FACTS

3 kW Building-Integrated System, Folsom, California

A building-integrated photovoltaic (PV) system (on flat roof in foreground)was installed at Western's new Operations Center in Folsom, CA, to function as both a roof and solar PV power plant. This system was the prototype for the PowerGuard PV roof tile by the Powerlight Corp.The 3 kW project at Folsom was initially funded by the Sacramento Municipal Utility District (SMUD) with data acquisition and the roof provided by Western. Ownership was transferred to Western in 1999. The system has operated with 100 percent reliability and successfully weathered the "200 year" Sacramento Valley storm during the 1994-95 winter. In addition to generating clean renewable energy for the building, the system provides R10 roof insulation, which reduces air conditioning requirements and extends the life of the roof membrane.

Facility Information

System & Building Owner	Western Area Power
Site Location	Folsom, CA

Schedule

Installation Completed	August 1994
Contract to completion	4 months
Construction Duration	3 days

Performance Parameters

Power Capacity	3.6 kW peak; 3.0 kW DC
Annual Energy (est.)	4,800 kWh/year
Lifetime CO_2 Savings	220 tons

Contractors

Prime/System integrator	PowerLight

Electrical Design

AC Output	120 V single phase
PV Configuration	12 series; 6 parallel
DC Current and Voltage	15.8 A @228 Vmp

PV Roof Tiles

PV Cell Material	APS Amorphous-Silicon
No. PV Roof Tiles	72
Tile Size	30"x60"
Insulation Value	R10

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ADMINISTRATION

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