



Georgia Transmission Corporation Warehouse Microgrid



Project Overview

The Georgia Transmission Corporation (GTC) is a rural transmission cooperative which transmits electricity to 38 different electric member cooperatives (EMCs) across the Southeast. GTC boasts one of the lowest outage rates of any utility in the country and wants to build upon this distinction in future infrastructure upgrades that include state-of-the-art microgrids.

Challenge

GTC sought to double the size of a 50,000 square foot warehouse facility. At the same time, it wanted to ensure that the facility would feature 72 hours of resiliency. In short, it was seeking a microgrid solution which could serve as a model to be replicated across a portfolio of future microgrids for its EMC partners. GTC, like most utilities, has a deep engineering bench. As a result, they are a very hands-on type of client. For example, GTC employees want to help determine relay settings and other fine design details even though historically, utilities have not held deep microgrid design expertise.

Solution

After going through a cumbersome eight-to-nine-month design process with Encorp for a fee of \$125,000, GTC awarded a \$1.8 million sole source contract to Encorp to engineer and procure all parts for this showcase microgrid in Macron, Georgia.

The microgrid incorporates the following DERs: a 150-kW generator; 220 kW of solar PV and a 600-kWh battery energy storage system. Encorp provided not only the controls but engineering services along with a 300 KVA transformer, 25 kW reclosers and other ancillary equipment to enable full microgrid functionality. Unlike most microgrids, this one connects at a medium voltage level of grid service. This required a masterpiece of specialized engineering to interconnect low voltage DERs with the medium voltage transmission system.

Following the award of a contract to design a showcase microgrid to be used as a pilot program example for its 38 stakeholder REA and rural, the Georgia Transmission Corporation (GTC) is working with Encorp to bring that design to full commercial reality by mid-2024. GTC was recently awarded a \$250 million grant for the federal Dept. of Energy (DOE) which GTC matched, for development of six different microgrids in Georgia, highlighting how the initial pilot project is being leveraged for the benefit of its EMC stakeholders. All six sites are in underprivileged areas and include Fort Valley State, a historically black university campus. Finally, these projects will also feature new touchscreen visual dashboards, a feature included in Encorp's "microgrid for the masses" program designed to help educate citizens about the real-time economic and environmental benefits of microgrids.