GRDA

Generation Interconnection Facilities Study Report for GEN-2023-055 Kerr Flycatcher1 161kV Project

T&D Engineering Department| Transmission Planning
2-5-2026
(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-2023-001 Phase 2 Restudy results for GEN-2023-055. 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-2023-055 proposes to add a 100.0 MW battery-storage (BESS) generation facility at the 161 kV Kerr GRDA POI (See Figure 1 & Figure 2), located in Mayes County, OK (Section 9-T20N-R20E), geographical coordinates 36.225078, -95.183068, 0.18 miles south 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 161 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-2023-055.
- 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-2023-055 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-2023-001, GEN-2023-055 interconnection.

1.4. Stability Evaluation

- Based on the results of the DISIS-2023-001 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)
Transmission Owner Interconnection Facilities (GRDA):	$1,874,950.00
Construct one (1) new 161 kV line terminal, line switches, dead-end structure, concrete foundations, line relaying, communications/SCADA equipment, tie-line metering, line arrestor, and all associated equipment and below or above ground facilities necessary to accept transmission line from interconnection customer's generation facility.	
Non-Shared Network Upgrades	$1,128,825.00
Raise two (2) transmission structures on adjacent double circuited line (Feeders 29 & 30) to allow for new terminal entry to the station. Construct new facility access road, security gate and substation fencing gate to account for the existing entrance location being utilized for the new terminal equipment. Install new access control and expand station grounding grid to accommodate fence relocation.	
Total	**$3,003,775.00**

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)

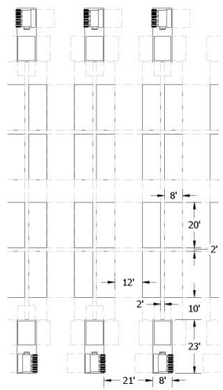
1 SITE PLAN

NOTES:

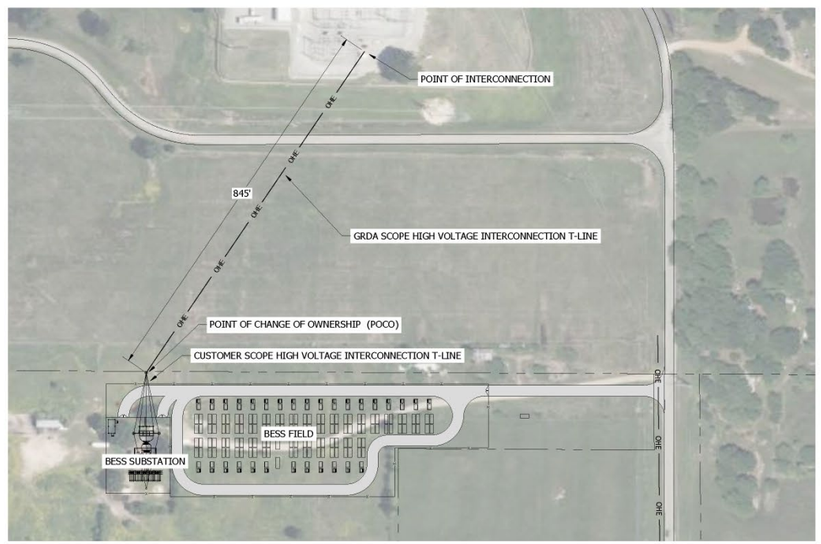
1. ALL EQUIPMENT AND DIMENSIONS ARE PRELIMINARY.
2. SURVEY DATA IS FROM THE PRELIMINARY ALTA DATED JUNE 2023 BY CHICAGO TITLE. NOT ALL DOCUMENTATION WAS TO SCALE, SO VALIDATION NEEDED.
3. AREA WITHIN BESS FIELD: 4.12 ACRES
4. AREA WITHIN BESS ARRAY: 1.77 ACRES

LEGEND

- PROPERTY LINE
- EASEMENT
- OHE — OVERHEAD ELECTRICAL
- SITE FENCE
- SITE FENCE
- PCS AND TRANSFORMER PAD (30 UNITS)
- BESS ENCLOSURE (120 UNITS)
- ACCESS ROAD (HATCH)
- AUX SWITCHBOARD



2 EQUIPMENT DETAIL VIEW
Scale: 1"=20'



3 INTERCONNECTION VIEW
Scale: 1"=150'

FLUX ENERGY SYSTEMS

GRIDSTOR

REVISION	DATE	DRWN BY	APRVD.	DESCRIPTION
B	01/20/26	JO	AB	INTERCONNECTION DEFINITION
A	01/09/26	JO	AB	INDICATIVE DESIGN

5630 S 4395
LOCUST GROVE, OK 74352

- BESS ENCLOSURE RATED POWER : 2500 KW
- BESS ENCLOSURE RATED ENERGY: 5000 KWH
- TOTAL BESS ENCLOSURE QUANTITY : 120
- BESS TECHNOLOGY : LITHIUM ION
- SITE AC CAPACITY: 100 MW / 400 MWH

FLYCATCHER 1 BESS

SEAL:

INDICATIVE DESIGN

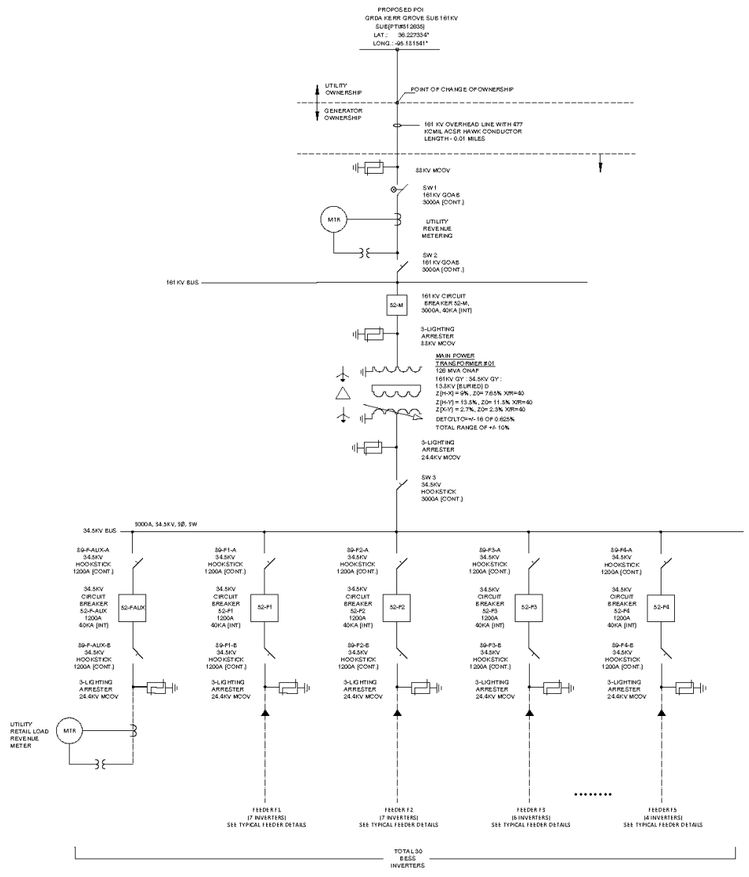
NOT FOR CONSTRUCTION

INDICATIVE DESIGN

SITE PLAN

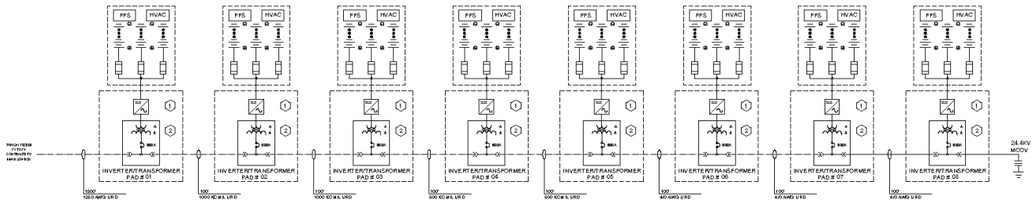
E-0.1

Figure 2: Point of Interconnection Single Line Diagram



SYMBOLS AND LEGEND	
	2 WINDING TRANSFORMER
	DISCONNECTOR
52-Fx	HV CIRCUIT BREAKER
	STORAGE BATTERIES (BESS)
	SURGE ARRESTOR
	INVERTER
	CURRENT TRANSFORMER, CT
	POTENTIAL TRANSFORMER, PT
	UNDERGROUND CABLE
	UG CABLE TERMINATION
MTR	REVENUE METER
FFS	FIRE FIGHTING SYSTEM
HVAC	COOLING SYSTEM
	MAIN POWER TRANSFORMER

TYPICAL FEEDER DETAILS



PRELIMINARY NOT TO BE USED FOR CONSTRUCTION

REVISION HISTORY

Rev	Description	Designed	Reviewed	Signed	Date	Description	Drawing No.
R0	Preliminary				09.29.2023	-	--

T
BLACK MOUNTAIN ENERGY STORAGE II

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FLY CATCHER BESS

Drawing Title: SINGLE LINE DIAGRAM (CONCEPTUAL)
Project Title: FLY CATCHER BESS (100MW)
Site Address: MAYES COUNTY, OKLAHOMA
Revision: R0 | SCALE: N.T.S. | SHEET-01 of 01