Interconnection Facilities Study

Costs associated with
DISIS-2022-001
GEN-2022-004

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	158238	Murray Gill 138 kV Substation GEN-2022-004 Interconnection (TOIF) (EKC)	$ 952,147.00	48 Months
Interconnection	158239	Murray Gill 138 kV Substation GEN-2022-004 Interconnection (Non-Shared NU) (EKC)	$ 946,467.00	48 Months

Murray Gill 138 kV Substation GEN-2022-004 Interconnection (TOIF) (EKC)

138kV Substation

TOIF for accommodating Evergy GEN-2022-004 (33MW of Solar) at Murray Gill 138kV Substation. This estimate is the cost associated with the Transmission Owner Interconnection Facilities for a terminal at the Murray Gill 138kV substation for GEN-2022-004. UID 158238

Total Cost

The total cost estimate for this TOIF is:

$	0	Transmission Line
$	949,299	Substation
$	2,848	AFUDC
$	0	Contingency
$	952,147	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

Murray Gill 138 kV Substation GEN-2022-004 Interconnection (Non-Shared NU) (EKC)

138kV Substation

Network Upgrades required at Murray Gill 138kV substation to accommodate Evergy GEN-2022-004 (33MW of Solar). This estimate includes installing a new 138kV breaker and switches in the existing breaker and a half configuration. UID 158239

Total Cost

The total cost estimate for this Network Upgrade is:

$	0	Transmission Line
$	862,443	Substation
$	2,831	AFUDC
$	81,193	Contingency
$	946,467	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

Figure 1 – Murray Gill 138kV Substation

Current Study

Costs associated with
DISIS-2022-001
Build a new EMPEC-Gen-2021-096
345kV Line 1 to 1180 MVA
October 2025

Introduction

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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	170692	Build a new EMPEC-Gen-2021-096 345kV Line 1 to 1180 MVA	$ 97,742,347.00	56 Months

Build a new EMPEC-Gen-2021-096 345kV Line 1 to 1180 MVA

345kV Line

Network Upgrades to build a new 345kV line from Emporia Energy Center-Gen-2021-096 Line 1 to a minimum of 1180 MVA. This upgrade includes substation upgrades, for both GEN-2021-096 345kV substation and Emporia Energy Center 345kV and new line between the two substations. GEN-2021-096 345kV substation will be converted to a breaker and half configuration with a new rung for a new line terminal. Emporia Energy Center 345kV substation will add a new rung and a new line terminal for the additional line. The transmission line estimates include a 25 mile long greenfield 345kV circuit, built to a 3000 amp standard. New easements, routing study and KCC siting application will be required. UID 170692

Total Cost

The total cost estimate for this Network Upgrade is:

$	75,456,000	Transmission Line
$	20,255,654	Substation
$	286,349	AFUDC
$	1,744,344	Contingency
$	97,742,347	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	48-56	Months
Procurement Time	48-56	Months
Construction Time	48-56	Months
Total Project Length	48-56	Months

Figure 1 – Build a new line from Emporia Energy Center-GEN-2021-096 345kV Line 1