

Solar Power System

New York State
Hazardous Waste Site



Remote Industrial
Case Studies

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 arose to connect the system to the cable access point: Pursue a long-term utility pole access agreement with the local



power company, dig a quarter mile trench from the street, or 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 resulted in a much smaller and less expensive solar power solution.

The solar power solution designed and built by Alpha Energy is a fully integrated system including the photovoltaic panels, panel mounting system, and powder-coated aluminum enclosure housing the breakers, solar controller, lightning protection, and batteries.

Alpha Energy's dedication resulted in delivering to the end customer a reliable, cost effective remote solar powering solution.

System Specifications

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

COMPANY DESCRIPTIONS

- Alpha Energy is one of the nation's leading developers of turn-key Photovoltaic (PV) systems for commercial, residential, institutional, and remote (off-grid) applications.
- 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 on-line 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.

SOLUTION COMPONENTS

- XYZ Private Wireless Radio
- Alpha Energy PV System SPS12-246/324G
- PRC1000 Programmable Relay Controller



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