

RE192-19

IECC: TABLE R406.4 (IRC N1106.4)

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2018 International Energy Conservation Code

Revise as follows:

**TABLE R406.4 (IRC N1106.4)
MAXIMUM ENERGY RATING INDEX**

CLIMATE ZONE	ENERGY RATING INDEX ^a
1	57 <u>52</u>
2	57 <u>52</u>
3	57 <u>51</u>
4	62 <u>54</u>
5	61 <u>55</u>
6	61 <u>54</u>
7	58 <u>53</u>
8	58 <u>53</u>

a. Where on-site renewable energy is included for compliance using the ERI analysis of Section R406.4, the building shall meet the mandatory requirements of Section R406.2, and the building thermal envelope shall be greater than or equal to the levels of efficiency and SHGC in Table R402.1.2 or Table R402.1.4 of the 2015 International Energy Conservation Code.

Reason: The purpose of this code change proposal is to establish lower, more efficient ERI target scores, improving efficiency for homes complying under the Energy Rating Index. More precisely, the proposal restores the lower ERI Index target scores from the 2015 IECC. Under the ERI, the lower the score, the more efficient the home. Although the ERI numbers were increased to the current levels as part of a broad compromise in the 2018 IECC, we believe that over time the ERI must continue to be improved, and improving the Index numbers by returning to the 2015 IECC levels at some point is a reasonable first step in the right direction.

Although a direct comparison between the ERI and other IECC compliance options is complicated, the ERI numbers proposed (and those in the 2015 IECC) are within the range of equivalence to other compliance paths under the IECC. U.S. DOE published an analysis that compared compliance under the IECC with HERS scores, using over 60,000 model runs to test the range of HERS scores that could apply to a 2012 IECC-compliant home. The study found that the 2015 ERI scores would be more likely to ensure compliance with the IECC, but even those scores could not guarantee compliance. "Thus, one can conclude that the [2015 IECC] ERIs are generally very near the conservative end of possible values, but not quite so low as to always guarantee that a home complying via the ERI path would also comply via the Performance Path." See U.S. Department of Energy, *Identification of RESNET HERS Index Values Corresponding to Minimal Compliance with the IECC Performance Path*, at 4.17 (May 2014). Given that the other compliance options in the IECC have moderately improved since the 2012 IECC, we believe that these more stringent ERI scores would be appropriate as an upgrade to the current less efficient ERI levels for 2021.

Bibliography: See U.S. Department of Energy, *Identification of RESNET HERS Index Values Corresponding to Minimal Compliance with the IECC Performance Path*, at 4.17 (May 2014).

Cost Impact: The code change proposal will increase the cost of construction

To achieve a lower ERI score, builders must install more efficient products or systems in homes, which will increase construction costs. Because the ERI is a performance-based path, the costs and benefits to the consumer will vary depending on which improvements are incorporated into the home design. However, since the ERI is not mandatory and is one of only several compliance options, builders are not required to use this option if they do not find it acceptable for a specific project.

Proposal # 4007

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