

Modify Appendix RG (2230)

IECC: RG101.1 (R405.2)

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2024 International Energy Conservation Code [RE Project]

RG101.1 (R405.2) Simulated building performance compliance. Compliance based on *simulated building performance* requires that a *building* comply with the following:

1. The requirements of the sections indicated within Table R405.2.
2. The proposed total *building thermal envelope* thermal conductance, TC, shall be less than or equal to the *building thermal envelope* TC using the prescriptive *U*-factors and *F*-factors from Table R402.1.2 multiplied by 1.08 in Climate Zones 0, 1 and 2, and 1.15 in Climate Zones 3 through 8 in accordance with Equation 4-2 and Section R402.1.5. The area-weighted maximum fenestration SHGC permitted in Climate Zones 0 through 3 shall be 0.30.
3. For each *dwelling unit* with one or more fuel-burning appliances for space heating, water heating, or both, the annual *energy cost* of the *dwelling unit* shall be less than or equal to 70 percent of the annual *energy cost* of the *standard reference design*. For all other *dwelling units*, the annual *energy cost* of the *dwelling unit* shall be less than or equal to 75 percent of the annual *energy cost* of the *standard reference design*. For each *dwelling unit* with greater than 5,000 square feet (465 m²) of *living space* located above *grade plane*, the annual *energy cost* of the *dwelling unit* shall be reduced by an additional 5 percent of annual *energy cost* of the *standard reference design*. Energy prices shall be taken from an *approved source*, such as the US Energy Information Administration's state energy data system prices and expenditures reports. *Code officials* shall be permitted to require time-of-use pricing in *energy cost* calculations.

Exceptions:

1. The energy use based on source energy expressed in Btu or Btu per square foot of *conditioned floor area* shall be permitted to be substituted for the *energy cost*. The source energy multiplier for electricity shall be 2.51. The source energy multiplier for fuels other than electricity shall be 1.09.
2. The energy use based on site energy expressed in Btu or Btu per square foot of *conditioned floor area* shall be permitted to be substituted for the *energy cost*.

Reason: This proposal will bring this section into compliance with R101.3 Intent of the code which states that the code "is not intended to eliminate any fuel type." The ICC Board Commentary goes on to state that the code "remain neutral to fuel source and do not promote or penalize specific types of equipment or fuel sources." The struck language in RG101.1.3 clearly violates this intent. Also, the use of site energy in exception 2 is technically flawed. Site energy cannot be used to compare different energy sources, like electricity and natural gas, fairly since it does not account for any upstream losses associated with extraction, generation, transmission and distribution.

Cost Impact (Detailed): Decrease

Estimated Immediate Cost Impact:

Estimate less than 5% cost decrease.

Estimated Immediate Cost Impact Justification (methodology and variables):

Estimate less than 5% cost decrease.