Code Amendment Proposal Form

For public amendments proposed to the 2018 editions of the International Codes

Instructions: Upload this form and all accompanying documentation at www.denvergov.org/BuildingCode. If you are submitting your proposal on a separate sheet, make sure it includes all information requested below.

All proposals must be received by April 26, 2019.

CONTACT INFORMATION

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Signature: [Signature]

AMENDMENT PROPOSAL

Please use a separate form for each proposal.

1) Code(s) associated with this proposal. Please use acronym: IECC

If you submitted a separate coordination change to another code, please indicate which code:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Code Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC-xxxx</td>
<td>Denver Building Code–xxxx (code) amendments (e.g., DBC-IBC, DBC-IEBC)</td>
</tr>
<tr>
<td>IBC</td>
<td>International Building Code</td>
</tr>
<tr>
<td>IEBC</td>
<td>International Existing Building Code</td>
</tr>
<tr>
<td>IECC</td>
<td>International Energy Conservation Code</td>
</tr>
</tbody>
</table>

2) Please check here if a separate graphic file is provided: ☐

Graphics may also be embedded within your proposal below.

3) Use this template to submit your proposal or attach a separate file, but please include all items requested below in your proposal. The only formatting needed is BOLDING, STRIKEOUT AND UNDERLINING. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by CPD.

<table>
<thead>
<tr>
<th>Code Sections/Tables/ Figures Proposed for Revision:</th>
</tr>
</thead>
<tbody>
<tr>
<td>IECC R406.2, Table R406.4 footnote a.</td>
</tr>
</tbody>
</table>

Note: If the proposal is for a new section, indicate (new).

Proposal:

R406.2 Mandatory requirements. Compliance with this section requires that the provisions identified in Sections R401 through R404 indicated as “Mandatory” and Section R403.5.3 be met. The building thermal envelope shall be greater than or
equal to levels of efficiency and Solar Heat Gain Coefficients in Table 402.1.1 or 402.1.3 of the 2009-2012 International Energy Conservation Code.

Table R406.4

<table>
<thead>
<tr>
<th>CLIMATE ZONE</th>
<th>ENERGY RATING INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>57</td>
</tr>
<tr>
<td>2</td>
<td>57</td>
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<td>3</td>
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<td>4</td>
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<tr>
<td>7</td>
<td>58</td>
</tr>
<tr>
<td>8</td>
<td>58</td>
</tr>
</tbody>
</table>

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 402.1.2 or Table 402.1.4 of the 2015 International Energy Conservation Code.

Supporting Information:

Purpose: To bring consistency and fix a perceived disparity between houses complying with the ERI path in the IECC.

When the ERI path was introduced into the 2015 IECC there was no recognition of including renewable energy into the energy conservation code. The ERI path was written to mimic the RESNET HERS system as the compliance path, but was not the HERS system. The RESNET HERS compliance path allows for the calculation of renewable energy to the HERS index score.

As numerous states started adopting the 2015 IECC they convened meetings and decisions were made to provide levels of efficiency or limits to when renewable energy can be counted in the ERI path. Some states do not allow renewable energy in the ERI calculation and others have created a two tier scale where houses with solar have a lower index score because reports have shown typical reduction in the index score by approximately 30 points. The following report from RESNET shows the impact of the HERS index score from a solar PV system - https://www.academia.edu/15036659/The_Impact_of_Photovoltaic_Arrays_on_the_HERS_Index

Reason: When the 2018 IECC was developed RESNET had not published their ANSI standard. Since the release of the 2015 IECC, RESNET and ICC have released the ANSI/RESNET/ICC 301-2014 Standard for the Calculation and labeling of the Energy Performance of Low-rise Residential Buildings using an Energy Rating Index First Published March 7, 2014. This new standard is referenced in the 2018 IECC.

When the 2018 IECC was developed an agreement (code change proposal RE-173 Public Comment #1) with a cross sectional building industry stakeholders added footnote a. to the ERI index table which includes a building thermal envelope efficiency minimum when solar is included. Footnote a in the table requires an efficiency “backstop” which is different than the “backstop” listed in section 406.2.


The challenge since the publication of the 2018 IECC is why there are two paths in the ERI; one efficiency backstop for houses with renewable energy and another backstop for houses without renewable energy. This has caused confusion and difficulty understanding why the proposal author(s) created two paths and why a house with or without renewable energy have different building thermal envelope requirements.
This proposal removes the perceived disparity between houses with and without renewable energy. It updates the backstop of efficiency to the 2012 IECC for the ERI path. It also raises, and lowers, the efficiency to a mature but older energy code – the 2012 IECC. When the 2018 IECC becomes effective in Denver the 2012 IECC backstop will be eight years since its publication while providing a reasonable backstop of efficiency for houses with and without onsite renewable energy.

This proposal supports the City’s goals to reach zero by 2035 in new buildings.

Substantiation and bibliography – see above narrative.

Referenced Standards:
None

Note: List any new referenced standards that are proposed to be referenced in the code.

Impact:
This change neither increases nor decreases the cost of construction. For houses complying with the ERI pathway the onsite renewable energy house will have less stringency requirements than the 2018 IECC and non-renewable energy houses will have increased stringency requirements.
Removes confusion for design, construction and verification of section R406 reducing costs.

Note: Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:
- The effect of the proposal on the cost of construction: ☒ Increase ☐ Reduce ☒ No Effect
- The effect of the proposal on the cost of design: ☒ Increase ☐ Reduce ☒ No Effect
- Is the proposal more or less restrictive than the I-codes: ☒ More ☒ Less ☒ Same

Departmental Impact: (To be filled out by CPD staff)

Note: CITY STAFF ONLY. Discuss the impact of this proposal in this section AND indicate the impact of this amendment proposal for each of the following:
- The effect of the proposal on the cost of review: ☐ Increase ☐ Reduce ☒ No Effect
- The effect of the proposal on the cost of enforcement/inspection: ☐ Increase ☐ Reduce ☒ No Effect