Plantronics

YEARS OF EXPERIENCE

Business Needs

With solar already on one of its existing buildings, Plantronics Corp. wanted to triple the existing system size and increase its proportion of self-generated power. This California-based high-tech company was looking to showcase its campus as both environmentally progressive and aesthetically pleasing. Unlike many customers interested in upgrading their PV systems, lowest cost was not the primary objective. The most important factors were corporate responsibility, environmental sustainability, and aesthetics.

Solution

To meet its aesthetic requirements, Plantronics requested carports constructed in the shape of an arc. This introduces unique engineering challenges since each plane of the arc has a different exposure to the sun. The solar panels are wired together in series strings, so each plane of the arc had to be designed as an integral number of strings so that the power delivery to the inverter would work properly. In addition, the outputs of these strings produce different currents and needed to be combined in the design in a way that maximizes power production. Plantronics also requested that the arcs continue on the backside of each carport in the areas over the walkways so the result would be covered walkways to the building for use during the rainy season.

There were also complex engineering and construction challenges to be overcome for the delivery of the solar power into Plantronics' grid. The electric meters and load centers were scattered throughout campus, and in order to deliver the solar power to them, it was necessary to navigate and trench over and under existing underground systems, including sewers, water and gas lines, irrigation systems, walkways, flower beds, and building foundations. All of this had to be accurately mapped in the design so that the construction contractor would not disrupt existing systems during construction.

Project Specifications

Location:	Santa Cruz, CA
Size:	608 kW
Completed:	2011
Type:	Carport & Roof Mount
Scope:	Full engineering & design
Inverter:	Advanced Energy
	PV Powered
Modules:	Solar World
Racking:	MELenergy

Benefits

The McCalmont Engineering staff provided the design and construction experience to bring Plantronics' aesthetic vision for this project to reality while simultaneously balancing and working around complex existing ground conditions for the design. We provided support to the carport, roofing, and electrical subcontractors throughout the job and worked through challenges during construction in real time. Plantronics was delighted with the resulting completed project.