

SunWize Technologies

Application Bulletin



Application: 15.5 kW Photovoltaic Hybrid System

Designed and Installed by: SunWize Technologies

Installation Date: November, 2001

Location: White River Facility, Mt. Rainier National Park, Washington

Description: The 15.5 kilowatt system provides power for employee housing, water pumping, a ranger station, an entrance station and tourist restrooms. The White River facility is used seasonally from April to October with over 250,000 visitors passing through annually. The solar hybrid system replaces a generator-only system with the solar providing 85% of the electricity, which reduces generator run time from 3500 hours to 150 hours per season. The previous engine generator system ran 24 hours a day, exposing all of the housing units to excessive noise. The National Park Service staff now benefits dramatically from the quiet operation of the solar electric system.

The system design is based on load data supplied by the National Park Service of 59 kWh/day. The system consists of 15.5 kW of Siemens solar modules covering 90 linear feet of the roof of the new garage building. The system also includes a 20 kW, 208 VAC 3 phase inverter, an industrial flooded battery bank, and an on-demand propane generator. The inverter includes an integral real-time data acquisition system (DAS) and remote control capability that allows SunWize technical staff to monitor and control key system operating parameters from their Kingston, NY headquarters.

System Components:

- 207 - 75 watt Siemens modules
- 120VDC, 3332 Ah battery bank
- 20 kVA, 208 VAC 3 phase inverter
- Propane AC generator



SUNWIZE CORPORATE HEADQUARTERS
1155 Flatbush Road, Kingston, NY, USA 12401
Tel: (845) 336-0146 • Fax: (845) 336-0457
e-mail: sunwize@besicorp.com • www.sunwize.com

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