

APPENDIX F

SPG SOLAR BUDGETARY PROPOSAL FOR SOUTHLAND WWTF



November 12, 2007

Mr. Bruce Buel
General Manager
Nipomo Community Services District
148 S. Wilson Street
Nipomo, CA 93444

Re: Budgetary Proposal – 500kW PV Tracker

Dear Mr. Buel:

Thank you for the opportunity to present this budgetary proposal for your evaluation and planning purposes. The proposed system is custom designed to fit the narrow parcel of land NCSO owns adjacent to the aeration ponds.

The system is sized to fit comfortably on the parcel of land, matches well to the electrical demand of the four pumps to be able to offset demand during peak billing periods, and makes economical use of inverter capacity.

The primary difference between this budgetary proposal and a firm proposal would be that more site due diligence would be done before committing to a price (such as confirming the main panel is an appropriate size for system tie-in), and a comprehensive term sheet would be provided for the PPA program. I have confidence in the costs presented because the site appears straight forward; if the site is saturated we can work with surface footings vs piers – we even have pontoon systems – floatovoltaics!

Again, I appreciate your interest in SPG Solar. Please call if you have any questions... it would be great if this helps a project to come to fruition. For additional information about the company or its products, please view www.SPGsolar.com and www.thompsonotec.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Ed Orrett", with a stylized flourish at the end.

Ed Orrett, PE
Sr. Account Executive

P.O Box 9301
Marina Del Rey, CA 90295

310 822 6303
ed.orrett@spgsolar.com



Budgetary Proposal Nipomo Community Services District 500kW PV Tracker

Ground-mounted, Single-Axis Tracker

PV modules produce the most energy when they are perpendicular to the source of light (the sun). PV systems that follow or "track" the sun across the sky from east to west produce 15-25% more power than a fixed, stationary system.

A standard 1MW ground mounted single-axis tracking PV array (the maximum size PV system able to fully utilize State incentives) requires a rectangular, flat ground area of about 5 acres. Typically this would be in 4 individual building blocks with their own electric drive lines. Rows of PV modules run north-south and are connected by a steel drive line that slowly rotates the rows from east to west during the day. An electronic GPS based controller and a small 1.5 hp electric motor turning a stainless steel screw-jack drive each unit.

For the Nipomo site we have provided a layout for a 500kW AC CEC tracking array using 3,168 Mitsubishi 185 watt modules and two Xantrex 225 kW inverters to fit within the property owned by NCSD adjacent to the aeration ponds (array layout follows). The 500kW peak output would match closely to the demand of the four 120 HP pumps on the site, therefore being able to offset nearly all PG&E utility power needs to the site during peak summer periods.

Although the orientation of the tracking array is 45° off of due East-West, the angle diminishes output only about 4% from ideal. It is possible the design can be finessed to more closely align in an E/W orientation.

SPG Solar uses its proprietary single-axis tracking system manufactured by its affiliated company, Thompson Technology Industries (TTI). All mounting posts and drive mechanisms are galvanized steel for a long and reliable life.





Single-axis Tracking Project Experience

SPG Solar is one of only 4 companies in the world to have designed and manufactured a single-axis tracking PV system, patent pending by our ancillary company Thompson Technology Industries (TTI). SPG's design offers a more robust, durable system than competing designs and is capable of driving 250 kW AC per drive system, enabling a 1MW system to be built using only 4 drive systems if ground-spacing permits.

The TTI single-axis tracker was recently selected after one of the most grueling, in-depth, 12-month, very competitive technical review and economic life-cycle analysis for the largest PV project in the world ... a 19.6 MW single-axis tracking project in South Korea.

Projected Annual Power Output

Production Table

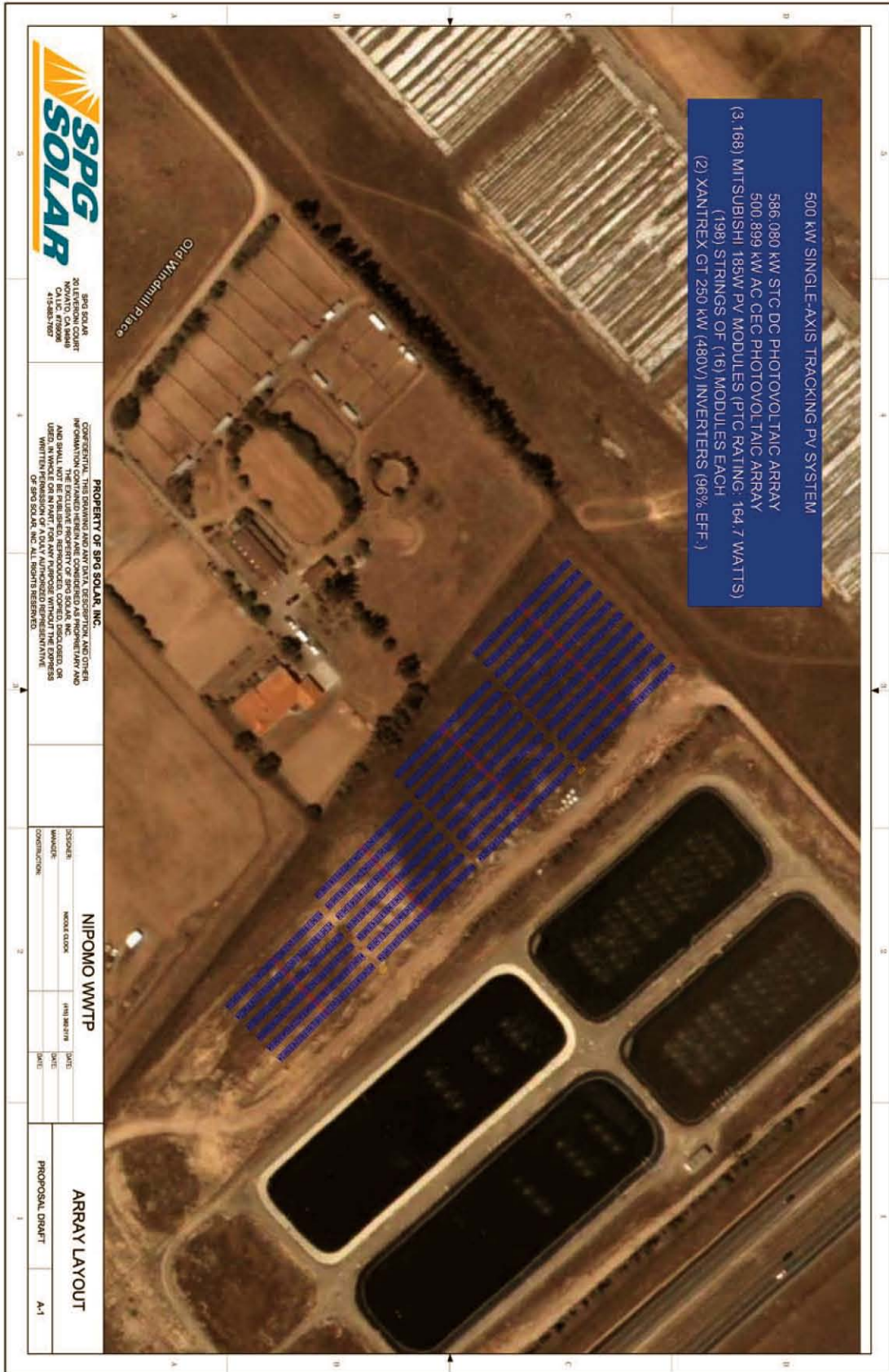
System Size 500.9 kW

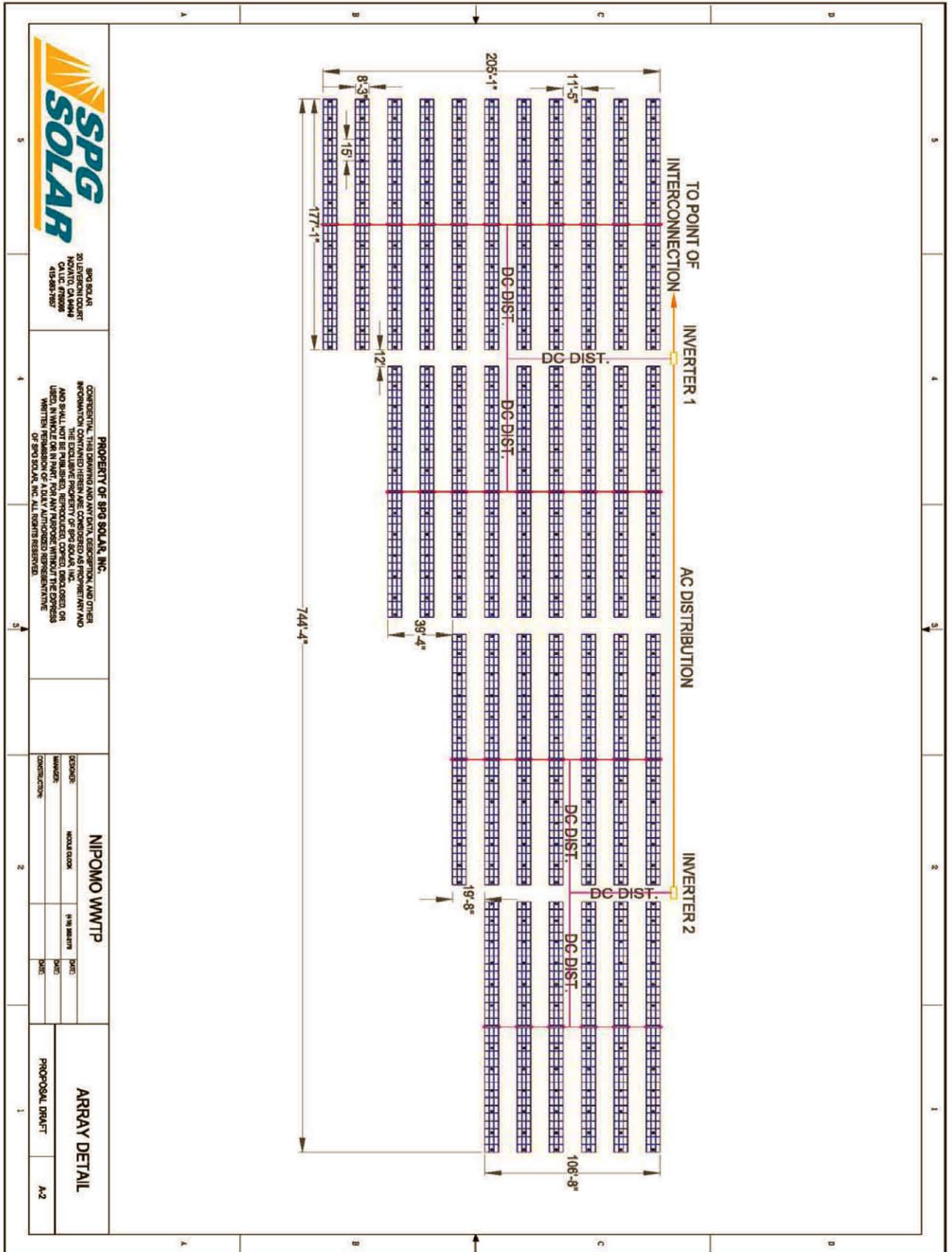
Nipomo WWTP

Month	PV Production Peak kWh	PV Production Part-Peak kWh	PV Production Off-Peak kWh	PV Production Total kWh
May	45,476	30,987	34,275	110,738
Jun	52,372	31,998	27,369	111,739
Jul	46,759	30,180	37,729	114,669
Aug	48,549	28,040	29,859	106,448
Sep	39,259	26,451	21,695	87,405
Oct	26,871	20,529	24,517	71,917
Summer Total	259,286	168,185	175,444	602,916
Average	43,214	28,031	29,241	100,486
Nov	0	41,666	18,439	60,105
Dec	0	38,489	14,476	52,965
Jan	0	34,717	20,433	55,150
Feb	0	40,593	19,725	60,318
Mar	0	57,846	22,478	80,324
Apr	0	63,565	29,770	93,335
Winter Total	0	276,876	125,320	402,196
Average	0	46,146	20,887	67,033
Grand Total	259,286	445,061	300,764	1,005,112

Variations in System Size

The kWh production values, system and PPA pricing can be proportionally increased if land is available for a larger system up to 1MW, requiring 5 acres in a rectangular arrangement. Net metering would be likely for systems over 500kW if the only load on the meter is the pumps. Pricing may increase on a \$/W basis for systems smaller than 500kW, and the smallest economical tracker size is 225kW.





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NIPOMO WWTP

DESIGNER	MOORE ENGINEERS	DATE	11/14/2007
DRAWN BY		CHECKED BY	
CONTRACT NO.		PROJECT NO.	

ARRAY DETAIL
PROPOSAL DRAWING
A-2



Assumptions

The 500kW ground-mounted, single-axis tracking system assumes a relatively flat, clear site (<1% slope) with no trees or obstructions. 480V electrical interconnection point within 500'. No fencing, gravel or weed-cloth is included.

Prevailing wage labor rates will apply for installation of purchased systems, but open shop rates can be used for PPAs due to the 3rd party ownership and operation structure.

Proposed PPA rates assume current Level 4 CSI incentive rates will be available and reserved for this project at the time of contract. Level 4 CSI incentive is \$0.26 per kWh generated for 5 years for PV systems owned by non-public entities (PPA). Level 4 CSI incentive for public entities (if NCSD owned) is \$0.37 per kWh for 5 years.

Exclusions

- Site fencing or landscaping
- Weekend or Overtime work if required by Client
- Site lighting
- Site prep beyond minimal clearing
- Payment & Performance Bonds are extra if required (@1.5%)
- Assumes no DSA review is required

Financial

<u>Installed System Purchase (Budgetary) Prices</u>			
Single-axis Tracker	500.9 kW AC CEC	\$4,010,000	
Budgetary PPA			
<u>PPA 15-year Term initial rates with annual escalation</u>			
		<u>3% escalation</u>	<u>4% escalation</u>
Single-axis Tracker	1,005,112 kWh/yr 1	\$0.11/kWh	\$0.105/kWh

All CSI incentives are paid monthly for the first 5 years of operation. In the case of PPAs, all incentives will go to the PPA provider. In the case of a purchase, an incentive in the amount of \$0.37/kWh generated by the PV system for the first 5 years is currently available and would be paid to the University. All PV system output degrades by approximately 0.5% per year.

SPG Solar partners only with well funded, established financial organizations with substantial solar power experience for all Power Purchase Agreement structures.



PPA Overview

A Power Purchase Agreement, or PPA, is a long-term agreement to buy power from a company that produces electricity. A solar PPA provider builds a solar energy facility on the customer's site and maintains and operates the facility for 15 years or longer. Favorable PPA rates are achieved because the PPA provider is able to utilize the substantial tax benefits that are available with solar investments. The solar facility generates reliable, long-term clean energy for use by the customer.

Under the terms of a PPA, the provider assumes the risks and responsibilities of ownership when it purchases, operates, and maintains the turn-key facility. After installation, maintenance and operations are typically contracted to SPG Solar, who cleans the solar panels regularly, provides preventative maintenance services, repairs any faults, and monitors the energy production and the system's health and well-being. Their customers just run their businesses as usual, without any of the headaches of owning a power plant. At the end of the PPA term, the facility can be purchased by the customer at fair market value or the PPA can be renewed on favorable terms. The PPA enables the customer to benefit from the use of "green" energy, while still receiving some of the benefits of ownership (lower and/or "hedged" electricity costs, positive public image, etc.) and allows them to spend their capital budget on their core businesses.

Project Timeline

SPG Solar will commit to starting system engineering within 30 days from the date of contract and submit plans for NCSD review by 60 days from the date of contract. Construction mobilization will occur from 15 – 60 days following approval and permitting of plans depending on which system option is contracted.

Once construction starts, the tracker can be operational within 4 months.

Warrantees

Module power output:	25 years
Inverter:	10 years
System:	10 years
Perf. Monitoring:	10 years

PPA Warrantees: For the term of the PPA

Training of on-site personnel included for all options.

Warranty of CSI Incentives Eligibility

SPG Solar warrants that all three systems proposed under Options A, B & C are fully eligible for full CSI incentives as specified in the CSI Handbook.



SPG's Service Capabilities

SPG Solar believes that customer aftercare and maintenance are the two most critical components of a successful long term PV project. SPG Solar provides a full time Customer Care Department to assist Customers with any issues that may arise after the commissioning of a system and to ensure all systems are operating at full capacity.

SPG's Customer Care services include daily computerized and human monitoring of every large scale commercial system to ensure that each system is performing as designed, and to search for enhancements that could be made to increase system output.

About SPG Solar, Inc.

SPG Solar, Inc. designs and builds the highest performing solar energy systems in the industry. With over 800 grid-connected PV systems in service, SPG is one of the largest PV engineering and design companies in the United States.

SPG is well-known in the solar industry for its high-performance solar PV systems, which provide customers with the best return on investment (ROI) in the industry, as well as for its state-of-the-art modeling and monitoring systems. In addition, SPG works closely with several leading financial institutions and investment companies to offer attractive long-term Power Purchase Agreements (PPA's).



SPG is unique in having two ancillary companies: SPG Solar International, Inc. a project development / design firm; and Thompson Technology Industries, Inc., a specialty solar technology design/manufacturing firm focused on PV mounting systems and performance monitoring.

SPG Solar is focused on solar photovoltaic (PV), grid-connected systems in California, and has installed more PV systems in that region than any other contractor.

With Corporate headquarters in Northern California and regional offices in San Diego, Oroville, Vacaville, Santa Rosa and Bakersfield (opening soon), SPG is well equipped to design and construct PV projects from the Oregon border to Mexico.





Company Background

SPG was founded in 2001 in response to California's rolling blackouts and skyrocketing energy prices. Originally called Sun Power & Geothermal Energy, the name was shortened to SPG in March 2006. SPG handles not only "routine" solar installations, but unique, challenging solar assignments as well. Rather than the "cookie-cutter", one size fits all approach that many PV contractors use, SPG and its highly trained, professional engineering and installation teams are able to succeed in difficult situations. SPG recently completed the first solar array on the face of a dam ... a 600 kWp PV array for Sonoma County Water Agency.



Solar power is an engineering and construction business, not a marketing business. While PV certainly delivers exciting environmental benefits and decreased dependence on foreign fossil fuels, PV systems must be designed and installed by construction professionals to ensure their 25+ year operating lives. SPG has its roots in the electrical contracting business, and the SPG organization is built around designing, building and supporting solar projects for discerning customers.

*First PV System Installed on the Face of a Dam:
Sonoma County Water Agency (600 kW)*

The senior management team at SPG brings more than 200 years direct experience in electrical contracting, construction, utility-scale power plant development, and engineering.

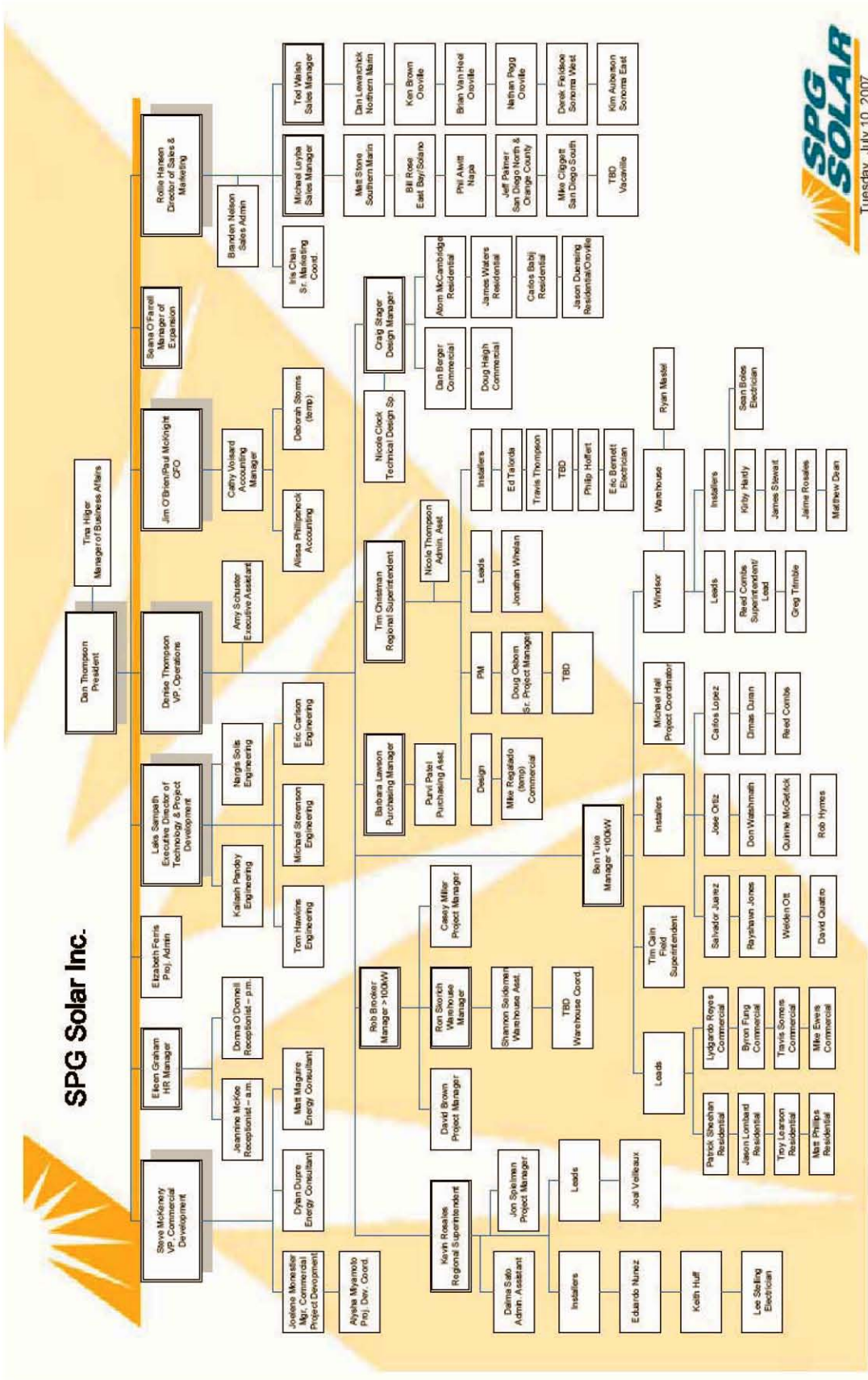
SPG is one of the first turn-key solar installation firms with employees certified by the North American Board of Certified Energy Practitioners (NABCEP). NABCEP is a representative board with involvement of the solar industry, independent installers, the trades, training organizations, educators, national laboratories, and government. SPG has been at the forefront of the industry push for high quality installations, high professional standards, and consumer assurances.

Licenses

SPG is a California licensed and bonded General (B), Electrical (C-10) and Solar (C-46) contractor, license number #759086.

Project personnel will be identified and corresponding resumes provided upon request and when a preliminary date of project start is determined.

The Company organization chart follows.





References

Vallecitos Water District

Dale Mason, General Manager
201 Vallecitos De Oro
San Marcos, CA 92069
(760) 744-0460
375 kW SolarPort PV System



Butte College

Mike Miller, Director Facilities Planning
3536 Butte Campus Drive
Oroville, CA 95965
(530) 895-2298
1.06 Megawatt PV System



Sewerage Commission Oroville Region

Ray Sousa, Superintendent
2880 South Fifth Avenue
Oroville, CA 95965
(530) 534-0353
625 kW PV System



South Feather Water & Power

Michael Glaze, General Manager
2310 Oroville Quincy Hwy.
Oroville, CA 95965
(530) 533-4578
566 kW PV System



Monterey Ridge Elementary School

Gould Electric: Bob Taeckens
17117 4 S Ranch Parkway
San Diego, CA 92127
(858) 748-2474
200 kW PV System





Sonoma County Water Agency

Anjenette Hayre, Water Agency Engineer
2150 W. College Ave.
Santa Rosa, CA 95406
(707) 521-1830
600 kW Dam-mounted PV System



Johnson & Johnson

Mark Loukadis, Operations Manager
3210 Merryfield Row
San Diego, CA 92121
(858) 784-3241
260 kW Rooftop PV System



Butte County

Bill Curry, General Services Director
3-A County Center Drive
Oroville, CA 95965
(530) 538-7261
1.18 Megawatt PV System



Western Wine Services

Tony Politeo, Vice President
820 Hanna Drive
American Canyon, CA 94503
(707) 645-4300
827 kW Rooftop PV Systems





SunSpot Performance Monitoring Reporting System

SPG Solar's bid includes the cost of our proprietary state-of-the-art SunSpot[®] monitoring and reporting system with a full ten year license, at no extra cost. It is CSI certified and found on the CEC website at

<http://www.consumerenergycenter.org/erprebate/monitors+rsp.html>:

**List of Performance Monitoring and Reporting Service Providers
California Solar Initiative Eligible**

The companies listed below offer an approved Performance Monitoring and Reporting Service (PMRS) as defined by the **CSI Handbook**. Please contact each service provider directly for additional details on their PMRS offerings including specifics on supported equipment. Not all PMRS providers support all CSI-approved inverters or ± 2 percent meters.

To add your company to the list of eligible providers, download and complete this form:

[PMRS Provider Certification Form](#)
(Acrobat PDF file, 2 pgs, 88 kb)

Non-Utility Providers

Company	Website
CSS-Technologies	www.css-technologies.com
Draker Solar Design	www.drakersolar.com
Energy Recommerce, Inc.	www.energyrecommerce.com
Fat Spaniel Technologies, Inc.	www.fatspaniel.com
Glu Networks, Inc.	www.glunetworks.com
Meteocontrol GmbH	www.meteocontrol.com
Power Nab	www.powernab.com
Pyramid Solar, Inc.	www.pyramidsolar.com
Thompson Technology Industries, INC.	www.thompsontec.com

Utility Providers

Company	Website
None at present time.	

This monitoring system is a product of SPG's ancillary company, Thompson Technologies Inc. (TTI).

Since PV systems require very little maintenance, they can easily be forgotten both by staff and by the public. Because of this, SPG has developed the SunSpot[®] monitoring software and public display kiosks. All information generated by SunSpot[®] can be viewed by authorized client staff online through a password protected internet site provided and maintained by SPG. Visitors to the Customer location can also view limited system information through the included public display kiosk.

SunSpot[®] monitoring system will allow the Customer and SPG system analysts to monitor:

- Real time system output
- Cumulative system output
- System performance by daily, monthly, cumulative or defined range



SunSpot[®] provides an accurate accounting of kilowatt-hours generated daily, monthly or as defined over the life of the system, as well as real-time information on solar PV energy production and solar irradiance. As a value-added service free of charge, SPG will provide annual system reports for the first five years of operations under the SPG Customer Care Program. These reports cross reference the SunSpot[®] data with utility bills.

SunSpot[®] provides the following functionality:

- Live, real-time dynamic data
- Updated data stored at 15-minute intervals
- 24-hour Web access
- All data downloads available in Excel format
- Tracks power flow, accumulated energy usage, solar insolation and other weather factors
- Data acquisition by revenue-grade ANSI electric meters and full-spectrum thermopile pyranometers
- Daily, monthly, yearly data totals
- All data logged to a secure co-located server

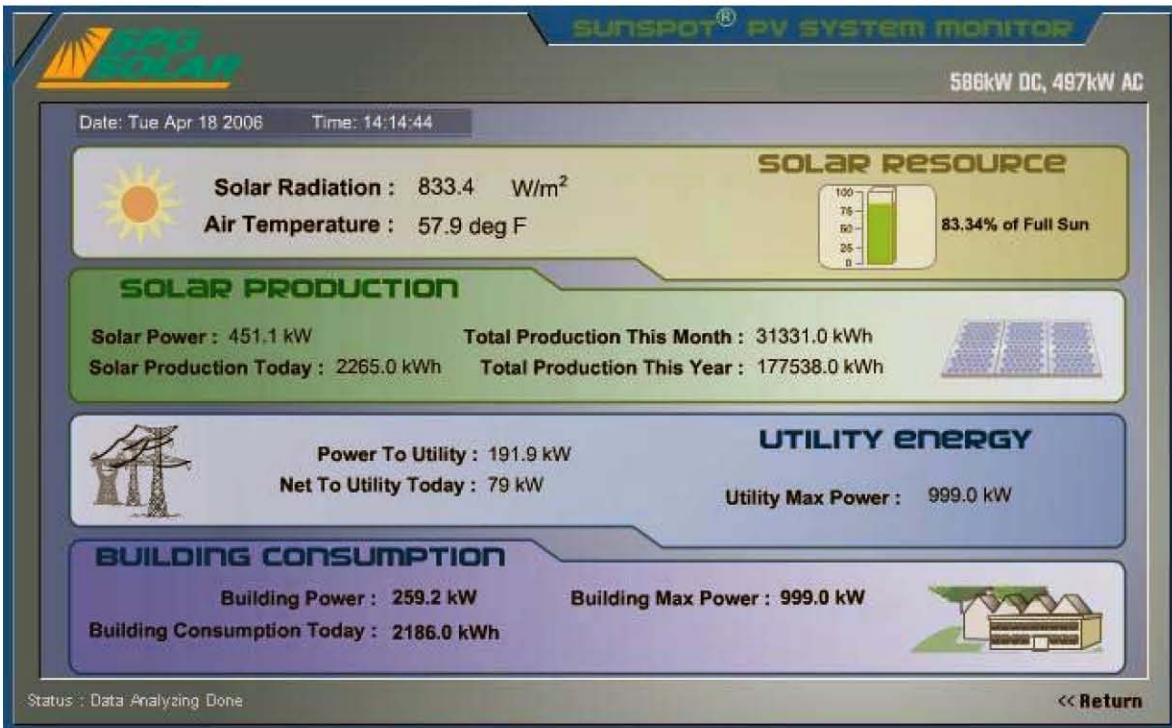
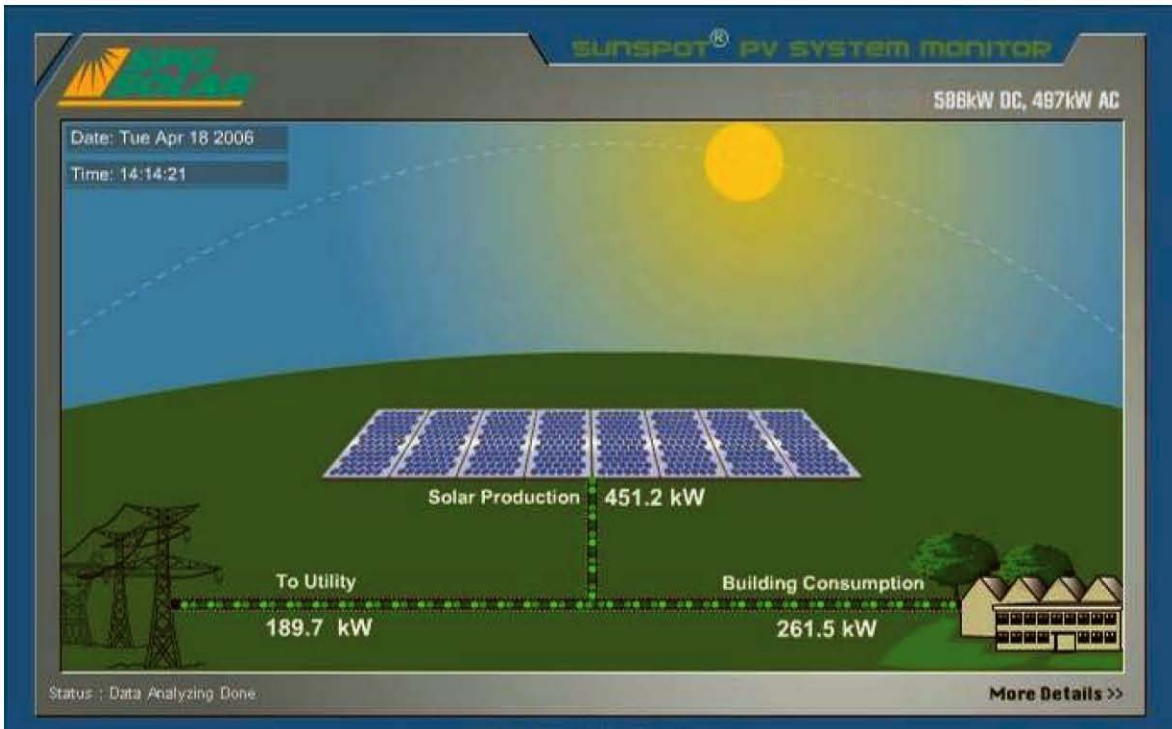
As part of our licensing agreement, SPG's Customer Care services include daily computerized and human monitoring over the web. This is to ensure that each system is performing as designed, and to search for enhancements that could be made to increase system output. When alarm conditions occur, SPG will be able to troubleshoot the entire system to pinpoint the problem area and, if necessary, send out technicians to fix the problem, minimizing any downtime.

There are very few maintenance requirements with the SPG monitoring system. During the first ten years, all regular maintenance requirements and upgrades are included. A 10-year SPG software licensing agreement is required for installation and access to the SunSpot[®] monitoring system. Customer shall provide a physical connection interface point to their local area network and high speed Internet access in order to operate this software.

The following pages contain actual screen shots of SPG SunSpot[®] monitoring.



Standard Views



Detailed Views



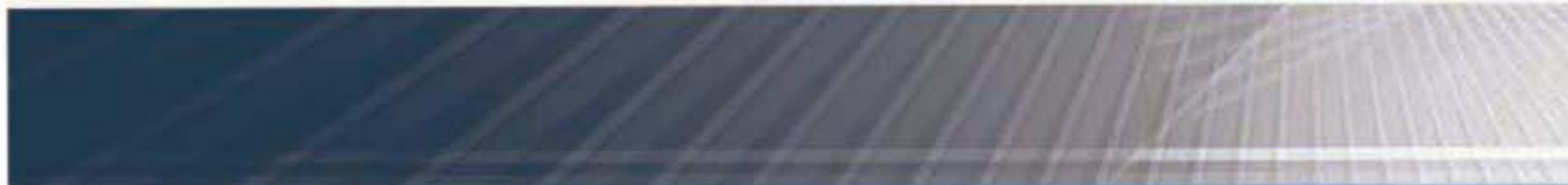
SUNSEEKER™

- With the TTI Single-Axis Tracker, you can now get significantly greater energy production with the same affordability as a fixed tilt array
- The Single Drive Train system supports up to approximately 350kWp
- Designed to minimize foundation requirements
- Precision automated controls (UL Listed) with remote monitoring to simplify tracker operation



**THOMPSON TECHNOLOGY
INDUSTRIES, INC.**

Maximizing PV Performance

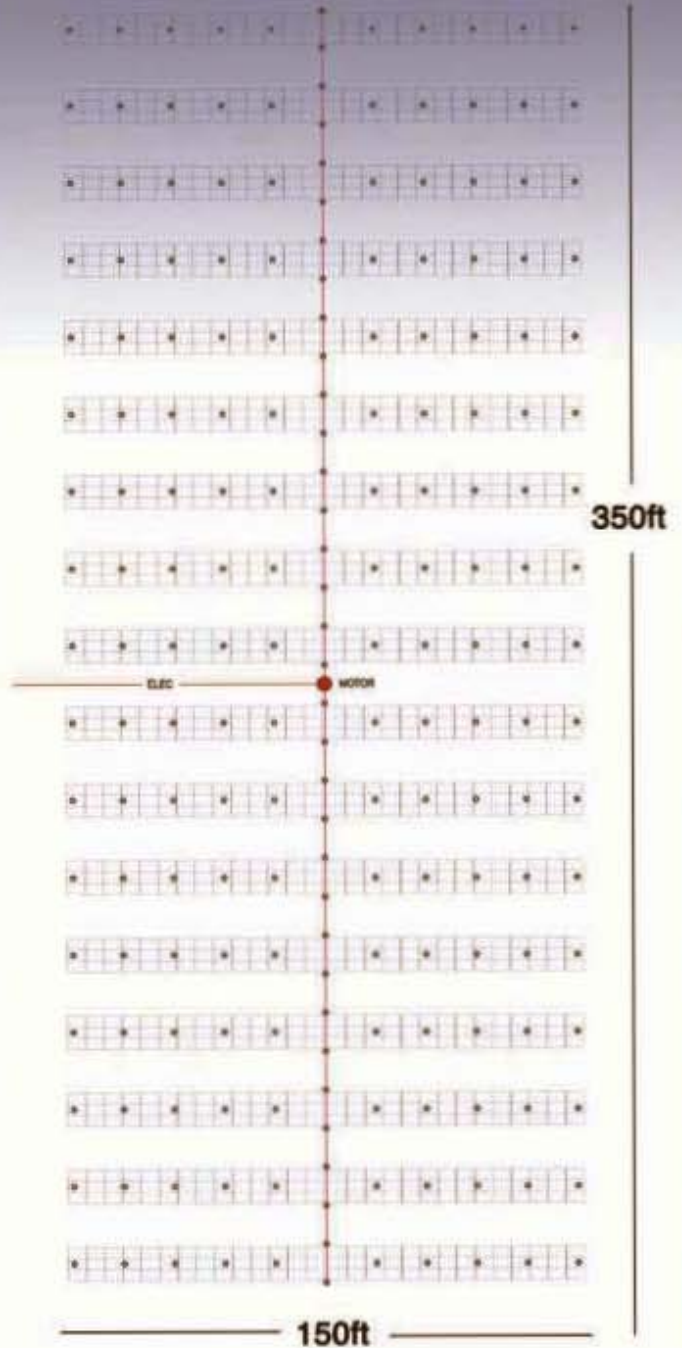


PV Tracking System Specifications

SUNSEEKER™ can consist of a number of standard building blocks. Each building block has the following specifications:

Power Production Capacity:	Up to 350kW DC Per Building Block
Dimensions:	50,000 ft ²
Modules accepted:	All commercially available modules
Tracking System:	Single-axis automatic tracking
Tracking Style:	Stainless steel ram screw driving a ram shaft and rectangular rotation beams
Tracking Drive Motor:	15-ton motor 1 HP, 3-phase
Module Rotation Structure:	Dual rectangular rotation beams
Module Support Structure:	Aluminum rails mounted to rotation beams
Module Attachment Style:	Aluminum T-clips Proprietary C-clips
Allowable Wind Load:	90 mph at all angles (higher in stow position)
Module Wind Hold Capacity:	600 lbs.
Wind Protection Method:	Array flattens at 30 mph wind speed
Row Configuration:	Dual or triple module layout
Array Height:	Maximum 8'
Maximum Angle Displacement:	45°
Assembly Method:	Subsystems are factory-preassembled to reduce field construction time
Electrical Conduit Orientation:	Attached to base beams for flood plane protection; integrated rotational bearing minimizes conduit friction
Control Electronics:	Precision GPS calibrated with optional remote control and string-level monitoring

STANDARD 280kW TRACKER FOOTPRINT



For more information on this product and other available products, please contact us at:

Thompson Technology Industries, Inc.
61 Paul Drive
San Rafael, CA 94903

Tel: 415.446.0103
Fax: 415.507.1759
Email: info@thompsontec.com
www.thompsontec.com