

Solar Power System

Hazardous Waste Site in New York State



This is the site of a ground water collection and treatment system located at an inactive hazardous waste landfill.

Alpha Energy was asked by Greenstar Engineering to build a photovoltaic system that would provide power to a remote site, a quarter-mile from the nearest cable company or utility power access point. Greenstar was contracted to develop SCADA software to allow for real-time monitoring and system control of a groundwater collection and treatment system. They successfully created the software, but needed an Internet connection and power to run the equipment. Three options for connecting the system to the cable access point emerged: 1) pursue a long-term utility pole access agreement with the local power company, 2) dig a quarter-mile trench from the street or 3) utilize a private radio link. The first two options were not economically feasible, so the private radio link option was selected. Greenstar then turned to Alpha Energy to create a solar power solution to provide “wireless” solar power for this application.

After the cost of solar power to operate the equipment 24/7 was determined to be uneconomical, Alpha Energy integrated the PRC1000 programmable relay controller into the solar power solution. The PRC1000 from SimpleCom Tools allows Greenstar to remotely control the equipment operating schedule, turning on the SCADA system and radio only when it is needed. This reduced energy consumption resulting in delivery of a reliable, cost effective solution to Alpha’s customer.

System Specifications

Solar Array:	246W
Battery Bank:	324Ah
System Voltage:	12VDC

System Components

- XYZ private wireless radio
- Alpha Energy PV System (SPS12-246/324G)
- PRC1000 programmable relay controller

Company Descriptions

Alpha Energy:	Alpha Energy is one of the nation’s leading developers of turnkey Photovoltaic (PV) systems for commercial, residential, institutional and remote, off-grid applications
Greenstar Engineering, LLC:	Greenstar Engineering, LLC specializes in environmental consulting services to a wide variety of public and private clients providing investigative and remedial services

Project Goals

- Deploy technology to help successfully bring the treatment system SCADA online to allow access to system operations from any internet access port.
- Provide the flexibility to manage the power supply with a solution, that was cost effective, easy-to-deploy and able to work regardless of the available communications services.

