



Interconnection Facilities Study

Costs associated with
DISIS-2022-001
GEN-2022-142

October 2025

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 DISIS-2022-001 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 |
|-----------------|--------|---------------------------------------------------------------------------------|---------------------|-----------------|
| Interconnection | 158334 | Shoal Creek 161 kV Substation GEN-2022-142 Interconnection (TOIF) (EM) | \$ 1,066,195.00 | 48 Months |
| Interconnection | 158335 | Shoal Creek 161 kV Substation GEN-2022-142 Interconnection (Non-Shared NU) (EM) | \$ 18,245,089.00 | 48 Months |

Shoal Creek 161 kV Substation GEN-2022-142 Interconnection (TOIF) (EM)

161kV Substation

TOIF for accommodating Peregrine GEN-2022-142 (200MW of Battery/Storage) at Shoal Creek 161kV Substation. This estimate is the cost associated with the Transmission Owner Interconnection Facilities for a terminal at the Shoal Creek 161kV substation for GEN-2022-142. UID 158334

Total Cost

The total cost estimate for this TOIF is:

| | |
|--------------|-------------------|
| \$ 0 | Transmission Line |
| \$ 973,283 | Substation |
| \$ 3,190 | AFUDC |
| \$ 89,722 | Contingency |
| <hr/> | |
| \$ 1,066,195 | 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 | 36-48 | Months |
| Procurement Time | 36-48 | Months |
| Construction Time | 36-48 | Months |
| Total Project Length | 36-48 | Months |

Shoal Creek 161 kV Substation GEN-2022-142 Interconnection (Non-Shared NU) (EM)

[161kV Substation](#)

Network Upgrades required at Shoal Creek 161kV substation to accommodate Peregrine GEN-2022-142 (200MW of Battery/Storage). A substation expansion to a larger ring to accommodate additional 161kV terminals is required. This estimate is for the ring bus only and does not include replacing or relocating the two existing 161/12kV transformers. This will require land acquisition and fence expansion. This transmission line estimate includes re-terminating the three (3) 161kV line into new terminal positions. UID 158335

Total Cost

The total cost estimate for this Network Upgrade is:

| | |
|---------------|-------------------|
| \$ 3,024,000 | Transmission Line |
| \$ 13,708,098 | Substation |
| \$ 252,052 | AFUDC |
| \$ 1,260,939 | Contingency |
| <hr/> | |
| \$ 18,245,089 | 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.

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| Total Project Length | 36-48 | Months |

Figure 1 – Shoal Creek 161kV Substation

