEP 138 kV Red Point 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 138 kV transmission line for the generation lead going to the 138 kV Red Point station. AEP will build and own the first transmission line structure outside of the 138 kV Red Point 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-2023-230 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 138 kV Red Point control house.

- Work will need to be completed at the Interconnection Customer station. Sub-metering will be needed for the solar and battery facilities since they are sharing the same gen tie line into the new 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-2023-230 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 (Expanding to a breaker and a half configuration GEN-2023-230)	$4,662,635
Transmission Owner Interconnection Facilities (TOIF)	$2,805,953
Sub-Metering	$242,351
Total Cost	$7,710,939

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

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

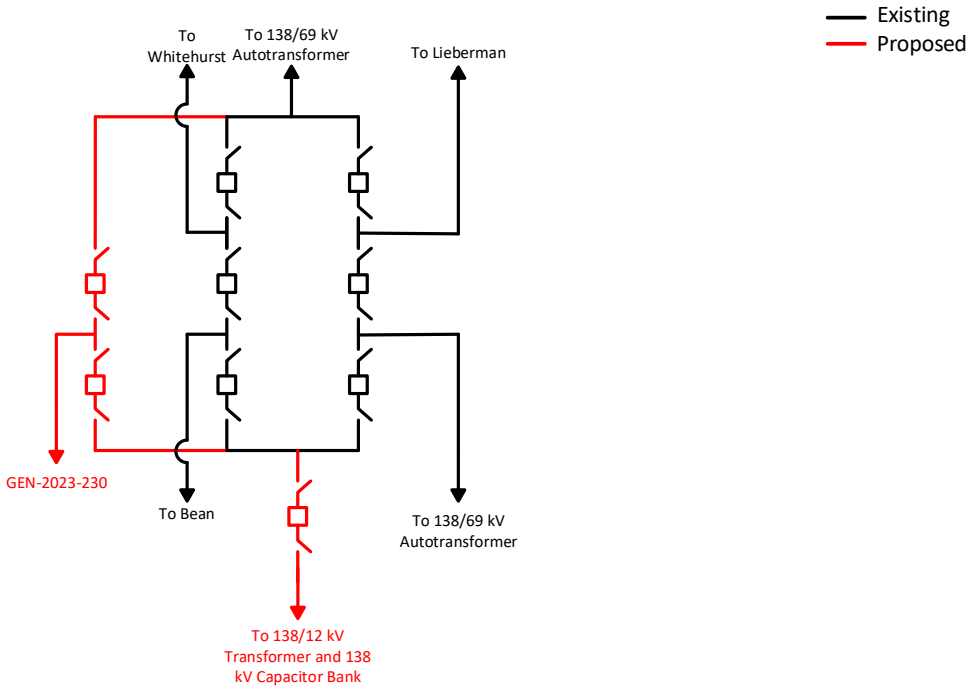

Figure 2: Point of Interconnection Maps