



Asphalt Roofing Manufacturers Association

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August 20, 2007

G. William Pennington
California Energy Commission
1516 Ninth Street, MS 28
Sacramento, CA 95814

Dear Bill:

RE: **2008 California Energy Efficiency Standards**

This letter presents the Asphalt Roofing Manufacturers Association's (ARMA's) concerns regarding how cost information from the May 19, 2006 report by Pacific Building Consultants (PBC) was utilized during the June 13th, 2007 workshop, as part of the 2008 California Building Energy Efficiency Standards update process.

The PBC report specifically addresses cost premiums associated with making changes to various non-cool low-sloped roof systems so that they qualify as cool (i.e., initial $SR \geq 0.70$ and $TE \geq 0.75$). This approach to defining the "cost premium" associated with prescriptive cool roof requirements is consistent with that promoted and used by the California Energy Commission (CEC) and its consultants throughout the 2005 and 2008 code update process until recently.

During the June 13, 2007 workshop, one or more of the speakers misused roof installation cost information from the PBC report to compare costs between different roof systems. For example, cost information for cap sheet surfaced built up roof (BUR) coverings was compared to cost information for single ply roof coverings.

This is not appropriate and potentially misleading.

We recommend limiting the use of cost information contained within the PBC report to that which it was intended. It is a "snap shot" survey of cost premiums associated with installing "cool" roofs as part of low-sloped membrane roof coverings on non-residential buildings in the State of California. The data from which this "snap shot" was determined was based on an extensive request for information.

The PBC report includes several different roof systems constructed in different configurations for the purpose of identifying the likely range of cool roof cost premiums. The roof system configurations utilized in the PBC report are all viable; however, they do

not, and were not intended to, represent the full range of commonly installed roof systems. Accordingly, cost information based on these roof systems, will not represent the full range of installed costs of commonly installed roof systems.

BUR coverings are installed using a range of different materials and numbers of layers. For example BUR coverings over wood decks can include one, two or three ply sheets between a base sheet and a fiberglass cap sheet. These systems are sometimes referred to as 3-ply, 4-ply or 5-ply built up roof membranes.

Single ply roof coverings are also installed using a range of different membrane materials and thicknesses. For example, white single ply roof membranes (e.g., PVC, TPO) can consist of 45-mil, 60-mil, or 80-mil thick sheets.

In terms of cool roof cost premiums, as previously defined, the number of ply sheets within a built up roof system is of no consequence. However, in terms of cross system comparisons, the number of BUR ply sheets, as well as the thickness of a single ply membrane it is being compared to, are of major consequence.

If the California Energy Commission desires to compare costs associated with installing “non-cool” built up roof coverings to costs associated with installing “cool” single ply roof systems, or any other roof system, we recommend they sponsor a study similar in scope and approach as that indicated in the PBC report but focused on the range of commonly installed built up and single ply roof coverings as indicated by the examples above.

Kind regards,

A handwritten signature in black ink, appearing to read "Reed B. Hitchcock". The signature is fluid and cursive, with a prominent initial "R" and a long, sweeping underline.

Reed B. Hitchcock