Interconnection Facilities Study
for GEN-2023-172 & GEN-2023-173 Network Upgrades and TOIF upgrades at the Holcomb 345 kV Substation

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STUDY OVERVIEW:

The Southwest Power Pool has requested a Facility Study for Interconnection Facilities and Network Upgrades from Sunflower Electric Power Corporation (Sunflower) at the Holcomb 345 kV Substation for request GEN-2023-172 and GEN-2023-173. The GEN-2023-172 and GEN-2023-173 request consists of a total of 300 MW of wind generation interconnecting at the Holcomb 345 kV Substation.

The Non-Shared Network Upgrades (NU) identified to accept a new generator lead includes terminal equipment to accept a new line at the existing Holcomb 345 kV Substation. The cost for these Network Upgrades is estimated at $9,008,488.

The Transmission Owner Interconnection Facility (TOIF) addition identified is a new 345 kV generator lead connection at the existing Holcomb 345 kV Substation. The cost for adding the new 345 kV generator lead is estimated at $5,436,494.

The purpose of this study is to provide estimated costs of facilities required for interconnection of the proposed generation to Sunflower's transmission system and to identify scope and estimated costs for network upgrades required on Sunflower's transmission system to allow the generation to run at the full requested capacity.

Additional network upgrades required for facilities of other transmission owners are not included in this study and will be identified by SPP.

INTERCONNECTION FACILITIES AND NON-SHARED NETWORK UPGRADES:

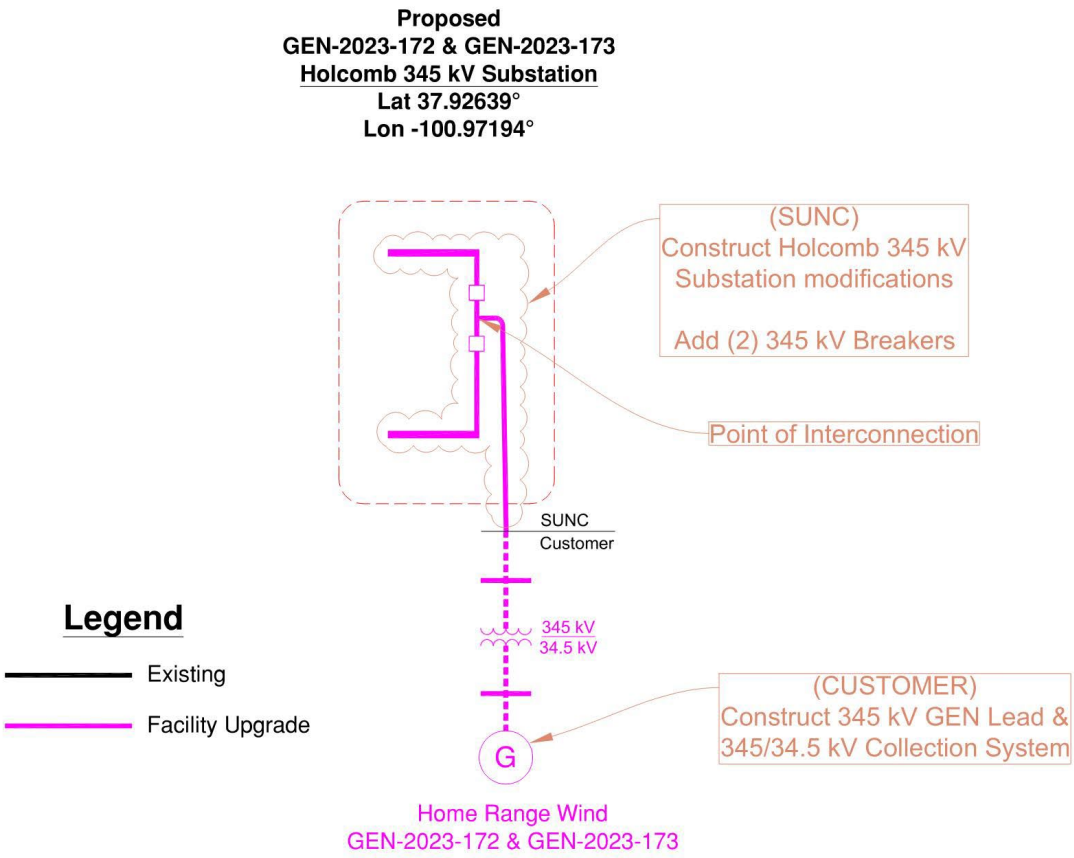
Non-shared Network Upgrades (NU) additions required by Sunflower consist of the addition of a 345 kV line terminal with circuit breakers, CCVTs, disconnect switches, structures, foundations, conductors, insulators, and all other associated work and materials.

Transmission Owner Interconnection Facility (TOIF) additions required by Sunflower consist of revenue metering CTs and PTs, disconnect switch, protective relays, and terminal equipment needed to interconnect the customer's generator lead line to Sunflower's Holcomb 345 kV Substation.

This 345 kV addition at Holcomb 345 kV Substation shall be constructed and maintained by Sunflower. It is assumed that obtaining all necessary right-of-way for the line into the Sunflower 345 kV substation facilities will be performed by the interconnection customer. The addition of the generator 345 kV lead line from the customer substation into the existing Sunflower Holcomb Substation and the step-up transformer that connects to the customer's collector substation is not included and is the responsibility of the interconnection customer.

The proposed arrangement for interconnection of GEN-2023-172 and GEN-2023-173 is shown in Figure 1.

Figure 1: One-line Diagram Facilities for GEN-2023-172 & GEN-2023-173



INTERCONNECTION COSTS:

Summary of interconnection costs for both Interconnection Facilities and Sunflower identified Network Upgrades can be found in the following table.

Upgrade Type	UID	Upgrade Name/Description	DISIS Cost Estimate	DISIS Lead Time
Interconnection	158666	**Holcomb 345 kV GEN-2023-172 & GEN-2023-173 Interconnection (Non-Shared NU) (SEPC)** Construct the addition of a single 345 kV line terminal with circuit breakers, CCVTs, disconnect switches, structures, foundations, conductors, insulators, and all other associated work and materials.	$9,008,488	52
Interconnection	158942 & 158943	**Holcomb 345 kV GEN-2023-172 & GEN-2023-173 Interconnection (TOIF) (SEPC)** Construct one (1) line terminal addition in the new 345 kV substation with revenue metering CTs and PTs, disconnect switch, protective relays, and terminal equipment needed to interconnect the customer's generator lead line.	$5,436,494	52
		Total Interconnection Cost:	**$14,444,982**	

PROJECT TIMELINE:

Specific construction schedule and milestones will be determined during the Generator Interconnection Agreement negotiations. Sunflower is estimating an engineering and construction schedule for this project as approximately 52 months. Other factors associated with clearances, equipment procurement delays and work schedules could cause additional delays. This is applicable after all required agreements are signed and internal approvals are granted.