

DOCKETED

Docket Number:	17-BSTD-02
Project Title:	2019 Title 24, Part 6, Building Energy Efficiency Standards Rulemaking
TN #:	222677
Document Title:	Rmax Comments Response to removal of Option A prescriptive requirement for HPA
Description:	Response to Removal of Option A prescriptive requirements for HPA as outlined in "Staff Supplement to CASE Report #2019-RES-ENV2-F"
Filer:	System
Organization:	Rmax/Steve Dubin, CSI
Submitter Role:	Public
Submission Date:	2/22/2018 1:21:39 PM
Docketed Date:	2/22/2018

Comment Received From: Steve Dubin, CSI

Submitted On: 2/22/2018

Docket Number: 17-BSTD-02

**Response to removal of Option A prescriptive requirement for HPA as outlined in
"Staff Supplement to CASE Report #2019-RES-ENV2-F"**

Additional submitted attachment is included below.



Docket No. 17-BSTD-02

Response to removal of Option A prescriptive requirements for HPA as outlined in “Staff Supplement to CASE Report #2019-RES-ENV2-F”

Commissioner McAllister and Title 24, Part 6 Team:

Rmax is encouraged by, and fully supports, the California Energy Commission’s mission to increase energy efficiency in both residential and non-residential buildings. However, in response to the “**Staff Supplement for High Performance Attics**,” Rmax strongly disagrees with the proposed change to remove above deck insulation (Option A) and the conclusions that above deck insulation could lead to structural problems. The supplement states, “*It was also determined that the higher R-value proposed would require thicker insulation and at the thickness proposed it was deemed no longer feasible as it could lead to structural problems.*” We do not feel this is accurate, nor a complete summary of the CASE Report and is taken out of context to apply undue bias against above deck insulation.

The statement by CEC staff that thicker insulation “*could lead to structural problems*” is not well defined in the CEC statement or via any of the reports that were reviewed. Rmax would appreciate getting a copy of the reference report or documentation that was used to justify the “*structural problems*” statement. A review of specific information will allow Rmax and others the ability to provide solutions that will mitigate “*structural problems*”, or determine that there are no reasonable solutions available to mitigate the “*structural problems*” as specifically defined.

Rmax requests that the CEC staff please consider the following and keep above deck insulation (Option A) as a prescriptive path for High Performance Attic compliance.

- Section 2.5 of the CASE Report, *Compliance and Enforcement*, states that both above and below deck insulation options would require various design professionals to develop new drawings and calculations, but that the impacts would be minimal. It goes on to state that the expectation is that the building industry as a whole will have acquired additional construction experience with HPA by the time the 2019 standards take effect. It states that the above deck option is less likely to result in any incremental coordination, while below deck strategies would likely require additional coordination during the construction process. This section concludes by stating that there are no anticipated incremental challenges to compliance and enforcement and that there would be no significant burden placed on any market actor as it relates to compliance and enforcement.



- Section 3.2 of the CASE Report, *Technical Feasibility, Market Availability, and Current Practices*, states “there are no required technological advances to construct high performance attics today. The basic technology and products already exist.” Section 3.2.1, Above and Below Deck HPA Options, specifically states that with increased HPA insulation requirements being proposed, a new issue arises as deeper below-deck batts (Option B) will require a new installation approach. With regard to above deck insulation (Option A) it simply states that options are already available and that current compliance software (California Building Energy Code Compliance software for Residential Buildings, or CBECC-Res) indicates that it is more effective per-unit R-value at saving energy than below deck options.
- Section 3.3.2 of the CASE Report, *Impact on Building Designers and Energy Consultants*, under Section 3.3, *Market Impacts and Economic Assessments*, states there should be opportunities to comply with code requirements in multiple ways. It goes on to state that Architects would be responsible for developing construction details indicating how the HPA will be implemented regardless of the option being used – above and below deck. It cites that many resources are available, including the WISE website.

Rmax agrees with all of the statements summarized above and further questions the removal of above deck insulation (Option A), especially given similar, if not more, challenges associated with below deck insulation. The staff supplement implies structural problems when the only semi-related comment raised by the CASE Report has to do with increased roof heights and window placement in dormers. The change in thickness from the R6/R8 in 2016 to the proposed R8/R10 in 2019, an additional R2, can be done in ½” or less for various insulation types. Dormers can be easily framed such that this is a non-issue, especially for new construction. It should also be noted that certain types of insulation can meet the originally proposed R8 and R10 requirements in thicknesses less than other types of insulation can meet the R6 and R8 requirements in the current 2016 version. Therefore, there would be no increase in insulation thickness for certain types of insulation beyond what’s prescribed in the 2016 version. Finally, Rmax would like to point out that the supplement also proposed the removal of ‘with no air space’ values/option from Table 150.1A and Table 150.1B, leaving only the ‘with air space’ values/option. If above deck insulation remains in the tables in the same manner, the remaining above deck value for ‘with air space’ would be R8. This R-value is already a requirement referenced in the 2016 version. Therefore, there would be no increase in insulation thickness regardless of insulation type beyond what’s prescribed in the 2016 version.

In summary, Rmax would appreciate getting a copy of the justification for the claim that above deck insulation “could lead to structural problems”. Without further explanation, it is Rmax’s opinion that the potential need for additional, up-front design considerations is not a valid reason for removing above deck insulation (Option A). Design professionals are trained and experienced in updating drawings and calculations and perform this function on a regular basis. Furthermore, this proposal neglects to consider the absolute need for additional design considerations with respect to below deck options



regarding proper ventilation, which if done incorrectly, creates moisture concerns leading to actual structural issues if framing and decking are compromised.

Removing Option A (above deck insulation) as a prescriptive option, rejects and trivializes a very common, time-honored and third party approved method for insulating a roof deck. Continuous insulation, in all variety of types and methods has been used above the deck in wood framed residential and light commercial construction for over 50 years. Rmax, as well as other rigid insulation manufacturers, have a variety of composite products that are used in this application every day. In fact, there are a number of instances in California where above deck insulation was used in R-values up to R38 (roughly 6" of polyisocyanurate), without negative impact to the structural integrity of the roof. Simply put, it is a well-known and well-used form of attic insulation.

Thank you for your consideration,

Steve Dubin | Architectural Development Manager, sdubin@rmax.com 707-392-7269

Michael Rhodes | Research and Building Science Engineer, mrhodes@rmax.com 972-850-3604

Laurie Hill | Vice President – Technical, lhill@rmax.com 972-850-3604