

CASE STUDY

RODEO RANCH ENERGY STORAGE PROJECT

BACKGROUND

Plus Power develops, owns, and operates standalone battery storage projects that relieve grid congestion, increase transmission efficiency, and speed the transition to a renewable-powered electric grid. These projects have acted as the assets of last resort in wholesale markets, allowing the grid to continue functioning at times of stress and record peak loads. The 300 MW/600 MWh Rodeo Ranch Energy Storage Project is the largest operational standalone storage facility in ERCOT.

CHALLENGE

The Rodeo Ranch Energy Storage project faces a critical delay in the commissioning of its 2 x 10 MVar capacitor banks, essential for providing voltage support services (VSS). Despite the completion of all construction and commissioning activities, the absence of these capacitor banks threatened to postpone the project's approval for commercial operations by at least one year. This delay carried substantial financial implications and posed risks to grid reliability, highlighting the urgent need for a resolution to prevent prolonged setbacks.

SOLUTION

With support from the EPE team, the Rodeo Ranch Energy Storage project strategically proceeded with the interconnection process by self-limiting to 290 MW which would not necessitate any capacitor banks since the project would have sufficient reactive capability to meet the VSS requirement at 290 MW. This approach allowed the project to meet VSS requirements without the need for capacitor banks, leveraging its existing reactive capability. EPE played a crucial role in developing the commissioning plan, assisting with the new generator commissioning checklists (Part 1, Part 2, and Part 3), and conducting the required performance tests (maximum reactive capability test, AVR test, and PFR test). As a result, the project successfully achieved commercial operations and began participating in the ancillary services market. A year later, once the capacitor banks became available, the project underwent a repower under a separate interconnection request to commission the remaining 10 MW. EPE once again provided comprehensive support, repeating the commissioning process to bring the project to its full 300 MW capacity. Through this collaborative effort, EPE played an integral role in enabling the largest standalone energy storage facility in ERCOT to reach its full potential.

CLIENT



TYPE

Energy Storage Development

SECTOR

Energy Storage

ISO

ERCOT

LINE OF BUSINESS

NERC Technical

SERVICES PROVIDED

- Commissioning Support
- Part III Testing

LOCATION

Pecos, TX

COMPLETED DATES

May 2023 - December 2024

REFERENCE

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