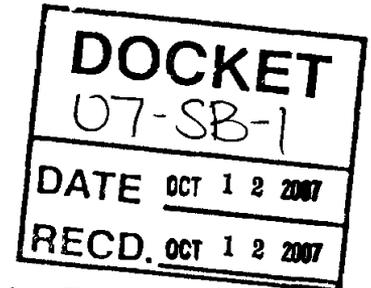




Kevin Burlingame
President
3546 N. Riverside Ave.
Rialto, CA 92377
909-429-4602
kevinb@eagleroofing.com

October 12, 2007

California Energy Commission
Dockets Office
Re: Docket No. 07-SB-1
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512



Re: Comments on Guidelines for California's Solar Electric Incentive Programs

Eagle Roofing Products respectfully submits the following comments regarding the *Draft Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1*. An electronic copy of these comments has also been sent to the CEC Dockets Office. Eagle Roofing Products is the largest producer of concrete roof tile in the western United States, and is currently distributing a building integrated solar roof tile designed to allow for installation similar to that of roof tile, and in accordance with governing roof installation code bodies.

It is our understanding that the *Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1*, once adopted will be used by program administrators of the NSHP and CSI to incorporate the guidelines as part of their respective program guidebooks or handbooks.

Our primary concern is that the SB-1 draft document does not specifically mention that a roofing contractor (C-39 license) can install solar panels, particularly building integrated photovoltaic (BIPV) panels designed as roof tiles, and the overriding liability risks regarding quality roof installations of BIPV roof tiles by non-roofers. We are deeply troubled about looming water intrusion liability potential caused by roof leaks from BIPV and traditional panel installations by C-10 or C-46 licensed contractors, where C-39 roofing contractors were not required to install the BIPV panels.

The current system installation guidelines in the NSHP guidebook (published July, 2007) below clearly say that a roofer can place the panels.

**Existing Language in the New Solar Homes Partnership Guidebook
(Published July, 2007)**

If installed under contract, systems must be installed by an appropriately licensed contractor, in accordance with rules and regulations adopted by the California Contractors State License Board. Installation contractors must have an active A, B, C-10, or C-46 license. Contractors with roofing specific licenses may place PV panels in accordance with limitations of their specific licenses; however electrical connections must be made by an above-mentioned contractor.

The following excerpts are in the proposed SB 1 draft documents posted on the CEC website. Under the installation sections of both draft documents, there was no mention of the C-39 roofing contractor being able to place the panels which is currently in the NSHP handbook. These excerpts do not include the entire installation sections of each document, but rather the sections where a C-39 license would likely be referenced.

1. **Proposed: GUIDELINES FOR CALIFORNIA'S SOLAR ELECTRIC INCENTIVE PROGRAMS PURSUANT TO SENATE BILL 1 (September 2007)** -See page 16
All eligible systems shall be installed by individuals with a current A, B, C-10 or C-46 license.
2. **Proposed: ELIGIBILITY CRITERIA AND CONDITIONS FOR INCENTIVES FOR SOLAR ENERGY SYSTEMS SENATE BILL 1 (August 2007)**

NSHP Guidelines - See page 22

The Energy Commission requires all contracted installations to be done by entities with a valid A, B, C-10 or C-46 contractor license. When systems are installed by the builder's employees, those employees are not required to be licensed. However, the Energy Commission strongly encourages installation by qualified installers since the expected performance and incentive amount depend in part on the quality of system installation.

CSI Guidelines - See page 27

Installers must have a valid A, B, C-10 or C-46 license.

We believe that by not allowing roofing contractors to install BIPV panels, the CEC could significantly limit the desired widespread adoption of solar roofing products by the tract builder segment, as builders often prefer to work with their trusted, long-standing roofing and electrical contractors, and prefer to minimize liability and the introduction of new trades which can cause scheduling delays. Many solar integrators (C-46 contractors) are dreadfully incapable of performing the necessary tasks to ensure the watertight integrity of a roof system. This statement is based on years of first-hand reports from the field by C-39 roofing contractors who had to repair those applications that were installed by incapable C-10s and C-46s. A, B, C-10 and C-46 contractors don't have the expertise and knowledge required to provide a trouble-free roof installation using roof integrated solar tile solutions.

There is significant risk of conflict of determining which trade and insurance company is responsible for water intrusion (leaks) if more than one trade is responsible for the roof system. The complexities surrounding integration of a flat solar tile into a high profile roof tile ("S" tile) are significantly complex and usually not within the scope of understanding or training of A, B, C-10 or C-46 contractors. These are transition areas and must be treated with special care and knowledge typically possessed by a trained C-39 roofing contractor. Consider transition areas such as chimneys, skylights, etc. These transition areas are always entrusted to the C-39 roofing contractor because they are critical to the long-term protection of the roofing system. Roofing contractors understand the nuances and skills required to integrate products into the roofing

system; this is their specialty. Also, builders and roofing contractors are bound by latent defect provisions that hold them responsible for failures of roofing systems for 10 years. Entrusting part of the roof system to a non-qualified contractor other than a C-39 invariably results in issues that can create problems for the end-user over time. As such, integrated roofing products should be installed by C-39 roofing contractors.

We have an additional concern regarding the fact that roof integrated installations currently require that the safe and secure insulated connections between solar tiles (which is much like plugging in an appliance) be made by a C-10 or C-46 contractor. These connections are made prior to any final attachment to the electrical service panel or grid, greatly reducing any risks associated with making the plug-ins. Based on our research, and attendance of the CEC's Critical Analysis New Product Review, it was overwhelmingly evident that homebuilders preferred roof integrated solar tile products (BIPV) over standard panel applications. In the tract and residential retrofit markets, we have recently seen the emergence of separate, yet collaborative solar contracts for 'above the roof' BIPV installations by C-39 roofing contractors and 'below the roof' solar installations by C-10 or C-46 contractors whereby there are two specialized contracts to install one solar system. Currently, the C-10 or C-46 is required to plug the panels together in conjunction with the C-39 installing the panels which is unnecessarily slowing down and adding cost to the roofing process. Based on builder preferences, a new solar roofing product and installation standard have evolved which is currently at odds with the proposed guidelines of the CEC and associated California State Licensing Board requirements.

It is our recommendation that all installation sections of *Guidelines for California's Solar Electric Incentive Programs Pursuant to Senate Bill 1 and Eligibility Criteria and Conditions for Incentives for Solar Energy Systems Senate Bill 1* include the following language: Contractors with C-39 licenses must install PV panels in accordance with applicable Tile Roofing Institute installation guidelines and/or guidelines of recognized governing bodies responsible for controlling the methods of application of roofing products in the state of California. Additionally, C-39 roofing contractors are allowed to make roof integrated panel to panel plug-in connections.

Perhaps these sections should also include a roof integrated (RIPV) designation for integrated solar roofing products other than the current BIPV designation.

Thank you for your consideration of these comments. Please contact me should you have any questions regarding these comments.

Sincerely,

Kevin Burlingame
President
Eagle Roofing Products