

Example name:

Template completed by:				
rosita.norvaisiene@ktu.lt		Pacific Gas and Electric Company (PG&E)		
For installations		Marine Same and Arrists	-Juster Billion Bandt	sinh ta La Ali Ali an
BISTS Location: San Francisco, CA Climate Type: Mediterranean climates (<i>Csb</i>) Building Use: commercial				
Level of BISTS integration <i>Rush classification:</i> Level 3. Visible, surface change O New Build x Refurbishment O Other:				
Type of BISTS:		Solar Facade Roof Mount		
Hybrid		Single-axis Trac	kers	
Function(s): x Air heating x Water heating O Combi-system O Cooling/ventilat ng x PV/T O linked to anothe (e.g., heat pump O Other: Building element: x Facade x Roof x Other: tracker s	ion/shadi er system) ystem			
	Solar Fas	ade Svstem	Solar Roof Mount System	Solar Trackers System
Details			Details	Details
PV modules used 150 Shore		208W	234 Sharp 208W	588 Suppower SP210
Solar System Tilt	900		22º	Tracking
Solar System Orientattion	180º Sout	h	180° South	Tracking
Annual production		95,34	0kWh	190,800kWh
		Environmental benefits, annually		
Greennouse gases 452,452lb		S		
Coal not burned 1 railcars				
Offset CO ₂ emissions 27 homes				
from electricity use from				
Oil not comsumed 477 barr		ls		



Stage of Development:Responsible: Company

0	Idea/Patent	
0	Prototype	
х	Demonstration	
Х	Integral building element	
Х	Commercially available	

BISTS description and context

This installation was not a typical photovoltaic job. The project consisted of three separate systems types. There is a building façade system, a rooftop system and a ground mounted single access tracking system for the employee parking lot down the street.

The Harrison Street Service Center building uses a banded-window design encased above and below by banded-panels of concrete attached to the building's frame. Due to the lightweight construction, it would not be possible to attach the solar panels directly to the concrete. PPRE's engineers designed custom attachment devices that allowed it to drill through the lightweight concrete, attach to the steel frame beneath and seal the penetration with a weatherproof, flexible compound. Not only did this technique assure the façade panels would stay in place, but it also satisfied all seismic requirements.

Additionally, the transition from the roof-mounted system to the façade array required a customdesigned mount and racking system that literally hung the first row of panels over the parapet while assuring their seismic integrity via ballasted mounting points secured directly to the flat roof. The result is a 48.67kW roof array that blends seamlessly with a 31.2kW façade array and a truly innovative solar panel building.

The PG&E tracking system uses 588 flat mounted solar modules on single tracking systems that move with the path of the sun from east to west. Electric motors drive the trackers as electronic sensors set the optimum position. This system not only shows off PG&E's innovative approach for creating and delivering renewable energy to the grid, it increases the overall productivity of the panels from approximately 160,031 kWhs per year to an expected output of more than 190,800 kWhs per year, an increase of 23 percent.

Sources and references:

Premier Power Renewable Energy: a Solar Company in California, New Jersey, Nevada