

## DOCKETED

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*Comment Received From: Shawn Mullins*

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**2019 Building Energy Efficiency Standards (BEES) 45-Day Language Comments**

*Additional submitted attachment is included below.*



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February 20, 2018

California Energy Commission  
Attention: Docket No. 17-BSTD-02  
Dockets Office 1516 Ninth Street, MS-4  
Sacramento CA 95814

RE: 2019 Building Energy Efficiency Standards (BEES) 45-Day Language Comments

To Commissioner McAllister and Commission Staff:

We would like to begin by thanking Commissioner McAllister and Commission Staff for their efforts thus far in the development and transparency related to the 2019 BEES. Owens Corning acknowledges that there are a variety of perspectives regarding the BEES and we can appreciate the very difficult job staff has in accommodating the various perspectives and opinions. Between the Draft and 45-day language, Owens Corning staff have worked with various stakeholders to better understand varying perspectives and seek areas of common ground. Even in areas of disagreement, we believe the bulk of the current 45-day language represents a balanced approach, and one that is mostly supported by a wide spectrum of stakeholders.

Owens Corning is a leader in fiberglass and related materials, systems and solutions. Our products are largely a result of our applied Building Science and Sustainability efforts which drive our innovation and our global operations. Owens Corning product specifications and operational activities are specifically undertaken with a measurable awareness towards natural resources stewardship as an integral part of our self-imposed sustainability journey. Thus, it is with long-term resource sustainability, durability, occupant comfort and energy efficiency, that we provide the following perspectives.

We support the Commission's goal of achieving a Net Zero Energy benchmark for residential homes and non-residential buildings. In doing so, it is critical that the Commission maintain the historical and well established loading order of focusing on energy efficiency first, renewables and associated technology second, and grid produced energy last – a philosophy the Commission reiterated at the February 5<sup>th</sup> and 6<sup>th</sup> hearings.

#### **Current California Energy Commission (CEC) Staff Recommendations:**

In regards to what has been proposed to date, Owens Corning supports existing CEC staff recommendations as currently written in 45-day language, with some exceptions noted herein:

- R20 Mandatory Feature for 2x6 walls
  - This is a positive and necessary step to assure the applicable insulation products are used in 2x6 framing without degradation and acknowledges advancements in cost effective, higher thermal value envelopes. Accordingly, we support the current language as written.
  - During the hearing, comments were made that the Commission was considering replacing the R-value language with U-factor language. Owens Corning **does not support** removing the R-value references as we believe this terminology provides directional information to the builders and design community regarding baseline expectations.
  - Comments were also made regarding the difficulty of Open Cell Polyurethane Spray Foam (OCSPF) manufacturers not being able to meet a R20 cavity thermal value. We believe this to be **an incorrect statement** as the table below demonstrates several OCSPF manufacturers have products that meet the R20 thermal value in a 2x6 wall.



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Note that this list is representative and not intended to be exhaustive or a full accounting of compliant OCSPF products.

OCSPF Product	R-value in 2x6 cavity	Source
Foamsulate™ 50	20	<a href="https://premiumspray.com/wp-content/uploads/2017/08/Foamsulate-50-ER_0351.pdf">https://premiumspray.com/wp-content/uploads/2017/08/Foamsulate-50-ER_0351.pdf</a>
Bayseal® OC / OCX	20	<a href="http://www.icc-es.org/Reports/pdf_files/ESR-1655.pdf">http://www.icc-es.org/Reports/pdf_files/ESR-1655.pdf</a>
Foam-Lok®	20	<a href="http://www.icc-es.org/Reports/pdf_files/ESR-2847.pdf">http://www.icc-es.org/Reports/pdf_files/ESR-2847.pdf</a>
Sucraseal™	20	<a href="http://www.icc-es.org/reports/pdf_files/esr-3375.pdf">http://www.icc-es.org/reports/pdf_files/esr-3375.pdf</a>
Quik-Shield® 106	20.3 (3.7x5.5)	<a href="http://swdurethane.com/wp-content/uploads/2017/09/TDS-QS-106.pdf">http://swdurethane.com/wp-content/uploads/2017/09/TDS-QS-106.pdf</a>
Icynene® Classic™	20	<a href="https://www.icynene.com/sites/default/files/US%20content%20uploads/ESR-1826%20December%202017.pdf">https://www.icynene.com/sites/default/files/US%20content%20uploads/ESR-1826%20December%202017.pdf</a>
Sealection® 500	21	<a href="http://www.icc-es.org/Reports/pdf_files/ESR-1172.pdf">http://www.icc-es.org/Reports/pdf_files/ESR-1172.pdf</a>
Enertite®	21	<a href="http://www.icc-es.org/reports/pdf_files/ESR-3102.pdf">http://www.icc-es.org/reports/pdf_files/ESR-3102.pdf</a>

- Prescriptive language with enhanced thermal values for attics and walls
  - Prescriptive wall U-factor at 0.048 (R21+R5) from 0.051 (CZ dependent and SF only) – we support
  - Prescriptive below deck roof insulation increased to R19 from R13 – we support
    - For both of these items and R20:
      - This language appropriately recognizes the inherent long-term life-cycle benefits of the enclosure which exceed the life-cycle of statute-constricted cost-effectiveness calculations as compared to other measures with more limited lifetime expectations (15-20 years for mechanicals and PV solar, with a to be determined battery storage durable lifetime vs. 50+ years for the building envelope)
      - Envelope measures do not drop off or otherwise degrade in performance over their useful life
      - Envelope measures do not require maintenance to deliver anticipated performance levels
      - Envelope measures do not require occupant interaction or maintenance/replacement throughout the life of the home
      - Envelope measures pay compound and consistent dividends for the life of the home
      - Due to construction realities, builders and homeowners have only “one shot” at achieving the optimum building envelope and that is during initial construction
- Quality Insulation Installation (QII) as a prescriptive measure – we support
  - QII, including proper air barrier methodologies, aligns with existing manufacturer installation requirements
  - Aligning QII in code expectations simplifies the compliance process by removing an artificial compliance penalty (when assuming a non-QII installation) and its associated credit for selective correction
  - Energy Consultants we engage with have historically supported QII
- The Energy Design Rating (EDR) path as currently proposed
  - We support the decision to maintain previous recommendations to eliminate the PV Solar trade-off credit against high performance walls, high performance attics and energy efficiency measures in general



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- Whole House Fan (WHF)
  - We support the requirements for HERS Verified WHF performance metrics
  
- *Additional items we would prefer the Commission reconsider include:*
  - Mandatory Features for 2x4 walls remaining at R13 vs. elevating to R15.
  - Clarify the reasoning behind why multifamily language did not follow relative to upgrading the Prescriptive wall assembly U-factor to 0.048.
  - Restrict and refrain from adopting new PV Solar + Battery Storage credits which offset the High Performance Wall (HPW) and High Performance Attic (HPA) requirements and further compromise the building envelope
    - To the extent that the Commission has indicated it is considering compliance credits for PV Solar + Battery Storage, we strongly encourage the Commission to provide some framework as to what these credits may look like, and to do so ahead of adopting the 2019 Standards. Waiting until Alternative Calculation Methods Manual updates does not provide sufficient opportunity for stakeholders to adequately evaluate the impact of potential compliance changes. We also believe that providing some framework regarding any credits under consideration during the 45-day language review process is in line with statements made by the Commission at the recent hearings around improving transparency. Stakeholders would benefit greatly from at least some documented directional language regarding expectations of any credits under consideration.

#### **Additional Industry Proposals**

- Owens Corning is also in support of the North American Insulation Manufacturers Association's comments posted to the Docket on 2/20/2018.

#### **CALGreen:**

- Owens Corning supports the improvements to CALGreen to add prerequisites for High Performance Walls (HPW) and High Performance Attics (HPA), and maintaining QII

We appreciate the opportunity to be part of this process and trust that Commission staff will find the appropriate balance for sound energy and BEES policy going forward. Owens Corning would like to reiterate that as this process moves forward, we remain open to consideration of additional industry proposals that properly balance the need for flexibility in code compliance with established NZE design principles.

Regards,

A handwritten signature in blue ink that reads "Shawn P. Mullins". The signature is written in a cursive style.

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