System Specifications

System Power: 11.28kW
PV Array: (48) Sharp 235 Mono-crystalline modules
Solar Inverters: (2) SMA Sunnyboy 5000US inverters
Combiners: AC combiner chosen for future expansion capability
AC and DC system disconnects
Racking: 2V X12 Schletter ballasted racking system (2 racking blocks)

Data Monitoring Software:
• Portable Web monitoring
• Data logging
• Weather Monitoring
• Auto-Alerts

Alpha Energy’s ballasted rooftop solar system uses zero roof penetrations to secure the solar array, minimizing cost and preserving the rooftop integrity.

Utilizing high efficiency Sharp 235 Watt mono-crystalline photovoltaic modules and SMA 5000US modular inverters, the sub-array design allows fault tolerance and future expansion capabilities, and boasts a 95.5% CEC weighted efficiency.

Utilizing a Power Purchase Agreement (PPA) to finance the system, SCTE faces no capital outlay at the time of installation, and will pay a fixed amount per kilowatt hour of solar energy used. This arrangement protects them from utility company price fluctuations and increases. At the end of the PPA in 2017, SCTE has the options of extending the agreement or purchasing the solar power system at a reduced rate to take advantage of the free solar energy to offset their utility power requirements.

The powerful data acquisition system coupled with onsite temperature, isolation, and solar module temperature monitoring will allow facilities managers and Alpha Technicians to closely monitor system performance. The System includes DECK commercial monitoring package. Provides real time and historical data on system production and weather conditions. Monitoring system measures energy production from multiple points (revenue grade meter as well as inverter direct measurements). Inverter direct monitoring allows for inverter status checks and fault conditions to be monitored remotely. Ambient temp, module temp, and irradiance monitored via onsite weather station.

Solar System Electricity Production

- Energy production from multiple points: revenue grade meter, inverter direct measurements.
- Inverter direct monitoring for status checks and fault conditions.
- Ambient, module temp, and irradiance monitored.

Grid-Tied Solar Power System
SCTE Headquarters in Philadelphia, PA
Progression Photos

Frames and 48 panels
Large open roof space dedicated to solar power
PV array racking under construction on the roof
Assembling the support rails
Two 5kW inverters
On-site project management ensured smooth installation
Construction complete in 3 days
Completed array 48 panels 11.28kW DC