Interconnection Facilities Study

Costs associated with
DISIS-2022-001
GEN-2022-214

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	158150	Gill - Viola 138 kV Line Break GEN-2022-214 Interconnection (TOIF) (EKC)	$ 1,040,242.00	48 Months
Interconnection	158151	Gill - Viola 138 kV Line Break GEN-2022-214 Interconnection (Non-Shared NU) (EKC)	$ 18,804,047.00	48 Months

Gill - Viola 138 kV Line Break GEN-2022-214 Interconnection (TOIF) (EKC)

138kV Substation

TOIF for accommodating Invenergy GEN-2022-214 (239MW of Solar) at a new 138kV Substation. This estimate is the cost associated with the Transmission Owner Interconnection Facilities for a terminal at the new 138kV substation on the Gill-Viola 138kV line for GEN-2022-214. UID 158150

Total Cost

The total cost estimate for this TOIF is:

$	0	Transmission Line
$	951,046	Substation
$	3,112	AFUDC
$	86,084	Contingency
$	1,040,242	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

Gill - Viola 138 kV Line Break GEN-2022-214 Interconnection (Non-Shared NU) (EKC)

138kV Substation

Network Upgrades to construct a greenfield 138kV ring bus on the Gill-Viola 138kV line to accommodate Invenergy GEN-2022-214 (239MW of Solar). The transmission line estimates assume that the substation will be located directly adjacent to the existing line, with no additional easements required. The new substation should be located on the northwest side of the existing line to eliminate transmission line crossings and additional costs. UID 158151

Total Cost

The total cost estimate for this Network Upgrade is:

$	2,604,500	Transmission Line
$	14,111,847	Substation
$	56,244	AFUDC
$	2,031,456	Contingency
$	18,804,047	Total

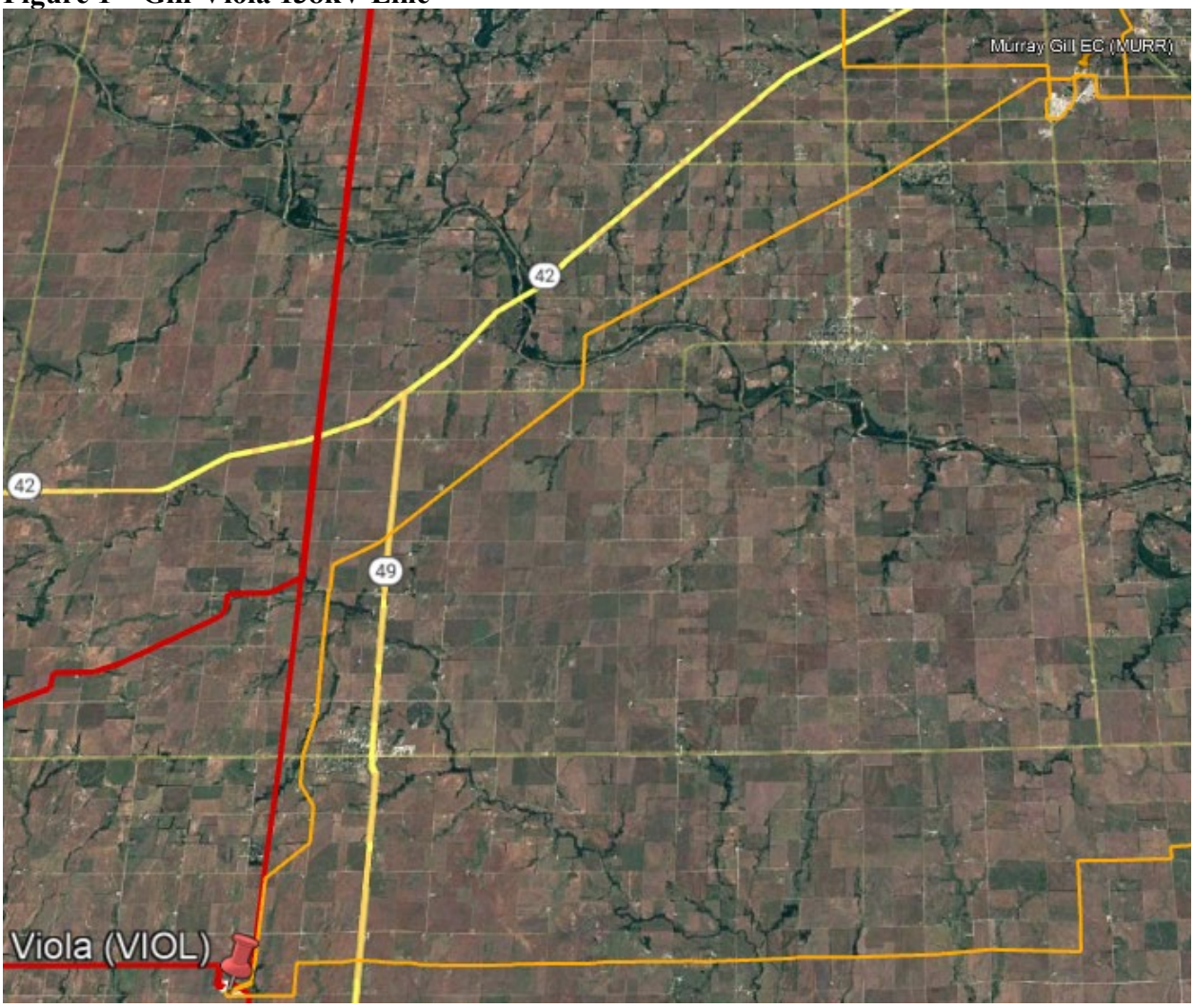
This estimate is accurate to +/- twenty (20) percent, based on current prices, in accordance with Attachment A of Appendix 4 of the Interconnection Facilities Study Agreement. However, recent cost fluctuations in materials are very significant and the accuracy of this estimate at the time of actual settings 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 – Gill-Viola 138kV Line



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