



# **Generation Interconnection Facilities Study**

**for**

**Generation Interconnection Request**

**ERAS-2025-034**

**State Line Power Plant**

**Jasper County, MO**

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4/17/2026

## **Introduction**

At the request of Southwest Power Pool (SPP), The Empire District Electric Company (d/b/a Liberty) has compiled the following Facility Study for SPP Generation Interconnection request ERAS-2025-034, State Line 439.

## **Project Description**

ERAS-2025-034 proposes to install a 250 MW combustion turbine generation facility in Jasper County, Missouri, and connect to a nearby Liberty-owned 161kV substation via a 0.3 mile generation lead-line.

## **Liberty's Scope of Work**

For interconnection of the proposed generation facility, Liberty requires expansion of the 161kV breaker-and-a-half bus at the State Line substation, shown in Figure 1 as Point of Interconnection. Due to the anticipated generation lead-line ingress, three existing 161kV transmission lines will require re-routing and re-termination in the substation (and one 69kV transmission line), subsequently necessitating the addition of one more ladder rung in the bus. Additionally, the relay control enclosure is currently at maximum capacity and must be replaced to accommodate this substation expansion.

The new substation equipment shall be constructed and maintained by Liberty, including all re-routing of Liberty's existing 161kV transmission lines. Furthermore, it is understood that the Interconnection Customer is responsible for all the connection costs associated with interconnecting ERAS-2025-034 to Liberty's substation, as provided below in Table 1, and is also responsible for constructing and maintaining the 161kV generation lead-line from the Interconnection Customer's substation up to the Point of Change of Ownership (PCO).

Liberty reserves the right to specify the final acceptable configuration considering design practices, future expansion, and compliance requirements.

## **Short Circuit Evaluation**

It is standard practice for Liberty to replace a circuit breaker when the anticipated fault current through the breaker exceeds 100% of its nameplate interrupting rating with recloser de-rating applied.

SPP's final ERAS-2025-001 study results have not been made available to review for determination if any circuit breakers in the Liberty system were found to exceed their interrupting capability after the addition of the above proposed generation facilities.

## **Stability Evaluation**

SPP's final ERAS-2025-001 study results have not been made available to review for determination if there were any instances where the system fails to meet TPL-001 stability performance requirements for the planning events and generation dispatch conditions that were considered in this ERAS study.

## **Interconnection Estimated Costs and Lead-Times**

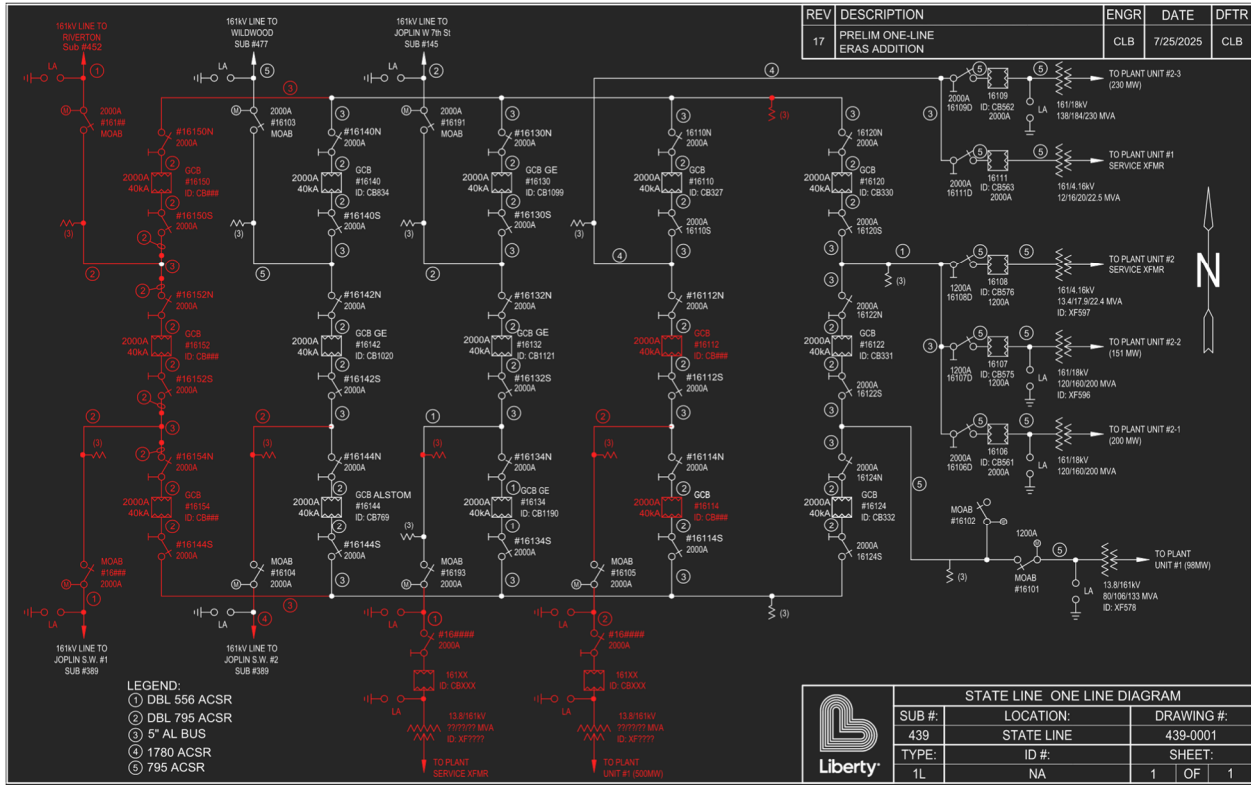
<b>Total Cost &amp; Lead-time</b>	
Non-Shared Network Upgrades (NU) - UID 170777	\$25,701,384
Transmission Owner Interconnection Facilities (TOIF) - UID 170776	\$1,357,898
<b>Total</b>	<b>\$27,059,282</b>
<b>Lead time</b>	54 Months

**Table 1 – Cost Estimate**

**Figure 1 – State Line Substation and POI location**



### Figure 2 – Preliminary One-Line



Home / **SCERTWebForm**

[← Back to SCERT Grid](#)

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SCERT		Mitigation Plan/Closeout Info	
<b>Network Upgrade Name</b>	<input type="text" value="Build the CAF"/>	<b>Estimate Creation Date</b>	<input type="text" value="03/04/2026"/>
<b>High Voltage</b>	<input type="text"/>	<b>Estimate Request Date</b>	<input type="text" value="Select Date"/>
<b>Low Voltage</b>	<input type="text"/>	<b>RTO Determined Need Date</b>	<input type="text" value="02/23/2026"/>
<b>Board Baseline In-Service Date</b>	<input type="text" value="Select Date"/>	<b>First Reported In-Service Date</b>	<input type="text" value="Select Date"/>
<b>Project ID</b>	<input type="text" value="95811"/>	<b>Estimated In-Service Date</b>	<input type="text" value="Select Date"/>
<b>Upgrade ID</b>	<input type="text" value="172045"/>	<b>Network Upgrade Start Date</b>	<input type="text" value="Select Date"/>
<b>Project Estimate Stage</b>	<input type="text" value="Study"/>	<b>Mitigation Plan</b>	<input type="text"/>

<p><b>Total Network Upgrade Cost Estimate</b></p> <p>\$6,099,973.09 <input type="text"/></p>	<p><b>Estimate Provider (Company)</b> SWPA</p>
<p><b>Final Cost</b> <input type="text"/></p>	<p><b>Point of Contact</b> <input type="text"/></p>
<p><b>Network Upgrade Description</b></p> <p>Build a new CARTHAG5 to CARTHG 2 161-69 kV transformer 3 with a rating of 84 MVA</p>	
<p><b>Network Upgrade Scope</b></p> <p><input type="text"/></p>	
<p><b>Estimate Provider Comments</b></p> <p><input type="text"/></p>	
<p><b>Type of SCERT</b> Standard</p>	

<b>Construction Status</b>	
<p><b>Engineering/Design Phase</b></p>	<p><input type="radio"/> N/A <input type="radio"/> Not Started <input type="radio"/> In Progress</p> <p><input type="radio"/> Complete</p>
<p><b>Siting/Routing Phase</b></p>	<p><input type="radio"/> N/A <input type="radio"/> Not Started <input type="radio"/> In Progress</p> <p><input type="radio"/> Complete</p>

	<input type="radio"/> Complete
<b>Permits Phase</b>	<input type="radio"/> N/A <input type="radio"/> Not Started <input type="radio"/> In Progress <input type="radio"/> Complete
<b>Material Procurement Phase</b>	<input type="radio"/> N/A <input type="radio"/> Not Started <input type="radio"/> In Progress <input type="radio"/> Complete
<b>Construction Phase</b>	<input type="radio"/> N/A <input type="radio"/> Not Started <input type="radio"/> In Progress <input type="radio"/> Complete
<b>In-Service:</b>	<input type="radio"/> Y <input type="radio"/> N

**Cost Assumptions**

Line Assumptions

Station Assumptions

Line Costs	Current Year \$
<b>Engineering Labor</b>	<input type="text" value="\$0.00"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
<b>Construction Labor</b>	<input type="text"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
<b>Right-of-Way</b>	<input type="text"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
<b>Reactive Compensation (Labor &amp; Materials)</b>	<input type="text"/> <input type="button" value="▲"/> <input type="button" value="▼"/>
<b>Material</b>	<input type="text"/> <input type="button" value="▲"/> <input type="button" value="▼"/>

<b>Station Costs</b>	
<b>Engineering Labor</b>	\$845,144.63
<b>Construction Labor</b>	\$518,328.46
<b>Site Property Rights</b>	
<b>Reactive Compensation (Labor &amp; Materials)</b>	
<b>Material</b>	\$3,211,500.00
<b>Station Sub-Total</b>	\$4,574,973.09
<b>Summary Info</b>	
<b>Line Sub-Total</b>	\$0.00
<b>Station Sub-Total</b>	\$4,574,973.09
<b>AFUDC</b>	
<b>Contingency</b>	\$1,525,000.00
<b>Total Network Upgrade Cost Estimate</b>	\$6,099,973.09
<b>Miscellaneous Cost Info</b>	
<b>CWIP (Y/N)</b>	<input type="radio"/> Y <input type="radio"/> N

Expenditure Info	
Expenditures To Date	<input type="text"/>
Contractually Binding Financial Commitment	<input type="text"/>

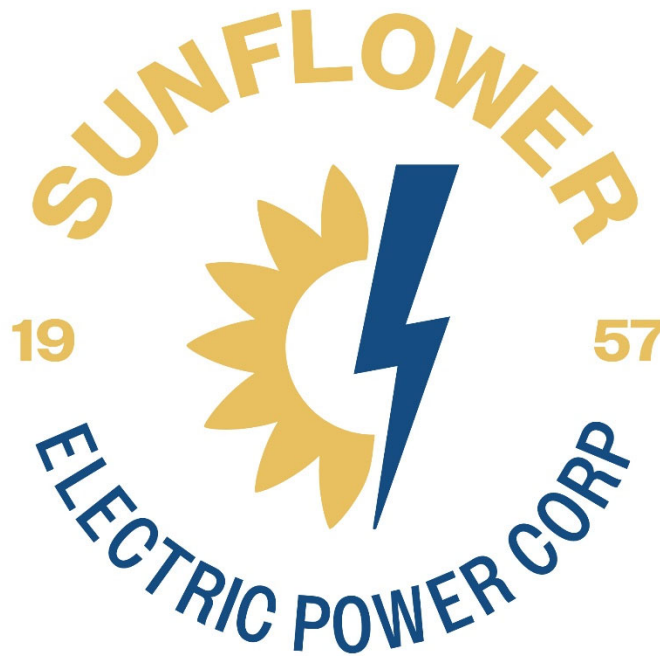
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**Interconnection Facilities Study  
for ERAS-2025-001 Network Upgrade:  
Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2**



**April 20, 2026**

*Interconnection Facilities Study – Build the HOLCOMB7 to HOLCOMB3 345 kV  
Transformer 2*

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## ***Interconnection Facilities Study – Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2***

### **STUDY OVERVIEW:**

The Southwest Power Pool has requested a Facility Study for a Network Upgrade from Sunflower Electric Power Corporation (Sunflower). The Network Upgrade identified includes a new 345/115 kV transformer at the existing Holcomb Substation.

The cost of Sunflower's portion of building a new 345/115 kV transformer at the existing Holcomb Substation and associated upgrades is estimated at \$26,301,311 (UID: 172046).

SPP's ERAS-2025-001 identified Network Upgrades included with this Facilities Study are associated with the following:

- ERAS-2025-015
  - \$13,150,655.50
- ERAS-2025-017
  - \$13,150,655.50

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.

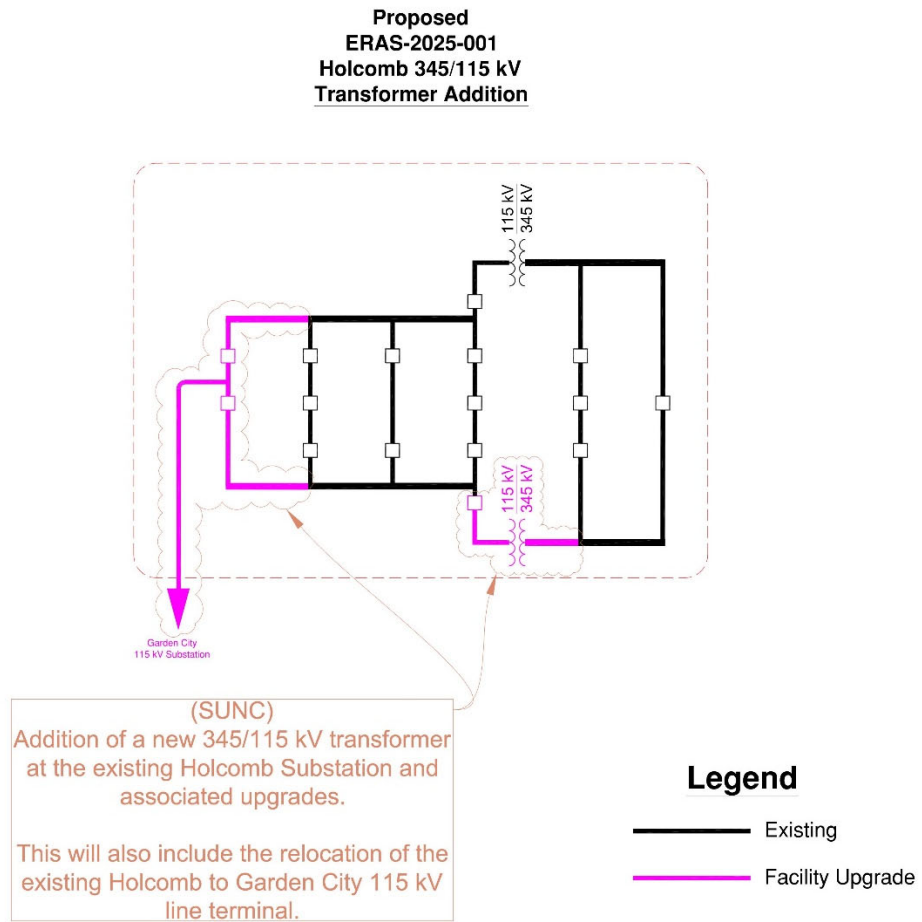
### **SHARED NETWORK UPGRADES:**

Network Upgrades included in this study consist of adding a new 345/115 kV transformer at the existing Holcomb Substation required by SPP. The new 345/115 kV transformer and associated upgrades shall be constructed and maintained by Sunflower.

The proposed arrangement for upgrades for ERAS-2025-001 is shown in Figure 1.

# Interconnection Facilities Study – Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2

Figure 1: One-line Diagram Facilities for ERAS-2025-001



**Interconnection Facilities Study – Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2**

**INTERCONNECTION COSTS:**

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

<b>Upgrade Type</b>	<b>UID</b>	<b>Upgrade Name/Description</b>	<b>DISIS Cost Estimate</b>	<b>DISIS Lead Time</b>
Current Study	172046	<b>Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2</b> Construct the addition of a new 345/115 kV transformer at the existing Holcomb Substation required for <b>ERAS-2025-015</b>	\$13,150,655.50	40
Current Study	172046	<b>Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2</b> Construct the addition of a new 345/115 kV transformer at the existing Holcomb Substation required for <b>ERAS-2025-017</b>	\$13,150,655.50	40
<b>Total Interconnection Cost:</b>			<b>\$26,301,311</b>	

**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 40 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.



## **Interconnection Facilities Study**

**Costs associated with  
ERAS-2025-001  
Replace the existing SIBLEY 345/161kV  
transformer**

**April 2026**

## **Introduction**

This report summarizes the scope of the Interconnection Facilities Analysis for Network Upgrade(s) to determine costs related to the addition of the SPP-GI ERAS-2025-001 Interconnection Request(s). Evergy, as a TO, is receiving an unprecedented amount of GI interconnect requests. The cost estimates and interconnect information supplied are based on current system configuration. There are many cases of multiple GI's requesting POIs at the same substation. Ongoing changes in Evergy's transmission system configuration could affect the required system upgrades and costs necessary to meet any particular GI interconnect request in the future.

## **Southwest Power Pool Generation Interconnection Request:**

Per the SPP Generator Interconnection Procedures (GIP), SPP has requested that Evergy perform an Interconnection Facilities Study (IFS) for Network Upgrade(s) in accordance with the Scope of Interconnection Facilities Study GIP Section 8.10 and the Interconnection Facilities Study Procedures in accordance with GIP Section 8.11 for the following Interconnection Request(s):

Upgrade Type	UID	Upgrade Name	DISIS Cost Estimate	DISIS Lead Time
Current Study	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	\$ 13,571,142.00	48 months

### **Replace Sibley 345/161 kV Transformer (Current Study) (Evergy)**

#### 345/161kV Substation

Network Upgrades to replace the Sibley 345/161 kV Transformer 1. This estimate includes the replacement of the existing transformer with the standard MVA size accommodating the 510 MVA minimum rating. UID 172063

#### Total Cost

The total cost estimate for this Network Upgrade is:

\$	0	Transmission Line
\$	12,391,128	Substation
\$	40,591	AFUDC
\$	1,139,421	Contingency
\$	13,571,142	Total

This estimate is accurate to +/- twenty (20) percent, based on current prices, in accordance with Attachment A of Appendix 4 of the Interconnection Facilities Study Agreement. However, recent cost fluctuations in materials are very significant and the accuracy of this estimate at the time of actual settings cannot be assured.

## Time Estimate

Time estimates are based on current version of the project schedule and some processes of each category run concurrently.

Engineering Time	48	Months
Procurement Time	48	Months
Construction Time	48	Months
<hr/>		
Total Project Length	48	Months

**Figure 1 – Sibley 345/161kV Substation**

