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Comments to 2022 DRAFT California Energy Code Express Terms

Additional submitted attachment is included below.



March 04, 2021

California Energy Commission
Docket Office, MS-4
Re: Docket No. 19-BSTD-03
1516 Ninth Street
Sacramento, CA 95814, USA
docket@energy.ca.gov

Re: 2022 DRAFT California Energy Code Express Terms

Dear Commissioners:

The American Chemistry Council's [North American Modern Building Alliance](#) (NAMBA) would like to thank the California Energy Commission (CEC) for the opportunity to comment on the pre-rulemaking draft of the Express Terms for the 2022 update to the California Energy Code, Title 24, Part 6.

NAMBA's mission is dedicated to leading advocacy, communications, education, research and project management on combustibility issues and the safe and effective use of plastic building materials with regard to building envelope fire performance. An important part of our mission is to support the development and adoption of integrated building codes and standards for energy efficiency and fire safety. NAMBA respectfully submits the following comments regarding the linking of prescriptive U-factor requirements for framed walls to fire-resistance ratings under the new Multifamily Building category (new Section 170.2).

Our primary concern is with the strategy of prescribing U-factor requirements for exterior walls of buildings based solely upon the fire-resistance rating; < 1-hr or >/= 1-hr. Previous comments submitted by NAMBA¹ regarding this issue noted the lack of technical evidence supporting claimed infeasibility of constructing walls to attain more stringent U-factors when they are of fire-resistant design. Furthermore, the previous comments also noted the addition of parallel layers and low-thermal conductivity layers are generally understood to improve fire resistance. We reiterate our previous comments and, once again, state that assigning U-factor requirements should be supported by solid technical evidence, not speculation.

While appearing simple on the surface, if adopted these draft provisions basing prescriptive U-factor requirements solely on fire-resistance rating will create additional

¹ Mann, David. Letter to California Energy Commission Codes and Standards Enhancement (CASE) "Re: Comments 2022-MF-RESTRUC-F | Multifamily Envelope, HVAC | November 2020 FINAL CASE REPORT." December 18, 2020.

and unnecessary complexity. The added complexity will result in confusion, inconsistent application of prescriptive U-factor requirements, and enforcement challenges.

Requirements that certain exterior walls of buildings are rated fire-resistance is not new; however, the required ratings must be determined for each wall assembly of each project. The provisions of Chapters 6 and 7 of the California Building Code, Title 24, Part 2 (CBC) regulate fire-resistance requirements based on multiple building design conditions. For exterior walls, the design conditions include construction type, occupancy group, the presence or absence of an automatic sprinkler system, and fire separation distance. These design conditions may vary from project to project; for example, if the same building is constructed in two different locations. These design conditions may also vary within a single project; for example, the north wall is required to have a 1-hr fire-resistance rating, but the west wall is not required to have a rating. The proposed prescriptive U-factor language will result in:

- Increased time required for design and for plan review of every wall assembly to determine both the required U-factor and confirm compliance
- Varying U-factor requirements for the same wall assembly depending on where the building is located within a single Climate Zone
- Varying U-factor requirements for wall assemblies depending on where the wall is located within a single project
- Potential conflict or incompatibility with the Compliance Software used to calculate Energy Budgets under the Performance Approach for Multifamily Buildings (see new Section 170.1)

Additionally, review of the specific draft prescriptive requirements suggests the difference between U-factor requirements of the two Multifamily Building wall types (< 1-hr rated and \geq 1-hr rated) indicates an equivalent calculated thermal resistance R-value ($^{\circ}\text{F}\cdot\text{ft}^2\cdot\text{hr}/\text{BTU}$) difference of between 0.0 and 2.7. For simple illustrative purposes, it is possible to achieve a thermal resistance R-value of 2.7 with approximately 0.50 - 0.75 inches of insulation (any type). Such an arguably small difference in thermal resistance is not justified when the range of calculated equivalent thermal resistance R-value across Climate Zone 1-16 is 4.2. Furthermore, there are existing fire-resistance rated designs available that comply with the more stringent U-factor requirements proposed for framed walls of Multifamily Buildings <1-hr rated.

We encourage the CEC to adopt clear and consistent U-factor requirements that achieve the greatest amount of energy savings for Multifamily Buildings within the applicable cost-effectiveness parameters. Basing prescriptive exterior walls U-factor requirements solely on fire-resistance ratings is not supported by technical evidence and will disrupt the clear, consistent, and equitable application of energy efficiency requirements to Multifamily Buildings in California constructed under the 2022 CEC.

Thank you for your time and consideration of our comments. NAMBA looks forward to continued participation with the Commission on this and other issues. As an organization that takes an active role in supporting fire safety and energy efficiency, my colleagues and I are available to answer any questions or provide further information regarding the comments provided above.

Sincerely,

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About the North American Modern Building Alliance -
www.modernbuildingalliance.us

The North American Modern Building Alliance (NAMBA) is a leading voice on the topic of the safe and effective use of plastic building materials in building envelopes. We believe having an informed public and robust codes and standards are essential to supporting a multi-layered approach to building fire safety. Ensuring the appropriate level of fire safe buildings is a joint responsibility of the entire value chain involved in building design, manufacture and construction. We are here to help policy makers, fire safety stakeholders, and the public understand the opportunities and challenges of this important topic. The North American Modern Building Alliance members are:

Atlas Roofing Corp.

American Chemistry Council Center for the Polyurethanes Industry

American Chemistry Council North American Flame Retardant Alliance

BASF Corporation

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