August 29, 2007

VIA E-MAIL & OVERNIGHT DELIVERY

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5504

Re: Docket No. 07-SB-1, Comments of the California Solar Energy Industries Association and the Solar Alliance on the Senate Bill 1 Eligibility Requirements Staff Report

Dear Sir or Madame:

Attached please find an original copy of the Comments of the California Solar Energy Industries Association and the Solar Alliance on the Senate Bill 1 Eligibility Requirements Staff Report to be filed in the above-referenced docket. Simultaneously with this mailing, an electronic copy of the above-referenced comments was e-mailed to the Energy Commission's Docket Unit.

Should you have any question with regard to the referenced filing, please contact the undersigned.

Very truly yours,

GOODIN, MACBRIDE,
SQUERI, DAY & LAMPREY, LLP

By */s/ Joseph F. Wiedman*
Joseph F. Wiedman

Enclosure

3326/001/X92109.v1

CALIFORNIA ENERGY COMMISSION

In the Matter of:	)	
Senate Bill 1 Eligibility Criteria and Conditions for Incentives	)	Docket No. 07-SB-1

COMMENTS OF THE CALIFORNIA SOLAR ENERGY INDUSTRIES ASSOCIATION AND THE SOLAR ALLIANCE ON THE SENATE BILL 1 ELIGIBILITY REQUIREMENTS STAFF REPORT

I. INTRODUCTION

In the Notice of Renewables Committee Workshop on Staff Report Senate Bill 1 Eligibility Criteria and Conditions for Incentives for Solar Energy Systems, the Renewables Committee invited written comments on the Staff Report *Eligibility Criteria and Conditions for Incentives for Solar Energy Systems*. The California Solar Energy Industries Association (CAL SEIA)[1] and the Solar Alliance[2] (jointly, the Joint Solar Parties) appreciate this opportunity to

[1] CALSEIA is a non-profit trade association founded in 1977 to increase the use of solar energy in California. CALSEIA represents over 200 solar companies doing business in California including installation companies, manufacturers, distributors, wholesalers, consultants, engineers, designers, and utilities. These companies sell and install in the residential, commercial, agricultural, government, and other markets for both new construction and existing sites. Over half of CALSEIA's membership are installation companies. CALSEIA estimates this is equivalent to roughly half of the companies installing solar in California. The members of CALSEIA who are installation companies generally hold C-46 (solar), C-10 (electrical), or B (general) licenses issued by the California Contractors' State License Board. CAL SEIA has given permission to the Solar Alliance's counsel to sign this document on its behalf.

[2] The Solar Alliance is an alliance of solar manufacturers, integrators and installers dedicated to accelerating the promise of solar energy in the United States, with a focus on fostering cost-effective policies and programs at the state level. The 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 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 Alliance include American

(footnote continued)

comment on the Staff Report and submit these comments for consideration.

Our comments focus on six major points:

A. Allowing solar installers to enhance the opportunities of energy efficiency service providers and utility efficiency programs, rather than requiring solar installers to implement energy efficiency measures, will provide greater adoption of both solar and energy efficiency.
B. Sufficient analysis has not yet been performed to justify the adoption of the New Solar Homes Partnership (NSHP) calculator by the California Solar Initiative (CSI) and other statewide publicly-owned utilities (POU) solar programs.
C. Within the CSI program, a process is currently underway to determine an appropriate shading measurement methodology. The Joint Solar Parties propose that the Commission wait until this methodology is developed before considering whether to impose an alternate methodology.
D. Field verification of solar energy systems is necessary, but the benefits of third-party verification, as recommended in the Staff Report, may not be significant enough to justify the costs.
E. The Staff Report's recommendations regarding component testing should be modified to allow self-testing of system components by manufacturers using authorized protocols and auditing procedures. Self-testing will ensure component quality while allowing manufacturers to continue to drive cost reductions and bring innovative products to market.
F. The Joint Solar Parties request that specific guidebook/handbook language be developed for each of the recommendations made in the Staff Report so that parties to this proceeding may accurately comment on all proposals.

II. COMMENTS OF THE STAFF REPORT

A. Energy Efficiency

The Joint Solar Parties support California's ambitious energy efficiency goals. By placing energy efficiency as first in the loading order adopted in the Energy Action Plan, creating some of the most stringent building and appliance codes in the nation, and through other well designed and well implemented policies such as decoupling, California has become one of

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Solar Electric, BP Solar, Conergy, Energy Innovations, Evergreen Solar, First Solar, Kyocera Solar, MMA Renewable Ventures, Mitsubishi Electric, PPM Solar, REC Solar, Sanyo Energy, Schott Solar, Sharp Electronics Corp.-Solar Energy Solutions Group, Solar World, SPG Solar, Sun Edison, SunPower, Suntech, Turner Renewable Energy, and Uni-Solar. ASPv, whose members are now part of the Solar Alliance provided comments on the staff proposal for RD&D plan (R06-03-004) on April 13, 2007.

the most energy efficient states on a per capita basis in the nation. The Joint Solar Parties also support linking energy efficiency with solar market transformation as embodied in Senate Bill No. 1 (Murray, 2006) (SB 1). While a theoretical link between energy efficiency and solar energy incentives is relatively straightforward, the application of this linkage to existing markets must be handled carefully to ensure success in reaching the goals underlying the CSI and NSHP programs. As a consequence, the Joint Solar Parties request that consideration be given to developing recommendations that recognize the strengths various stakeholders bring to the process of deploying a solar energy system on new or existing construction.

1. New Buildings

The Joint Solar Parties support the Staff Report's recommendations regarding energy efficiency requirements for new residential and new commercial buildings. Projects which are in the construction process must already employ energy efficiency experts in order to meet Title 24. Requiring them to go beyond Title 24 by 15% for Tier I and establishing a preference for a Tier II level of 30% beyond Title 24 is appropriate in terms of its goals and design. The recommendations will achieve the goal of ensuring that solar energy systems of an appropriate size are installed on highly efficient, newly constructed structures. Further, the onus of achieving these goals is placed on the energy efficiency experts and contractors already employed to ensure compliance with Title 24. As these stakeholders are already experienced with Title 24 requirements, it does not seem burdensome to require that they reach the Tier 1 and Tier 2 levels recommended in the Staff Report for both new residential and new commercial construction.

2. Existing Buildings

The Joint Solar Parties do not believe that the energy efficiency requirements

proposed in the Staff Report for existing buildings are reasonable or appropriate to both implement energy efficiency and deploy solar energy systems into either the existing residential or existing commercial building market. The Joint Solar Parties are particularly concerned with the Staff Report's recommendation that existing commercial structures be brought up to the top quartile of energy users prior to receiving ratepayer incentives. Requiring consumers of solar products to also invest heavily in energy efficiency measures to bring a commercial or public building, or in the future, a home, into the top quartile of energy users in the state before a customer is eligible for solar incentives is inappropriate as: 1.) it goes against the precedent set by other energy efficiency programs in the state; 2.) it does not recognize valid reasons a solar customer may have for being unable to implement the required energy efficiency measures; 3.) it does not recognize that benchmarks against which to measure facilities will not exist for all solar customer's facilities; and 4.) it places the burden of implementing energy efficiency measures on the solar industry which does not have expertise in such matters and whose members are typically not licensed by the Contractors' State License Board to sell or perform this type of work. The Joint Solar Parties believe that the guiding principle for determining what are appropriate energy efficiency measures as required in Public Resources Code Section 25782(b)(3) is aligning incentives and requirements to further spur adoption of energy efficiency and renewables without holding one hostage to the other. With this principle in mind, as discussed below, other methods of encouraging the adoption of energy efficiency measures can be far more effective, and, therefore, appropriate.

The recommendation that existing commercial buildings be brought up to the top quartile of energy users prior to receiving ratepayer incentives is inconsistent with current energy efficiency programs which offer incentives for individual energy efficiency measures but do not

require that any of them be taken. The recommendation is also inconsistent with current measures wherein, if an incentive is given for a particular energy efficiency measure, other measures are not then required to be taken as well. These current energy efficiency program structures allow consumers to decide for themselves which measures will fit into their lifestyle or business model and which they are willing and financially able to adopt. If a consumer is not willing to or not financially able to take every measure prescribed for eligibility for the CSI program to bring their facility into the top quartile of energy users, they may have to forego installing the solar energy system they were planning to purchase or from which they intended to contract for power. In this case, the end result is that no energy efficiency measures are taken and no new renewable energy is generated. This outcome is clearly inconsistent with the goals of the CSI program as adopted in SB 1 and, therefore, inappropriate. Because, while the loading order establishes priorities for energy resource implementation in California, all of the supporting agencies regularly approve facilities and procurement of resources that are at the bottom of the loading order in parallel with the implementation of the wide variety of programs supporting improvements in the electricity generation and load reduction resource portfolio in California.

Moreover, there may be legitimate reasons why a customer may not be able to implement energy efficiency measures at the time they are purchasing a solar energy system. Some of these include increased upfront costs, inability to adopt certain measures even if they are cost-effective, and inability to change embedded processes in order to adopt energy efficiency measures. One such instance is the case of a long-term building lease under which a landlord may allow a tenant to install a solar energy system on the roof of their building, but may not be willing to let them tear into walls to install insulation or even to replace inefficient

windows. Further, in any situation where a solar energy system is installed under a power purchase agreement, the owner of the system has no legal authority to require the building to take energy efficiency steps. In each of these cases, the installation of a solar energy system is contingent upon the building owner's willingness to implement energy efficiency measures. Obtaining such consent, at a minimum, adds another layer of complexity and cost which will be factored into the upfront decision-making by the potential solar energy customer over whether to even pursue the installation of such a system, and at most, may not be feasible. As a result, the solar installation may be foregone as well as implementation of any energy efficiency measures.

As discussed in the Committee Workshop on August 22, 2007, benchmarks do not exist for all building types today[3] and not all solar facilities are located on a building. For example, in agricultural situations, such as wineries, some customers choose to install a ground-mounted solar system. It is unclear under the current recommendations how the Commission would determine which facility or facilities on this customer's property, if any exist, would be required to meet the applicable energy efficiency benchmark. For this reason, the benchmarking protocol proposed in the Staff Report does not appropriately provide for the full range of solar customer situations that already exist in California today.[4]

The recommendation also fails to consider that the solar industry has expertise and licensing for solar energy, not for energy efficiency. Making the sale of a solar energy system contingent on implementing energy efficiency measures places the responsibility of

[3] Staff Presentation: Benchmarking and Commissioning Commercial Buildings, August 22, 2007, page 5 (staff's presentation noted that the proposed method for evaluating commercial buildings do not currently address retail stores, elementary schools, secondary schools, colleges, public assemblies, convenience food stores, health care, and other building types).

[4] It is also unclear how the Energy Star rating would apply to airports or other similar public facilities.

selling energy efficiency services on the solar installer. Energy efficiency measures, such as heating and air conditioning systems, require a specialty license (Business and Professions Code Sec. 7058) from the Contractors' State License Board to sell and install these products (C-20, HVAC specialty license or C-2 for Insulation). Solar contractors typically hold either a solar (C-46) or electrical (C-10) specialty license which ensures that they have the experience and technical knowledge to sell and install solar or electrical systems. The operational outcome of this requirement is to require solar installers to either, become energy efficiency experts and acquire new licenses, hire them in house, or contract with them to perform energy efficiency services. Regardless of which tactic an installer chooses, there will be a significant cost increase to the installer and, thereby, to the end customer. Such an outcome is contrary to one of the clearly stated goals of the CSI which is to reduce the end cost of solar energy systems to consumers in order to bring solar energy into the energy resource mainstream. Most importantly, there is currently an entire energy services industry in California as well as comprehensive utility energy efficiency program roadmaps. These organizations are best equipped for the task of helping solar customers invest in energy efficiency measures under the suite of requirements and opportunities currently in place.

Each of the factors discussed leads the Joint Solar Parties to believe that placing the responsibility on the solar industry to implement energy efficiency measures is neither the appropriate method nor the most likely method to induce widespread adoption energy efficiency measures. Requiring energy efficiency measures to be taken prior to installation of a solar system creates a dynamic through which many customers will forego either or both.

3. Alternate Proposal

Due to the inherent benefits of energy efficiency, especially on structures

installing solar energy systems, the Joint Solar Parties firmly believe that if solar customers are made aware of their energy efficiency options, the incentives available to them, and the potential increased financial benefits of adopting such measures, many are likely to pursue energy efficiency measures. Thus, the Joint Solar Parties recommend that solar customers, both commercial and residential, be required to agree to undergo an energy efficiency audit as part of their acceptance of CSI incentives. If their utility offers a free, in-person audit service, then they must agree to undergo such an in-person audit. If the customer's utility does not offer an in-person audit service, then the customer must complete an online audit.

Consistent with this customer-focused requirement, solar installers should be required to provide informational materials to customers during the sales process and prior to signing a contract for the sale of a solar energy system. These materials would educate consumers as to their options and create a new potential customer base for energy efficiency companies and utility energy efficiency programs.

The solar installer would pass on customer information to the appropriate Program Administrator with their CSI application, and also pass on information to the customer regarding the utility programs and energy services providers provided by the Program Administrator for that territory. The materials should cover both the financial and environmental benefits of pursuing energy efficiency prior to installing a solar energy system, as well as, information regarding the specific incentives offered by their utility and who to contact to take advantage of the incentives. In addition, the materials could provide information on where to find third-party onsite energy auditors, HERS raters, building performance contractors, etc. These materials would not recommend specific businesses but, instead, how and where they can contact them. In addition, a database "matching service" could be created for solar customers

who would like to be contacted by energy efficiency experts to make sure their information is available to the businesses who can truly assist customers with their energy efficiency needs. This process would generate a large base of solid "leads" for utility energy efficiency programs as potential solar customers are already analyzing their energy use during the process of purchasing a solar energy system.

4. Why is this better?

If energy efficiency offers such clear benefits to customers installing a solar energy system then why not just require it? Because, as explained above, requiring energy efficiency measures to be taken prior to installation of a solar system creates a dynamic through which many customers will forego either or both. The Joint Solar Parties' proposal solves this problem. First, by not making installation of energy efficiency measures a requirement, one does not hold solar system sales hostage to energy efficiency measures. If a particular consumer expresses a preference for procuring solar power in advance of energy efficiency improvements, allowing that customer the choice of their own investment preference achieves at least one of the two energy resources at the top of the State's loading order. Moreover, customers would be educated about energy efficiency during the sales process related to a solar energy system but not required to install energy efficiency measures in order to invest in a solar energy system. This education effort could pay off in the future by expanding the base of customers knowledgeable about energy efficiency through the materials provided during the sales process.

Second, it recognizes that solar installers are not experts in energy efficiency and brings information to the customer concerning energy efficiency service providers and the utilities, which have such expertise, experience, and the means to implement energy efficiency measures. The result is that solar industry helps grow the customer base of the energy efficiency

services industry and the utility energy efficiency program. This is a role the Joint Solar Parties believe the solar industry is capable of performing and one which could help spur growth in both industries.

B. CSI Adoption of NSHP Calculator

As mentioned above, one of the primary goals of the CSI program is to reduce the end cost of solar energy systems to consumers. Accordingly, program changes which potentially increase costs to stakeholders should only be implemented if there is a clear benefit to doing so. Consistent with this principle, the Joint Solar Parties believe that the NSHP calculator should only be adopted for the CSI program if it is shown to provide significantly more accurate results than the current CSI calculator. Participants in the CSI program are already familiar with the current CSI program calculator, the EPBB calculator, and trained in its use. Moreover, the CSI Program Administrators have already integrated the EPBB calculator in the online application process and trained installers on 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. Further, if the NSHP calculator is adopted for use in the CSI program, a significant cost will be borne by the Program Administrators who will be required to alter the NSHP calculator to fit commercial projects, embed the calculator in their already existing online application system, and train installers on its use.

At the recent Energy Commission workshop held on August 22, 2007, staff indicated that they had not done a comparison of the results from the two different calculators. The Joint Solar Parties believe that this analysis must be done before a determination is made on whether to use the NSHP calculator. If the NSHP significantly improves the accuracy of expected system performance, then the increase in costs to installers, which will be passed on to

end costs to consumers, could be justified due to more efficient expenditure of ratepayer dollars. However, if the results provided by the NSHP calculator are not significantly more accurate than those provided by the current CSI calculator, then the costs to solar consumers could be increased through adoption of the NSHP calculator without any significant offsetting benefits.

C. Shading

The Joint Solar Parties disagree with the recommendation that the NSHP shading methodology should be the basis for addressing shading systems at this time. The CSI Shading Subcommittee is a group of industry stakeholders including Program Administrators, engineers, manufacturers, installers, and other public participants who have been meeting regularly and are currently preparing their recommendations for the California Public Utilities Commission on how shading should be calculated for the CSI. The Joint Solar Parties recommend that these findings be reviewed and compared to the NSHP shading methodology to determine which is the most cost-effective and accurate measure of shading for new and existing residential and commercial facilities receiving solar incentives. Once such a comparison is performed, parties will be in a better position to recommend which methodology should be adopted.

D. Field Verification

The Joint Solar Parties support field verification of systems, but believe field verification should continue to be performed by the Program Administrators which is current practice in the CSI program. Third-party inspection will create increased costs to the end-users contrary to the goal of SB 1 with little readily apparent benefit.

The Joint Solar Parties support the Staff Report's recommendation that installers self-inspect the system prior to third-party verification. Through self-inspection, installers may

catch any differences between the initial application and the final "as built" system. Catching such minor discrepancies will help ensure installers do not incur strikes for such small discrepancies which are easily changed administratively prior to official inspection. Self-inspection will also help ensure that final submitted data is accurate for the 6 out of 7 systems that are not inspected.

Lastly, the Joint Solar Parties understand that current field inspections performed by HERS raters for the NSHP are performing inspections from the ground for roof-mounted systems. An accurate inspection of a roof-mounted system can only be performed from the roof. Thus, the Joint Solar Parties recommend that this practice of verification from the ground not be imposed on the CSI program.

E. System Component Standards

The Joint Solar Parties support stringent component standards in order to ensure installation of high quality components. However, requirements for solar energy system component testing must be established in a way that maintains the ability of the solar manufacturing industry to continue to bring new innovative products to market and drive down costs in an efficient manner. The Joint Solar Parties believe that the Staff Report's recommendation requiring independent testing and verification of components and requiring that each individual module be tested as opposed to each module platform will undermine the ability of manufacturers to bring high-quality innovative products to market in a timely fashion.

Currently, there are only two labs in the country that can perform the independent testing and verification proposed in the Staff Report. At this stage of growth in the solar industry, new products are constantly being developed and would, therefore, need to be tested at

one of these two labs in order to qualify for ratepayer incentives. In addition, manufacturers are constantly making small modifications to their existing modules that will not impact performance – i.e. a thicker frame may get a better wind rating but not change electrical output. The recommendations contained in the Staff Report would require complete testing of the modified module. With only two independent labs in the country able to perform testing on these new components or modified modules, a backlog of products waiting to be tested will quickly develop. The resulting lag between development and availability will inhibit the solar industry's ability to grow, develop new products for the CSI and NSHP programs, and reduce costs. Each of these outcomes is contrary to the goals of the CSI and NSHP programs.

The Joint Solar Parties recommend that, similar to current UL protocol, manufacturers be allowed to self-test, and that module platforms be tested as opposed to individual modules. As is common practice with UL, the Energy Commission should establish testing protocols and a method of auditing testing procedures. Once such protocols and auditing procedures are developed, manufacturers could follow these protocols under the supervision of auditors in testing their equipment. This process would allow solar manufacturers to reduce their costs by establishing their own test facilities rather than hiring third-party labs. This process would also allow manufacturers to avoid lengthy delays in certification of their products, thereby ensuring high-quality innovative products are brought to market while still meeting the quality controls envisioned by the current recommendations. For companies who do not choose to self-test, third-party labs would still be available to perform testing on their behalf, and the backlog of products waiting to be tested at these third-party labs will be significantly reduced.

The Joint Solar Parties also recommend that guidelines be established for the attributes of a module which can be changed without requiring new testing of the module. Many

minor changes are often made to modules which do not significantly impact the modules output characteristics. Because these changes do not result in significant changes to module output characteristics, these changes should be allowed to be made without the need for new testing. Setting these guidelines will free up the queue at third-party labs, for companies that do not choose to self-test, and also reduce costs for all manufacturers without impacting equipment quality.

F. Proposed Guidebook Language

The Joint Solar Parties request that specific language be developed for incorporation into the CSI Handbook or other solar program guidebooks prior to the next submission deadline for comments.[5] The Joint Solar Parties believe this level of detailed information is vital as proposals or recommendations can be interpreted in many ways by various parties. However, in order to provide informed comments, stakeholders need to have a clear understanding of what is required "in the field" to avoid confusion. Providing specific handbook language prior to a formal decision will give parties an opportunity to comment on the proposed language and, thereby, ensure a tight "link" between the recommendations and operational practice.

III. CONCLUSION

The Joint Solar Parties appreciate the opportunity to comment on the Staff Report and believes 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.

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[5] Where modification to the NSHP or CSI Handbook would be needed, a strikethrough of the relevant section would be appropriate. Where entirely new language is needed, a draft of the language to be adopted would be appropriate.

Respectfully submitted this 29th day of August, 2007 at San Francisco, California.

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