2018 IECC Codes Discussion Update

Idaho Building Code Board Meeting 02/19/2019

Title: 2018 Residential IECC Discussion Update

From: Jerry Peterson, Energy Program Manager

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Background:

On January 15th, 2019 the Idaho Building Code Board (IBCB) met to discuss recommended changes to the current Idaho Building Codes. Jerry Peterson and David Freelove presented Residential Code changes and known issues to the board for consideration in adopting the 2018 International Energy Conservation Code. Five major items were identified for ongoing discussion.

Updates:

On February 14th, 2019 Jerry Peterson met with Dave Yorgason of the Building Contractors Association of Southwestern Idaho (BCA) to continue discussions on the five major points as brought up in the January 15th, 2019 IBCB meeting. Mr. Yorgason asked that windows be included in the cost analysis for climate zone five (CZ 5).

On February 15, 2019 Mr. Peterson met with David Freelove regarding discussions with the Idaho Association of Building Officials (IDABO) on the suggested changes.

Current known issues:

1.) R402.1.2- Insulation and Fenestration Criteria
   a. Modeling will be completed no later than mid-March 2019 to determine cost effectiveness of R38 vs. R49 insulation in CZ 5.
   b. Modeling used for cost effectiveness will be based on elevation and heating degree days (ASHREA or Wrightsoft).
   c. Using the Idaho Department of Energy field study and Idaho BCA surveys, approximately 30% of builders are currently installing windows of .32 U-factor in CZ 5.
   d. BCA has offered to provide upfront cost to compare with modeling to determine the cost effectiveness and savings potential between .30 and .32 U-factor.

2.) R402.4.1.2- Blower Door Testing

a. Sampling of 20% of new single-family homes.
b. Provide free training and access to test equipment.
c. Consensus has not been reached on a target number for Air Changes per Hour (ACH).
d. Modeling results will be made available for considerations related to a target ACH number.

3.) R406.3- Energy Rating Index Scores (ERI)

a. Limited feedback on modification to scores.
b. Eric Makela, CADMUS, suggested the following change to the ERI ventilation requirement for improving scores. This would not change anything prescriptive.

R406.3 Energy Rating Index.

The Energy Rating Index (ERI) shall be determined in accordance with RESNET/ICC 301 ~~except for buildings covered by the *International Residential Code*, the ERI Reference Design Ventilation rate shall be in accordance with Equation 4-1~~.

~~Ventilation rate, CFM = (0.01 × total square foot area of house) + [7.5 × (number of bedrooms + 1)]~~ **~~(Equation 4-1)~~**

~~Energy used to recharge or refuel a vehicle used for transportation on roads that are not on the building site shall not be included in the *ERI reference design* or the *rated design*~~.

4.) Suggestions for amending R403.5.3- Hot Water Pipe Insulation (Prescriptive)

a. 2012 IECC code requirements (for comparison):

R403.4.2 Hot water pipe insulation (Prescriptive).
Insulation for hot water pipe with a minimum thermal resistance (*R-value) of R-3 shall be applied to the following:*

1. Piping larger than $^{3}/_{4}$ inch nominal diameter.
2. Piping serving more than one dwelling unit.
3. Piping from the water heater to kitchen outlets.
4. Piping located outside the conditioned space.
5. Piping from the water heater to a distribution manifold.
6. Piping located under a floor slab.
7. Buried piping.
8. Supply and return piping in recirculation systems other than demand recirculation systems.
9. Piping with run lengths greater than the maximum run lengths for the nominal pipe diameter given in Table R403.4.2.

All remaining piping shall be insulated to at least R-3 or meet the run length requirements of Table R403.4.2.

TABLE R403.4.2
MAXIMUM RUN LENGTH (feet)[a]

Nominal Pipe Diameter of Largest Diameter Pipe in the Run (inch)	3/8	1/2	3/4	> 3/4
Maximum Run Length	30	20	10	5

For SI: 1 inch = 25.4 mm, 1 foot 304.8 mm.
a. Total length of all piping from the distribution manifold or the recirculation loop to a point of use.

b. Recommended change to the 2018 IECC Residential as follows:

R403.5.3 Hot water pipe insulation (Prescriptive).
Insulation for hot water piping with a thermal resistance, *R*-value, of not less than R-3 shall be applied to the following:

1. ~~Piping 3/4 inch (19.1 mm) and larger in nominal diameter.~~
2. Piping serving more than one dwelling unit.
3. Piping located outside the *conditioned space*.
4. ~~Piping from the water heater to a distribution manifold.~~
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

5.) R403.3.6 Ducts buried within ceiling insulation.
   a. To insure proper insulation, language may be added to limit buried ducts within three feet of exterior walls and one foot from roof decks.
   b. Technical reports and free training are available.

Summary:

IDABO and BCA have been actively engaged with their membership, and at this time, there is still a mutual interest in moving forward with the 2018 IECC. Cost analysis should be completed no later than mid-March 2019. A summary of the findings will be made available to stakeholders to allow time for consideration of specific amendments to be submitted prior to the Idaho Building Code Board meeting on April 16th, 2019.

Please direct comments or questions to:

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