

**Interconnection Facilities Study Report**  
**Generation Interconnection Request # GI-2021-3**  
**Fort Saint Vrain #3 Generator**

**12/22/2022**



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## 1.0 Summary

This report provides the Facilities Study Report for Generation Interconnection Request (GIR) GI-2021-3.

GI-2021-3 is an incremental increase to the existing Fort Saint Vrain #3 Generator natural gas fired combustion turbine capacity. The requested increase is Energy Resource Interconnection Service (ERIS) of 24 MW (summer) / 35 MW (winter). The Point of Interconnection (POI) is the existing Fort Saint Vrain 230 kV Substation where Fort Saint Vrain #3 Generator currently interconnects.

**The total estimated cost of the transmission system improvements for GI-2021-3: \$50,000.**

**ERIS of GI-2021-3 is: 35 MW; no transmission system improvements are required.**

The Generation Interconnection Service identified in this report in and of itself does not convey transmission service.

## 2.0 Introduction

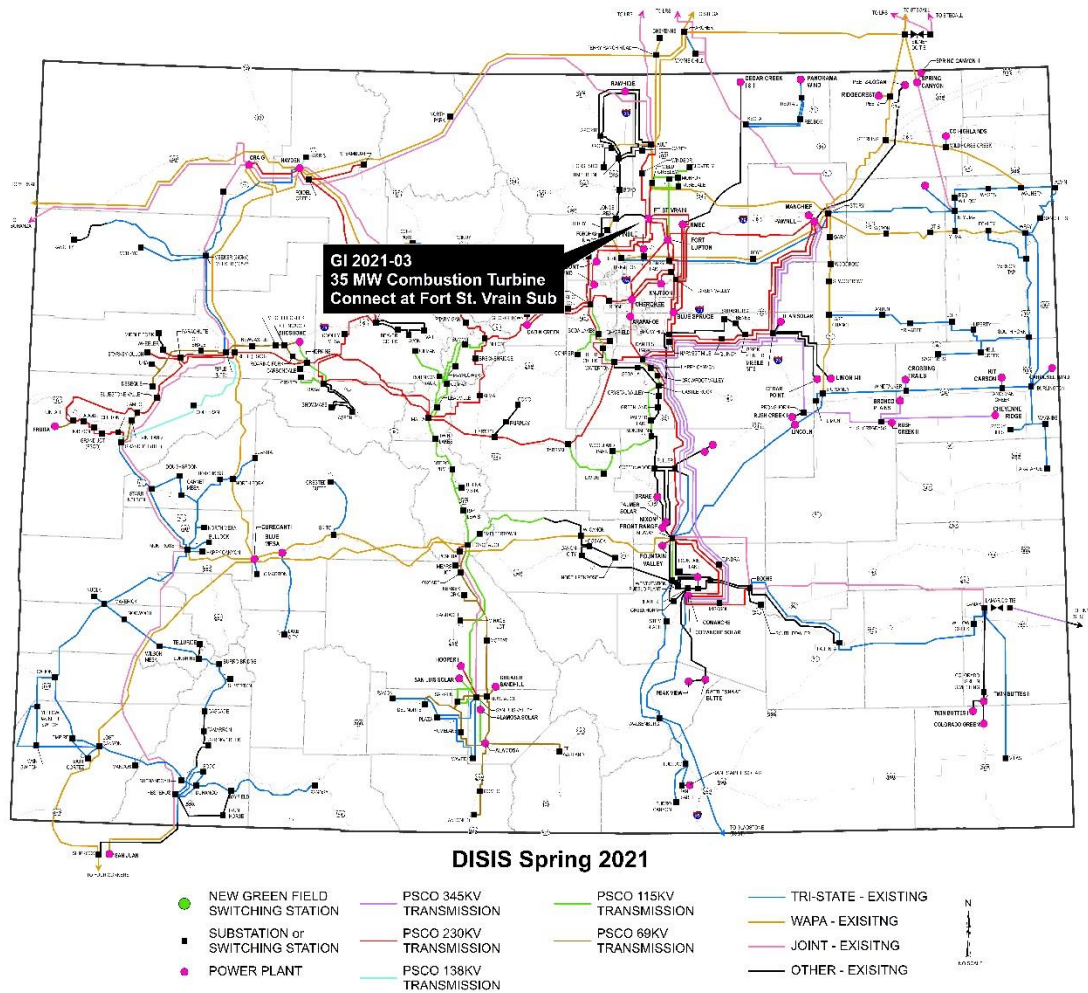
PSCo has completed the Interconnection Facilities Study for GI-2021-3, part of the Definitive Interconnection System Impact Study (DISIS) Cluster 3DISIS-2021-001. The results of the Interconnection Facilities Study for GI-2021-3 are provided through this Interconnection Facilities Study Phase 4 Report. This Facilities Study Report provides the information specific to GI-2021-3 and contains the results of the non-binding cost estimates, the electrical switching configuration of the connection equipment, and an estimate of the time required to complete the construction and installation to implement the conclusions of the *3DISIS-2021-001 Phase 2 Study Report (Rev. 1)* dated 8/25/2022.

GI-2021-3 is a 24 MW (summer) / 35 MW (winter) incremental capacity in the output of the existing Fort Saint Vrain #3 Combustion Turbine generator located in Weld County, Colorado, location shown on Figure 1. The incremental output is driven by turbine prime mover changes being performed as part of maintenance and modernizing the equipment, and no changes to the electrical generator set are anticipated. The net generating capacity of Fort Saint Vrain #3 after GI-2021-3 addition will be 156 MW (summer) / 178 MW (winter).

The POI of the incremental capacity is the existing Fort Saint Vrain 230 kV Substation where Fort Saint Vrain #3 Generator currently interconnects.

The Commercial Operation Date (COD) was November 24, 2021 and the GIR is also studied under Provisional Interconnection Request PI-2021-3.

**Figure 1 – Approximate Location of GI-2021-3 Generation Interconnection Request**



### 3.0 Description of Transmission Upgrades and Cost Estimates

This section provides information for the physical and electrical interconnection of the customer's generating facilities to the Transmission System and contains the results of the non-binding cost estimates and the electrical switching configuration of the connection equipment. Figure 2 provides a one-line diagram showing Fort Saint Vrain #3 Generator interconnection at the Fort Saint Vrain 230 kV Substation.

#### 3.1 Transmission Provider Interconnection Facilities

Transmission Provider's Interconnection Facilities are all facilities and equipment owned, controlled, or operated by the Transmission Provider from the Point of Change of Ownership to the Point of Interconnection, including any modifications, additions or upgrades to such facilities and equipment. Transmission Provider's Interconnection Facilities are sole use facilities (e.g., for generator interconnection) and shall not include Distribution Upgrades, Stand Alone Network Upgrades or Network Upgrades. Costs of Transmission Provider's Interconnection Facilities are directly assigned to the Interconnection Customer(s) using such facilities.

The estimated costs for the Transmission Provider's Interconnection Facilities required for GI-2021-3 for its existing interconnection at PSCo's Fort Saint Vrain 230 kV Substation are provided in Table 1. There are no physical upgrades required to the Transmission Provider's Interconnection Facilities, only confirmation testing by the Transmission Provider.

**Table 1 – GI-2021-3 Transmission Provider's Interconnection Facilities**

Element	Description	Cost Est. (million)
PSCo's Ft. St. Vrain Substation	Confirmation testing of incremental increase in generation output due to a plant equipment upgrade	\$0.050
<b>Total Cost Estimate for Interconnection Customer-Funded, PSCo-Owned Interconnection Facilities</b>		<b>\$0.050</b>

#### 3.2 Network Upgrades

Network Upgrades include the additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Transmission

Provider's Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System. The Network Upgrades include both Station Network Upgrades and System Network Upgrades.

### **3.2.1 Station Network Upgrades**

The Station Network Upgrade costs, including all new switching stations and upgrades at existing substations or switching stations, are allocated on a per-capita basis (i.e., on a per Interconnection Request basis) in accordance with Section 4.2.4.a of Attachment N Revised LGIP.

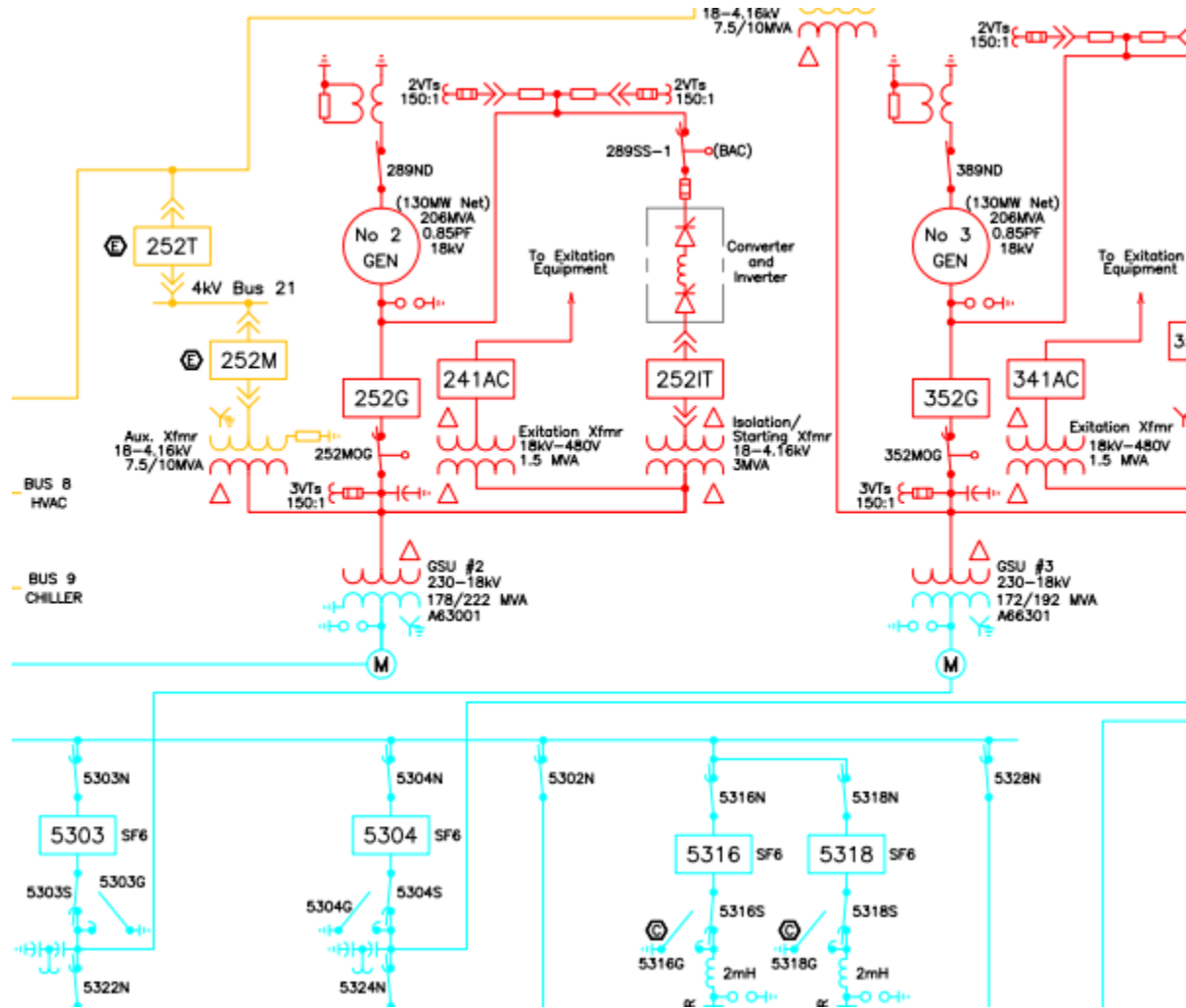
Fort Saint Vrain #3 Generator is currently interconnected at Fort Saint Vrain 230 kV Substation. The incremental increase associated with GI-2021-3 does not require any Station Network Upgrades and has no associated costs.

### **3.2.2 System Network Upgrades**

All Network Upgrades other than those identified as Station Network Upgrades will be allocated based on the proportional impact of each individual Generating Facility in the Cluster Studies on such Network Upgrades in accordance with Section 4.2.4.b of Attachment N Revised LGIP.

No System Network Upgrades were identified in the 3DISIS-2021-001 Phase 2 Study Report (Rev. 1) dated 08/25/2022 for GI-2021-3, therefore no System Network Upgrade costs are allocated to GI-2021-3.

Figure 2 – One-line for Fort Saint Vrain #3 Interconnection at Fort Saint Vrain Substation





## 4.0 Schedule

This section provides proposed milestones for the interconnection of GI-2021-3 to the Transmission Provider's Transmission System. GI-2021-3 was implemented under a Provisional Large Generator Interconnection Agreement (PLGIA) executed November 3, 2021. The dates provided in the table below are actual dates the Milestones were attained.

Milestone	Responsible Party	Estimated Completion Date
Begin Construction	Interconnection Customer	September 23, 2021
In-Service Date for Transmission Provider Interconnection Facilities and Network Upgrades required for interconnection	Transmission Provider	Currently In Service
Begin trial operation & testing	Interconnection Customer and Transmission Provider	November 11, 2021
Commercial Operation Date	Interconnection Customer	November 24, 2021

## **5.0 Contingent Facilities**

There are no unbuilt facilities modeled in the Northern Colorado study pocket analysis and no Network Upgrades, therefore no contingent facilities for GI-2021-3.