UNIFORM BUILDING CODE COMMISSION
MEETING

December 13, 2023 9:00 AM

Join with Google Meet
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(US) +1 317-936-9529 PIN: 112 486 451#

*Anchor Location*
*Room 474*
*Heber M Wells Building*
*160 E 300 S*

1. Roll call
2. Approve minutes from the November 8, & 29, 2023
3. Review proposed amendments
   2021 IRC Section R105.2
   2021 IMC Section 505.4.1
   2021 IRC Chapter 11
4. Approve corrections and additions for Title 15A for public hearing
5. Discussion item
   Title 10-9a-538 Modular Homes

Advisory Committee Reports
Mechanical Advisory Committee – 12-4 & 12-8-23
Structural Advisory Committee - 12-7-2023

Next meeting date: December 20, 2023

Please call Sharon at 530-6163 if you do not plan on attending the meeting.

In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Carol Inglesby, ADA Coordinator, Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84111, Phone 530-6626, at least three working days prior to the meeting.

MINUTES

UTAH
UNIFORM BUILDING CODE COMMISSION

November 8, 2023

9:00

Convened: 9:03

Adjourned: 12:21

STAFF:
Stephen Duncombe, Bureau Manager
Sharon Smalley, Board Secretary
Nicole Herrera, Board Secretary

COMMISSIONERS:
Thomas Peterson
Josh Blazzard
Lorianne Bisping
Travis Dalley (absent)
Trent Hunt
Ken Adams
Gary Bullock
Chris Hendrickson
Art Anderson
Karl Mott (excused)
Joerg Ruegemer
Scott Carpenter
Steve Dailey

VISITORS:
Ross Ford, Utah HBA
Don Simons, Bountiful City
Bryce McConkie, Lindon City
Brock Dael
Lynn Nielsen
John Little
Robert Glass
Ryan Jackson, Electrical Advisory
Jim Hardy
Katherine Nelson, Herriman City
George Reid
Hans Hoffman, Architectural Advisory
Chris Weintz, Architectural Advisory
Leslie Garland
Rick Sturm, Unified Code Analysis
Ron McArthur, McArthur Homes
Jerry Thompson
Jennifer Youngfield
Cloe Nixon, Dorsey & Whitney
Jeremy Moser, Alpine Homes

ELECT A NEW CHAIRMAN AND VICE CHAIRMAN

A motion was made by Lorianne Bisping to re-elect Tom Peterson as chairman. The motion was seconded by Joerg Ruegemer and passed unanimously. Ken Adams volunteered to be vice chairman and Josh Blazzard seconded. The committsion voted unanimously to accept Ken Adams as vice chait.

MINUTES

A motion was made by Scott Carpenter to approve the minutes from the June 14, 2023, meet-

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| | ing as written. The motion was seconded by Joerg Ruegemer and passed unanimously. |
| CORRECTIONS FOR TITLE 15A | Tom Peterson explained each of the corrections and additions that need to be made to Title 15A. Each item was reviewed and discussed individually by the Commission and those present. The following are the motions that were made for each proposal. |
| IBC SECTION 304.1 | A motion was made by Josh Blazzard to approve this new proposal to this section. The motion was seconded by Scott Carpenter and passed unanimously. |
| IBC CHAPTER 35 UNDER ICC | A motion was made by Scott Carpenter to approve this new amendment as modified by adding the words "The 2017 ICC A117.1-17 can be used as an alternative." The motion was seconded by Steve Dailey and passed unanimously. |
| IRC SECTION R109.1.5 & R109.1.5.2 | A motion was made by Josh Blazzard to approve the deletion of the current amendment and replacing it with the new proposal. The motion was seconded by Scott Carpenter and passed unanimously. |
| IRC SECTION R310.7<br>IRC SECTION R314.2.2<br>IRC SECTION 315.2.2 | A motion was made by Josh Blazzard to approve all three of these corrections to the current amendments. The motion was seconded by Ken Adams and passed unanimously. |
| IRC TABLE N1102.1.2 (R402.1.2) | A motion was made by Ken Adams to approve this new proposal. The motion was seconded by Steve Dailey and passed with a vote of nine in favor and Ken Adams voting in opposition. |
| IRC SECTION N1102.2.13 (R402.2.13) | A motion was made by Scott Carpenter to approve this proposal. The motion was seconded by Steve Dailey and passed with a vote of nine in favor and Ken Adams voting in opposition |
| IRC CONVERSION FACTORS USED FROM SEER 2 | A motion was made by Scott Carpenter to approve the proposal for R1102.2.13 for the conversion chart. The motion was seconded by Trent Hunt and passed unanimously. |

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| IRC SECTION P2902.1 | A motion was made by Josh Blazzard to approve the corrections to the five section numbers. The motion was seconded by Lorianne Bisping and passed unanimously. |
| IRC SECTION E3601.7 | A motion was made by Josh Blazzard to approve this new amendment. The motion was seconded by Trent Hunt and passed unanimously. |
| IRC SECTION E3902.15-.21 | A motion was made by Trent Hunt to approve these corrections to Sections E3902.17, E3902.18 , and E3902.19 The motion was seconded by Art Anderson and passed unanimously.<br><br>A second motion was made by Ken Adams to approve the corrections for Sections E3902.20 through E3902.22. The motion was seconded by Steve Dailey and passed unanimously. |
| IMC SECTION 1101.2 | A motion was made by Josh Blazzard to approve the deletion of the current amendment for this section. The motion was seconded by Scott Carpenter and passed unanimously. |
| NEC SECTION 230.71<br>NEC SECTION 230.72 | A motion was made by Scott Carpenter to approve the proposal for Section 230.71 and deny the proposal for Section 230.72. The motion the motion was seconded by Art Anderson and passed unanimously. |
| IECC SECTION R406 | A motion was by Scott Carpenter to approve the proposal for this section. The motion was seconded by Ken Adams and passed unanimously. |
| IEBC SECTION 305.4.2 #7<br>SECTION 705.1 AND<br>SECTION 1011.7.3 | A motion was made by Josh Blazzard to approve deletion of two sections and renumbering the third section of the current amendments. The motion was seconded by Scott Carpenter and passed unanimously. |
| REVIEW NEW PROPOSED AMENDMENTS<br>IBC SECTION 1010.2.4<br>IFC CHAPTER 10 SECTION 1010.2.3.1 | This new proposal is being presented to help align the requirements of the Department of Health and Human Services with the building code. A motion was made by Josh Blazzard to |

approve this new amendment. The motion was seconded by Scott Carpenter and passed unanimously.

A second motion was made by Scott Carpenter to approve amendment for the IFC. The motion was seconded by Lorianne Bisping and passed unanimously.

IRC SECTION R109.2

A motion was made by Josh Blazzard to deny this proposal. The motion was seconded by Lorianne Bisping and passed unanimously.

IRC SECTION R109.4

A motion was made by Josh Blazzard to deny this proposal. The motion was seconded by Lorianne Bisping and passed with a vote of eight in favor and Ken Adams and Steve Dailey voting in opposition.

IRC SECTION R311.3

A motion was made by Lorianne Bisping to deny this proposal. The motion was seconded by Art Anderson and passed with a vote of nine in favor and Ken Adams voting in opposition.

IRC SECTION E3401.2

Ryan Jackson asked the Commission to review the proposal for this section even though it is out of order of the agenda. During the discussion, it was recommended that the proposal be modified. A motion was made by Art Anderson to approve the proposal as modified by adding the words "Such as, but not limited to," before the list of items not covered. The motion was seconded by Trent Hunt and passed unanimously.

IEBC SECTION 104.10

A motion was made by Josh Blazzard to deny the proposal. The motion was seconded by Scott Carpenter and passed unanimously.

IEBC SECTION 104.11.2

A motion was made by Josh Blazzard to deny the proposal. The motion was seconded by Lorianne Bisping and passed unanimously.

IEBC SECTION 109.3.8

A motion was made by Lorrianne Bisping to deny the proposal. The motion was seconded by Scott Carpenter and passed unanimously.

IEBC SECTION 109.3.9.1

A motion was made by Josh Blazzard to deny the proposal. The motion was seconded by Lo

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| | rianne Bisping and passed unanimously. |
| IEBC SECTION 110.4 | A motion was made by Lorianne Bisping to deny the proposal. The motion was seconded by Josh Blazzard and passed unanimously. |
| IEBC SECTION 115.1<br>IEBC SECTION 117 | These two proposals were reviewed together. A motion was made by Josh Blazzard to deny both proposals. The motion was seconded by Scott Carpenter and passed unanimously. |
| IEBC SECTION 202<br>IEBC SECTION 302.3 | These two proposals were reviewed together. A motion was made by Gary Bullock to approve both proposals as modified by adding the words, "or independent third-party licensed engineer or architect and submitted to the building official". The motion was seconded by Lorianne Bisping and passed unanimously. |
| N1102(R402) | A motion was made by Josh Blazzard to approve the proposal. The motion was seconded by Scott Carpenter and passed unanimously. |
| Chapter 11 | The item was inadvertently not reviewed. |

The meeting adjourned at 12:21.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

MINUTES

UTAH
UNIFORM BUILDING CODE COMMISSION

November 29, 2023

9:00

Convened: 9:03

Adjourned: 10:37

STAFF:
Stephen Duncombe, Bureau Manager
Sharon Smalley, Board Secretary
Nicole Herrera, Board Secretary

COMMISSIONERS:
Thomas Peterson
Josh Blazzard
Lorianne Bisping
Travis Dalley (absent)
Trent Hunt (excused)
Ken Adams
Gary Bullock

Chris Hendrickson (excused)
Art Anderson (absent)
Karl Mott (excused)
Joerg Ruegemer
Scott Carpenter (excused)
Steve Dailey

VISITORS:
Ron McArthur
Leslie Garland
Craig Hassell
Curtis Gillins
Jeramy Bristol

Rob Durfee
Kam Valgardson
Jerry Thompson
Bryce McConkie
Ted Black

MINUTES

A motion was made by Gary Bullock to approve the minutes from the November 8, 2023, meeting as written. The motion was seconded by Josh Blazzard and passed unanimously.

REVIEW PROPOSED AMEND-MENTS
2021 IRC CHAPTER 11

Ron McArthur spoke to those present in connection with this proposal. He gave a detailed explanation of how the proposals for the amendments were developed by the ad hoc committee. Following Mr. McArthur's presentation, the Commission and those present discussed the proposals. Mr. McArthur explained that these proposals would replace all of the current

amendments in Title 15A for IRC Chapter 11.

At this point in the meeting, the Commission lost their quorum and could not vote on the proposal.

IRC SECTION R105.2

Craig Hassell presented this proposal to those present. During the discussion, a recommendation was made that the Structural Advisory Committee review the proposal before a decision can be made.

IMC SECTION 505.4

Craig Hassell presented this proposal to those present. Since there was not a quorum present, it was decided to send the proposal to the Mechanical Advisory Committee for their recommendation.

DISCUSSION ITEM
TITLE 10-9A-538 MODULAR HOMES

Those present discussed the proposed legislation for modular construction in the state. Tom Peterson gave the background for this proposed legislation. Kam Valgardson and Jeramy Bristol spoke to those present in connection with this legislation.

The meeting adjourned at 10:37.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

UTAH DEPARTMENT OF COMMERCE
DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSING
160 East 300 South Salt Lake City UT 84111
PO Box 146741 Salt Lake City UT 84114-6741
E-mail: b8@utah.gov
Web: www.dopl.utah.gov

# REQUEST FOR CODE AMENDMENT

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|---|---|
| Requesting Agency/Person: Utah Home Builders | Date:11-20-23 |
| Street Address:38W 13775 S suite 120 | |
| City, State, Zip: Draper, Utah, 84020 | |
| Contact Person: Ross Ford | Phone:801-352-8266 |
| Code to be Amended: 2021 IRC<br>(Include edition) | |
| Section:R105.2 | |
| Section Title: Work exempt from permit | |

## AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording

**R 105.2** In the list under the title "building:" delete number 3 and replace with Retaining walls supporting less than 4 feet (1219mm) of unbalanced full, unless supporting a surcharge

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| Purpose of or Reason for the amendment:<br>There is confusion between inspectors and builders as to when a permit is required. This amendment helps clarify that a wall with balanced fill does not constitute a retaining wall requiring a permit. |
| Cost or Savings Impact of Amendment:<br>This will save the cost of a permit and the cost associated with preparing an application and waiting for its approval. |
| Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):<br>This amendment will save the government money. Currently there is confusion as to when a permit is required, as a result many projects are permitted that shouldn't be. This amendment saves money by removing the requirements for plan check and inspections on retaining walls that do not need a permit. |

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| Signature: | Date: |

## For Division Use:

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| Date Received: | |
| **Committee Action:**<br>Δ Approved Δ Denied<br>X Approved with revisions<br>Δ Referred to:<br>Δ Tabled | **UBC Commission Decision for Hearing:**<br>Δ Approved for hearing Δ Denied<br>X Approved with revisions<br>Δ Referred to:<br>Δ Tabled |
| Date Filed: | Public Hearing Date: |
| **UBC Commission Decision for Adoption:**<br>Δ Approved Δ Denied<br>Δ Approved with revisions<br>Δ Referred to:<br>Δ Tabled | Effective Date: |

UTAH DEPARTMENT OF COMMERCE
DIVISION OF OCCUPATIONAL AND PROFESSIONAL LICENSING
160 East 300 South Salt Lake City UT 84111
PO Box 146741 Salt Lake City UT 84114-6741
E-mail: b8@utah.gov
Web: www.dopl.utah.gov

# REQUEST FOR CODE AMENDMENT

| | |
|---|---|
| Requesting Agency/Person: Utah Home Builders | Date:12-4-23 |
| Street Address:38W 13775 S suite 120 | |
| City, State, Zip: Draper, Utah, 84020 | |
| Contact Person: Ross Ford | Phone:801-352-8266 |
| Code to be Amended: 2021 IMC<br>(Include edition) | |
| Section: 505.4 | |
| Section Title: Make up air required | |

AMENDMENT:

Type proposed amendment in rule change form. (Using strikeout on portions being removed and underline on all new wording

505.4 – A new section is added **505.4.1** Makeup air is not required in residential dwelling units where gas, liquid or solid fuel-burning appliances located within a unit's air barrier are all direct-vent or use a mechanical draft venting system.

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| Purpose of or Reason for the amendment:<br>This amendment will bring the residential portion of the IMC in line with the mechanical section of the IRC. |
| Cost or Savings Impact of Amendment:<br><br>This amendment will save thousands per unit, when it applies. |
| Compliance Costs for Affected Persons (APerson@ means any individual, partnership, corporation, association, governmental entity, or public or private organization of any character other than an agency.) (You must break out the impact cost to State Budget, Local Government and you must state aggregate cost to other persons {cost per person times number of persons affected}):<br><br>This amendment will have cost impact for government. |

| | |
|---|---|
| Signature: | Date: |

## For Division Use:

| | |
|---|---|
| Date Received: | |
| **Committee Action:**<br>Δ Approved Δ Denied<br>X Approved with revisions<br>Δ Referred to:<br>Δ Tabled | **UBC Commission Decision for Hearing:**<br>Δ Approved for hearing Δ Denied<br>X Approved with revisions<br>Δ Referred to:<br>Δ Tabled |
| Date Filed: | Public Hearing Date: |
| **UBC Commission Decision for Adoption:**<br>Δ Approved Δ Denied<br>Δ Approved with revisions<br>Δ Referred to:<br>Δ Tabled | Effective Date: |

***Effective 7/1/2024***

**15A-3-203 Amendments to Chapters 11 of IRC.**

(1) In IRC , Sections N1101.4 (R102.1.1), a new section N1101.4.1 is added as follows: N1101.4.1 National Green Building Standard. Buildings complying with ICC 700-2020 National Green Building Standard and achieving the Gold rating level for the energy efficiency category shall be deemed to exceed the energy efficiency required by this code. The building shall also meet the requirements identified in table N1105.2 and the building thermal envelope efficiency is greater than or equal to levels of efficiency and solar heat gain coefficients (SHGC) in Tables N1102.2.2 andN1102.1.3 of the 2009 IRC.

(2) In IRC, Section N1101.5 (R103.2), all words after the words "herein governed." are deleted and replaced with the following: "Construction documents required for building permits shall include only those items specified in 10-5-132(8) of the state building code"

(3) In IRC, Section N1101.10.3 (R303.1.3) the following changes are made:

(a) The following is added at the end of the first sentence "or EN 14351-1:2006 + A1:2010."

(b) The word "accredited" is replaced with "approved" in the third sentence

(c) The following sentence is added after the third sentence: "A conversion factor of 5.678 shall be used to convert from U values expressed in SI units: ()/5.678 = ."

(d) After "NFRC 200" the following words are added : "or EN 14351-1:2006 + A1:2010", and in the same sentence the word "accredited" is replaced with approved.

(e) The following new sentence shall be inserted immediately prior to the last sentence: "Total Energy Transmittance values may be substituted for SHGC, and Luminous Transmission values may be substituted for VT".

(4) In IRC, Section N1101.12 (R303.3), all wording after the first sentence is deleted.

(5) In IRC, section N1101.13 (R401.2) in the first sentence, the words "Section N1101.13.5 and" are deleted

(6) In IRC, Section N1101.13.5 (R401.2.5) is deleted

(7) In IRC, Section N1101.14 (R401.3) Number 7 the words "and the compliance path used" are deleted.

(8) In IRC, Table N1102.1.2 (R402.1.2),

(a) in the column titled Fenestration U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with 0.32

(iii) In the row titled "Climate Zone 6" delete 0.30 and replace with 0.32

(b) in the column titled Glazed Fenestration SHGC the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.25 and replace it with 0.35

(c) in the column titled Ceiling U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.026 and replace it with 0.033

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.024 and replace it with 0.030

(iii) In the row titled "Climate Zone 6" delete 0.024 and replace with 0.030

(d) in the column titled Wood Frame Wall U Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.060 and replace it with 0.065
(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.045 and replace it with 0.065
(iii) In the row titled "Climate Zone 6" delete 0.045 and replace with 0.065
(e) In the column titled "Basement Wall U-Factor" the following changes are made:
(i) In the row titled "Climate Zone 5 and Marine 4" delete 0.050 and replace it with 0.078
(ii) In the row titled "Climate Zone 6" delete 0.050 and replace it with 0.065
(f) In the column titled "Crawl Space Wall U-Factor" the following changes are made:
(i) In the row titled "Climate Zone 5 and Marine 4" delete 0.055 and replace it with 0.078
(ii) In the row titled "Climate Zone 6" delete 0.055 and replace it with 0.065

(REVISED SEP 2023)
TABLE R1102.1.2 (R402.1.2)
MAXIMUM ASSEMBLY *U*-FACTORS [a] AND FENESTRATION REQUIREMENTS

| CLIMATE ZONE | FENESTRATION U-FACTOR [f] | SKYLIGHT U-FACTOR | GLAZED FENESTRATION SHGC [d,e] | CEILING U-FACTOR | WOOD FRAME WALL U-FACTOR | MASS WALL U-FACTOR | FLOOR U-FACTOR | BASEMENT WALL U-FACTOR | CRAWL SPACE WALL U-FACTOR |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.32 | 0.55 | 0.35 | 0.033 | 0.065 | 0.098 | 0.047 | 0.091 [c] | 0.136 |
| 5 and Marine 4 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.082 | 0.033 | 0.078 | 0.078 |
| 6 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.060 | 0.033 | 0.065 | 0.065 |

(9) In IRC, Table N1102.1.3 (R402.1.3) the following changes are made:
(a) In the column titled Fenestration U-Factor the following changes are made:
(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32.
(ii) In the row titled "Climate Zone 5 & Marine 4" delete 0.30 and replace it with 0.32
(iii) In the row titled "Climate Zone 6" delete 0.30 and replace it with 0.32 (b)In the column titled Glazed Fenestration SHGC the following changes are made:
(i) In the row titled "Climate Zone 3" delete 0.25 and replace it with 0.35.
(c)In the column titled Ceiling R-Value the following changes are made:
(i) In the row titled "Climate Zone 3" delete 49 and replace it with 32.
(ii) In the row titled "Climate Zone 5 & Marine 4" delete 60 and replace it with 38
(iii) In the row titled "Climate Zone 6" delete 60 and replace it with 38
(d)In the column titled Wood Frame Wall *R*-Value the following changes are made:
(i) In the row titled "Climate Zone 3" delete all values and replace with 19 + 0ci or 11 + 5ci or 0 + 15ci.
(ii) In the row titled "Climate Zone 5 & Marine 4" delete all values and replace with 19 + 0ci or 13 + 5ci or 0 + 15ci
(iii) In the row titled "Climate Zone 6" delete all values and replace with 19 + 0ci or 13 + 5ci or 0 + 15ci
(e)In the column titled Basement Wall *R*-Value the following changes are made:
(i) In the row titled "Climate Zone 5 & Marine 4" delete all values and replace with 15 + 0ci or 0 + 11ci or 11 + 5ci
(ii) In the row titled "Climate Zone 6" delete all values and replace with 19 +0ci or 0 + 13ci or 11 + 5ci
(f) In the column titled Slab R-Value and Depth the following changes are made:
(i) In the row titled "Climate Zone 3" delete "10ci, 2ft" and replace it with NR..
(ii) In the row titled "Climate Zone 5 & Marine 4" delete "4ft" and replace it with "2 ft".
(g)In the column titled Crawl Space Wall *R*-Value the following changes are made:

(i) In the row titled "Climate Zone 5 & Marine 4" delete all values and replace with 15 + 0ci or 0 + 11ci or 11 + 5ci

(ii) In the row titled "Climate Zone 6" delete all values and replace with 19 +0ci or 0 + 13ci or 11 + 5ci

(REVISED SEP 2023)
**TABLE N1102.1.3 (R402.1.3)**
**INSULATION MINIMUM *R*-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT [a]**

| CLIMATE ZONE | FENESTRATION U-FACTOR [b,i] | SKYLIGHT [b] U-FACTOR | GLAZED FENESTRATION SHGC [b,e] | CEILING R-VALUE | WOOD FRAME WALL *R*-VALUE [g] | MASS WALL *R*-VALUE [h] | FLOOR R-VALUE | BASEMENT [c,g] WALL R-VALUE | SLAB [d] R-VALUE & DEPTH | CRAWL SPACE [c,g] WALL R-VALUE |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.32 | 0.55 | 0.35 | **32** | **19 + 0ci or 11 + 5ci or 0 + 15ci** | 8/13 | 19 | 5 ci or 13 [f] | **NR** | 5 ci or 13 [f] |
| 5 & Marine 4 | 0.32 [i] | 0.55 | 0.40 | **38** | **19 + 0ci or 13 + 5ci or 0 + 15ci** | 13/17 | 30 | **15 + 0ci or 0 + 11ci or 11 + 5ci** | **10ci, 2 ft** | **15 + 0ci or 0 + 11ci or 11 + 5ci** |
| 6 | 0.32 [i] | 0.55 | NR | **38** | **19 + 0ci or 13 + 5ci or 0 + 15ci** | 15/20 | 30 | 19 +0ci or 0 + 13ci or 11 + 5ci | 10ci, 4 ft | 19 +0ci or 0 + 13ci or 11 + 5ci |

(10) In IRC, Table N1102.1.3 add footnote: "j. Log walls complying with ICC400 and with a minimum average wall thickness of 5 inches or greater shall be permitted in Zones 5 thorough 8 when overall window glazing has 0.30 U-factor or lower, minimum heating equipment efficiency is for gas 95 AFUE, or, for oil, 84 AFUE, and all other component requirements are met."

(11) In IRC, a new subsection N1102.1.5.1 (R402.1.5.1) is added as follows:

**1102.1.5.1 (R402.1.5.1) RESCheck 2012 Utah Energy Conservation Code.** Compliance with section N1102.1.5 (R402.1.5) may be satisfied using the software RESCheck 2012 Utah Energy Conservation Code, which shall satisfy the R-value and U-factor requirements of N1102.1, N1102.2, and N1102.3, provided the following conditions are met:

a. In Climate Zone 5 and 6 the software result shall show "5% better than code", and

b. In Climate Zone 3, the software result shall show "5% better than code" when software inputs for window U-facter = 0.65 and window SHGC = 0.40, notwithstanding actual windows installed shall conform to requirements of Tables N1102.1.2 (R402.1.2) and N1102.1.3 (R402.1.3).

(12) In IRC, Section N1102.2.1 (R402.2.1), a new Section N1102.2.1.1 (R402.2.1) is added as follows: "**N1102.2.1.1. Unvented attic and unvented enclosed rafter assemblies.** Unvented attic and unvented enclosed rafter assemblies conforming to Section R806.5 provided with an R-value of R-22 (maximum U-Factor of 0.045) in Climate Zone 3-B or an R-value of R-26 (maximum U-factor of 0.038) in Climate Zones 5-B and 6-B shall be permitted provided all the following conditions are met:

1. The unvented attic assembly complies with the requirements of the International Residential Code, R806.5.

2. The house shall attain a blower door test result < 2.5ACH 50.

3. The house shall require a whole house mechanical ventilation system that does not rely solely on a negative pressure strategy (must be positive, balanced or hybrid).

4. Where insulation is installed below the roof deck and the exposed portion of roof rafters are not already covered by the R-20 depth of the air-impermeable insulation, the exposed portion of the roof rafters shall be wrapped (covered) by minimum R-3 unless directly covered by drywall/finished ceiling. Roof rafters are not required to be covered by minimum R-3 if a continuous insulation is installed above the roof deck.

5. Indoor heating, cooling and ventilation equipment (including ductwork) shall be inside the building thermal envelope."

(13) In IRC, section N1102.2.9.1 (R402.2.9.1) the numeral (i) is added before the words "cut at a 45-degree" and the following is added after the words "exterior wall": ", or (ii) lowered from top of slab 4" when a 4" thermal break material such as, but not limited to, felt or asphalt impregnated fiber board, with a minimum thickness of ¼" is installed at the upper 4" of slab."

(14) In IRC, Section N1102.4.1 (R402.4.1), in the first sentence, the word "and" is deleted and replaced with the word "or".

(15) In IRC, Section N1102.4.1.1 (R402.4.1.1), the second and last sentences are deleted and replaced with the following: "Where required by the code official, the builder shall certify compliance with criteria indicated in Table 1102.4.1 for items which are not readily visible during regularly scheduled inspections."

(16) In IRC, Table N1102.4.1.1 (R402.4.1.1) in the column titled COMPONENT, the following changes are made:

(a)In the row "Rim Joists" the word "exterior" in the first sentence is deleted, and the second sentence is deleted.

(b)In the row "Electrical/phone box on the exterior walls" the last sentence is deleted and replaced with: "Alternatively, close cell foam, caulking or gaskets may be used, or airsealed boxes may be installed."

(17) In IRC, section N1102.4.1.2 (R402.4.1.2) the following changes are made:

(a)In the fourth sentence, the word "third" is deleted;

(b)The following sentence is added after the fourth sentence: "The following parties shall be approved to conduct testing: Parties certified by BPI or RESNET, or licensed contractors who have completed training provided by Blower Door Test equipment manufacturers or other comparable training."

(c)In the first Exception the second sentence is deleted.

(18) In IRC, Section N1102.4.1.3 (R402.4.1.3) the following changes are made:

(a)In the first sentence, the words "5.0 air changes per hour in Climate Zones 0, 1 and 2, and 3.0" are deleted and replaced with "4.0.", and the words "in Climate Zone 3 through 8" are deleted.
(b)In the first sentence of the Exception, "0.28" is replaced with "5.0 air changes per hour or 0.30"
(c)In Number 2 the words "of conditioned floor area" are inserted before the words "or smaller".

(19) In IRC, Section N1102.4.6 (R402.6) is deleted.

(20) In IRC, Section N1103.3.1 (R403.3.1) is deleted and replaced with the following: "**Ducts located outside conditioned space.** Supply and return ducts in attics shall be insulated to a minimum of R-8 where 3 inches (76.2 mm) in diameter and greater and R-6 where less
than 3 inches (76.2 mm) in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 where 3 inches (76.2 mm) in diameter or greater and R-4.2 where less than 3 inches (76.2 mm) in diameter.
**Exception:** Ducts or portions thereof located completely inside the *building thermal envelope."*

(21) In IRC, Section N1103.3.3 (R403.3.3) is deleted.

(22) In IRC, Section N1103.3.3.1 (R403.3.3.1) is deleted.

(23)

(24) In IRC, Section N1103.3.5 (R403.3.5) the following changes are made:
(a)In the first sentence of the second Exception, the words following "required" are replaced with "for any system designed such that no air handlers or ducts are located within unconditioned attics".
(b)And the following is added at the end of the Section:
"The following parties shall be approved to conduct testing:
1. Parties certified by BPI or RESNET.
2. Licensed contractors who have completed training provided by Duct Test equipment manufacturers or other comparable training."

(25) In IRC, Section N1103.3.6 (R403.3.6):
(a) in Subsection 1, the number 4.0 is changed to 6.0, the number 113.3 is changed to 170, the number 3.0 is changed to 5.0, the number 85 is changed to 141; and
(b) in Subsection 2: the number 4.0 is changed to 5.0 and the number 113.3 is changed to 141,
(c) Subsection 3 is deleted.

(26) In IRC, section N1103.3.7 (R403.3.7) the words "or plenums" are deleted.

(27) In IRC, section N1103.5.1.1 (R403.5.1.1) the words "Where installed," are added at the beginning of the first sentence.

(28) In IRC, section N1103.5.2 (R403.5.2) (a)Subsections 5 and 6 are deleted.

(b)Subsection number 7 is renumbered to 5.

(29) IRC, Section N1103.6.2 (R403.6.2), is deleted and replaced with the following: "N1103.6.2 (R403.6.2) Whole-house mechanical ventilation system fan efficacy. Fans used to provide whole-house mechanical ventilation shall meet the efficacy requirements of Table N1103.6.2 (R403.6.2).

**Exception**: Where an air handler that is integral to tested and listed HVAC equipment is used to provide whole-house mechanical ventilation, the air handler shall be powered by an electronically commutated motor."

(30) In IRC, Section N1103.6.2 (R403.6.2), TABLE N1103.6.2 (R403.6.2) is deleted and replaced with the following:

"TABLE N1103.6.2 (R403.6.2)
WHOLE DWELLING MECHANICAL VENTILATION SYSTEM FAN EFFICACY

| FAN LOCATION | AIR FLOW RATE MINIMUM (CFM) | MINIMUM EFFICACY (CFM/WATT) | AIR FLOW RATE MAXIMUM (CFM) |
|---|---|---|---|
| HRV or ERV | Any | 1.2 cfm/watt | Any |
| Range hoods | Any | 2.8 cfm/watt | Any |
| In-line fan | Any | 2.8 cfm/watt | Any |
| Bathroom, utility room | 10 | 1.4 cfm/watt | <90 |
| Bathroom, utility room | 90 | 2.8 cfm/watt | Any" |

(31) In IRC, Section N1103.6.3 (R403.6.3) is deleted:

(32) In IRC, Section N1103.7 the word "approved" is deleted in the first sentence and the following is added after the word methodologies ", complying with N1103.7.1 (R403.7.1)".

(33) In IRC, a new Section N1103.7.1 (R403.7.1) is added as follows:

"**N1103.7.1(R403.7.1) Qualifications**. An individual performing load calculations shall be qualified by completing HVAC training from one of the following:

1. HVAC load calculation education from ACCA;
2. A recognized educational institution;
3. HVAC equipment manufacturer's training; or
4. Other recognized industry certification."

(34) In IRC, Section N1104.1 (R404.1), The word “All” is replaced with “Not less than 90 percent of the lamps in”.

(35) In IRC, Section N1104.1.1 (R404.1.1) is deleted.

(36) In IRC, section N1104.2 (R404.2) is deleted:
(37) In IRC, Section N1104.3 (R404.3) is deleted:

(38) In IRC, section N1105.2 (R405.2) the following changes are made:
(a)In Subsection 3 the words "approved by the code official" are deleted, and
(b)In Subsection3 the following words are added at the end of the sentence: "when applicable and readily available".

(39) In IRC, Section N1106.3 (R406.3) Building thermal envelope is deleted, and replaced with "Building thermal envelope and on-site renewables. The proposed total building thermal envelope UA, which is the sum of U-factor times assembly area, shall be less than or equal to the building thermal envelope UA using the prescriptive U-factors from Table N1102.1.2 multiplied by 1.15 in accordance with Equation 11-4. The area-weighted maximum fenestration SHGC permitted in Climate Zones 0 through 3 shall be 0.30.

$$UA_{\text{Proposed design}} = 1.15 \times UA_{\text{Prescriptive reference design}}$$

**(Equation 11-4)**

(40) In IRC, Section N1106.3.1 (R406.3.1) is deleted:
(41) In IRC, section N1106.3.2 (R403.3.2) is deleted:

(42) In IRC, Section N1106.4 (R406.4) the following changes are made:
(a)In the first sentence, the words "in accordance with Equation 11-5" are deleted and replaced with: "permitted to be calculated using the minimum total air exchange rate for the rated home (Qtot) and for the index adjustment factor in accordance with Equation 11.5.",
(b)In equation 11-5, the words "Ventilation rate, CFM" are deleted and replaced with: "Qtot", and
(c)In the last sentence the number "5" is deleted and replaced with "15".

(43) In IRC N1106.5, in the column titled "ENERGY RATING INDEX" of Table R406.5, the following changes are made:
(a)In the row for Climate Zone 3, "51" is deleted and replaced with 65
(b)In the row for Climate Zone 5, "55" is deleted and replaced with 69
(c)In the row for Climate Zone 6 "54" is deleted and replaced with 68

(44) In IRC, Section N1108 (R408) is deleted

(45) In IRC, Section M1307.2, the words "In Seismic Design Categories D0, D1, and D2, and in townhouses in Seismic Design Category C", are deleted, and in Subparagraph 1, the last sentence is deleted.

(46) In IRC, Section M1401.3 the word "approved" is deleted in the first sentence and the following is added after the word methodologies ", complying with M1401.3.1".

(47) A new IRC, Section M1401.3.1, is added as follows: "M1401.3.1 Qualifications. An individual performing load calculations shall be qualified by completing HVAC training from one of the following:
1. HVAC load calculation education from ACCA;

2. A recognized educational institution;
3. HVAC equipment manufacturer's training; or
4. Other recognized industry certification."

(48) In IRC, Section M1402.1, the following is added at the end of the second sentence: "or UL/ CSA 60335-2-40."

(49) In IRC, Section M1403.1, the characters "/ANCE" are deleted.
(50) In IRC, Section M1411.9, is deleted.
(51) In IRC, Section M1412.1, the characters "/ANCE" are deleted.
(52) In IRC, Section M1413.1, the characters "/ANCE" are deleted.

Amended by Chapter 209, 2023 General Session

Added text
(Deleted text)

**15A Chapter 1** (No changes recommended)

**15A-2-101, 102** (No changes recommended)

**Chapter 2**
**15A-2-103 Specific editions adopted of construction code of a nationally recognized code authority.**

(1) Subject to the other provisions of this part, the following construction codes are incorporated by reference, and together with the amendments specified in Chapter 3, Statewide Amendments Incorporated as Part of State Construction Code, and Chapter 4, Local Amendments Incorporated as Part of State Construction Code, are the construction standards to be applied to building construction, alteration, remodeling, and repair, and in the regulation of building construction, alteration, remodeling, and repair in the state:

(a) the 2021 edition of the International Building Code, including Appendices C and J, issued by the International Code Council;

(b) ~~[except as provided in Subsection (1)(c),]~~ the 2021 edition of the International Residential Code, issued by the International Code Council

~~[(c) the residential provisions of Chapter 11, Energy Efficiency, of the 2015 edition of the International Residential Code, issued by the International Code Council;~~

~~(i) the residential provisions of the 2015 edition of the International Energy Conservation Code, issued by the International Code Council;]~~

(remaining sections are renumbered accordingly)

**Chapter 3**
**15A-3-102 Amendments to Chapters 1 through 3 of IBC**

(12) In IBC, Section 304.1, add the words "and technical colleges who also educate. high school students as part of their student body." after the words "Educational occupancies for students above the 12th grade including higher education laboratories."

(Remaining sections are renumbered.)

**15A-3-105 Amendments to Chapter 10 through 12 of IBC.**

(1) In IBC, Section 1010.2.4, number (2), the following is added at the end of the sentence: "Blended assisted living facilities shall comply with Section 1010.2.14.1."

(2) A new IBC Section 1010.2.14.1 is added as follows: 1010.2.14.1 Blended assisted living facilities. In occupancy Group I-1, Condition 2 or Group I-2, a Type-II assisted living facility licensed by the Department of Health and Human Services for residents

with Alzheimer's or dementia, and having a controlled egress locking system to prevent operation from the egress side shall be permitted to also house residents without a clinical need for their containment where all of the following provisions are met:

1. Locks in the means of egress comply with all IBC requirements for controlled egress doors,
2. All residents without a clinical need for their containment shall have the keys, codes or other means necessary to operate the locking systems.
3. Residents or their legal representative acknowledge in writing that they understand and agree to living in a facility where egress is controlled.
4. The number of residents housed in a smoke compartment with controlled egress shall not be greater than 30.

(remaining sections are renumbered as needed)

**15A-3-113. Amendments to Chapters 32 through 35 of IBC.**

(3) In IBC Chapter 35 under ICC, "ICC A117.1-17: Accessible and Usable Buildings and Facilities" is deleted and replaced with "ICC A117.1-09: Accessible and Usable Buildings

**15A-3-202 Amendments to Chapters 1 through 5 of IRC.**

(3) In IRC Section R105.2, [~~number 10, is deleted~~] under Building, the following changes are made:

1. Number 3 is deleted and replaced with the following: "3. Retaining walls retaining less than 4 feet (1219mm) of unbalanced fill, unless supporting a surcharge or requiring design per Section R404.4.
2. Number 10 is deleted and replaced with the following: 10. "Decks that are not more than 30 inches (762mm) above grade at any point and not requiring guardrails, that do not serve exit door required by Section R311.4."

~~(5) [IRC, Section 109.1.5, is deleted and replaced with the following: "R109.1.5 Weather-resistant exterior wall envelope inspections. An inspection shall be made of the weather-resistant exterior wall envelope as required by Section R703.1 and flashings as required by Section R703.4 to prevent water from entering the weather-resistive barrier."]~~

(5) IRC Section R109.1.5, is deleted and replaced with the following:

"R109.1.5 Other inspections. In addition to the inspections listed in R109.1.1 through R109.1.4, the building official shall have the authority to inspect the proper installation of insulation.

(6)"R109.1.5.1 Weather-resistant exterior wall envelope inspections. An inspection shall be made of the weather-resistant exterior wall envelope as required by Section R703.1 and flashings as required by Section [R703.8] R703.4 to prevent water from entering the weather-resistive barrier.

(7)"R109.1.5.2 Fire-resistance-rated construction inspection. Where fire-resistance-rated

construction is required between dwelling units or due to location on property, the building official shall require an inspection of such construction after lathing or gypsum board or gypsum panel products are in place, but before any plaster is applied, or before board or panel joints and fasteners are taped and finished.

(Remaining sections are renumbered)

~~(23)~~(26) In IRC, Section R310.7, [~~in the exception,~~] the words "or accessory dwelling units" are added after the words "sleeping rooms".

~~(27)~~ (30)In IRC, Section R314.2.2, the words "[~~or~~] ", accessory dwelling units" are added after the words ["~~sleeping rooms~~"] "Where alterations, repairs".

~~(28)~~(31) In IRC, Section R315.2.2, the words [~~or~~] ", accessory dwelling units", are added after the words [~~sleeping rooms~~] "Where alterations, repairs".

**15A-3-203 Amendments to Chapters 6 through 15 of IRC.**

(1) IRC, Section R609.4.1, is deleted.

(2) In IRC, Section N1101.4 (R102.1.1), a new section N1101.4.1 (R102.1.1) is added as follows:

N1101.4.1 National Green Building Standard. Buildings complying with ICC 700-2020 National Green Building Standard and achieving the Gold rating level for the energy efficiency category shall be deemed to exceed the energy efficiency required by this code. The building shall also meet the requirements identified in table N1105.2 and the building thermal envelope efficiency is greater than or equal to levels of efficiency and solar heat gain coefficients (SHGC) in Tables N1102.2.2 andN1102.1.3 of the 2009 IRC.

~~(2)~~(3)In IRC, Section N1101.5 (R103.2), all words after the words "herein governed." are deleted and replaced with the following: "Construction documents include all documentation required for building permits shall include only those items specified in 10-5-132(8) of the Utah Municipal Code. [~~to be submitted in order to issue a building permit.~~]"

(4) In IRC, Section N1101.10.3 (R303.1.3) the following changes are made:

(a) The following is added at the end of the first sentence "or EN 14351-1:2006 + A1:2010."

(b) The word "accredited" is replaced with "approved" in the third sentence.

(c) The following sentence is added after the third sentence: "A conversion factor of 5.678 shall be used to convert from U values expressed in SI units: ()/53678=."

(d) After "NFRC 200" the following words are added: "or EN 14351-1:2006 + A1:2010", and in the sentence the word "accredited' is replaced with the word "approved".

(e) The following new sentence shall be inserted immediately prior to the last sentence: "Total Energy Transmittance values may be substituted for SHGC, and Luminous Transmission values may be substituted for VT".

~~(3)~~(5) In IRC, Section N1101.12 (R303.3), all wording after the first sentence is deleted.

~~(4)~~(6) In IRC, Section N1101.13 (R401.2), in the first sentence, the words "Section N1101.13.5 and" are deleted. [~~add Exception as follows:~~

~~"2. Exception: A project complies if the project demonstrates compliance, using the software RES Check 2012 Utah Energy Conservation Code, of:~~

~~(a) on or after January 1, 2017, and before January 1, 2019, "3 percent better than code";~~

~~(b) on or after January 1, 2019, and before January 1, 2021, "4 percent better than code";~~

~~and~~

~~(c) after January 1, 2021, "5 percent better than code."~~]=

(7) In IRC, Section N1101.13.5 (R401.2.5) is deleted.

(8) In IRC, Section N1101.14 (R401.3) Number 7, the words "and the compliance path used" are deleted.

(9) In IRC, Table N1102.1.2 (R402.1.2)

(a) in the column titled Fenestration U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with 0.32

(iii) In the row titled "Climate Zone 6" delete 0.30 and replace it with 0.32

(b) in the column titled Glazed Fenestration SHGC, the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.25 and replace it with 0.35

(c) in the column titled "Climate U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.026 and replace it with 0.033

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.024 and replace it with 0.030

(iii) In the row titled "Climate Zone 6" delete 0.024 and replace it with 0.030

(d) in the column titled "Wood Frame Wall U Factor", the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.060 and replace it with 0.065

(ii) In the row titled "Climate Zone 5 and Marine 4" delete0.045 and replace it with 0.065

(iii) In the row titled "Climate Zone 6" delete 0.045 and replace it with 0.065

(e) in the column titled "Basement wall U-Factor" the following changes are made:

(i) In the row titled "Climate Zone 5 and Marine 4 delete 0.050 and replace it with 0.075

(ii) In the row titled " Climate Zone 6" delete 0.50 and replace it with0.065

(f) In the column titled "Crawl Space Wall U-Factor" the following changes are made:

(i) In the row titled "Climate Zone 5 and Marine 4 delete 0.055 and replace it with 0.078

(ii) In the row titled " Climate Zone 6" delete 0.55 and replace it with 0.065

(10) In IRC, Table N1102.1.3(R402.1.3) , the following changes are made"

(i) in the column titled" Wood Frame Walls R-Value" a new footnote indicator "j" is added and at the bottom of the footnotes the following footnote "j" is added.

"j. In climate zone 3 and 5, an R-15, and in climate zone 6, an R-20 shall be acceptable where air-impermeable insulation is installed in the cavity space."

(ii) add a new footnote "k" as follows:

"k. Log walls complying with ICC400 and with a minimum average wall thickness of 5 inches or greater shall be permitted in Zones 5 through 8 when overall window

glazing has 0.30 U -factor or lower, minimum heating equipment efficiency is for gas 95 AFUE ,or for oil, 84 AFUE, and all other components requirements are met."

(11) In IRC, Table N1102.1.3 (R402.1.3) the following changes are made:

(a) In the column titled Fenestration U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with 0.32

(iii) In the row titled "Climate Zone 6" delete 0.30 and replace it with 0.32

(b) In the column titled Glazed Fenestration SHGC the following changes are made:

(i) In the row titled "Climate Zone 3" deleted 0.25 and replace it with 0.35

(c) In the Column R-Value the following changes are made:

(i) In the row titled "Climate Zone 3" delete 49 and replace it with 32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 60 and replace it with 38

(iii) In the row titled "Climate Zone 6" delete 60 and replace it with 38

(d) In the Column titled Wood Frame Wall R-Value the following changes are made:

(i) In the row titled "Climate Zone 3" delete all values and replace with "19+ Oci or 11 + 5ci or 0 +15ci"

(ii) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "19+ Oci or 13 + 5ci or 0 +15ci"

(iii) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 13 + 5ci or 0 + 15ci"

(e) In the column titled "Basement Wall R Value" the following changes are made:

(i) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "15+ Oci or 0+ 11ci or 11 +5ci"

(ii) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 0 + 13ci or 11 + 5ci"

(f) In the column titled "Slab R Value and Depth" the following changes are made:

(i) In the row titled "Climate Zone 3" delete "10ci. 2ft" and replace it with NR"

(ii) In the row titled "Climate Zone 5 & Marine 4" delete "4 ft" and replace it with "2 ft"

(g) In the column titled "Crawl Space Wall R-Value" the following changes are made:

(i) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "15+ Oci or 0 + 11ci or 11 +5ci"

(ii) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 0 + 13ci or 0 + 11 + 5 ci"

(12) In IRC, a new subsection N1102.1.5.1 (R402.1.5.1) is added as follows:

**1102.1.5.1 (R402.1.5.1) RESCheck 2012 Utah Energy Conservation Code.** Compliance with section N1102.1.5 (R402.1.5) may be satisfied using the software RESCheck 2012 Utah Energy Conservation Code, which shall satisfy the R-value and U-factor requirements of N1102.1, N1102.2, and N1102.3, provided the following conditions are met:

(a) In Climate Zone 5 and 6 the software result shall show "5% better than code", and

(b) In Climate Zone 3, the software result shall show "5% better than code" when software inputs for window U-facter = 0.65 and window SHGC = 0.40, notwithstanding actual windows installed shall conform to requirements of Tables N1102.1.2 (R402.1.2) and N1102.1.3 (R402.1.3).

~~(6)~~(13) In IRC, Sections N1102.2.1 (R402.2.1), a new Section N1102.2.1.1 is added as follows:

"**N1102.2.1.1. Unvented attic and unvented enclosed rafter assemblies.** Unvented attic and unvented enclosed rafter assemblies conforming to Section R806.5 [~~shall be~~] provided with an R-value of R-22 (maximum U-Factor of 0.045) in Climate Zone 3-B or an R-value of R-26 (maximum U-factor of 0.038) in Climate Zones 5-B and 6-B shall be permitted provided all the following conditions are met:

1. The unvented attic assembly complies with the requirements of the International Residential Code, R806.5.
2. The house shall attain a blower door test result < 2.5ACH (50).
3. The house shall require a whole house mechanical ventilation system that does not rely solely on a negative pressure strategy (must be positive, balanced or hybrid).
4. Where insulation is installed below the roof deck and the exposed portion of roof rafters are not already covered by the R-20 depth of the air-impermeable insulation, the exposed portion of the roof rafters shall be wrapped (covered) by minimum R-3 unless directly covered by drywall/finished ceiling. Roof rafters are not required to be covered by minimum R-3 if a continuous insulation is installed above the roof deck.
5. Indoor heating, cooling and ventilation equipment (including ductwork) shall be inside the building thermal envelope."

(14) A new IRC, Section N1102.2.1.3(R402.2.1.3) is added as follows:

N1102.2.13(R402.2.1.3) Walls with Air-Impermeable Insulation. Where IECC Table R402.1.2 or IRC Table N1102.1.2 requires R-20 for wood framed walls in climate zones 3-B and 5-B or R-20+5CI for climate zone 6-B, an air-impermeable insulation installed in the wall cavity with R-value of R-15 for climate zones 3-B and 5-B or R-20 for climate zone 6-B shall be deemed equivalent to the provisions in IECC Table R402.1.2 or IRC Table N1102.1.2, provided the home attains a blower door test < 2.5ACH.

(15) In IRC, Section N1102.2.9.1 (R402.2.9.1) the numeral (i) is added before the words "cut at a 45 degree" and the following is added after the words "exterior wall": , or

(ii) lowered from top of slab 4" when a 4" thermal break material such as, but not limited to, felt or asphalt impregnated fiber board, with a minimum thickness of ¼" is installed at the upper 4" of slab."

~~(7)~~(16) In IRC, Section N1102.4.1 (R402.4.1), in the first sentence, the word "and" is deleted and replaced with the word "or."

~~(8)~~(17) In IRC, Section N1102.4.1.1 (R402.4.1.1), the second and the last sentence [~~is~~] are deleted and replaced with the following: "Where [~~allowed~~] required by the code official, the builder [~~may~~] shall certify compliance [~~to components~~] with criteria indicated in Table N1102.4.1 (R402.4.1) for items which [~~may~~] are not [~~be inspected~~] readily visible during regularly scheduled inspections."

(18) In IRC, Table N1102.4.1.1 (R402.4.1.1) in the column titled "COMPONENT", the

following changes are made:

(a) In the row "Rim Joists" the word "exterior" in the first sentence is deleted, and the second sentence is deleted.

(b) In the row "Electrical/phone box on the exterior walls" the last sentence is deleted and replaced with: "Alternatively, close cell foam, caulking or gaskets may be used, or air sealed boxes may be installed.

~~(9)~~(19) In IRC, Section N1102.4.1.2 (R402.4.1.2), the following changes are made:

(a) In the [~~first~~] fourth sentence~~:~~, the word "third" is deleted.

~~(i) ["The building or dwelling unit" is deleted and replaced with "A single family dwelling";~~

~~(ii) after January 1, 2019, replace the word "five" with "3.5"; and~~

~~(iii) the words "in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8" are deleted.~~]

(b) The following sentence is [~~inserted after the first sentence: "A multi-family dwelling and townhouse shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour In the third sentence, the word "third" is deleted~~] added after the fourth sentence:

[~~The following sentence is inserted after the third sentence:~~] "The following parties shall be approved to conduct testing: Parties certified by BPI or RESNET, or licensed contractors who have completed training provided by Blower Door Test equipment manufacturers or other comparable training."

(c) In the first Exception the second sentence is deleted.

(20) In IRC, Section N1102.4.1.3 (R402.4.1.3) the following changes are made:

(a) In the first sentence, the words "5.0 air changes per hour in Climate Zones 0, 1 and 2, and 3.0" are deleted and replaced with "4.0.", and the words "in Climate Zone 3 through 8" are deleted.

(b) In the first sentence of the Exception, "0.28" is replaced with "5.0 air changes per hour or 0.30"

(c) In Number 2 the words "of conditioned floor area" are inserted before the words "or smaller".

(21) IRC, Section N1102.4.6 (R402.6) is deleted.

(22) In IRC, Section N1103.3.1 (R403.3.1) is deleted and replaced with the following:

"**Ducts located outside conditioned space.** Supply and return ducts in attics shall be insulated to a minimum of R-8 where 3 inches (76.2 mm) in diameter and greater and R-6 where less than 3 inches (76.2 mm) in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 where 3 inches (76.2 mm) in diameter or greater and R-4.2 where less than 3 inches (76.2 mm) in diameter.

**Exception:** Ducts or portions thereof located completely inside the *building thermal envelope.*"

~~(10)~~(23) ~~In~~ IRC, Section N1103.3.3 (R403.3.3), [~~the exception for duct air leakage testing is deleted and replaced with the following:~~] is deleted.

(a) [on or after January 1, 2017, and before January 1, 2019, with the following: "Exception: The duct air leakage test is not required for systems with all air handlers and at least 65% of all ducts (measured by length) located entirely within the building thermal envelope.";

(b) on or after January 1, 2019, and before January 1, 2021, with the following: "Exception: The duct air leakage test is not required for systems with all air handlers and at least 75% of all ducts (measured by length) located entirely within the building thermal envelope."; and

(c) on or after January 1, 2021, with the following: "Exception: The duct air leakage test is not required for systems with all air handlers and at least 80% of all ducts (measured by length) located entirely within the building thermal envelope."

(11) In IRC, Section N1103.3.3 (R403.3.3), the following is added after the second exception: "The following parties shall be approved to conduct testing: Parties certified by BPI or RESNET, or licensed contractors who have completed either training provided by Duct Test equipment manufacturers or other comparable training."]

(24) IRC Section N1103.3.3.1 (R403.3.3.1) is deleted.

[(12) In IRC, Section N1103.3.4 (R403.3.4):

(a) in Subsection 1, the number 4 is changed to 8, the number 113.3 is changed to 170, the number 3 is changed to 6, the number 85 is changed to 114.6; and

(b) in Subsection 2:

(i) on or after January 1, 2017, and before January 1, 2019, the number 4 is changed to 8 and the number 113.3 is changed to 226.5;

(i) on or after January 1, 2019, and before January 1, 2021, the number 4 is changed to 7 and the number 113.3 is changed to 198.2; and

(ii) on or after January 1, 2021, the number 4 is changed to 6 and the number 113.3 is changed to 169.9.]

(13)(25) In IRC, Section N1103.3.5 (R403.3.5), the [words "or plenums" are deleted] the following changes are made:

(a) A second Exception is added as follows: "A duct leakage test shall not be required for any system designed such that no air handlers or ducts are located within unconditioned attics."

(b) The following is added at the end of the section: "The following parties shall be approved to conduct testing:

1. Parties certified by BPT or RESNET
2. Licensed contractors who have completed training provided by Duct Test equipment manufacturers or other comparable training."

(26) In IRC, Section N1103.3.6 (R403.3.6) the following changes are made:

(a) in Subsection 1,

(i) the number 4.0 is changed to 6.0,

(ii) the number 113.3 is changed to 170,

(iii) the number 3.0 is changed to 5.0,

(iv) the number 85 is changed to 141

(b) in Subsection 2,

(i) the number 4.0 is changed to 5.0

(ii) the number113.3 is changed to 141

(c) Subsection 3 is deleted.

(27) In IRC, Section N1103.3.7 (R403.3.7) the words "or plenums" are deleted.

(28) In IRC, Section N1103.5.1.1 (R403.5.1.1) the words "Where installed" are added at the beginning of the first sentence.

(29) In IRC, Section N1103.5.2 (R403.5.2) the following change is made:

(a) Subsections 5 and 6 are deleted and Subsections number 7 is renumbered to 5.

~~[(14) In IRC, Section N1103.5.3 (R403.5.3), Subsection 5 is deleted and Subsections 6 and 7 are renumbered.]~~

~~(15)~~(30) IRC, Section ~~[N1103.6.1 (R403.6.1)]~~ N1103.6.2 (R403.6.2), is deleted and replaced with the following:

"~~[N1103.6.1 (R403.6.1)]~~ N1103.6.2 (R403.6.2) Whole-house mechanical ventilation system fan efficacy. Fans used to provide whole-house mechanical ventilation shall meet the efficacy requirements of Table [N1103.6.1 (R403.6.1)] N1103.6.2 (R403.6.2).

Exception: Where an air handler that is integral to tested and listed HVAC equipment is used to provide whole-house mechanical ventilation, the air handler shall be powered by an electronically commutated motor."

~~(16)~~(31) In IRC, Section ~~[N1103.6.1 (R403.6.1)]~~N1103.6.2 (R403.6.2), the table is deleted and replaced with the following:

"TABLE ~~[N1103.6.1 (R403.6.1)]~~ N1103.6.2 (R403.6.2)

MECHANICAL VENTILATION SYSTEM FAN EFFICACY

| FAN LOCATION | AIR FLOW RATE MINIMUM (CFM) | MINIMUM EFFICACY (CFM/WATT) | AIR FLOW RATE MAXIMUM (CFM) |
|---|---|---|---|
| HRV or ERV | Any | 1.2 cfm/watt | Any |
| Range hoods | Any | 2.8 cfm/watt | Any |
| In-line fan | Any | 2.8 cfm/watt | Any |
| Bathroom, utility room | 10 | 1.4 cfm/watt | <90 |
| Bathroom, utility room | 90 | 2.8 cfm/watt | Any" |

(32) IRC, Section N1103.6.3 (R403.6.3) is deleted.

~~[(17) In IRC, Section N1106.4 (R406.4), the table is deleted and replaced with the following:~~

~~"TABLE N1106.4 (R406.4)~~

~~MAXIMUM ENERGY RATING INDEX~~

| ~~CLIMATE ZONE~~ | ~~ENERGY RATING INDEX~~ |
|---|---|
| ~~3~~ | ~~65~~ |
| ~~5~~ | ~~69~~ |
| ~~6~~ | ~~68"]~~ |

~~(18)~~(33) In IRC, Section N1103.7(R403.7) the word "approved" is deleted in the first sentence and the following is added after the word methodologies ", complying with N1103.7.1 (R403.7.1)".

~~(19)~~(34) A new IRC, Section N1103.7.1(R403.7.1) is added as follows: "**N1103.7.1 Qualifications**. An individual performing load calculations shall be qualified by completing HVAC training from one of the following:

1. HVAC load calculation education from ACCA;
2. A recognized educational institution;
3. HVAC equipment manufacturer's training; or
4. Other recognized industry certification."

~~[(20) In IRC, Section M1307.2, the words "In Seismic Design Categories D0, D1, and D2, and In townhouses in Seismic Design Category C", are deleted, and in Subparagraph 1, the last sentence is deleted.]~~

(35) In IRC, Section N1104.1 (R404.1), the word "All" is replaced with "Not less than 90 percent of the lamps in".

(36) IRC, Section N1104.1.1 (R404.1.1) is deleted.

(37) IRC, Section N1104.2 (R404.2) is deleted.

(38) IRC, Section N1104.3 (R404.3) is deleted.

(39) In IRC, section N1105.2 (R405.2) the following changes are made:

(a) In Subsection 3 the words "approved by the code official" are deleted, and

(b) In Subsection3 the following words are added at the end of the sentence: "when applicable and readily available".

(40) In IRC, Section N1106.3 (R406.3) Building thermal envelope is deleted, and replaced with "Building thermal envelope and on-site renewables. The proposed total building thermal envelope UA, which is the sum of U-factor times assembly area, shall be less than or equal to the building thermal envelope UA using the prescriptive U-factors from Table N1102.1.2 multiplied by 1.15 in accordance with Equation 11-4. The area-weighted maximum fenestration SHGC permitted in Climate Zones 0 through 3 shall be 0.30.

$$UA_{Proposed\ design} = 1.15 \times UA_{Prescriptive\ reference\ design}$$

**(Equation 11-4)**

(41) In IRC, Section N1106.3.1 (R406.3.1) is deleted:

(42) In IRC, section N1106.3.2 (R403.3.2) is deleted:

(43) In IRC, Section N1106.4 (R406.4) the following changes are made:

(a) In the first sentence, the words "in accordance with Equation 11-5" are deleted and replaced with: "permitted to be calculated using the minimum total air exchange rate for the rated home (Qtot) and for the index adjustment factor in accordance

with Equation 11.5.",

(b) In equation 11-5, the words "Ventilation rate, CFM" are deleted and replaced with: "Qtot", and

(c) In the last sentence the number "5" is deleted and replaced with "15".

(44) In IRC N1106.5, in the column titled "ENERGY RATING INDEX" of Table R406.5, the following changes are made:

(a)In the row for Climate Zone 3, "51" is deleted and replaced with 65

(b)In the row for Climate Zone 5, "55" is deleted and replaced with 69

(c)In the row for Climate Zone 6 "54" is deleted and replaced with 68

(45) In IRC, Section N1108 (R408) is deleted

(remaining sections are renumbered as needed)

**15A-3-206 Amendments to Chapters 36, 37, 39 and 44 and Appendix F of IRC.**

(21) A new IRC, Chapter 44, the standard for ANSI/RESNET/ICC 201-2019 section 4.4.4 is added follows: 4.4.4. Air Source Heat Pumps and Air Conditioners.

For Heat Pumps and Air Conditioners with the more recent Manufacturer's Equipment Performance Ratings (HSPF2 or SEER2) available, and HSPF and SEER are not available, these ratings shall be converted to HSPF and SEER values by dividing HSPF2 or SEER2 by The conversion factors in Table 4.4.4.1(1). If the type of equipment is not determined, the conversion shall default to the "Ducted Split System" factors. All calculations, including Equation 4.1-1a shall use HSPF or SEER values as made available by the Manufacturer or converted as specified in this section.

Table 4.4.4.1(1) SEER2 and HSPF2 Conversion Factors3

| Equipment Type | SEER2/SEER | EER2/EER[4] | HSPF2/HSPF |
|---|---|---|---|
| Ductless Systems | 1.00 | 1.00 | 0.90 |
| Ducted Split System | 0.95 | 0.95 | 0.85 |
| Ducted Packaged System | 0.95 | 0.95 | 0.84 |
| Small Duct High Velocity System | 1.00 | Not Applicable | 0.85 |
| Ducted Space-Constrained Air Conditioner | 0.97 | Not Applicable | Not Applicable |
| Ducted Space-Constrained Heat Pump | 0.99 | Not Applicable | 0.85 |

(Remaining sections are renumbered.)

**15A-3-205 Amendments to Chapters 26 through 35 of IRC.**

(11) In IRC, Section P2902.1, the following subsections are added as follows:

~~[P2902.1.2]~~ P2902.1.1 General Installation Citeria.

~~[P2902.1.2]~~ P2902.1.2 Specific Installation Criteria.

~~[P2902.1.2]~~ P2902.1.3 Reduced Pressure Principle Backflow Prevention Assembly.

~~[P2902.1.2.2]~~ P2902.1.4 Double Check Valve

~~[P2902.1.2.3]~~ P2902.1.5 Pressure Vacuum Break Assembly

**15A-3-206 Amendments to Chapters 36, 37, 39, and 44 and Appendix F of IRC.**

(1) In IRC, Section E3401.2 the second sentence is modified by adding the words "townhouses," after the word "dwellings" and the word "their" before the word "accessory" and the following is added after "NFPA 70" "such as, but not limited to the following equipment:

1. Fixed outdoor electric deicing and snow-melting equipment;
2. motors;
3. generators;
4. transformers;
5. phase converters;
6. stationary standby batteries;
7. elevators;
8. dumbwaiters;
9. platform lifts;
10. stairway chairlifts;
11. electric vehicle power transfer systems;
12. electric welders;
13. audio signal processing, amplification, and reproduction equipment;
14. information technology equipment;
15. solar photovoltaic (PV) systems;
16. optional standby systems;
17. interconnected electric power production sources;
18. energy storage systems; and
19. energy management systems.

(3) IRC, Section E3601.7 is deleted and replaced with the following: E3601.7 Maximum number of disconnects. The service disconnecting means shall consist of not more than six switches, or six sets of circuit breakers mounted in a single enclosure or in a group of separate enclosures. This provision has a sunset date of 7-1-2027."

(Remaining sections are renumbered.)

(17) In IRC, Section E3902.15 Crawl space lighting outlets is deleted.
~~(17)~~ (18) IRC, Section E3902.16 Equipment requiring servicing is deleted.
~~(18)~~ (19) IRC Section E3902.17 Outdoor outlets is deleted.
~~[(19) IRC, Section E3902.18 is deleted.]~~
(20) IRC Section E3902.19 Location of arc-fault circuit interrupters, is deleted.
(21) IRC Section E3902.20 Arc-fault circuit interrupter protection is deleted.
(22) IRC Section E3902.21 Arc-fault circuit interrupter protection for branch circuit extensions or modification is deleted.
(Remaining sections are renumbered.)

~~[(6) In IMC, Section 1101.2, the words "471 or 1995"; are deleted and replaced with 2551;471, 1995, or UL/CSA 60335-2-40";]~~

(Remaining sections are renumbered)

**15A-3-601 General provisions.**

(9) NEC Section 230.71, is deleted and replaced with the following: 230.71 Maximum Number of Disconnects.

(A) General. The service disconnecting means for each service permitted by 230.2, or for each set of service-entrance conductors permitted by 230.40, Exception No. 1, 3, 4, or 5, shall consist of not more than six switches or sets of circuit breakers, or a combination of not more than six switches and sets of circuit breakers, mounted in a single enclosure, in a group of separate enclosures, or in or on a switchboard or in switchgear. There shall be not more than six sets of disconnects per service grouped in any one location.

For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:

(1) Power monitoring equipment

(2) Surge-protective device (s)

(3) Control circuit of the ground-fault protection system

(4) Power-operable service disconnecting means

(B) Single-Pole Units. Two or three single-pole switches or breakers, capable of individual operation, shall be permitted on multiwire circuits, one pole for each ungrounded conductor, as one multipole disconnect, provided they are equipped with identified handle ties or a master handle to disconnect all conductors of the service with no more than six operations of the hand This provision has a sunset date of 7-1-2027..

(10) In NEC, Section 230.72, Section 230.72(A) is deleted and replaced with the following: 230.72 Grouping of Disconnects.

(A) General. The two to six disconnects as permitted in 230.71 shall be grouped. Each disconnect shall be marked to indicate the load served.

Exception: One of the two to six service disconnecting means permitted in 230.71, where used only for a water pump also intended to provide fire protection, shall be permitted to be located remote from the other means. If remotely installed in accordance with this exception, a plaque shall be posted at the location of the remaining grouped disconnects denoting its location. This provision has a sunset date of 7-1-2027.

(Remaining sections are renumbered.)

**15A-3-701 General provisions.**

# Part 7

## Statewide Amendments to International Energy Conservation Code

**15A-3-701 General provisions.**

The following is adopted as an amendment to the IECC to be applicable statewide:

(1) IECC, Section C405.11, is deleted and replaced with the following: "C405.11 Automatic receptacle control. Automatic receptacle control to be optional and decided by property owner."

(2) In IECC, Section R102.1.1, a new section R102.1.1 is added as follows:

R102.1.1 National Green Building Standard complying with ICC 700-2020 National Green Building Standard and achieving the Gold rating level for the energy efficiency category shall be deemed to exceed the energy efficiency required by this code. The building shall also meet the requirements identified in table N1105.2 and the building thermal envelope efficiency is greater than or equal to levels of efficiency and solar heat gain coefficients (SHGC) in Tables N1102.2.2 andN1102.1.3 of the 2009 IRC.

~~(2)~~(3) In IECC, Section R103.2, all words after the words "herein governed." are deleted and replaced with the following: "Construction documents include all documentation required [~~to be submitted in order to issue a building permit~~] for building permits shall include only those items specified in 10-5-132(8) of the Utah Municipal Code."

(4) In IECC, Section R303.1.3 the following changes are made.

(a) The following is added at the end of the first sentence "or EN 14351-1:2006 + A1:2010."

(b) The word "accredited" is replaced with "approved" in the third sentence.

(c) The following sentence is added after the third sentence: "A conversion factor of 5.678 shall be used to convert from U values expressed in SI units: ()/53678=."

(d) After "NFRC 200" the following words are added: "or EN 14351-1:2006 + A1:2010", and in the sentence the word "accredited' is replaced with the word "approved".

(e) The following new sentence shall be inserted immediately prior to the last sentence: "Total Energy Transmittance values may b e substituted for SHGC, and Luminous Transmission values may be substituted for VT".

~~(3)~~(5) In IECC, Section R303.3, all wording after the first sentence is deleted.

~~(4)~~(6)In IECC, Section R401.2, [~~a new number 4 is added as follows:~~ in the first sentence, the words "Section R401.13.5 and" are deleted.

~~"4. Compliance may be shown by demonstrating a result, using the software RES Check 2012 Utah Energy Conservation Code, of:~~

~~(a) [on or after January 1, 2017, and before January 1, 2019, "3 percent better than code";~~

~~(b) on or after January 1, 2019, and before January 1, 2021, "4 percent better than code"; and(c) after January 1, 2021, "5 percent better than code"."]~~

(7) In IECC, Section R401.2.5 is deleted.

(8) In IECC, Section R401.3 Number 7, the words "and the compliance path used" are deleted.

(9) In IECC Table R402.1.2, the following changes are made:

(a) in the column titled Fenestration U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with 0.32

(iii) In the row titled "Climate Zone 6" delete 0.30 and replace it with 0.32

(b) in the column titled Glazed Fenestration SHGC, the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.25 and replace it with 0.35

(c) in the column titled "Climate U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.026 and replace it with 0.033

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.024 and replace it with 0.030

(iii) In the row titled "Climate Zone 6" delete 0.024 and replace it with 0.030

(d) in the column titled "Wood Frame Wall U Factor", the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.060 and replace it with 0.065

(ii) In the row titled "Climate Zone 5 and Marine 4" delete0.045 and replace it with 0.065

(iii) In the row titled "Climate Zone 6" delete 0.045 and replace it with 0.065

(e) in the column titled "Basement wall U-Factor" the following changes are made:

(i) In the row titled "Climate Zone 5 and Marine 4 delete 0.050 and replace it with 0.075

(ii) In the row titled " Climate Zone 6" delete 0.50 and replace it with0.065

(f) In the column titled "Crawl Space Wall U-Factor" the following changes are made:

(i) In the row titled "Climate Zone 5 and Marine 4 delete 0.055 and replace it with 0.078

(ii) In the row titled " Climate Zone 6" delete 0.55 and replace it with 0.065

(10) In IECC, Table R402.1.3 the following changes are made:

(a) In the column titled Fenestration U-Factor the following changes are made:

(i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with 0.32

(iii) In the row titled "Climate Zone 6" delete 0.30 and replace it with 0.32

(b) In the column titled Glazed Fenestration SHGC the following changes are made:

(i) In the row titled "Climate Zone 3" deleted 0.25 and replace it with 0.35

(c) In the Column R-Value the following changes are made:

(i) In the row titled "Climate Zone 3" delete 49 and replace it with 32

(ii) In the row titled "Climate Zone 5 and Marine 4" delete 60 and replace it with 38

(iii) In the row titled "Climate Zone 6" delete 60 and replace it with 38

(d) In the Column titled Wood Frame Wall R-Value the following changes are made:

(i) In the row titled "Climate Zone 3" delete all values and replace with "19+ Oci or 11 + 5ci or 0 +15ci"

(ii) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "19+ Oci or 13 + 5ci or 0 +15ci"

(iii) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 13 + 5ci or 0 + 15ci"

(e) In the column titled "Basement Wall R Value" the following changes are made:

(iii) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "15+ Oci or 0+ 11ci or 11 +5ci"

(iv) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 0 + 13ci or 11 + 5ci"

(f) In the column titled "Slab R Value and Depth" the following changes are made:

(iii) In the row titled "Climate Zone 3" delete "10ci. 2ft" and replace it with NR"

(iv) In the row titled "Climate Zone 5 & Marine 4" delete "4 ft" and replace it with "2 ft"

(g) In the column titled "Crawl Space Wall R-Value" the following changes are made:

(i) In the row titled "Climate Zone 5 or Marine 4" delete all values and replace with "15+ Oci or 0 + 11ci or 11 +5ci"

(ii) In the row titled " Climate Zone 6" delete all values and replace with "19 + Oci or 0 + 13ci or 0 + 11 + 5 ci"

(h) ~~(5)~~ In IECC, Table R402.2, in the column titled MASS WALL R-VALUE, a new footnote j is added as follows:

j Log walls complying with ICC400 and with a minimum average wall thickness of 5 inches or greater shall be permitted in Zones 5 through 8 when overall window glazing has a .31 U-factor or lower, minimum heating equipment efficiency is 90 AFUE (gas) or 84 AFUE (oil), and all other component requirements are met.

(11) In IECC, a new subsection R402.1.5.1 is added as follows:

**R402.1.5.1 RESCheck 2012 Utah Energy Conservation Code.** Compliance with section N1102.1.5 (R402.1.5) may be satisfied using the software RESCheck 2012 Utah Energy Conservation Code, which shall satisfy the R-value and U-factor requirements of N1102.1, N1102.2, and N1102.3, provided the following conditions are met:

(a) In Climate Zone 5 and 6 the software result shall show "5% better than code", and

(b) In Climate Zone 3, the software result shall show "5% better than code" when software inputs for window U-facter = 0.65 and window SHGC = 0.40, notwithstanding actual windows installed shall conform to requirements of Tables N1102.1.2 (R402.1.2) and N1102.1.3 (R402.1.3).

~~(6)~~(12)In IECC, Section R402.2.1, a new section is added as follows: "R402.2.1.1. Unvented attic and unvented enclosed rafter assemblies. Unvented attic and unvented enclosed rafter assemblies conforming to Section R806.5 shall be provided with an R-value of R-22 (maximum U-Factor of 0.045) in Climate Zone 3-B or an R-value of R-26 (maximum U-factor of 0.038) in Climate Zones 5-B and 6-B shall be permitted provided all the following conditions are met:

1. The unvented attic assembly complies with the requirements of the International Residential Code, Section R806.5.
2. The house shall attain a blower door test result < 2.5ACH 50.
3. The house shall require a whole house mechanical ventilation system that does not rely solely on a negative pressure strategy (must be positive, balanced or hybrid).
4. Where insulation is installed below the roof deck and the exposed portion of roof rafters are not already covered by the R-20 depth of the air-impermeable insulation, the exposed portion of the roof rafters shall be wrapped (covered) by minimum R-3 unless directly covered by drywall/finished ceiling. Roof rafters are not required to be covered by minimum R-3 if a continuous insulation is installed above the roof deck.

5. Indoor heating, cooling and ventilation equipment (including ductwork) shall be inside the building thermal envelope.

(13) A new IECC, Section R402.2.1.3 is added as follows:

R402.2.1.3 Walls with Air-Impermeable Insulation. Where IECC Table R402.1.2 requires R-20 for wood framed walls in climate zones 3-B and 5-B or R-20+5CI for climate zone 6-B, an air-impermeable insulation installed in the wall cavity with R-value of R-15 for climate zones 3-B and 5-B or R-20 for climate zone 6-B shall be deemed equivalent to the provisions in IECC Table R402.1.2, provided the home attains a blower door test ≤ 2.5ACH.

(14) In IECC, Section R402.2.9.1 the numeral (i) is added before the words "cut at a 45 degree" and the following is added after the words "exterior wall": , or

(ii) lowered from top of slab 4" when a 4" thermal break material such as, but not limited to, felt or asphalt impregnated fiber board, with a minimum thickness of ¼" is installed at the upper 4" of slab."

~~(7)~~(15)In IECC, Section R402.4.1, in the first sentence, the word "and" is deleted and replaced with the word "or".

~~(8)~~(16)In IECC, Section R402.4.1.1, the second and the last sentence [~~is~~] are deleted and replaced with the following: "Where [~~allowed~~] required by the code official, the builder [~~may~~] shall certify compliance [~~to components~~] with criteria indicated in Table R1102.4.1for items which [~~may~~] are not [~~be inspected~~] readily visible during regularly scheduled inspections."

(17) In IECC, Table R402.4.1.1 in the column titled "COMPONENT", the following changes are made:

(a) In the row "Rim Joists" the word "exterior" in the first sentence is deleted, and the second sentence is deleted.

(b) In the row "Electrical/phone box on the exterior walls" the last sentence is deleted and replaced with: "Alternatively, close cell foam, caulking or gaskets may be used, or air sealed boxes may be installed.

~~(9)~~(18)In IECC, Section R402.4.1.2, the following changes are made:

(a) In the [~~first~~] fourth sentence, the word "third" is deleted.

~~(i) ["The building or dwelling unit" is deleted and replaced with "A single-family dwelling";~~

~~(ii) after January 1, 2019, replace the word "five" with "3.5"; and~~

~~(iii) the words "in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8" are deleted.]~~

(b)The following sentence is [~~inserted after the first sentence: "A multi-family dwelling and townhouse shall be tested and verified as having an air leakage rate of not exceeding five air changes per hour~~] added after the fourth sentence."

~~[In the third sentence, the word "third" is deleted.]~~

~~[The following sentence is inserted after the third sentence:]~~ "The following parties shall be approved to conduct testing: Parties certified by BPI or RESNET, or licensed

contractors who have completed training provided by Blower Door Test equipment manufacturers or other comparable training."

(c) In the first Exception the second sentence is deleted.

(19) In IECC, Section R402.4.1.3 the following changes are made:

(a) In the first sentence, the words "5.0 air changes per hour in Climate Zones 0, 1 and 2, and 3.0" are deleted and replaced with "4.0.", and the words "in Climate Zone 3 through 8" are deleted.

(b) In the first sentence of the Exception, "0.28" is replaced with "5.0 air changes per hour or 0.30"

(c) In Number 2 the words "of conditioned floor area" are inserted before the words "or smaller".

(20) IECC, Section R402.6 is deleted.

(21) In IECC, Section R403.3.1 is deleted and replaced with the following:

"**Ducts located outside conditioned space.** Supply and return ducts in attics shall be insulated to a minimum of R-8 where 3 inches (76.2 mm) in diameter and greater and R-6 where less than 3 inches (76.2 mm) in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 where 3 inches (76.2 mm) in diameter or greater and R-4.2 where less than 3 inches (76.2 mm) in diameter.

**Exception:** Ducts or portions thereof located completely inside the *building thermal envelope."*

~~(11)~~(19)In IECC, Section R403.3.3, ~~[the exception for duct air leakage testing]~~ is deleted. ~~[and replaced with the following:~~

~~(a) on or after January 1, 2017, and before January 1, 2019, with the following: "Exception: The total leakage test is not required for systems with all air handlers and at least 65% of all ducts (measured by length) located entirely within the building thermal envelope.";~~

~~(b) on or after January 1, 2019, and before January 1, 2021, with the following: "Exception: The duct air leakage test is not required for systems with all air handlers and at least 75% of all ducts (measured by length) located entirely within the building thermal envelope."; and~~

~~(c) on or after January 1, 2021, with the following: "Exception: The duct air leakage test is not required for systems with all air handlers and at least 80% of all ducts (measured by length) located entirely within the building thermal envelope."~~

~~(11) In IECC, Section R403.3.3, the following is added after the exception:~~

~~"The following parties shall be approved to conduct testing:~~

~~1. Parties certified by BPI or RESNET.~~

~~2. Licensed contractors who have completed training provided by Duct Test equipment manufacturers or other comparable training."]~~

(22) IECC, Section R403.3.3.1 is deleted.

~~(12) [In IECC, Section R403.3.4:~~

~~(a) in Subsection 1, the number 4 is changed to 8, the number 113.3 is changed to 170, the number 3 is changed to 6, and the number 85 is changed to 114.6; and (b) in Subsection 2:~~

(i) ~~on or after January 1, 2017, and before January 1, 2019, the number 4 is changed to 8 and the number 113.3 is changed to 226.5;~~

(ii) ~~on or after January 1, 2019, and before January 1, 2021, the number 4 is changed to 7 and the number 113.3 is changed to 198.2; and~~

(iii) ~~on or after January 1, 2021, the number 4 is changed to 6 and the number 113.3 is changed to 169.9.]~~

~~(13)~~(23)In IECC, Section R403.3.5, the [~~words "or plenums" are deleted~~] following changes are made:

(a) A second Exception is added as follows: "A duct leakage test shall not be required for any system designed such that no air handlers or ducts are located within unconditioned attics."

(b) The following is added at the end of the section: "The following parties shall be approved to conduct testing:

1. Parties certified by BPT or RESNET
2. Licensed contractors who have completed training provided by Duct Test equipment manufacturers or other comparable training."

(24) In IECC, Section N1103.3.6 (R403.3.6) the following changes are made:

(a) in Subsection 1,

(i) the number 4.0 is changed to 6.0,

(ii) the number 113.3 is changed to 170,

(iii) the number 3.0 is changed to 5.0,

(iv) the number 85 is changed to 141

(b) in Subsection 2,

(i) the number 4.0 is changed to 5.0

(ii) the number113.3 is changed to 141

(c) Subsection 3 is deleted.

(25) In IECC, Section N1103.3.7 (R403.3.7) the words "or plenums" are deleted.

(26) In IECC, Section N1103.5.1.1 (R403.5.1.1) the words "Where installed" are added at the beginning of the first sentence.

(27) In IEEC, Section N1103.5.2 (R403.5.2) the following change is made:

(a) Subsections 5 and 6 are deleted and Subsections number 7 is renumbered to 5.

(13) ~~[In IECC, Section R403.5.3, Subsection 5 is deleted and Subsections 6 and 7 are renumbered.]~~

~~(15)~~(28)IECC, Section [~~R403.6.1~~]R403.6.2, is deleted and replaced with the following:

"[~~R403.6.1~~]R403.6.2 Whole-house mechanical ventilation system fan efficacy. Fans used to provide whole-house mechanical ventilation shall meet the efficacy requirements of Table [~~R403.6.1~~]R403.6.2

Exception: Where an air handler that is integral to tested and listed HVAC equipment is used to provide whole-house mechanical ventilation, the air handler shall be powered by an electronically commutated motor."

~~(16)~~(29)In IECC, Section ~~[R403.6.1]~~, R403.6.2 the table is deleted and replaced with the following:

"TABLE ~~[R403.6.1]~~R403.6.2

MECHANICAL VENTILATION SYSTEM FAN EFFICACY

| FAN LOCATION | AIR FLOW RATE MINIMUM (CFM) | MINIMUM EFFICACY (CFM/WATT) | AIR FLOW RATE MAXIMUM (CFM) |
|---|---|---|---|
| HRV or ERV | Any | 1.2 cfm/watt | Any |
| Range hoods | Any | 2.8 cfm/watt | Any |
| In-line fan | Any | 2.8 cfm/watt | Any |
| Bathroom, utility room | 10 | 1.4 cfm/watt | <90 |
| Bathroom, utility room | 90 | 2.8 cfm/watt | Any" |

(30) IECC, Section R403.6.3 is deleted.

~~(17) In IECC, Section R406.5, the table is deleted and replaced with the following:~~

~~"TABLE R406.5~~

~~MAXIMUM ENERGY RATING INDEX~~

| ~~CLIMATE ZONE~~ | ~~ENERGY RATING INDEX~~ |
|---|---|
| ~~3~~ | ~~65~~ |
| ~~5~~ | ~~69~~ |
| ~~6~~ | ~~68"~~ |

(31) In IECC, Section R403.7 the word "approved: is deleted in the first sentence and the following is added after the word methodologies "complying with R403.7.1.

~~(18)~~(32)A new IECC, Section R403.7.1, is added as follows: "R403.7.1 Qualifications. An individual performing load calculations shall be qualified by completing HVAC training f from one of the following:

1. HVAC load calculation education from ACCA;
2. A recognized educational institution;
3. HVAC equipment manufacturer's training; or
4. Other recognized industry certification.

(33) In IECC, Section R404.1, the word "All" is replaced with "Not less than 90

percent of the lamps in".

(34) IECC, Section R404.1.1 is deleted.

(35) IECC, Section R404.2is deleted.

(36) IECC, Section R404.3 is deleted.

(37) In IECC, section R405.2 the following changes are made:

(a) In Subsection 3 the words "approved by the code official" are deleted, and

(b) In Subsection3 the following words are added at the end of the sentence: "when applicable and readily available".

(38) In IECC, Section R406.3 Building thermal envelope is deleted, and replaced with "Building thermal envelope and on-site renewables. The proposed total building thermal envelope UA, which is the sum of U-factor times assembly area, shall be less than or equal to the building thermal envelope UA using the prescriptive U-factors From Table N1102.1.2 multiplied by 1.15 in accordance with Equation 11-4. The area-weighted maximum fenestration SHGC permitted in Climate Zones 0 through 3 shall be 0.30.

$$UA_{Proposed\ design} = 1.15 \times UA_{Prescriptive\ reference\ design}$$

**(Equation 11-4)**

(39) In IECC, Section R406.3.1 is deleted:

(40) In IECC, Section R403.3.2 is deleted:

(41) In IECC, Section R406.4 the following changes are made:

(a) In the first sentence, the words "in accordance with Equation 11-5" are deleted and replaced with: "permitted to be calculated using the minimum total air exchange Rate for the rated home (Qtot) and for the index adjustment factor in accordance with Equation 11.5.",

(b) In equation 11-5, the words "Ventilation rate, CFM" are deleted and replaced with: "Qtot", and

(c) In the last sentence the number "5" is deleted and replaced with "15".

(42) In IECC, Section R406.5 in the column titled "ENERGY RATING INDEX" of Table R406.5, the following changes are made:

(a)In the row for Climate Zone 3, "51" is deleted and replaced with 65

(b)In the row for Climate Zone 5, "55" is deleted and replaced with 69

(c)In the row for Climate Zone 6 "54" is deleted and replaced with 68

(43) In IECC, Section R408 is delete.

(44) In IECC, Chapter 6, the standard for ANSI/RESNET/ICC 201-2019 section 4.4.4 is added follows:

4.4.4. Air Source Heat Pumps and Air Conditioners.

For Heat Pumps and Air Conditioners with the more recent Manufacturer's Equipment Performance Ratings (HSPF2 or SEER2) available, and HSPF and SEER are not available, these ratings shall be converted to HSPF and SEER values by dividing HSPF2 or SEER2 by the conversion factors in Table 4.4.4.1(1). If the type of equipment is not determined, the conversion shall default to the "Ducted Split System" factors. All calculations, including Equation 4.1-1a shall use HSPF or SEER values as made available by the Manufacturer or converted as specified in this section.

Table 4.4.4.1(1) SEER2 and HSPF2 Conversion Factors3

| Equipment Type | SEER2/SEER | EER2/EER[4] | HSPF2/HSPF |
|---|---|---|---|
| Ductless Systems | 1.00 | 1.00 | 0.90 |
| Ducted Split System | 0.95 | 0.95 | 0.85 |
| Ducted Packaged System | 0.95 | 0.95 | 0.84 |
| Small Duct High Velocity System | 1.00 | Not Applicable | 0.85 |
| Ducted Space-Constrained Air Conditioner | 0.97 | Not Applicable | Not Applicable |
| Ducted Space-Constrained Heat Pump | 0.99 | Not Applicable | 0.85 |

**Part 4**

**15A-3-401 General provisions**

(2) In IMC, Section 505.4, a new subsection 505.4.1 is added as follows:

505.4.1 Makeup Air. Makeup air is not required in residential dwelling units where gas, liquid or solid fuel-burning appliances located within a unit's air barrier are all direct-vent or use a mechanical draft venting system.

**15A-3-801 General provisions.**

(1) In IEBC, Section 202. The definition for "Approved" is modified by adding the words "or independent third-party licensed engineer or architect and submitted to the building official" after the word "official".

(5) In IEBC, Section 302.3 the following is added after the words "code official" in the last sentence: "or independent third-party licensed engineer or architect and submitted to the building official."

~~[(5) In Section 305.4.2, number 7 is added after number 6 as follows: "7. When a change of occupancy in a building or portion of a building results in a Group R-2 occupancy, not less than 20% of the dwelling or sleeping units shall be Type B dwelling or sleeping units. These dwelling or sleeping units may be located on any floor of the building provided with an accessible route. Two percent, but not less than one unit, of the dwelling or sleeping units shall be Type A dwelling units.]~~

~~[(7) In Section 705.1, Exception number 3, the following is added at the end of the exception: This exception does not apply if the existing facility is undergoing a change of occupancy classification."]~~

(Remaining sections are renumbered as needed)

(11) In Section [~~1012.7.3~~] 1011.7.3 exception 2 is deleted.

MINUTES

UNIFORM BUILDING CODE COMMISSION
MECHANICAL ADVISORY COMMITTEE

Meeting

December 4, 2023 3:00 pm

Convened 3:00 PM Adjourned 4:00

STAFF:
Steve Duncombe, Bureau Manager
Sharon Smalley, Board Secretary

MECHANICAL ADVISORY COMMITTEE:
David Wilson (excused)
Clay Monroe
Terry Palmer
Martin Carrillo
Chris Jensen
Alyssa Wahlin
Trent Hunt, Commission Liaison (absent)

VISITORS:
Craig Hassell
A J Lowry
Ryan Rentmeister
Ross Ford

ELECT A CHAIR AND VICE CHAIR

A motion was made by Terry Palmer to elect Martin Carrillo as chairman and Chris Jensen as vice chair. The motion was seconded by Clay Monroe and passed unanimously.

MINUTES

A motion was made by Terry Palmer to approve the minutes from the June 28, 2022, and October 10, 2023, meetings as written. The motion was seconded by Alyssa Wahlin and passed unanimously.

REVIEW PROPOSED AMDENDMENT FOR IMC SECTION 505.4

Those present reviewed the proposed amendment for this section. During the discussion several concerns were raised, and a recommendation was made to modify the section number by changing it to new section number 505.4.1. The proponents agreed to resubmit the amendment for the committee to review. A motion was made by Terry Palmer to table the decision until the

modified proposal could be reviewed. The motion was seconded by Clay Monroe and passed unanimously.

DISCUSSION ITEM
2021 IRC CHAPTER 11
AMENDMENTS

The committee discussed this proposal to adopt Chapter 11 of the 2021 IRC along with the amendments. Ross Ford pointed out that several corrections needed to be made to several of the numbers. The committee agreed that they would like to see the corrections before they could decide. A motion was made by Martin Carillo to table the discussion until the next meeting. The motion was seconded by Alyssa Wahlin and passed unanimously.

The committee will review both items at a meeting set for Friday, December 8th.

The meeting adjourned at 4:00.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

MINUTES

UNIFORM BUILDING CODE COMMISSION
MECHANICAL ADVISORY COMMITTEE

Meeting

December 8, 2023 3:00 pm

Convened 3:04 PM Adjourned 4:49

STAFF:
Steve Duncombe, Bureau Manager
Sharon Smalley, Board Secretary

MECHANICAL ADVISORY COMMITTEE:
David Wilson (excused)
Clay Monroe
Terry Palmer
Martin Carrillo
Chris Jensen
Alyssa Wahlin
Trent Hunt, Commission Liaison (absent)

VISITORS:
Craig Hassell
Ken Adams
Ryan Rentmeister
Ron McArthur

MINUTES

A motion was made by Chris Jensen to approve the minutes from the December 4, 2023, meeting as written. The motion was seconded by Clay Monroe and passed unanimously.

REVIEW PROPOSED AMDENDMENT FOR IMC SECTION 505.4.1

Those present reviewed the proposal for the modified amendment for this section. The proposal was changed to read, add a subsection to IMC 505.4.1. Following the review, a motion was made by Chris Jensen to approve the modified proposal. The motion was seconded by Terry Palmer and passed unanimously.

DISCUSSION ITEM 2021 IRC CHAPTER 11 AMENDMENTS

The committee discussed this proposal to adopt Chapter 11 of the 2021 IRC along with the 52 proposed amendments. The committee felt that some of the numbers that have been proposed were taking a step back to the 2006 codes and not moving forward. Chris Jensen pointed out that the numbers in ceiling R value in climate

zone 6, Table 1102.1.3 and corresponding Table 1102.1.2 for the U factor and the R factor have gone backwards from the current requirements. Ryan Rentmeister, Ken Adams, and Ron McArthur spoke to the committee in connection with these proposals. Many of the numbers are different than what the committee originally recommended for these tables.

Following all of the discussion, the committee did not make a motion to approve, deny, or modify the proposal. They felt that the current proposal differs from what was previously approved. Specifically, the tables take the code backwards to the 2006 code. The committee did not feel they were in a position to make a recommendation.

The meeting adjourned at 4:49.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

Date: 2023-12-10
M. Carrillo

# UBCC Mechanical Advisory Committee (MAC)

## Home Builder's Association (HBA) Proposed amendments document:

## *"Effective 7/1/2024"*

## *"15a-3-203 Amendments to Chapters 11 of IRC"*


Summary:

The below narrative and comments address the rational for a "No-Vote" and concerns of the MAC presented in UBCC MAC meeting December 8, 2023 as Agenda Item #3 – 2021 IRC Chapter 11 amendments.


NO-VOTE Comments:

The 7-page "15a-3-203 Amendments to Chapters 11 of IRC" document was first presented with errors at December 4, 2023 UBCC MAC meeting for review and recommendations in anticipation (of the HBA). This document addresses major modifications to the IECC and IRC Chapter 11 Energy Codes.

The timeframe for review of said changes, to provide recommendations to the higher committee(s), did not allow for confident analysis of said changes to the code. Furthermore, in both the December 4, 2023 and follow-up December 8, 2023 UBCC MAC meetings, no additional clarifying, written, information on why the HBA has proposed these amendments was submitted for review and analysis. Ross Ford did however provide corrected values for the error on first submitted document (table values corrected).

Some examples of clarifying information may include (but are not limited to):

- Justifications for the need to have these changes incorporated into the Energy Code.
- HBA committees, members, contractors, and subcontractors who are involved in compiling the requested changes.
- Costing information for energy code change evaluations:
    - Entity/Contractor/Supplier(s) providing cost data.
    - Market research with multiple provider/supplier analysis for cross comparison.
    - 3rd party confirmation of costing information.
- Involvement of other interested parties.
- Meeting notes.
- Etc.

As such, the UBCC MAC was not willing to provide a "Yes" or "No" recommendation to the higher committees for fault of:

- Time to review the qty. 52 proposed changes to the Code.
- Ample source and justification analysis of written proposed changes.

Date: 2023-12-10
M. Carrillo

Additional Concerns pertaining to "NO-VOTE":

The UBCC MAC found within our timeframe to review the "15a-3-203 Amendments to Chapters 11 of IRC" document many items that were previously addressed in the 2022 UBCC MAC meetings among many other, new items.

Upon extensive months-long analysis and work by Ross Ford & Ron McArthur (HBA), Brent Ursenbach, Kevin Emerson (Utah Clean Energy), and many others, the UBCC MAC was able to make recommendations both at May 24, 2022 and June 28, 2022 for energy code amendments proposed (see associated meeting minutes & documents).

In comparison with the notes and items presented in 2022 as mentioned above, this new (Dec. 4, 2023) document for proposed changes does not appear to reflect the consensus all parties came to in 2022. I will attempt to illustrate some major concerns below:

For Item #8 pertaining to Table N1102.1.2 (R402.1.2) the newly submitted amendments DO NOT align with previous conversations and concessions to reduce building envelope insulation requirements. Additionally, some of the proposed changes now reduce building envelope insulation requirement below previously adopted Utah code (2015):

1) Some of proposed changes (2023) include: (see following pages and associated Color highlights)
   a) Fenestration:
      i) **CZ-3** increased slightly from 2018 U-factor **(Better-than to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: **Equivalent to 2015 Utah Adopted code & 2021 IECC.**
      iii) **CZ-6**: **Equivalent to 2015 Utah Adopted code & 2021 IECC.**

   b) Ceilings:
      i) **CZ-3** reduced to Pre-2012 levels **(Not even equivalent to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: Reduced to 2009 levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to 2009 levels **(Not even equivalent to 2015 Utah Adopted code)**

   c) Wood Frame Wall
      i) **CZ-3** reduced to Pre-2012 levels **(Not even equivalent to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to **Pre-2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

   d) Basement Wall
      i) **CZ-3 Equivalent to 2015 Utah Adopted code & 2021 IECC.**
      ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to **Pre-2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

   e) Crawl Space
      i) **CZ-3 Equivalent to 2015 Utah Adopted code & 2021 IECC.**

ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

iii) **CZ-6**: Reduced to **2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

## Item #8 – table N1102.1.2 (R402.1.2)

### *2023 - 15a-3-203 Amendments to Chapters 11 of IRC*

**(REVISED SEP 2023)**
**TABLE R1102.1.2 (R402.1.2)**
**MAXIMUM ASSEMBLY *U*-FACTORS [a] AND FENESTRATION REQUIREMENTS**

| CLIMATE ZONE | FENESTRATION U-FACTOR [i] | SKYLIGHT U-FACTOR | GLAZED FENESTRATION SHGC [d,e] | CEILING U-FACTOR | WOOD FRAME WALL U-FACTOR | MASS WALL U-FACTOR | FLOOR U-FACTOR | BASEMENT WALL U-FACTOR | CRAWL SPACE WALL U-FACTOR |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.32 | 0.55 | 0.35 | 0.033 | 0.065 | 0.098 | 0.047 | 0.091 [c] | 0.136 |
| 5 and Marine 4 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.082 | 0.033 | 0.078 | 0.078 |
| 6 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.060 | 0.033 | 0.065 | 0.065 |

## Previously Utah adopted (2015 IECC code)

**TABLE N1102.1.4 (R402.1.4)**
**EQUIVALENT *U*-FACTORS[a]**

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.060 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.060 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.060 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

Date: 2023-12-10
M. Carrillo

## **2021** Table N1102.1.2 (R402.1.2)

TABLE N1102.1.2 (R402.1.2) MAXIMUM ASSEMBLY *U*-FACTORS[a] AND FENESTRATION REQUIREMENTS

| CLIMATE ZONE | FENESTRATION *U*-FACTOR[f] | SKYLIGHT *U*-FACTOR | GLAZED FENESTRATION SHGC[d, e] | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.50 | 0.75 | 0.25 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 1 | 0.50 | 0.75 | 0.25 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.25 | 0.026 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.30 | 0.55 | 0.25 | 0.026 | 0.060 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.30 | 0.55 | 0.40 | 0.024 | 0.045 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.30 | 0.55 | 0.40 | 0.024 | 0.045 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.30 | 0.55 | NR | 0.024 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.30 | 0.55 | NR | 0.024 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

For SI: 1 foot = 304.8 mm

## **2015** Table N402.1.2 (R402.1.2)

TABLE R402.1.4 EQUIVALENT *U*-FACTORS[a]

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.060 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.060 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.060 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

## **2012** Table N402.1.2 (R402.1.2)

TABLE R402.1.3 EQUIVALENT *U*-FACTORS[a]

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.082 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.082 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.057 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.057 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.057 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.048 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.048 | 0.057 | 0.028 | 0.050 | 0.055 |

Date: 2023-12-10
M. Carrillo

## **2009** Table N402.1.2 (R402.1.2)

**TABLE 402.1.3**
**EQUIVALENT *U*-FACTORS[a]**

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR[c] |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.20 | 0.75 | 0.035 | 0.082 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.65 | 0.75 | 0.035 | 0.082 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.50 | 0.65 | 0.035 | 0.082 | 0.141 | 0.047 | 0.091 | 0.136 |
| 4 except Marine | 0.35 | 0.60 | 0.030 | 0.082 | 0.141 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.35 | 0.60 | 0.030 | 0.057 | 0.082 | 0.033 | 0.059 | 0.065 |
| 6 | 0.35 | 0.60 | 0.026 | 0.057 | 0.060 | 0.033 | 0.050 | 0.065 |
| 7 and 8 | 0.35 | 0.60 | 0.026 | 0.057 | 0.057 | 0.028 | 0.050 | 0.065 |

Conclusion:

The above example is but one of a few that the UBCC MAC was able to analyze in this short time frame. There are other examples of Insulation/code requirements within the amendment reducing significantly below the currently adopted code. Adversely, the UBCC MAC did find some code amendments to be proactively addressing 2021 IECC code confusion/deficiency.

With the limited time and information provided to the UBCC MAC, a "No-Vote" approach to these amendments was taken. We believe that in order to provide a thorough and just recommendation for the higher bodies and state of Utah, the amendments proposed require significantly more evaluation, 3rd party discussion, and justification than what has been provided. The 1-week timeframe that we (UBCC MAC) had to analyze this amendment, as proposed, was inadequate for a recommended action.

Typos that need to be adjusted in Legislative Language document:

(8) in IRC, Table N1102.1.2 (R402.1.2)....

(a) (i) In the row titled "Climate Zone 3" delete 0.30 and replace it with 0.032 0.32

(a) (ii) In the row titled "Climate Zone 5 and Marine 4" delete 0.30 and replace it with

0.032 0.32

(b) (iii)In the row titled "Climate Zone 6" delete 0.024 and replace it with 0.30 0.030

(12) In IRC Section N1102.2.1 (R402.2.1) ....

2. The house shall attain a blower door test result < ~~2.5ACH 50~~ 2.5ACH(50)

(24) In IRC Section N1103.3.5 (R403.3.5) the following changes are made:

(a) ~~In the first sentence of the second Exception~~, A second Exception is added as follows: "A duct leakage test shall not be required for any system designed such that no air handlers or ducts are located within unconditioned attics."

(25) In IRC,Section N1103.3.6 (R403.3.6):

(a) in Subsection 1, the number 4.0 is 8.0 6.0, changed to the number 113.3 is changed to 170, the ~~6.0~~ 5.0 number 3.0 is changed-, the number 85 is changed 141; and

FYI: The tables of R values and U values on pages 2 and 4 are redundant and only provided for readability. They should be deleted prior to submitting to legislature.

The items numbered 45 to 52, can be ignored as these are not part of Chapter 11 and were adopted previously.

MINUTES

UTAH
UNIFORM BUILDING CODE COMMISSION
STRUCTURAL ADVISORY COMMITTEE
MEETING

December 7, 2023 3:00

CONVENED: 3:05

ADJOURNED 4:37

STAFF:
Steve Duncombe, Bureau Manager
Sharon Smalley, Board Secretary

COMMITTEE MEMBERS:
Tim Strickland
Patrick Tomasino
John Saunders
Brent Maxfield

Josh Blazzard, Commission Liaison
Oliver Burt
Tyler Wright

VISITORS:

Craig Hassell
Ken Adams

ELECT A CHAIR AND VICE CHAIR

A motion was made by Brent Maxfield to nominate Tyler Wright as chair and Tim Strickland as vice chair. The motion was seconded by John Saunders and passed unanimously.

MINUTES

A motion was made John Saunders by to approve the minutes from the June 30, 2022, meeting as written. The motion was seconded by Patrick Tomasino and passed unanimously.

REVIEW PROPOSED AMENDMENT TO IRC SECTION R105.2

Those present reviewed and discussed the proposed amendment in detail. During the discussion it was recommended that the proposal be modified. Following further discussion, a motion was made by Tim Strickland to approve the proposal as modified by changing it to read, "Retaining walls retaining less than 4 feet (1219mm) of unbalanced fill, unless supporting a surcharge or requiring design per Section R404.4." The motion was seconded by Patrick Tomasino. During the discussion on the motion, it was modified by changing the word "requires" to the word "requiring". Tim Strickland made a motion

to modify the proposal and Patrick Tomasino seconded the amended motion. The amended motion passed unanimously.

The meeting adjourned at 4:37.

*Note: These minutes are not intended to be a verbatim transcript but are intended to record the significant features of the business conducted in this meeting. Discussed items are not necessarily shown in the chronological order they occurred.*

Date: 2023-12-10
M. Carrillo

# UBCC Mechanical Advisory Committee (MAC)

## Home Builder's Association (HBA) Proposed amendments document:

## *"Effective 7/1/2024"*

## *"15a-3-203 Amendments to Chapters 11 of IRC"*


Summary:

The below narrative and comments address the rational for a "No-Vote" and concerns of the MAC presented in UBCC MAC meeting December 8, 2023 as Agenda Item #3 – 2021 IRC Chapter 11 amendments.


NO-VOTE Comments:

The 7-page "15a-3-203 Amendments to Chapters 11 of IRC" document was first presented with errors at December 4, 2023 UBCC MAC meeting for review and recommendations in anticipation (of the HBA). This document addresses major modifications to the IECC and IRC Chapter 11 Energy Codes.

The timeframe for review of said changes, to provide recommendations to the higher committee(s), did not allow for confident analysis of said changes to the code. Furthermore, in both the December 4, 2023 and follow-up December 8, 2023 UBCC MAC meetings, no additional clarifying, written, information on why the HBA has proposed these amendments was submitted for review and analysis. Ross Ford did however provide corrected values for the error on first submitted document (table values corrected).

Some examples of clarifying information may include (but are not limited to):

- Justifications for the need to have these changes incorporated into the Energy Code.
- HBA committees, members, contractors, and subcontractors who are involved in compiling the requested changes.
- Costing information for energy code change evaluations:
    - Entity/Contractor/Supplier(s) providing cost data.
    - Market research with multiple provider/supplier analysis for cross comparison.
    - 3rd party confirmation of costing information.
- Involvement of other interested parties.
- Meeting notes.
- Etc.

As such, the UBCC MAC was not willing to provide a "Yes" or "No" recommendation to the higher committees for fault of:

- Time to review the qty. 52 proposed changes to the Code.
- Ample source and justification analysis of written proposed changes.

Date: 2023-12-10
M. Carrillo

Additional Concerns pertaining to "NO-VOTE":

The UBCC MAC found within our timeframe to review the "15a-3-203 Amendments to Chapters 11 of IRC" document many items that were previously addressed in the 2022 UBCC MAC meetings among many other, new items.

Upon extensive months-long analysis and work by Ross Ford & Ron McArthur (HBA), Brent Ursenbach, Kevin Emerson (Utah Clean Energy), and many others, the UBCC MAC was able to make recommendations both at May 24, 2022 and June 28, 2022 for energy code amendments proposed (see associated meeting minutes & documents).

In comparison with the notes and items presented in 2022 as mentioned above, this new (Dec. 4, 2023) document for proposed changes does not appear to reflect the consensus all parties came to in 2022. I will attempt to illustrate some major concerns below:

For Item #8 pertaining to Table N1102.1.2 (R402.1.2) the newly submitted amendments DO NOT align with previous conversations and concessions to reduce building envelope insulation requirements. Additionally, some of the proposed changes now reduce building envelope insulation requirement below previously adopted Utah code (2015):

1) Some of proposed changes (2023) include: (see following pages and associated Color highlights)
   a) Fenestration:
      i) **CZ-3** increased slightly from 2018 U-factor **(Better-than to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: **Equivalent to 2015 Utah Adopted code & 2021 IECC.**
      iii) **CZ-6**: **Equivalent to 2015 Utah Adopted code & 2021 IECC.**

   b) Ceilings:
      i) **CZ-3** reduced to Pre-2012 levels **(Not even equivalent to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: Reduced to 2009 levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to 2009 levels **(Not even equivalent to 2015 Utah Adopted code)**

   c) Wood Frame Wall
      i) **CZ-3** reduced to Pre-2012 levels **(Not even equivalent to 2015 Utah Adopted code)**
      ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to **Pre-2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

   d) Basement Wall
      i) **CZ-3 Equivalent to 2015 Utah Adopted code & 2021 IECC.**
      ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**
      iii) **CZ-6**: Reduced to **Pre-2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

   e) Crawl Space
      i) **CZ-3 Equivalent to 2015 Utah Adopted code & 2021 IECC.**

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ii) **CZ-5 & 4 Marine**: Reduced to **Pre- 2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

iii) **CZ-6**: Reduced to **2009** levels **(Not even equivalent to 2015 Utah Adopted code)**

## Item #8 – table N1102.1.2 (R402.1.2)

### *2023 - 15a-3-203 Amendments to Chapters 11 of IRC*

**(REVISED SEP 2023)**
**TABLE R1102.1.2 (R402.1.2)**
**MAXIMUM ASSEMBLY *U*-FACTORS [a] AND FENESTRATION REQUIREMENTS**

| CLIMATE ZONE | FENESTRATION U-FACTOR [f] | SKYLIGHT U-FACTOR | GLAZED FENESTRATION SHGC [d e] | CEILING U-FACTOR | WOOD FRAME WALL U-FACTOR | MASS WALL U-FACTOR | FLOOR U-FACTOR | BASEMENT WALL U-FACTOR | CRAWL SPACE WALL U-FACTOR |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.32 | 0.55 | 0.35 | 0.033 | 0.065 | 0.098 | 0.047 | 0.091 | 0.136 |
| 5 and Marine 4 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.082 | 0.033 | 0.078 | 0.078 |
| 6 | 0.32 | 0.55 | NR | 0.030 | 0.065 | 0.060 | 0.033 | 0.065 | 0.065 |

## Previously Utah adopted (2015 IECC code)

**TABLE N1102.1.4 (R402.1.4)**
**EQUIVALENT *U*-FACTORS[a]**

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.060 | 0.098 | 0.047 | 0.091 | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.060 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.060 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

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## **2021** Table N1102.1.2 (R402.1.2)

TABLE N1102.1.2 (R402.1.2) MAXIMUM ASSEMBLY *U*-FACTORS[a] AND FENESTRATION REQUIREMENTS

| CLIMATE ZONE | FENESTRATION *U*-FACTOR[c] | SKYLIGHT *U*-FACTOR | GLAZED FENESTRATION SHGC[d, e] | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0.50 | 0.75 | 0.25 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 1 | 0.50 | 0.75 | 0.25 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.25 | 0.030 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.30 | 0.55 | 0.25 | 0.026 | 0.060 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.30 | 0.55 | 0.40 | 0.026 | 0.045 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.30 | 0.55 | 0.40 | 0.026 | 0.045 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.30 | 0.55 | NR | 0.026 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.30 | 0.55 | NR | 0.024 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

For SI: 1 foot = 304.8 mm

## **2015** Table N402.1.2 (R402.1.2)

TABLE R402.1.4 EQUIVALENT *U*-FACTORS[a]

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.084 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.084 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.060 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.060 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.060 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.045 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | 0.055 |

## **2012** Table N402.1.2 (R402.1.2)

TABLE R402.1.3 EQUIVALENT *U*-FACTORS[a]

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.50 | 0.75 | 0.035 | 0.082 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.40 | 0.65 | 0.030 | 0.082 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.35 | 0.55 | 0.030 | 0.057 | 0.098 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.55 | 0.026 | 0.057 | 0.098 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.32 | 0.55 | 0.026 | 0.057 | 0.082 | 0.033 | 0.050 | 0.055 |
| 6 | 0.32 | 0.55 | 0.026 | 0.048 | 0.060 | 0.033 | 0.050 | 0.055 |
| 7 and 8 | 0.32 | 0.55 | 0.026 | 0.048 | 0.057 | 0.028 | 0.050 | 0.055 |

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M. Carrillo

## **2009** Table N402.1.2 (R402.1.2)

**TABLE 402.1.3**
**EQUIVALENT *U*-FACTORS[a]**

| CLIMATE ZONE | FENESTRATION *U*-FACTOR | SKYLIGHT *U*-FACTOR | CEILING *U*-FACTOR | FRAME WALL *U*-FACTOR | MASS WALL *U*-FACTOR[b] | FLOOR *U*-FACTOR | BASEMENT WALL *U*-FACTOR | CRAWL SPACE WALL *U*-FACTOR[c] |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.20 | 0.75 | 0.035 | 0.082 | 0.197 | 0.064 | 0.360 | 0.477 |
| 2 | 0.65 | 0.75 | 0.035 | 0.082 | 0.165 | 0.064 | 0.360 | 0.477 |
| 3 | 0.50 | 0.65 | 0.035 | 0.082 | 0.141 | 0.047 | 0.091[c] | 0.136 |
| 4 except Marine | 0.35 | 0.60 | 0.030 | 0.082 | 0.141 | 0.047 | 0.059 | 0.065 |
| 5 and Marine 4 | 0.35 | 0.60 | 0.030 | 0.057 | 0.082 | 0.033 | 0.059 | 0.065 |
| 6 | 0.35 | 0.60 | 0.026 | 0.057 | 0.060 | 0.033 | 0.050 | 0.065 |
| 7 and 8 | 0.35 | 0.60 | 0.026 | 0.057 | 0.057 | 0.028 | 0.050 | 0.065 |

Conclusion:

The above example is but one of a few that the UBCC MAC was able to analyze in this short time frame. There are other examples of Insulation/code requirements within the amendment reducing significantly below the currently adopted code. Adversely, the UBCC MAC did find some code amendments to be proactively addressing 2021 IECC code confusion/deficiency.

With the limited time and information provided to the UBCC MAC, a "No-Vote" approach to these amendments was taken. We believe that in order to provide a thorough and just recommendation for the higher bodies and state of Utah, the amendments proposed require significantly more evaluation, 3rd party discussion, and justification than what has been provided. The 1-week timeframe that we (UBCC MAC) had to analyze this amendment, as proposed, was inadequate for a recommended action.

Section **10-9a-538** is enacted to read:

**10-9a-538. Modular Homes**

(1) The regulations related to the construction, transportation, installation, inspections, fees, enforcement, and all other regulations related to modular housing shall be regulated by Utah Code Annotated Title 15A.

Section **15A-1-202** is amended to read:

**15A-1-202. Definitions.**

As used in this chapter:

**(1)** "Agricultural use" means a use that relates to the tilling of soil and raising of crops, or keeping or raising domestic animals.

**(2)**

**(a)** "Approved code" means a code, including the standards and specifications contained in the code, approved by the division under *Section 15A-1-204* for use by a compliance agency.

**(b)** "Approved code" does not include the State Construction Code.

**(3)** "Building" means a structure used or intended for supporting or sheltering any use or occupancy and any improvements attached to it.

**(4)** "Code" means:

**(a)** the State Construction Code; or **(b)** an approved code.

**(5)** "Commission" means the Uniform Building Code Commission created in *Section 15A-1-203*.

**(6)** "Compliance agency" means:

**(a)** an agency of the state or any of its political subdivisions which issues permits for construction regulated under the codes;

**(b)** any other agency of the state or its political subdivisions specifically empowered to enforce compliance with the codes; or

**(c)** any other state agency which chooses to enforce codes adopted under this chapter by authority given the agency under a title other than this part and Part 3, Factory Built Housing and Modular Units Administration Act.

**(7)** "Construction code" means standards and specifications published by a nationally recognized code authority for use in circumstances described in *Subsection 15A-1204(1)*, including:

**(a)** a building code;

**(b)** an electrical code;

**(c)** a residential one and two family dwelling code;

**(d)** a plumbing code;

**(e)** a mechanical code;

**(f)** a fuel gas code;

**(g)** an energy conservation code;

**(h)** a swimming pool and spa code;

**(i)** a manufactured housing installation standard code; and

(j) ICC/Model Building Institute Standards 1200 and 1205, except as modified by this Title 15A.

(8) "Construction project" means the same as that term is defined in *Section 38-1a-102*.

(9) "Executive director" means the executive director of the Department of Commerce.

(10) "Legislative action" includes legislation that:

(a) adopts a new State Construction Code;

(b) amends the State Construction Code; or

(c) repeals one or more provisions of the State Construction Code.

(11) "Local regulator" means a political subdivision of the state or its designee that is empowered to engage in the regulation of construction, installation, inspection, alteration, remodeling, building, repair, and other activities subject to the codes.

(12) "Membrane-covered frame structure" means a nonpressurized building with a structure composed of a rigid framework to support a tensioned membrane that provides a weather barrier.

(13) "Not for human occupancy" means use of a structure for purposes other than protection or comfort of human beings, but allows people to enter the structure for:

(a) maintenance and repair; and

(b) the care of livestock, crops, or equipment intended for agricultural use

which are kept there.

**(14)** "Opinion" means a written, nonbinding, and advisory statement issued by the commission concerning an interpretation of the meaning of the codes or the application of the codes in a specific circumstance issued in response to a specific request by a party to the issue.

**(15)** "Remote yurt" means a membrane-covered frame structure that:

**(a)** is no larger than 710 square feet;

**(b)** is not used as a permanent residence;

**(c)** is located in an unincorporated county area that is not zoned for residential, commercial, industrial, or agricultural use;

**(d)** does not have plumbing or electricity;

**(e)** is set back at least 300 feet from any river, stream, lake, or other body of water; and

**(f)** is registered with the local health department.

**(16)** "State regulator" means an agency of the state which is empowered to engage in the regulation of construction, alteration, remodeling, building, repair, and other activities subject to the codes adopted pursuant to this chapter.

Section **15A-1-205** is amended to read:

**15A-1-205. Division of Professional Licensing duties.**

(1)

**(a)** The [~~d~~] Division of Professional Licensing shall, except as specifically set forth otherwise, administer the codes adopted or approved under *Section 15A-1-204* pursuant to this chapter.

**(b)** Notwithstanding [~~Subsection (1)(a),~~] any provision in Utah Code Annotated, State Construction Code, or other applicable codes, the division, state regulator, and any third party agencies and inspectors shall not have the responsibility or authority, unless specifically granted by a local regulator per Utah Code 15A-1-304, to [~~:~~

~~(i) conduct inspections to determine compliance with the codes;~~

~~(ii) issue permits; or~~

~~(iii) assess building permit fees.~~] perform those duties reserved only to the local regulator set forth in Utah Code 15A-1-304.

**(2)** As part of the administration of the codes, the [~~d~~] Division of Professional Licensing or state regulator shall:

**(a)** comply with *Section 15A-1-206*;

**(b)** schedule appropriate hearings;

**(c)** maintain and publish for reference:

**(i)** the current State Construction Code; and

**(ii)** any approved code; [~~and~~]

**(d)** publish the opinions of the commission with respect to interpretation and application of the codes; and

(e) license all inspectors, including third-party inspectors, and manufacturers of modular units.

Section **15A-1-302** is amended to read:

**15A-1-302. Definitions.**

As used in this part:

(1) "Compliance agency" is as defined in *Section 15A-1-202*.

(2) "Decal" or "Insignia" means the approved form of certification issued by the State, to be permanently attached to the modular building, including each panelized system, certifying that it has been constructed to meet or exceed the applicable building code requirements.

(3) "Division" shall mean the Utah Division of Facilities Construction and Management of the Utah Department of Government Operations.

(4) "Factory built housing" means a manufactured home or mobile home.

(5) "Factory built housing set-up contractor" means an individual licensed by the division to set up or install factory built housing on a temporary or permanent basis.

(6) "HUD Code" means the National Manufactured Housing Construction and Safety Standards Act, *42 U.S.C. Sec. 5401* et seq.

**(7)** "Local regulator" is as defined in *Section 15A-1-202.*

**(8)** "Manufactured home" means a transportable factory built housing unit constructed on or after June 15, 1976, according to the HUD Code, in one or more sections, that:

**(a)** in the traveling mode, is eight body feet or more in width or 40 body feet or more in length, or when erected on site, is 400 or more square feet; and

**(b)** is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems.

**(9)** "Mobile home" means a transportable factory built housing unit built before June 15, 1976, in accordance with a state mobile home code which existed prior to the HUD Code.

**(10)** "Manufacturing Plant" means the location other than the building site at which modular buildings, modules, and panelized systems are assembled or manufactured prior to transport to the final construction site and have been approved and listed by the Division as a location owned and operated by an approved licensed Modular Manufacturer. Manufacturing Plant shall not include facilities used to manufacture or

construct modules or panelized system if they are located directly on the work site where the proposed modules, panelized systems or modular components are to be installed.

**(11)** "Modular Manufacturer" means the entity responsible for the manufacturing of assemblies, panelized systems, modular buildings or modular components.

**(12)** "Modular unit" means a structure:

**(a)** constructed from one or more modules, or constructed using one or more closed modular components or closed panels, manufactured at a location other than the permanent building site, [~~built from sections that are manufactured~~] in accordance with the State Construction Code and transported to a building site;

**(b)** the purpose of which is for human habitation, occupancy, or use; and **(c)** is not a factory-built house, manufactured home, or mobile home.

**(13)** Module means:

**(a)** a three-dimensional, volumetric section of a modular building designed and approved to be transported as a single section, independent of other sections, to a site for on-site construction; or

**(b)** a panelized system.

**(14)** "Offsite Construction" means a modular building, modular component or

panelized system that is designed and constructed in compliance with this standard and is wholly or in substantial part fabricated or assembled in manufacturing plants for installation—or assembly and installation—or on a separate building site and has been manufactured in such a manner that all parts or processes cannot be inspected at the installation site without disassembly, damage to or destruction thereof.

**(15)** "Onsite Construction" means the preparation of the site, foundation construction, construction of the supporting structure, assembly, connection of off-site or open construction and completion of site related construction in accordance with the construction documents and details.

**(16)** "Panelized System" means a closed wall, roof, or floor components that are constructed at a location other than the building site in a manner that prevents the construction from being inspected at the building site without disassembly, damage, or destruction thereof.

**(17)** "State regulator" is as defined in *Section 15A-1-202.*

**(18)** Third-Party Inspection Agency is a person or entity licensed by the Utah Division of Professional Licensing and approved by the Division of Facilities Construction and Management to be qualified by reason of facilities, personnel, experience, demonstrated reliability and independence of judgment to inspect modules for compliance with the construction documents, compliance control program and applicable codes.

**(19)** "Third-Party Inspector" is a person who:

**(a)** is qualified by reason of experience, demonstrated reliability and

independence of judgment to inspect modular buildings, and portions thereof, for compliance with the construction documents, compliance control program, and applicable building code;

**(b)** works under the direction of a third-party inspection agency; and

**(c)** has been licensed by the Division of Professional Licensing pursuant to 15A-1-307; and

**(d)** approved by the Division of Facilities Construction and Management.

Section **15A-1-304** is amended to read:

**Section 15A-1-304. Modular units.**

Modular unit construction, [~~setup~~] installation, issuance of permits for construction or [~~setup~~] installation, and setup shall be in accordance with the following:

**(1)** Construction, installation, and setup of [~~a~~] modular units and panelized systems shall be in accordance with the State Construction Code.

**(2)** Notwithstanding any provision in Utah Code, State Construction Code, or other applicable codes, rules, and regulations, [~~A~~] a local regulator or its qualified designee has the responsibility for and exclusive authority [~~for plan review and issuance of permits for construction, modification, or setup for the political subdivision in which the modular unit is to be setup;~~] to:

**(a)** Review and approve plans, but only to the extent that such plans relate to elements of onsite construction, as defined in ICC/MBI Standard 1205.

**(b)** Issue permits for construction of the building and any building site

modification;

(c) Perform onsite inspections;

(d) Verify by inspection that all off-site components are installed onsite in accordance with the approved plans, modular manufacturer's instructions, the State Construction Code, and applicable codes;

(e) Verify that all manufacturing decals have been permanently affixed to each component of the modular unit, module, and panelized system;

(f) Establish and assess fees, including building permit fees, inspection fees, administrative fees, impact fees, and other fees related to the construction and installation of modular units;

(g) Require a closed modular unit to be opened for further inspection upon discovery of visible damage to the modular unit or, based on a non-destructive visual inspection, identification of a modular unit not in compliance with the State Construction Code, applicable codes, or approved plans;

(h) Notwithstanding any other provision in Utah Code, Construction Code, standards, rules, and regulations, prevent the use or occupancy of a modular unit that, in the opinion of the building official, contains a serious defect or imminent safety hazard, and notify the action taken by the building official to the Division and Division of Professional Licensing;

(i) Subject to this Part 304(7), perform all other duties and responsibilities set forth in the ICC/MBI Standards 1200 and 1205 and not otherwise listed herein.

**(3)** Plan review and offsite and onsite [~~An~~] inspections of the construction,

modification of, or [~~setup~~] installation of a modular unit shall conform with [this chapter.] the State Construction Code and applicable codes, including site specific municipal codes.

**(4)** Subject to this Part 304(1)(h), (5), (6), and (7), [~~A~~] a local regulator shall [~~has the responsibility to~~] issue [~~an approval for the political subdivision in which a modular unit is to be setup or is setup.~~] a certificate of occupancy for a modular unit if the modular unit has all required decals, has been installed and inspected onsite according to plans, and meets the State Construction Code, the ICC/MBI Standards 1200 and 1205, and applicable municipal codes.

**(5)** [~~Nothing in this section precludes:~~

~~(a) a local regulator from contracting with a qualified third party for the inspection or plan review provided in this section; or~~

~~(b) the state from entering into an interstate compact for third party inspection of the construction of a modular unit.~~]

In addition to any immunity and protections set forth in the Utah Governmental Immunity Act, municipalities shall not be liable for claims solely arising from construction and manufacturing of offsite construction elements.

**(6)** Any purchaser, future resident, and homebuyer of a modular unit shall be considered to be in privity of contract with the manufacturer and third party inspection agency for the purposes of recovering damages for manufacturing and design defects and inspection agency and inspectors' errors and omissions.

**(7)** A local regulator may provide written notice within the certificate of occupancy that explain or list the municipality's limitations of liability pursuant to this Title and the Utah Governmental Immunity Act.

**(8)** A local regulator may, in its sole discretion, contract with a qualified and licensed third party agency or inspector that has been approved by the Division or another municipality to perform the onsite inspection or plan review provided in this section.

Section **15A-1-306** is amended to read:

**Section 15A-1-306. Factory built housing and modular units – Division responsibility – Unlawful conduct.**

**1)** The division or state regulator:

**a)** shall maintain current information on the HUD Code and the portions of the State Construction Code relevant to manufactured housing and modular installation and will provide at reasonable cost the information to compliance agencies, local regulators, or state regulators requesting such information;

**b)** shall provide qualified personnel to advise compliance agencies, local regulators, and state regulators regarding the standards for construction and setup, construction and setup inspection, and additions or modifications to factory built housing and modular units;

**c)** is designated as the state administrative agency for purposes of the HUD Code;

**d)** may inspect factory built housing units and modular units in or out of the state during the [~~construction~~] manufacturing process to determine compliance of the manufacturer with this [~~chapter~~] title for those units to be installed within the state, and upon a finding of substantive deficiency through such inspections or based on reports from approved third-party inspection agencies:

i) suspend or stop the manufacturer's construction of modular units to be sold or installed in the state of Utah;

ii) issue a corrective order to the manufacturer [~~and provide a copy of the order to the local regulator in the state's political subdivision where the unit is to be installed~~]; or

iii) require an increase in third-party factory inspections until such time that the Division and the third-party inspection agency is satisfied that the deficiency is resolved.

**e)** shall, if an action is taken pursuant to (1)(d)(i), (ii), or (iii), provide notice of its action or a copy of the corrective order to the local regulator in the state's political subdivision where the unit is to be installed; and

**f)** shall have rights of entry and inspection as specified under the HUD Code and ICC/MBI Standard 1200 and Standard 1205, as applicable;

**g)** shall implement by rule a continuing education requirement for manufactured housing and modular construction and installation contractors; and

**h)** shall have the authority to set and collect fees associated with the provision of decals or insignia to support the administration of the modular program.

**2)** The division may assess civil penalties payable to the state for violation of the HUD Code in an amount identical to those set forth in Section 611 of

the National Manufactured Housing Construction and Safety Standards Act of 1974, *42 U.S.C. Sec. 5410.*

**3)** The state may impose criminal sanctions for violations of the HUD Code identical to those set forth in Section 611 of the National Manufactured Housing Construction and Safety Standards Act of 1974, *42 U.S.C. Sec. 5410*, provided that if the criminal sanction is a fine, the fine shall be payable to the state.

Section **15A-1-307** shall be enacted to read:

**15A-1-307. Third party plan review – Inspection agencies**

1) The Division shall maintain a list of approved third-party plan review and inspection agencies that have been licensed by the Division of Professional Licensing.

2) Modular manufacturers shall contract with one or more third party agencies listed by the Division to perform offsite plan review and inspection.

3) Approved third-party agencies shall:

a) Demonstrate knowledge of applicable sections of the Utah Code and State Construction Code and other applicable laws, rules, and regulations;

b) Be independent in judgment and not have any actual or potential conflict of interest, is not affiliated with or influenced or controlled by any producer, supplier, vendor, developer, builder, or related fields applicable to the construction of modular units in any manner which might affect its capacity to render its conclusions and inspections without bias;

c) Carry insurance in the amount set by the Division to cover liabilities and

losses arising or relating to possible errors and omissions from its operations, reviews, and inspections; and

d) Perform all duties set forth in the ICC/MBI 1205, Chapter 4, as amended.

4) Third-party plan review examiners shall:

a) Be licensed and certified as a plans examiner under the International Code Council;

b) Possess the qualifications required by a third party plan review agency under the ICC/MBI Standard 1205, Chapter 4;

c) Be knowledgeable regarding the construction, installation, and setup of modular units;

5) Third party inspectors shall:

a) Be licensed and certified as:

i) A combination inspector in the state of Utah; and

ii) A third party inspector under the ICC/MBI Standard 1205, Chapter 4

Section **15A-1-308** shall be enacted to read:

**Section 15A-1-308. Manufacturing Plants and Quality Assurance Inspections.**

**(1)** The Division shall approve all modular manufacturers before modular units may be used within the State.

**(2)** Subject to the changes set forth in this part, manufacturers and quality assurance and control entities and employees must meet all of the requirements set forth in ICC/MBI 1200 Standard, Chapter 5 and 1205 Standard, Chapters 4 and 5.

(3) The Quality Assurance and Control Plan, as required in ICC/MBI 1200 Standard, Chapter 5 and further defined per ICC/MBI 1205 Standard, Chapter 5, shall:

(a) Require inspections of each modular unit, including each module and panelized system, at each station and phase of the manufacturing process; and

(b) Include all conflict of interest forms of quality assurance personnel and regularly submit conflict of interest forms for any new employees performing quality assurance duties.

(4) Quality assurance personnel shall:

(a) Demonstrate to the Division and third party inspection agency that they have adequate knowledge of the product, factory operations, and the codes and standards to which the product is being manufactured and shall also demonstrate the ability to perform their required duties;

(b) Be a licensed combination inspector in the state of Utah;

(c) Individually inspect each modular unit and panelized system at each stage of the manufacturing process and before being closed for inspection to ensure that the construction conforms to the approved plans.

(d) Submit to the manufacturer, to be included in the Quality Assurance and Control Plan or amended thereto, a form provided by the Division that lists all conflicts of interest.

(5) Manufacturers, quality assurance personnel, and third-party agencies and inspectors may not amend the plans without approval from the local regulator if such amendments violate specific provisions or affect the safety or habitability of the modular unit.

(6) The Division shall, upon request by a local regulator, provide all filed conflict of interest forms signed by quality assurance personnel and that have been submitted by the manufacturer as part of its quality assurance and control plan.

(7) Any decal or insignia for a modular unit, module, and panelized system issued and affixed by the third party inspection agency in compliance with this Part and Standard 1205, Chapter 7 shall warrant that such modular unit, module, and panelized system has been inspected in accordance with this Part 308(3) and is:

(a) Fit for human occupancy and may be safely used as intended;

(b) Manufactured in accordance with the State Construction Code, applicable state and local codes, and modular plans and specifications.