

# CE49-19

IECC: C401.2, C407.3

**Proponent:** William Fay, Energy-Efficient Codes Coalition, representing Energy-Efficient Codes Coalition (bfay@ase.org); Daniel Bresette, Alliance to Save Energy, representing Alliance to Save Energy (dbresette@ase.org); Maureen Guttman, BCAP-IBTS, representing BCAP-IBTS (mguttman@bcapcodes.org); Harry Misuriello, American Council for an Energy-Efficient Economy, representing American Council for an Energy-Efficient Economy (misuriello@verizon.net)

## 2018 International Energy Conservation Code

Revise as follows:

**C401.2 Application.** Commercial buildings shall comply with one of the following:

1. The requirements of ANSI/ASHRAE/IESNA 90.1.
2. The requirements of Sections C402 through C405 and C408. In addition, commercial buildings shall comply with Section C406 and tenant spaces shall comply with Section C406.1.1.
3. The requirements of Sections C402.5, C403.2, C403.3 through C403.3.2, C403.4 through C403.4.2.3, C403.5.5, C403.7, C403.8.1 through C403.8.4, C403.10.1 through C403.10.3, C403.11, C403.12, C404, C405, C407 and C408. The building energy cost shall be equal to or less than ~~85~~ 80 percent of the standard reference design building.

**C407.3 Performance-based compliance.** Compliance based on total building performance requires that a proposed building (*proposed design*) be shown to have an annual energy cost that is less than or equal to 80 percent of the annual energy cost of the *standard reference design*. Energy prices shall be taken from a source *approved by the code official*, such as the Department of Energy, Energy Information Administration's *State Energy Price and Expenditure Report*. *Code officials* shall be permitted to require time-of-use pricing in energy cost calculations. The reduction in energy cost of the proposed design associated with *on-site renewable energy* shall be not more than 5 percent of the total energy cost. The amount of renewable energy purchased from off-site sources shall be the same in the *standard reference design* and the *proposed design*.

**Exception:** Jurisdictions that require site energy (1 kWh = 3413 Btu) rather than energy cost as the metric of comparison.

**Reason:** The purpose of this code change proposal is to improve the efficiency of buildings designed to comply under the IECC performance path by altering the multiplier for the standard reference design building from 85% to 80%. Starting with the 2012 IECC, rather than undertake a complete retooling of the performance path, advocates added a percentage multiplier to the standard reference design to reduce the energy budget for the baseline. This approach provided maximum flexibility to the code user. Improvements could be made to any part of the building to achieve the 15% improvement. This approach also established a means of easily updating the performance path in the future: As additional efficiency is needed, the multiplier can be lowered to meet those needs.

Since the 2012 IECC, the 85% multiplier has not been changed, even though other parts of the commercial IECC have undergone improvements. This proposal updates the multiplier by essentially improving efficiency by about 5% (as compared to the original baseline code, the 2009 IECC).

This proposal also includes the same multiplier in Section C407.3. We believe this is a more appropriate place for the multiplier, since it is closer to the other assumptions included in the standard reference design. However, we would prefer to see it included in both C407.3 and C401.2 to make sure that code users understand the requirements of the performance path.

**Cost Impact:** The code change proposal will increase the cost of construction. Adding additional efficiency measures will increase construction cost. However, we expect that design professionals and builders will select the improvements that are the most cost-effective and the easiest to implement into specific designs.

Proposal # 4460

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