

GRDA

Generation Interconnection Facilities Study Report for GEN- 2022-156 Silver Keystone Project

T&D Engineering Department| Transmission Planning
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(Original)

1. Facilities Study Summary

Grand River Dam Authority (GRDA) Transmission Planning performed the following study at the request of the Southwest Power Pool (SPP) for SPP Generation Interconnection request DISIS-2022-001 study results for GEN-2022-156. Per the SPP Generator Interconnection Procedures (GIP), SPP requested that GRDA perform an Interconnection Facilities Studies (IFS) for Network Upgrade(s) in accordance with Section 8.11 for the following Interconnection and/or Network Upgrade(s):

1.1. Project Description

GEN-2022-156 proposes to add a 100.0 MW battery-storage (BESS) generation facility at the 138 kV Silver City Interconnect GRDA POI (See Figure 1 & Figure 2), located in Creek County, OK (Section 31-T19N-R8E), geographical coordinates 36.077167, -96.493928, 0.22 miles east of the POI.

1.2. GRDA's Scope of Work to Facilitate Interconnection

- To accommodate the interconnection, work will need to be completed at the 138 kV interconnection station including but not limited to tie-line metering, CTs and PTs, circuit breakers, disconnect switches, protective relays, structures, foundations, conductors, insulators, and all other associated work and materials or terminal equipment needed to interconnect the customer's gen tie line into GRDA's new POI for GEN-2022-156.
- GRDA reserves the right to specify the final acceptable configuration considering design practices, future expansion, and compliance requirements.
- The interconnect point will be a GRDA-owned transmission structure outside the station fence, located on GRDA property. Conductor and Fiber will dead-end at the structure, where ownership will transfer.
- It is understood that the Interconnection Customer is responsible for all the connection costs associated with interconnecting GEN-2022-156 to the GRDA transmission system.

1.3. Short Circuit Evaluation

- It is standard practice for GRDA to recommend replacing a circuit breaker when the current through the breaker for a fault exceeds 100% of its nameplate interrupting rating with recloser de-rating applied, as determined by the ANSI/IEEE C37.5-1979, C37.010-1979 & C37.04-1979 breaker rating methods.
- In the GRDA system, no breakers were found to exceed their interrupting capability after the addition of the generation and related facilities. Therefore, there are no additional short circuit upgrade costs associated with the DISIS-2022-001, GEN-2022-156 interconnection.

1.4. Stability Evaluation

- Based on the results of the DISIS-2022-001 short circuit and stability report, GRDA is not aware of any instances where the system does not meet TPL-001 stability performance requirements for the planning events and generation dispatch conditions that were considered in this DISIS study.

1.5. Interconnection Cost of Facilities Included in the Facilities Study

Table 1

Description	Cost (USD)
<u>Interconnection Facilities (GRDA):</u>	\$0
No work projected apart from the terminal addition.	
<u>Network Upgrades</u>	\$1,830,400.00
Construct one (1) new 138 kV line terminal, line switches, dead-end structure, concrete foundations, line relaying, communications/SCADA equipment, tie-line metering, line arrester, and all associated equipment and below or above ground facilities necessary to accept transmission line from interconnection customer's generation facility.	
<u>Total</u>	\$1,830,400.00

1.6. Project Lead Time

- Specific construction schedule and milestones will be determined during the Generator Interconnection Agreement negotiations.
- GRDA is estimating an engineering and construction schedule for this project as approximately 36 months after the issuance of authorization from the interconnection customer.
- Other factors associated with clearances; equipment procurement delays and work schedules could cause additional delays.
- This is applicable after all required agreements have been signed and internal approvals are granted.

2. Appendices

Figure 1: Point of Interconnection (POI Site Plan)

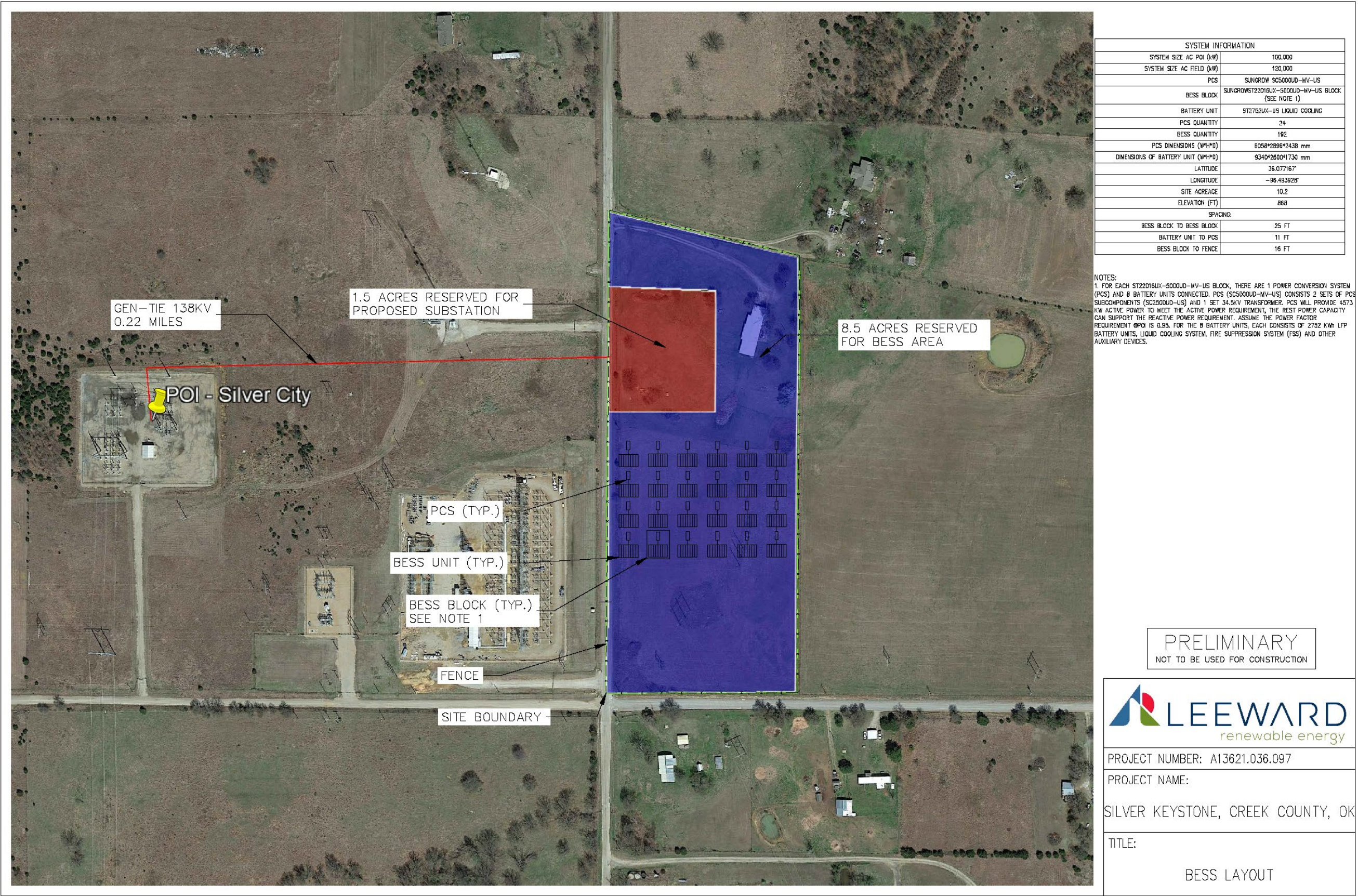


Figure 2: Point of Interconnection Single Line Diagram

