



Name: Stafford Hill Solar Farm
Location: Rutland, Vermont
Install Completion: October 2014
Project Size: 2.5 MW
Panel Type: 325 Watt- 72 Cell Soniva
Racking Type: Ballasted Ground Mount
Terrain: Uneven- Open Capped Landfill
Installation Services: Racking Assembly & Panel Installation
General Contractor: groSolar

Project Overview

Patriot Solar Group worked in conjunction with groSolar on a 2.5 MW array in the state of Vermont. The battery backed system will supply a local school and emergency shelter located nearby. . It includes 4MW of battery storage; both lithium ion and lead acid which eases the process of integrating the solar energy into the local grid and can provide endless, resilient power in case of an average grid outage. The ballasted ground mount system allows for a non-penetrating solution to allow construction on landfills such as this one.

PSG faced a problem with the uneven terrain, however, spacers were added to even panel height and make the array seem straight and have an appealing visual appearance. The ten acre field was set at a 15 degree tilt angle. This project is one of the first solar-only microgrids in the nation, and the first to provide full back-up to an emergency shelter on the distribution network.

The overall goal of Patriot Solar Group and groSolar is to provide solar storage and microgrid technologies are able to revolutionize resilient power, bringing completely clean, locally-generated power to communities.

Why Patriot Solar Group?

- Over 20 years of manufacturing and design expertise.
- Vast amounts of inventory ready to ship. High capacity/high production manufacturing.
- Custom Engineering to meet any design criteria.
- Wet stamp drawings provided at no cost for project sizes 500kW and above.
- Patriot offers site prep and installation services for any size project.
- Renowned customer service and in-field technical support.
- Made in USA – BAA & ARRA Compliant. 10 year structural warranty.

Project Objectives

- Incorporate a system that uses a non-penetrating, ballasted ground mount to place on a capped landfill while meeting safety regulations.
- Install an aesthetic array that allows for continual rows with minimal dips, optimizing energy generation.
- Meeting required deadline for installation of racking material and panel placement.

Project Results

- Spacers were added between the rail and truss of low lying areas to ensure a symmetrical array.
- The required deadline for racking and panel installation was met.
- The array was tied to a battery system that supplied a local school and emergency shelter located nearby.
- The ground was not penetrated during construction.
- Create resilient power resolutions, as shown by fairly recent disasters like Hurricane Sandy, which affected the entire eastern seaboard and left millions without electrical amenities.
- Solar storage and microgrid technologies are able to revolutionize resilient power, bringing completely clean, locally-generated power to communities.

“This project is a national model for the future of clean energy – combining solar with energy storage... This is the perfect project! It has social value, technical innovation, and furthers renewable integration for the grid.”

Dr. Imre Gyuk, Energy Storage Program Manager in the DOE’s Office of Electricity Delivery