

**BEFORE THE ENERGY COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of:

Revision of Senate Bill 1 Eligibility Criteria
and Conditions for Incentives

Docket No. 07-SB-1X

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**COMMENTS OF THE SOLAR ALLIANCE ON
PROPOSED CHANGES TO SB1 GUIDELINES**

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I. INTRODUCTION

In the Notice of Renewables Committee Workshop on Proposed Changes to Guidelines for California’s Solar Electric Incentive Programs Pursuant to Senate Bill 1, the California Energy Commission (“Commission”) Renewables Committee invited written comments on the Draft Guidelines for California’s Solar Electric Incentive Programs Pursuant to Senate Bill 1, Second Edition (“Draft Guidelines”). The Solar Alliance thanks the Commission and its staff for their hard work and efforts throughout 2008 to revise the SB1 Guidelines. In addition, the Solar Alliance appreciates the Commission’s flexibility in granting the schedule extension and allowing the Solar Alliance the opportunity to comment on the Draft Guidelines. The Solar Alliance submits these comments for consideration.

The Solar Alliance is a state-focused association of the world’s leading solar PV manufacturers, integrators, installers and financiers dedicated to accelerating the deployment of solar electric power in the United States. The Solar Alliance and its members have a strong interest in the adoption and implementation of far-reaching policies and programs that will accelerate the movement toward a low-carbon economy and stimulate the development and use of zero-carbon, renewable energy technologies such as solar PV. To that end, the Solar Alliance seeks to help legislators, regulators and utilities make the transition to solar power by providing

technical and policy expertise that is in the best interest of residential, commercial and government customers and Americans as a whole. The Solar Alliance works closely with state and local solar advocates, seeking to form coalitions with corporate, grass roots, and academic institutions, as well as with local governments that advocate solar energy, so that the solar community may speak with one stronger voice. Current members of the Solar Alliance include American Solar Electric, Applied Materials, Borrego Solar, BP Solar, Conergy, Dow-Corning, Energy Innovations, Evergreen Solar, First Solar, Iberdrola Renewables, Kyocera, Mainstream Energy, Mitsubishi Electric, MMA Renewable Ventures, Oerlikon Solar, Sanyo, Schott Solar, Sharp Solar, SolarCity, Solaria, Solar Power Partners, SolarWorld, SPG Solar, SunEdison, SunPower, Suntech, Tioga Solar, Trinity Solar, Uni-Solar and Xantrex.

Through these comments, the Solar Alliance support the following proposed changes to the Draft Guidelines:

- The California Solar Initiative (“CSI”) program already provides incentives for systems that produce during the summer peak. Therefore, the calculation model requirements for the Investor Owned Utility (“IOU”) CSI Program should be granted an exemption.
- The shading recommendation methodology that was developed by the CSI Shading Subcommittee and submitted to the California Public Utilities Commission (“CPUC”) in 2007 should be adopted.
- For the panel testing protocols, calculated values for products submitted for testing should be rounded to the nearest whole number. The tolerance should be increased to +/- 10% for all panels within the same series.
- Energy efficiency requirements should be implemented in a way that encourages energy efficiency while recognizing the split ownership and different incentives of commercial real estate tenants and landlords.

II. COMMENTS ON THE DRAFT GUIDELINES

A. CSI Adoption of New Solar Homes Partnership (“NSHP”) Calculator

Senate Bill 1 (“SB 1”) requires optimal system performance during peak demand periods and that the incentives awarded through its programs reward summer peak production. The CPUC addressed this issue by incorporating a “design factor” into the calculation of size that considers certain factors (i.e., location, orientation, and shading) that have an influence on system performance and allows comparison to an optimal system. To ensure maximum summer peak production, the design factor treats South- and West-facing proposed systems equally. Depending on the system characteristics, the design factor reduces the rated system size and incentive.

By utilizing this process, the CSI Expected Performance Based Buydown (“EPBB”) calculator is already incenting summer peak producing systems. This is demonstrated by the CSI database reports,¹ which show that for all systems installed the median design factor is 96%. Thus, the systems installed under the CSI Program are already being optimized for production with the current EPBB. Since the EPBB has been utilized, less than 2% of systems are below 80% design factor. Whether or not to purchase one of these lower producing systems is still the customer’s prerogative, however the ratepayer generally pays less for those systems.

Since the CSI Program is already meeting the goal of the SB1 Guidelines to incent summer peak systems, it is prudent to ask what problem needs solving in this instance. Any program changes that would cause a market disruption should only be implemented if there is a clear benefit from doing so. Each calculator modification made requires extra expense,

¹ <https://csi.powerclerk.com/ProgramDocs/CSI/Exports/ProgramData20081001.zip>

effort and training for the installers. Participants in the CSI program are already familiar with the current CSI program calculator, the EPBB calculator, and trained in its use. In contrast, the NSHP calculator requires more detailed system analysis and more time inputting data than the EPBB calculator. Both of these factors raise costs for installers. It has been the experience of companies who participate in both the CSI program and the NSHP that the average CSI EPBB calculation takes 1.5 minutes, in contrast to the CEC NSHP calculator which takes, on average, 5-10 minutes. The Solar Alliance has estimated that for an organization with 25 salespeople running NSHP calculators 15 times/day per salesperson, the increased run time of the calculator would be 22 hours/day and require the company to hire approximately 3 additional sales people to do the same amount of work done using EPBB calculators. Under the same scenario, cost of sales increases by 12% or approximately \$210,000 per year. One of the primary goals of the CSI program is to reduce the end cost of solar energy systems to consumers. At this point in the program, the Solar Alliance believes that the extra costs and market disruption outweigh the potential benefits of the proposed calculation requirements.

Accordingly, the Solar Alliance requests a blanket exemption from the Hourly Photovoltaic Production Calculation requirements in the Draft Guidelines for the IOU service territories, thereby allowing the IOU CSI program to continue to use the current EPBB calculator.

B. Shading

The Solar Alliance appreciates the flexibility granted with regard to shading by removing the “per string” shading measurements and allowing the Program Administrator to waive the requirement to account for future shading. However, there remains a widespread concern that the shading recommendations are time-consuming and complex. Therefore, the

Solar Alliance opposes the recommendation that the NSHP shading methodology should be the basis for addressing shading systems at this time.

The CSI formed a Shading Subcommittee consisting of a group of industry stakeholders including the Program Administrators, engineers, manufacturers, installers, and other public participants, which submitted its recommendations to the CPUC on how shading should be calculated for the CSI. The recommendations were as follows:

1. Redefine “minimal shading” to include any system with a 90%+ summertime availability. Any systems with above a 90% summertime availability receive no reduction in rebate due to shading;
2. For systems with a 89% to 85% summertime availability, use a sliding scale to reduce rebate level without having a sharp drop (chart below);
3. Allow a measurement tolerance of +/-5 percentage points. This tolerance was chosen to account for differences between the Solar Pathfinder and Solmetric Suneye tool readings (measurements commonly between 2 and 3 percentage points different) as well as for slight measurement errors due to the tool needing to be held perfectly level in the proper orientation;
4. Require a revised EPBB printout to be submitted with the claim documents if there are any differences in the shading at the claim stage versus what was originally reported in the application. This also allows the inspector to verify that the readings are within the 5 percentage point tolerance reported.

Measured % Available for Summer Period	EPBB Calculator % for Summer Period
90-100% (minimal shade)	100%
89%	97%
88%	94%
87%	91%
86%	88%
85%	85%
<85%	Measured % Available = EPBB %)

The Solar Alliance recommends that these recommendations of the Shading Subcommittee be adopted and implemented for the IOU CSI program.

C. Solar Energy System Component Standards

The Solar Alliance thanks and recognizes the staff for their effective outreach to module manufacturers to communicate the upcoming system equipment component standards. However, there should be some minor revisions to the testing standards that will ease the module testing process without impacting the program or the validity of the results.

Currently, test results certified by an approved laboratory are required for modules or products to ensure they perform as stated by the manufacturers. The current program guidelines permit test results for PV panels to be submitted and accepted for all models within the same series so long as they are within +/- 5% of the tested panel. However, a minor modification to the CSI Guidelines would be extremely helpful.

In reality, no solar panels are rated in values less than whole numbers, yet during the testing process, there can be test results that come out as a decimal rating, resulting in being slightly outside of the +/- 5%. A recent example of this process illustrates this problem. There were new modules submitted for listing after conducting the tests (which can range from several weeks to a month or more) and the model submitted was a 195 Watt model. Another model submitted in the same series was rated at 205 Watts (all other items being consistent to the first model except its power rating). However, multiplying 195W by 1.05 determined the upper threshold allowable was 204.75W, slightly below the 205W rating. As this panel fell outside the strict definition of +/-5% tolerance, it was required to undergo another round of time-consuming and expensive testing. Therefore, the Solar Alliance requests that the following language be added to the protocols: "That calculated values, where applicable for products submitted for testing, can be rounded to the nearest whole number."

The Solar Alliance also recommends increasing the tolerance to +/- 10% for all panels within the same series. This will permit module manufacturers to submit a wider range of models for listing and reduce the quantity and costs of tests, without adversely impacting the program or validity of the listings.

D. Energy Efficiency Requirements

The Commission recognized, in Chapter 5 of the Draft Guidelines, that many of the commercial enterprises installing solar own their own facilities and stand to directly benefit from energy efficiency investments. However, a significant portion of commercial solar customers lease their premises from another party, which creates a dichotomy between the interests of the tenant and those of the landlord when it comes to energy efficiency. This issue exists in the residential market as well and is one of the major impediments to the deployment of

solar on residential multi-tenant buildings. In the commercial sector, solar providers or their customers are generally able to negotiate an agreement with the landlord to allow the placement of a solar system.

The current Draft Guidelines requires retro-commissioning for large, existing commercial buildings that do not meet performance standards. As a practical matter, solar companies will simply bypass customers who are tenants in these non-performing buildings and focus instead on customers in newer buildings that meet the performance standard. The Solar Alliance recommends that the Commission work with the CPUC and the publicly owned utilities to design compelling incentives for landlords who would otherwise have no motivation to cooperate with the installation of energy efficiency measures and solar. For example, a building requiring retro-commissioning could be provided adequate incentives to ensure a two-year payback on all installed measures if they allow their tenant to install solar.

Finally, documentation of previously installed energy efficiency measures and equipment information can be challenging for tenants. Often, the building owner is headquartered out-of-town or even out-of-state and documentation may not be readily accessible if available at all. The Commission should not require physical documents that may reside in another state and instead rely upon on-line documentation, affidavits by qualified individuals, or other means to gather equipment information.

III. CONCLUSION

The Solar Alliance appreciates the opportunity to comment on the Draft Guidelines. While the goal of a consistent program across California is laudable and would be ideal, the reality is that there are programmatic differences within the NSHP, the IOU CSI and

each different publicly-owned utility program. The Solar Alliance strongly believes that the changes discussed above will result in eligibility requirements which meet the statutory requirements of SB 1 while recognizing the market realities of the solar industry.

Respectfully submitted this 6th day of October, 2008 at San Francisco, California.

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