



The Solutions Network

Rochester, New York

National Weather Service Miramar PV Project

Thanh Minh Trinh, P.E., C.E.M.

National Oceanic and Atmospheric Administration

Thanh.M.Trinh@noaa.gov

(206) 526-6647



Miramar PV Project



August 8-11, 2004

www.energy2004.ee.doe.gov



- **Project Description**
- **Costs**
- **Performance**
- **Intangible benefits**

August 8-11, 2004

www.energy2004.ee.doe.gov



Project Description

- ❖ 10kWac Grid-Tied PV system
- ❖ 96 Kyocera KC120-1, 120W polycrystal modules
 - (4 parallel strings of 24 modules wired in series)
- ❖ Inverter - Trace Technologies PV10, 10kWac, 208Vac, 60Hz
- ❖ Foot Print – 1768 square feet (26' by 68')
- ❖ Ancillary disconnects, transformer, & structural support
- ❖ System output is tied to the existing main disconnect
- ❖ Located at the Miramar Marine Corps Air Base. 15 miles NE of downtown San Diego.
- ❖ This is the first NWS PV project in the country!!!



Project Costs

Engineering/validation	\$15,000
Construction	\$84,792
CEC rebate	\$45,000
Energy cost at time of study	\$0.17/kWh
Savings-to-investment ration (SIR)*	0.96
Simple payback period	18 yrs

* Did not include Peak Demand reduction savings



Performance

Period	Expected	Actual
August 2002	56.01 kW	61.53 kW
2002	16,233 kW	6,318.73 kW*
2003	16,071 kW	15,842.93 kW
2004	15,910 kW	9,249.87 kW**

*Only five months from August to December

** From 1/1/04 to 7/26/04 only

August 8-11, 2004

www.energy2004.ee.doe.gov



Intangible Benefits



- ❖ It is the first NWS PV system.
- ❖ Consistent with our NOAA mission of fostering global environmental stewardship.
- ❖ It has the potential for duplication at similar sites.
- ❖ Sure came in handy during the late 2003 fire storm in southern California.