

CASE STUDY



WEST FORT CAVAZOS

Natural Gas Distributed Generation Microgrid

ABOUT THE CUSTOMER

Fort Cavazos is the Army's premier installation to train and deploy heavy forces. A 214,968-acre installation, this is the only post in the United States capable of stationing and training two armored divisions. The mission of Fort Cavazos is the model readiness, training, and deployment installation while simultaneously providing realistic and responsive quality of life services to our soldiers, families, civilians and retirees.

More than 34,500 military personnel and 48,500 family members are stationed at the base, which is also used by the U.S. Reserve and the National Guard for training and mobilizing. It employs more than 4,000 civilians.



THE CHALLENGE

The United States Army mandates that installations must be prepared to maintain critical missions during a prolonged utility outage, ensuring the supply of energy and water for at least 14 days of operational capability.

During the summer of 2019 and winter of 2021, Texas' ERCOT electricity grid saw extremely high demand, low supply and weather-related rolling outages. The cost of electricity that was consumed by the installation was extremely high. In addition to maintaining constant, reliable power, another objective of this system is to provide a hedge against spikes in the price of electricity.

THE SOLUTION

In partnership with Dominion Energy, PowerSecure designed a natural gas distributed generation microgrid. This microgrid will be capable of providing long-term resiliency by isolating a portion of the Fort Cavazos Distribution Grid (covers 43 Fort Cavazos facilities) and utilizing natural gas PowerSecure PowerBlocks® to produce the capacity to continue to operate in the event of loss of utility power. During times of high stress on the ERCOT electricity grid, the DG System will enable Fort Cavazos to avoid high electricity costs, and in some cases earn revenue, through real-time price avoidance and programs such as Emergency Response Service, LR and Peak Capacity Avoidance.

SCOPE

- 1.95 Megawatts (MW) of Natural Gas (NG) PowerSecure PowerBlock® generation.
- Electric & Natural Gas Grid Hardening of over 30,000' of energy infrastructure.
- Over 1,000' of fiber optic communications installed for grid intelligence.
- 3,000 kva of transformer capability installed.
- An Electric Vehicle (EV) hub within microgrid with 8 level 2 EV charging ports to provide transportation security for EV fleet in the event of grid failure.
- 650 kilowatts (kw) of future vehicle to grid (V2G) of Electric Vehicle (EV) Battery Storage capability.
- 30 kw of solar capacity.
- 24/7 Grid Commodity & Weather Monitoring.



BENEFITS TO THE CUSTOMER

PowerSecure provides all of the services required to take a customer's microgrid project from inception to completion in the most cost-effective manner possible.

PowerSecure offers a unique value proposition with advanced and specialized expertise in the construction, operation, and maintenance of critical distributed energy infrastructure. Our capabilities and extensive experience ensure that project risks are minimized, and value is maximized. With years of experience in the ERCOT market, PowerSecure is committed to operating, managing, and maintaining the system as well as collaborating with other stakeholders to ensure the Fort Cavazos NG DG Microgrid delivers resilience and cost savings for the U.S. Army.

The natural gas supply will allow the DG System to operate as long as natural gas is being supplied. The system will be interoperable with the Eaton-Installed Microgrid System, and allow existing microgrid components, such as PV Solar and BESS, to continue to operate to the maximum extent feasible.

This system now has the ability to provide over \$125k in energy savings per day during any ERCOT peak demand periods.



PowerSecure

FORT CAVAZOS PARTNERS
WITH POWERSECURE FOR ADVANCED MICROGRID

