Photovoltaic Systems Studies and Design

ArcSine Engineering

Photovoltaic technology is finding increased use as a supplement to commercial power. The opportunity to reduce peak power costs; the availability of tax credits, rebates, and incentives; and sale of power back to the utility companies via net power metering has made Photovoltaics a cost effective alternate electric power source. Concern for the environment has also increased interest in this technology.

Photovoltaic technology is also useful in remote areas where commercial power is either not available or available at a high cost.

A feasibility study provides an early determination of project alternatives and costs, and is used to define the "optimal project". ArcSine Engineering is well versed in evaluating such systems and in working closely with the Owner to achieve the Owner's overall objectives. The ArcSine approach differs from the "free" consulting available from equipment vendors, which inevitably results in optimistic projections and maximizes the amount of installed equipment.

Photovoltaic design requires expert electrical engineering to ensure that the system will work reliably and predictably and serve the clients needs. ArcSine Engineering has the specialized Photovoltaic design skills. Arcsine's deliverables can be used by the Owner to obtain competitive low bids, from multiple vendors versus the Owner being locked in to a single vendor.

Essentials of Photovoltaic Designs:

- Electrical load requirements
- Variation of loads over time
- System efficiency changes with load variations
- Electrical losses
- Solar power available, site geography
- Site environment, accessibility, weather conditions
- Coordination with electric utilities
- Optimal component selections
- Owner's sustainability mission
- Commercial power costs
- Available credits, rebates, incentives
- Project lifespan

ArcSine excels in the following:

- Providing Customer Service
- Meeting Customer Expectations
- Quality Control
- Meeting Deadlines
- Cost Control

Photovoltaic Projects:

- McConnell Foundation Campus, Redding, CA
- Chico Transit System, Chico, CA
- Santa Rosa Island off the California Coast
- Executive Office Building, Redding, CA
- Municipal Installations in Remote California Locations

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