



November 20, 2012

California Energy Commission  
Dockets Office, MS-4  
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Via email: [docket@energy.state.ca.us]

To: Mazi Shirakh

**SUBJECT: Docket number: 12-BTSD-06  
Proposed Residential Manual Language Changes**

APA is a nonprofit trade association that represents the engineered wood industry. APA members are comprised of well-known industry leaders, whose mills produce the majority of structural wood panels, glued laminated timber (glulam), composite panels, wood I-joists, and structural composite lumber manufactured in North America. APA offers the following clarifications to the Residential Manual.

In section 3.1.23, subsection letter E is repeated twice. The following comments refer to the second subsection E., "Advanced Wall Framing (AWF)" which appears after subsection G., and should therefore most likely be lettered H.

#### **Changes to 3.1.23-E.**

There are conflicting terms at the start of section 3.1.23-E, namely Advanced Wall Framing (AWF) and Advanced Wood Framing (AWF). These should be reconciled, changing one to match the other. In addition, can the CEC clarify if this concept (AWF) is the same as the Advanced Wall Systems (AWS) outlined in the joint appendices on page JA4-9 in section 4.1.6? These sections appear to be the same, and should all use the same term. If there is a difference between these terms, this should be clarified.

The APA would also recommend eliminating the unnecessary commentary about the rising cost of lumber within the AWF section.

The above comments in strikethrough format would result in the following changes:

#### *E. Advanced Wall Framing (AWF)*

*Advanced ~~Wood~~ Wall Framing (AWF), also known as Optimum Value Engineering (OVE), refers to a set of techniques and practices designed to minimize the amount of wood and labor necessary to build a structurally sound, safe and durable, energy efficient building. AWF improves energy and resource efficiency while reducing first costs.*

*Reducing the amount of wood in wood-framed exterior walls improves energy efficiency, when the insulation is installed correctly. Having fewer wood studs reduces the effects of “thermal bridging” and increases the amount of insulation in the wall, resulting in a more energy efficient building envelope. However, despite the rising cost of lumber, in California the trend is toward an increasingly high percentage of wood in woodframed walls. In recognition of this fact, the The framing factor used in calculating the energy performance of wood-framed walls in the Residential ACM was increased from 15% to 25% for the 2005 Standards. When AWF is chosen as a compliance option in the Standards, the framing factor is reduced to 17%, reflecting the improved energy performance of the wall.*

#### **Changes to 3.1.23-E.c.**

Item o., which states “Use 2 x 3 interior non-load-bearing walls”, conflicts with item c., which states “Install 2 x 4 headers on non-load-bearing walls.”

Item c. is also specific to 2x4 headers, which does not apply to 2 x 6 advanced wall framing (item a.).

In addition to mentioning 2 x 6 framing, c. should be clarified to state that it applies to exterior non-load bearing walls. For example:

*c. Install 2 x 4 or 2 x 6 headers on exterior non-load-bearing walls; and*

#### **Changes to 3.1.23-E.i., and 3.1.23-E.k. through q.**

Item i., “Use metal let-in T-bracing on non-shear walls” has nothing to do with wall framing (standard or advanced). It appears to communicate a CEC staff preference for wall sheathing products. As such, it should not be a part of the manual.

Subsection E. states that to qualify for AWF credit “all of the following practices must be followed”. However, in a non-lettered line between j. and k., it is stated that additional AWF practices “are encouraged (but have no impact on compliance credit).” It would appear the intent was to have items k thru q fall under this “additional AWF” practices statement, however the positioning and lettering do not make this clear.

Item q., “Use “inset” shear wall panels”, drives the use of additional wall framing, be it wood or steel inset shear wall panels. Is this truly a best practice for increased energy efficiency? The APA suggests more clarification is needed, as shown below.

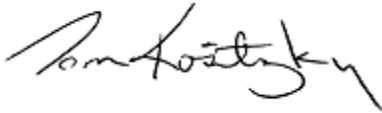
These suggestions would result in the following:

*~~i. Use metal let-in T-bracing on non-shear walls; and~~  
~~j-i.~~ Include detailed framing plans and elevations on permit set*

*Additional AWF “best practices” (j-p) are encouraged (but have no impact on compliance credit):*

- ~~k~~j. *Optimize house design for efficient material use (e.g. reducing header spans, designing exterior surfaces in two foot modules, designing clear spans to eliminate interior bearing walls)*
- ~~k~~k. *Build with “insulated headers” (a “sandwich” of two solid or engineered lumber components with a layer of foam insulation in the middle)*
- ~~m~~l. *Use engineered lumber. Examples include: “I”-joists, open web floor trusses; 2x “raised heel” roof trusses, glulam beams, laminated veneer lumber (LVL), laminated strand lumber (LSL), parallel strand lumber (PSL), oriented strand board (OSB)*
- ~~n~~m. *Eliminate trimmers at window and door opening headers less than 4 feet in width, only when rated hangers are utilized and noted on the plans.*
- ~~o~~n. *Use 2 x 3 interior non-load-bearing walls*
- ~~p~~o. *Integrate framing design with HVAC system*
- ~~q~~p. *Use “inset” steel or wood shear wall panels that are insulated or use exterior structural sheathing to resist lateral loads*

Best Regards,



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APA – The Engineered Wood Association

cc: Andrew McAllister, Presiding Member, Efficiency Committee  
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