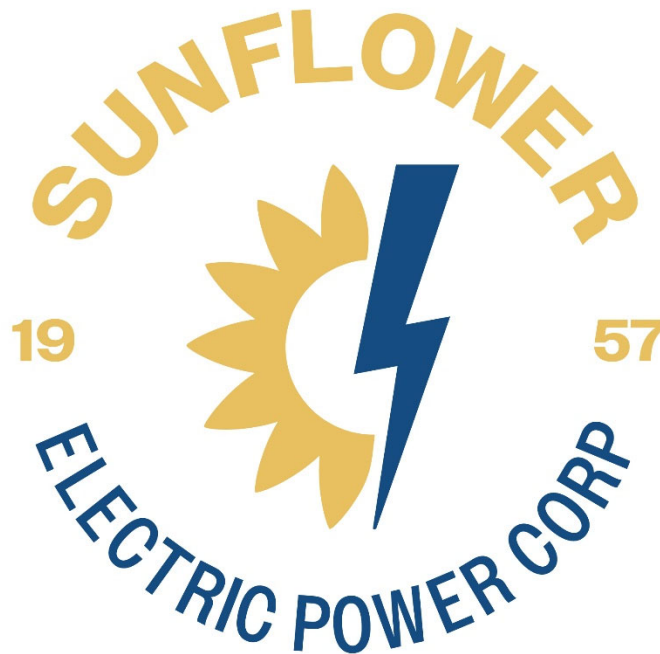




**Interconnection Facilities Study
for ERAS-2025-001 Network Upgrade:
Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2**



April 20, 2026

TABLE OF CONTENTS

Study Overview: 2

Shared Network Upgrades: 2

Interconnection Costs:..... 4

Project Timeline: 4

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.

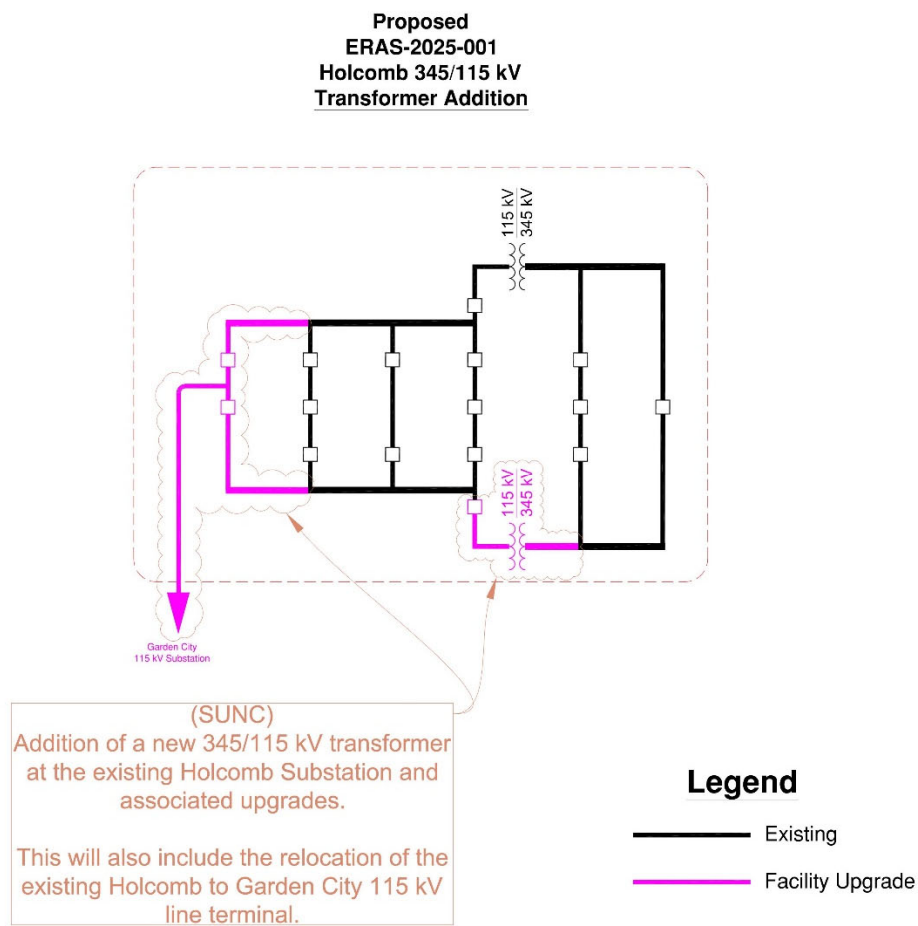
SHARED NETWORK UPGRADES:

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.

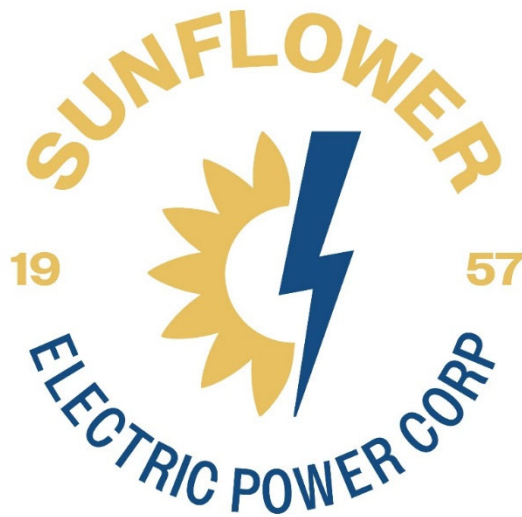
Upgrade Type	UID	Upgrade Name/Description	DISIS Cost Estimate	DISIS Lead Time
Current Study	172046	Build the HOLCOMB7 to HOLCOMB3 345 kV Transformer 2 Construct the addition of a new 345/115 kV transformer at the existing Holcomb Substation required for ERAS-2025-015	\$13,150,655.50	40
Current Study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

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
for ERAS-2025-032 Network Upgrades and TOIF upgrades
at the St. John 115 kV Substation**



April 20, 2026

TABLE OF CONTENTS

Study Overview: 2

Interconnection Facilities and Non-Shared Network Upgrades: 2

Interconnection Costs:..... 4

Project Timeline: 4

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 St. John 115 kV Substation for request ERAS-2025-032. The ERAS-2025-032 request consists of a total of 155 MW of solar generation and 155 MW of battery storage interconnecting at the St. John 115 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 St. John 115 kV Substation. The cost for these Network Upgrades is estimated at \$683,308.

The Transmission Owner Interconnection Facility (TOIF) addition identified is a new 115 kV generator lead connection at the existing St. John 115 kV Substation. The cost for adding the new 115 kV generator lead is estimated at \$3,848,749.

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.

Sunflower can accommodate the "Point of Interconnection" (POI) at this time. However, the ability to accommodate this interconnection is subject to change due to engineering considerations, environmental assessments, permitting requirements, and other factors. Sunflower reserves the right to re-evaluate the interconnection and update the interconnection facility study based on such change and cannot reserve the interconnecting customer's interconnection at this POI until an interconnection agreement is fully executed.

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 115 kV line terminal with bus and yard expansion, structures, foundations, conductors, insulators, and all other associated work and materials.

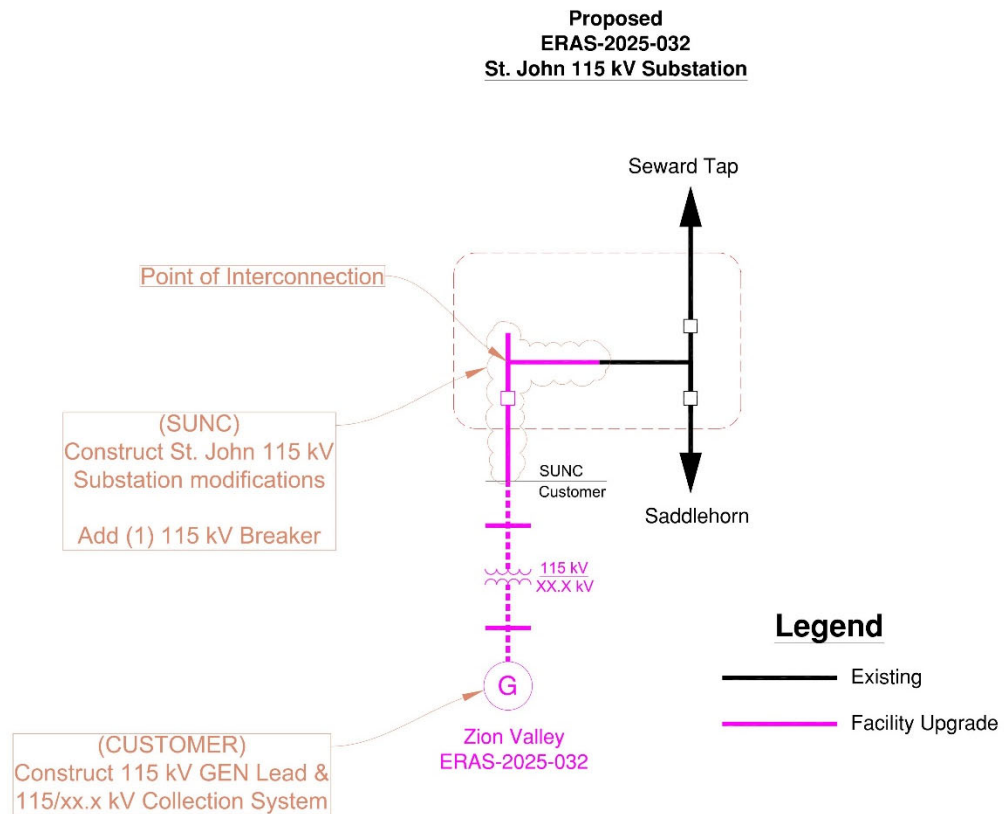
Transmission Owner Interconnection Facility (TOIF) additions required by Sunflower consist of a circuit breaker, CCVTs, revenue metering CTs and PTs, disconnect switches, protective relays, and terminal equipment needed to interconnect the customer's generator lead line to Sunflower's St. John 115 kV Substation.

This 115 kV addition at St. John 115 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 115 kV substation facilities will be performed by the interconnection customer. The addition of the generator 115 kV lead line from the customer substation into the existing Sunflower St. John 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.

Interconnection Facilities Study – St. John 115 kV Network Upgrades and TOIF

The proposed arrangement for interconnection of ERAS-2025-032 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	170805	St. John 115 kV Substation ERAS-2025-032 Interconnection (Non-shared NU) (SEPC) Construct the addition of a single 115 kV line terminal with bus and yard expansion, structures, foundations, conductors, insulators, and all other associated work and materials.	\$683,308	40
Interconnection	170804	St. John 115 kV Substation ERAS-2025-032 Interconnection (TOIF) (SEPC) Construct one (1) line terminal addition with circuit breakers, CCVTs, disconnect switches, revenue metering CTs and PTs, protective relays, and terminal equipment needed to interconnect the customer's generator lead line.	\$3,848,749	40
Total Interconnection Cost:			\$4,532,057	

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

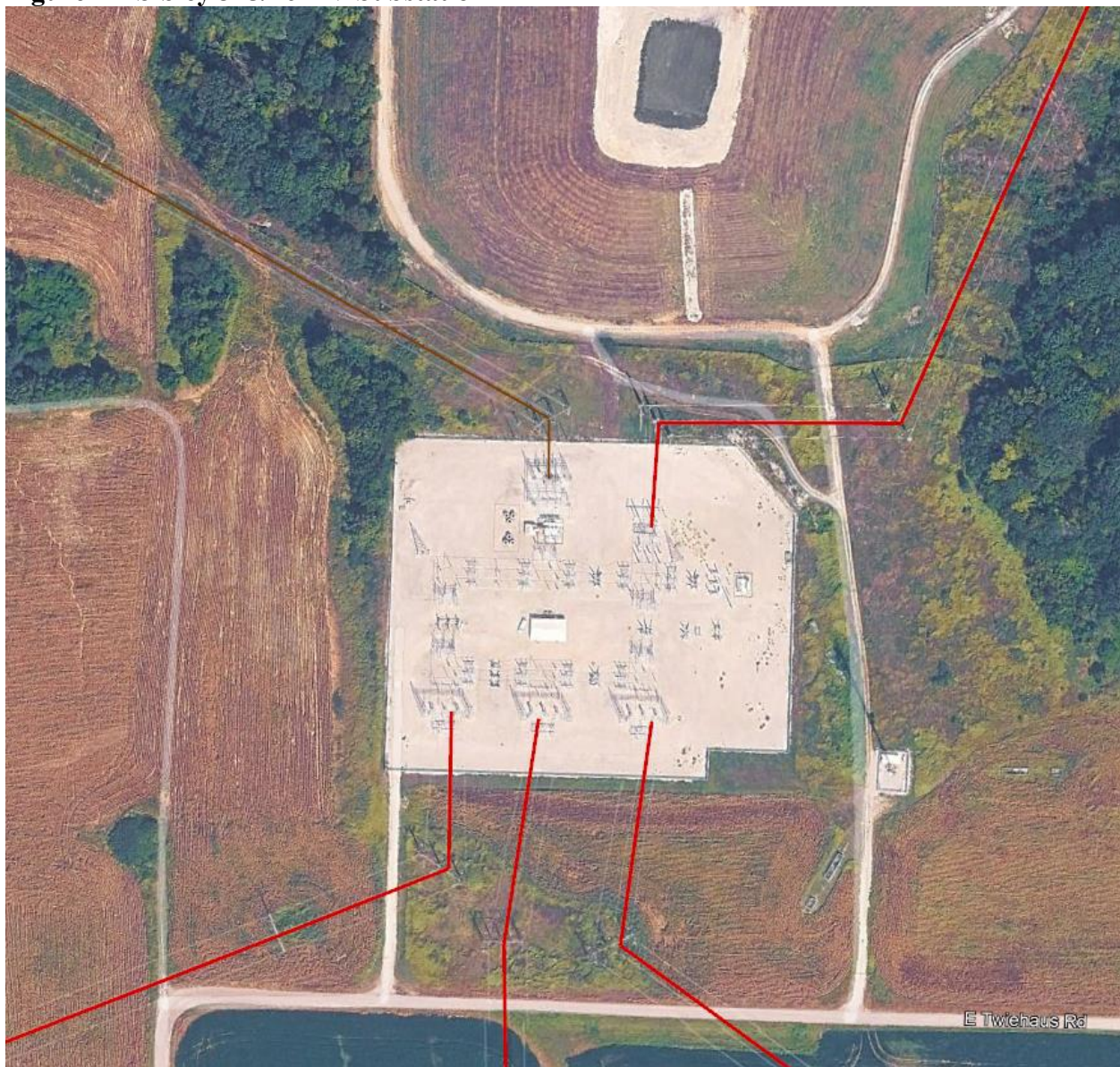
This estimate is accurate to +/- twenty (20) percent, based on current prices, in accordance with Attachment A of Appendix 4 of the Interconnection Facilities Study Agreement. However, recent cost fluctuations in materials are very significant and the accuracy of this estimate at the time of actual settings 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
Total Project Length	48	Months

Figure 1 – Sibley 345/161kV Substation





Midwest Energy Inc.

Network Upgrade Study for ERAS-2025-001



April 20, 2026

Contents

Summary 3

Network Upgrade Scope 3

Upgrade Costs 5

Project Lead Time 5

Summary

At the request of the Southwest Power Pool (SPP), Midwest Energy (Midwest) performed a facility study for network upgrades identified in the Expedited Resource Adequacy Study (ERAS-2025-001) in accordance with the SPP Generator Interconnection Procedures (GIP) Section 8.11 for the following Network Upgrades:

- Replace the SEWRDMW3 to SEWARD 2 115kV Transformer 1

Network Upgrade Scope

The study performed by SPP for ERAS-2025-001 showed the Seward 115/69kV Transformer overloaded in a post-contingency state. The most severe contingency for the Seward Transformer as a monitored element is the loss of Sunflower's Great Bend Tap – Seward 115kV line. This is not a valid P1 contingency because it would result in a simultaneous loss of Midwest's 'SEWARD 3 – SEWARDMW3' 115kV line. However, it is a valid P2.1 contingency for which non-consequential load loss is not allowed. The emergency rating of the Seward 115kV/69kV transformer is 45 MVA. The transformer was loaded at 106.62% of its emergency rating in the ERAS-2025-001 study. The provided estimate includes Engineering design and all materials and labor needed to replace the existing transformer with a transformer with higher ratings. See figure 1 on the next page. The substation cable trench runs alongside the existing transformer pad. To install a larger transformer pad, the cable trenches will have to be relocated. These costs are included in the estimate.



Figure 1: Seward 115kV/69kV Transformer and Cable Trench

Network Upgrade Study for ERAS-2025-001

Upgrade Costs

Network Upgrade		Cost (2026 Dollars)
Replace the SEWRDMW3 to SEWARD 2 115kV Transformer 1 (Estimated Cost includes materials, equipment, labor, engineering, contingency costs, and taxes)		\$6,486,381.72

Project Lead Time

Project in-service date is anticipated to be 30 months after the issuance of an NTC from SPP. This is dependent upon the transformer delivery lead time. Manufacturer lead times will be determined and evaluated should this project move forward for construction.



**Interconnection Facilities Study
for ERAS-2025-001 Network Upgrade:
Rebuild the SEWARD 3 to ST-JOHN3 115 kV Line 1**



April 20, 2026

*Interconnection Facilities Study – Rebuild the SEWARD 3 to ST-JOHN3 115 kV
Line 1*

TABLE OF CONTENTS

Study Overview:	2
Interconnection Facilities and Non-Shared Network Upgrades:	2
Interconnection Costs:	3
Project Timeline:	4

***Interconnection Facilities Study – Rebuild the SEWARD 3 to ST-JOHN3 115 kV
Line 1***

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 rebuild of the St. John to Seward 115 kV transmission line to achieve a minimum rating of 115 MVA.

The cost of Sunflower's portion of rebuilding of the St. John to Seward 115 kV transmission line is estimated at \$14,690,000 (UID: 172061).

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

- ERAS-2025-032 ○
\$14,690,000

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:

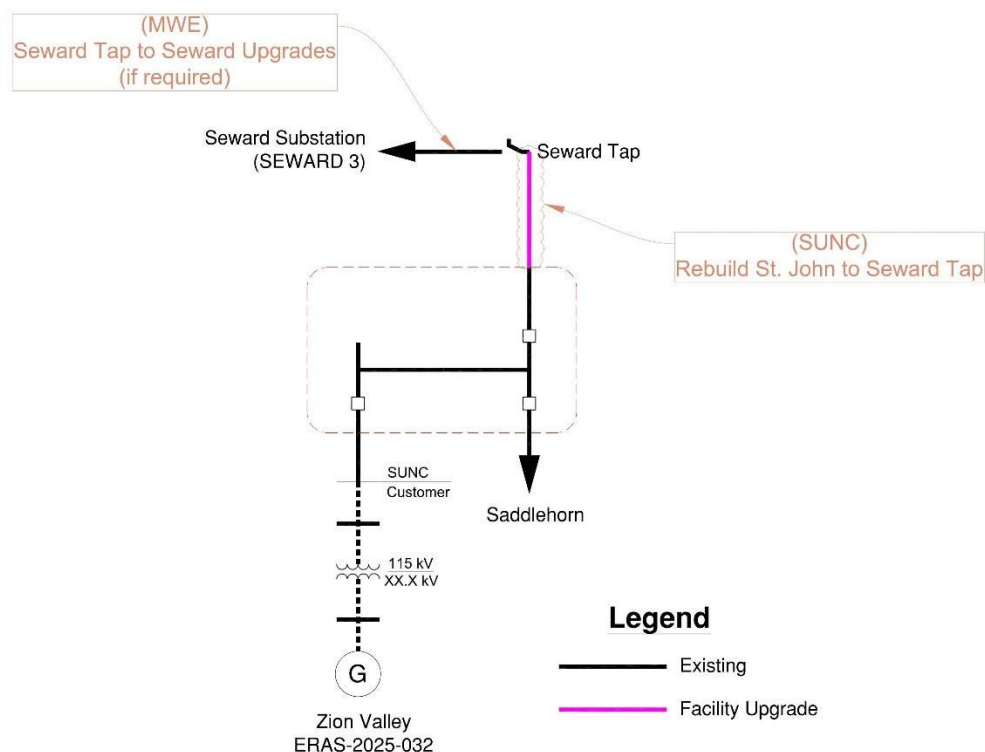
Network Upgrades included in this study consist of rebuilding the St. John to Seward 115 kV transmission line required by SPP. The rebuild and associated upgrades shall be constructed and maintained by Sunflower.

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

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

Interconnection Facilities Study – Rebuild the SEWARD 3 to ST-JOHN3 115 kV Line 1

Proposed
ERAS-2025-001
Rebuild St. John to Seward Tap 115 kV T-line



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	172061	Rebuild the SEWARD 3 to ST-JOHN3 115 kV Line 1 Rebuilding of the St. John to Seward 115 kV transmission line to achieve a minimum rating of 115 MVA	\$14,690,000	40
Total Interconnection Cost:			\$14,690,000	

***Interconnection Facilities Study – Rebuild the SEWARD 3 to ST-JOHN3 115 kV
Line 1***

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.