MOD STUDIES

CLIENT: Confidential

LOCATION: Texas

PROJECT DETAILS

RLC Engineering was engaged to support the testing, modeling, and compliance efforts for a large-scale solar and battery storage facility designed to deliver up to 320 MW at the Point of Interconnection (POI). The project required detailed coordination across generation assets, plant controls, and grid interconnection requirements to ensure accurate system representation and reliable performance under real-world operating conditions.

The facility integrated utility-scale photovoltaic generation with a high-capacity battery storage system capable of delivering 160 MW AC / 320 MWh, creating a complex configuration with multiple collector systems, inverters, transformers, and a 345 kV interconnection. RLC's role focused on validating that both the physical system and its analytical models accurately reflected plant behavior and met applicable NERC MOD reliability standards.

As part of the project, RLC evaluated plant performance across a range of voltage and frequency conditions, verified control coordination between the Main Plant Controller (MPC), PV Power Plant Controller (PPC), and BESS controllers, and ensured the project's dynamic models aligned with observed system responses. This work provided the project team and stakeholders with confidence that the facility would operate reliably, meet compliance obligations, and integrate effectively with the broader transmission system.

SCOPE OF SERVICES

- Developed test plans outlining comprehensive approaches for remote measurement testing of the BESS facility to comply with MOD-025, MOD-026, MOD-027, and MOD-032 requirements.
- Conducted remote testing, facilitating and participating in real-time testing in accordance with the approved test plans.
- Verified and developed PV and BESS site models in PSSE and PSCAD.
- Evaluated PV and BESS performance in response to voltage and frequency events to confirm model accuracy and reliability, and refined models based on observed system behavior.
- Completed MOD-025-02 documentation and produced a comprehensive report detailing the results of MOD-026 and MOD-027 testing and analysis, incorporating model data in support of MOD-032 requirements.