OutBack POWER™
an EnerSys company

National Veterans' Cemetery

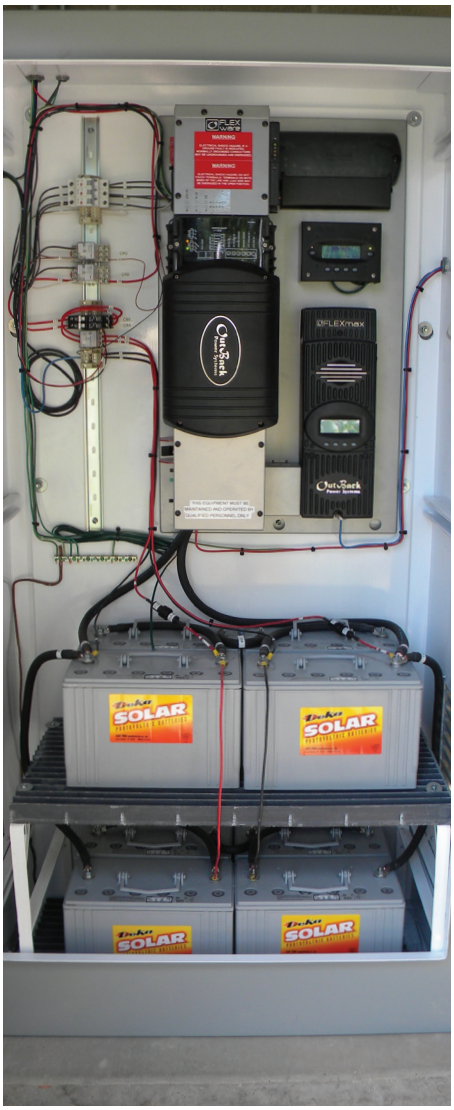
OFF-GRID CASE STUDY

SYSTEM SPECIFICATIONS	
Location	Jefferson Barracks National Cemetery St. Louis, Missouri
System Power	900W solar system
Components	FLEXpower ONE (FX inverter/charger, FLEXmax charge controller and MATE3 system display and controller)

OVERVIEW

With offices in Missouri, Michigan and Texas, Certified Solar Solutions is a full-service renewable energy design and engineering company that installs clean energy systems for residential, commercial and utility applications. The company focuses on photovoltaic (PV) solutions, but also embraces complementary technologies, such as geothermal and solar hot water, to meet the needs of its customers. Certified Solar Solutions has installed systems ranging from a 2kW pole-mount residential project to a 330kW industrial system that also includes a direct-to-grid solar power plant.

The company recently completed an installation at the Jefferson Barracks National Cemetery in St. Louis, where an off-grid shelter for burial services honoring fallen and departed veterans had been built. The United States Department of Veterans Affairs (USDVA) originally pursued an alternative solution but after they encountered several obstacles early on in the project, Certified Solar Solutions was hired to redesign and complete the project.



CHALLENGE

- Provide a completely off-grid power solution to the year-round service shelter
- Avoid the $50,000 cost of running electric lines underground and around grave sites to provide electricity to the shelter through traditional power sources
- Allow for up to three days of power autonomy, even with severely overcast days
- Mount all required PV equipment in a limited, compact space for aesthetic reasons

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01/2020

SOLUTION

Certified Solar Solutions chose OutBack Power's fully-integrated FLEXpower ONE power management system to work in conjunction with three SolarWorld SunModule 235W solar panels. The solar array and battery bank consists of eight 108Ah Deka batteries that power two fans, two 120V electrical receptacles and several banks of LED lighting in the shelter. Both lighting and fans are on timers to optimize electrical load management and efficiency without compromising the shelter's amenities.

OutBack Power's remarkably compact system footprint allows all of the components—including the batteries—to fit in a single electrical cabinet. The integrated FLEXpower approach shaved valuable time off the project since Certified Solar Solutions worked with a single, pre-engineered unit instead of purchasing, integrating and wiring multiple pieces of equipment.

OUTCOME

- The OutBack Power FLEXmax charge controller switches itself off when the shelter is not in use, reducing the power drain on the battery bank and significantly extending battery life
- The Department of Veterans Affairs avoided the cost of running underground electric power lines through the grounds of the cemetery in order to access electricity
- The solar service shelter has the most reliable power of any building at the cemetery
- The shelter's sustainable design complements the natural beauty of the cemetery and its surrounding grounds

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