

AGENDA

UNIFORM BUILDING CODE COMMISSION MECHANICAL ADVISORY COMMITTEE MEETING

June 28, 2022 3:00

Anchor Location

Heber M Wells Building Rm 474
160 E 300 S
Salt Lake City UT 84114

Join with Google Meet
meet.google.com/irr-ytgt-iqd
Join by phone
(US) +1 617-675-4444 PIN: 568 941 338 0345#

This agenda is subject to change up to 24 hours prior to the meeting.

1. Roll call
2. Approve minutes from the June 14, 2022 meeting
3. Review recommendation for 2021 IECC and IRC energy portions
4. Make a recommendation to the UBC Commission for 2021 energy code

Next Scheduled Meeting: as needed

If you do not plan on attending this meeting, please call Sharon at 530-6163 or email at ssmalley@utah.gov



In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Dave Taylor, ADA Coordinator, at least three working days prior to the meeting. Division of Occupational and Professional Licensing, 160 East 300 South, Salt Lake City UT 84115, Phone 530-6628 or toll-free in Utah only 866-275-3675.

MINUTES

UNIFORM BUILDING CODE COMMISSION MECHANICAL ADVISORY COMMITTEE

Meeting

June 14, 2022 2:30 pm

Convened 2:39 PM

Adjourned 4:22

STAFF:

Steve Duncombe, Bureau Manager
Sharon Smalley, Board Secretary

MECHANICAL ADVISORY COMMITTEE:

David Halverson (excused)	David Wilson
Clay Monroe	Chris Jensen
Terry Palmer	Alyssa Wahlin
Martin Carrillo	Trent Hunt, Commission Liaison

VISITORS:

Kevin Emerson	Alex Veilleux
Eliza Cowie	Shawn Teigen
Thomas Kessinger	

MINUTES

A motion was made by Martin Carrillo to approve the minutes from the May 24, 2022 meeting as written. The motion was seconded by Chris Jensen and passed unanimously.

CONTINUE WITH REVIEW OF THE ENERGY PORTION OF THE 2021 IRC AND CURRENT AND PROPOSED AMENDMENTS

Those present reviewed the proposed amendments and the following recommendations were made following the discussion on each proposal for both the IRC and the residential portion of the IECC.

IECC SECTION C405.11

Following the review and discussion on this proposal, a motion was made by Martin Carrillo to deny the proposal. The motion was seconded by Chris Jensen and passed unanimously.

N1103.5.1.1 (R403.5.1.1)

Those present review the proposed amendment for this section. Following the discussion, a motion was made by Terry Palmer to approve the proposal. The motion was seconded by Chris Jensen and passed unanimously.

N1103.6.3 (R403.6.3)

Following the discussion on this proposed amendment, a motion was made by Terry Palmer to deny the proposal. The motion was seconded by Clay Monroe and passed unanimously.

N1104.1.1 (R404.1.1)

A motion was made by Chris Jensen to deny the proposal. The motion was seconded by Terry Palmer and passed unanimously.

N1104.2 (R404.2) / N1104.3 (R404.3)

The committee reviewed these two sections separately. Following the review of the first section, a motion was made by Clay Monroe to deny the proposal for N1104.2 (R404.2). The motion was seconded by Martin Carrillo and passed with a vote of six in favor and Alyssa Wahlin abstaining.

A second motion was made by Martin Carrillo to deny the proposal for N1104.3 (R404.3). The motion was seconded by Terry Palmer and passed unanimously.

N1105.2(R405.2)

Following the review and discussion of this proposal, a motion was made by Terry Palmer to approve the proposal. The motion died due to the lack of a second. A second motion was made by Chris Jensen to modify the proposal by keeping the words "approved by the code official and adding the words "where applicable and readily available" at the end. The motion was seconded by Clay Monroe and passed unanimously.

TABLE N1105.4.2(1) R405.4.2(1)

Following the review, a motion was made by Chris Jensen to deny the proposal. The motion was seconded by Martin Carrillo and passed unanimously.

N1106.3 (R406.3) / N1106.3.1
(R406.3.1)/ N1106.3.2 (406.3.2) /

Following the review, a motion was made by Terry Palmer to approve the proposal. The motion was

N1106.4 (R406.4)

seconded by Alyssa Wahlin and passed unanimously.

CHAPTER 11

The committee reviewed each proposal individually. A motion was made by Terry Palmer to approve the proposal for N1101.5 (R103.2) to modify the current amendment for this section. The motion was seconded by Chris Jensen and passed unanimously.

A motion was made by Terry Palmer to keep the current amendment for Section N1101.12 (R303.3). The motion was seconded by Chris Jensen and passed unanimously.

A motion was made by Terry Palmer to modify the proposal for N1102.1.5 (R402.1.5) by adding the same wording as in N1101.13 (R401.2). The motion was seconded by Chris Jensen and passed unanimously.

A motion was made by Chris Jensen to modify the Table number from N1102.2 (R402.1.2) to N1102.1.3 (R402.1.3) and keep the current amendment. The motion was seconded by Terry Palmer and passed unanimously.

A motion was made by Martin Carrillo to delete the current amendment for Section N1102.4.1 (R402.4.1). The motion was seconded by Clay Monroe and passed unanimously.

The proposal for Section N1102.4.1.1 (R402.4.1.1) was previously approved as modified.

The proposals for Section N1102.4.1.2 (R402.4.1.2) & N1103.3.6 (R403.3.6) were also previously approved as modified.

At this point, Clay Monroe left the meeting.

The section number for the current amendment for Section N1103.3.4 (403.3.4) needs to be changed to Section N1103.3.6 (403.3.6).

A motion was made by Chris Jensen to deny the proposal for N1104.1 (R404.1). The motion was seconded by Martin Carrillo and passed unanimously.

A motion was made by Terry Palmer to table the final recommendation for the 2021 IECC until the proposals and current amendments can be reviewed on more time. The motion was seconded by Chris Jensen and passed unanimously.

The next meeting will be held on June 28th at 3:00.

The meeting adjourned a 5:34.

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.

minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."

- ~~(31)~~~~(28)~~ In IRC, Section R403.1.6.1, a new exception is added at the end of Item 2 and Item 3 as follows: "Exception: When anchor bolt spacing does not exceed 32 inches (816 mm) apart, anchor bolts may be placed with a minimum of two bolts per plate section located not less than 4 inches (102 mm) from each end of each plate section at interior bearing walls, interior braced wall lines, and at all exterior walls."
- ~~(32)~~~~(29)~~ In IRC, Section R404.1, a new exception is added as follows: "Exception: As an alternative to complying with Sections R404.1 through R404.1.5.3, concrete and masonry foundation walls may be designed in accordance with IBC Sections 1807.1.5 and 1807.1.6 as amended in Section 1807.1.6.4 and Table 1807.1.6.4 under these rules."
- ~~(33)~~~~(30)~~ In IRC, Section R405.1, a new second exception is added as follows: "Exception: When a geotechnical report has been provided for the property, a drainage system is not required unless the drainage system is required as a condition of the geotechnical report. The geological-geotechnical report shall make a recommendation regarding a drainage system."
- ~~(31)~~ In IRC, Section R506.2.3, the words "10-mil (0.010 inch; 0.25 mm) are deleted and replaced with 6-mil (0.006 inch; .152 mm) and the words "conforming to ASTM E17545 Class A requirements" are deleted.

Amended by Chapter 28, 2022 General Session

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

- (1) 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 all documentation required to be submitted in order to issue a building permit only those items specified in 10-5-132(8) of the state building code."
- (2) In IRC, Section N1101.12 (R303.3), all wording after the first sentence is deleted.
- (3) In IRC, Section N1101.13 (R401.2), add a second 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)(a) (on or after January 1, 2019, and before January 1, 2021, "4 percent better than code"; and after January 1, 2021, "5 percent better than code."
 - (b) on or after July 1, 2023, "8 percent better than code."
 - (c) on or after January 1, 2025, "10 percent better than code, and"
 - (d) on or after January 1, 2027, "12 percent better than code"
- ~~(4)~~ In IRC, Table N1102.1.2 (R402.1.2), in the column titled CEILING U-FACTOR, the following changes are made:
 - (a) in the row for climate zone 3, "0.026" is deleted and replaced with "0.030".
 - (b) in the row for climate zone 5, "0.024" is deleted and replaced with "0.026".
- ~~(4)~~~~(5)~~ In IRC, Table N1102.2 ~~3~~ (R402.1.2~~3~~), 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."

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

- (a) In the column titled CEILING R –VALUE, in the row for climate zone 3, the "49" is deleted and replaced with "38" and in the row for climate zone 5 and the row for climate zone 6, the "60" is deleted and replaced with "49".
- (b) In the column titled WOOD FRAME WALL R-VALUE, in the row for climate zone 5, "20 + 5 or 13 + 5 10ci 0 +15" is deleted and replaced with "24 or 13 + 7ci" "19 + 5ci" "0 + 20ci".
- (c) In the column titled SLAB R-VALUE & DEPTH, in the row for climate zone 3, the "10ci, 2 ft" is deleted and replaced 10ci, 1 ft" and in the row for climate zone 5 the "10ci, 4 ft" is deleted and replaced with "10ci, 2 ft".

(7) In IRC, Section N1102.1.5 (R402.1.5) the following is added at the end: Compliance with this section may be shown by demonstrating a result, using the software RESCheck 2012 Utah Energy Conservation Code of:

- (a) after January 1, 2021, "5 percent better than code."
- (b) on or after July 1, 2023, "8 percent better than code."
- (c) on or after January 1, 2025, "10 percent better than code, and"
- (d) on or after January 1, 2027, "12 percent better than code"

✂ (8) In IRC, Section N1102.2.1 (R402.2.1), in the last sentence, the words "and the Total UA alternative in Section N1102.1.5" are deleted.

(9) In IRC, Section N1102.2.9.1 (R402.2.9.1), the following is added at the end, "or lowered from top of slab 4 inches when a 4 inch thermal break material, such as but not limited to felt or asphalt impregnated fiber board, with a minimum thickness of ¼ inch is installed at the upper 4" of slab."

(10) In IRC, Section N1102.3.3 (R402.3.3), the last sentence is deleted.

(11) In IRC Section N1102.3.4 (R402.3.4), the last sentence is deleted.

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

(6)(12)In IRC, Section N1102.4.1.1 (R402.4.1.1), the last sentence is deleted and replace with the following: "Where required by the code official, the builder shall certify compliance with criteria indicated in Table N1102.4.1.1 (R402.4.1.1) for items which are not readily visible during regularly scheduled inspections by submitting photographs or third party inspections."

(13) In IRC, Table N1102.4.1.1 (R402.4.1.1), on the row for "Rim joists" in the column for "AIR BARRIER CRITERIA", the word "exterior" is deleted in the first sentence."

(14) In IRC, Table N1102.4.1.1 (R402.4.1.1), on the row for "Electrical/phone box on exterior wall" in the column for "AIR BARRIER CRITERIA", the last sentence is deleted and replaced with the following sentence: "Alternatively, closed cell foam, caulking, or gaskets shall be used or air seal boxes shall be installed."

(7)(15)In IRC, Section N1102.4.1.2 (R402.4.1.2), the following changes are made:

- (a) In the first sentence:
 - (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"; after July 1, 2023, replace 3.5 with 3.25 and after July 1, 2025, replace 3.25 with 3.0 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."
- (c) In the third sentence, the word "third" is deleted.
- (d) 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."

(16) In IRC, Section N1102.4.1.2 (R402.4.1.2), the word "third" is deleted and in the exception, the words, "Where required by the code official, an approved third party independent from the installer shall inspect both air barrier and insulation installation criteria" are deleted.

(17) In IRC, Section N1102.4.1.3 (R402.4.1.3), is deleted and replaced with the following:

N1102.4.1.3 (R402.4.1.3) Leakage rate. Where complying with Section N1101.13.1² ^{ed} (R401.13.1), the building or dwelling unit shall have an air leakage rate not exceeding 3.25 air changes per hour and after July 1, 2025 not exceeding 3.0 air changes per hour when tested in accordance with Section N1102.4.1.2 (R402.4.1.2). Townhomes shall have an air leakage rate not exceeding 5.0 air changes per hour when tested in accordance with Section N 1102.4.1.2 (R402.4.1.2).

(18) In IRC, Section N1102.4.6 (R402.4.6) the first sentence is deleted and the words "used to limit air leakage between conditioned and unconditioned spaces" is inserted after the word "boxes" in the second sentence.

(19) IRC, Section N1103.3.1 (R403.3.1) is deleted and replaced with the following: "R1103.3.1 (R403.3.1) 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 there located completely inside the building thermal envelope.

~~(8)(20)~~ In IRC, Section N1103.3.35(R403.3.35):

- (a) the exception for duct air leakage testing is deleted; and
- (b) the exception for duct air leakage is replaced:
 - (i) ~~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.";~~
 - (ii) ~~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
 - (iii) ~~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."~~

(9)(21) In IRC, Section N1103.3.35 (R403.3.35), the following is added after the 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."

(10)(22) In IRC, Section N1103.3.46 (R403.3.46):

(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;~~

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

~~(11)(23)~~ In IRC, Section N1103.3.5 (R403.3.5), the words "or plenums" are deleted.

~~(24)~~ In IRC, Section N1103.5.1.1 (R403.5.1.1), the words "Where installed" are added at the beginning of the paragraph.

~~(12)(25)~~ In IRC, Section N1103.5.3 (R403.5.3), Subsection 5 is deleted and Subsections 6 and 7 are renumbered.

~~(13)(26)~~ IRC, Section N1103.6.1 (R403.6.1), is deleted and replaced with the following: "N1103.6.1 (R403.6.1) 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).

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."

~~(14)(27)~~ In IRC, Section N1103.6.1 (R403.6.1), the table is deleted and replaced with the following:

TABLE N1103.6.1 (R403.6.1)

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

~~(28)~~ IRC, Section N1103.6.3 (R403.6.3) is deleted.

~~(29)~~ In IRC, Section N1105.2 (R405.2) the words "where applicable and readily available" are added at the end of number 3.

~~(30)~~ IRC, Section N1106.3 (R406.3) is deleted and replaced with the following:

N1106.3 (R406.3) Building thermal envelope. The proposed total building thermal envelope UA, which is sum of U-factor times assembly area, shall be less than or equal to the building thermal envelope UA using the prescriptive U-factor from Table N1102.1.2 (R402.1.2)

multiplied by 1.5 in accordance with Equation 11-4. The area-weighted maximum fenestrations SHGC permitted in Climate Zones 0 through 3 shall be 0.30.

$$UA_{\text{Proposed design}} = 1.15 \times UA_{\text{Prescriptive reference design}} \quad (\text{Equation 11-4})$$

(31) IRC, Section N1106.4 (R406.4) is deleted and replaced with the following:

N1106.4 (R406.4) Energy Rating Index. The energy Rating Index (ERI) shall be determined in accordance with RESNET/ICC 301 except that the ERI shall be permitted to be calculated using the minimum total air exchange rate for the rated home (Q_{tot}) and for the index adjustment factor in accordance with Equation 11.5.

$$CFM = (0.01 \times \text{total square foot area of house}) + [7.5 \times (\text{number of bedrooms} + 1)]$$

(Equation 11-5)

Energy used to recharge or refuel a vehicle used for transportation on roads that are not on the building site shall not be included in the ERI reference design or the rated design. For compliance purposes, any reduction in energy use of the rated design associated with on-site renewable energy shall not exceed 15 percent of the total energy use.

(15)(32) In IRC, Section N1106.4 (R406.4), the table is deleted and replaced with the following:

TABLE N1106.4 (R406.4)₅ ⁵
MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	65 ₅₇
5	69 ₆₁
6	68 ₆₁

(16) 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"

(17)(33) A new IRC, Section N1103.7.1 is added as follows: "N1103.7.1 Qualifications. An individual performing load calculations shall be qualified by completing HVAC load calculation 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."

(18)(34) "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.

(19)(35) In IRC M1401.3 the word "approved" is deleted in the first sentence and the following is added after the word methodologies, "complying with N1401.3.1".

(20)(36) 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 load calculation 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."

- (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"; after July 1, 2023, replace 3.5 with 3.25 and after July 1, 2025, replace 3.25 with 3.0 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."
- (c) In the third sentence, the word "third" is deleted.
- (d) 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."

(17) In IRC, R402.4.1.3

(18) In IECC, Section R402.4.6 the first sentence is deleted and the words "used to limit air leakage between conditioned and unconditioned spaces" is inserted after the word "boxes" in the second sentence.

(19) IECC, Section R403.3.1, is deleted and replaced with the following: "R403.3.1 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 there located completely inside the building thermal envelope.

(20) In IECC, Section R403.3.5:

(a) the exception for duct air leakage testing is deleted; and

(b) the exception for duct air leakage is replaced:

- (i) 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.";
- (ii) 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
- (iii) on or after January 1, 2021, with the following: "Exception: The duct air leakage test is not located entirely within the building thermal envelope."

(9)(21) In IECC, Section R403.3.3.35 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) In IECC, Section R403.5.1.1, the words "Where installed" are added at the beginning of the paragraph.

(11)(23) In IECC, Section R403.3.46:

- (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.~~
- ~~(12) (24)~~ In IECC, Section R403.3.5, the words "or plenums" are deleted.
- ~~(13) (25)~~ In IECC, Section R403.5.3, Subsection 5 is deleted and Subsections 6 and 7 are renumbered.
- ~~(14) (26)~~ IECC, Section R403.6.1, is deleted and replaced with the following: "R403.6.1 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.

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."

- ~~(15) (27)~~ In IECC, Section R403.6.1, the table is deleted and replaced with the following:

TABLE R403.6.1

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

- ~~(28) IECC, Section R403.6.3 is deleted.~~
- ~~(29) IECC, Section R404.2 is deleted.~~
- ~~(30) IECC, Section R404.3 is deleted.~~
- ~~(31) In IECC, Section R405.2 the words "where applicable and readily available" are added at the end of number 3.~~
- ~~(32) IECC, Section R406.3 is deleted and replaced with the following: R406.3 Building thermal envelope. The proposed total building thermal envelope UA, which is sum of U-factor times assembly area, shall be less than or equal to the building thermal envelope UA using the prescriptive U-factor from Table R402.1.2 multiplied by 1.5 in accordance with Equation 11 -4. The area-weighted maximum fenestrations SHGC permitted in Climate Zone 0 through 3 shall be 0.30.~~

$$UA_{\text{Proposed Design}} = 1.15 \times UA_{\text{Prescriptive reference design}} \quad (\text{Equation 11 -4})$$

(33) IECC, Section, R406.4, is deleted and replaced with the following: R406.4 Energy Rating Index. The Energy Rating Index (ERI) shall be determined in accordance with RESNET/ICC 301 except that the ERI shall be permitted to be calculated using the minimum total air exchange rate for the rated home (Q_{tot}) and for the index adjustment factor in accordance with Equation 11 -5.

$$CFM = (0.01 \times \text{total square foot area of house}) + [7.5 \times (\text{number of bedrooms} + 1)]$$

(Equation 11 -5)

Energy used to recharge or refuel a vehicle used for transportation on roads that are not on the building site shall not be included in the ERI reference design or the rated design. For compliance purposes, and reduction in energy use of the rated design associated with on-site renewable energy shall not exceed 15 percent of the total energy use.

~~(16)~~ In IECC, Section R406.4, the table is deleted and replaced with the following:

TABLE R406.4

MAXIMUM ENERGY RATING INDEX

CLIMATE ZONE	ENERGY RATING INDEX
3	65
5	69
6	68

(34) 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 load calculation 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.

Amended by Chapter 20, 2019 General Session

Part 8

Statewide Amendments to International Existing Building Code

15A-3-801 General provisions.

The following are adopted as amendments to the IEBC and are applicable statewide:

- (1) In Section 202, the following definition is added: "BUILDING OFFICIAL. See Code Official."
- (2) In Section 202, the definition for "code official" is deleted and replaced with the following:
"CODE OFFICIAL. The officer or other designated authority having jurisdiction (AHJ) charged with the administration and enforcement of this code."
- (3) In Section 202, the definition for existing buildings is deleted and replaced with the following:
"EXISTING BUILDING. A building that is not a dangerous building and that was either lawfully

Exception: In dwelling units designed to be accessible to persons with disabilities, receptacles shall be permitted to be installed not more than 300 mm (12 Inches) below the countertop or work surface. Receptacles installed below a countertop or work surface shall not be located where the countertop or work surface extends more than 150 mm (6 inches) beyond its support or base.

- (5) (6) NEC, Section 210.65, is deleted.
- (6) (7) In NEC, Section 230.67, is deleted.
- (7) (8) In NEC, Section 314.27(C), is deleted and replaced with the following: "314.27(C) Boxes at Ceiling-Suspended (Paddle) Fan Outlets. Outlet boxes or outlet box systems used as the sole support of a ceiling-suspended (paddle) fan shall be listed, shall be marked by their manufacturer as suitable for this purpose, and shall not support ceiling-suspended (paddle) fans that weigh more than 32 kg (70 lb). For outlet boxes or outlet box systems designed to support ceiling-suspended (paddle) fans that weigh more than 16 kg (35 lb), the required marking shall include the maximum weight to be supported."
- (8) (9) In NEC, Section 406.9(C), is deleted and replaced with the following: "406.9(C) Bathtub and Shower Space. Receptacles shall not be installed within or directly over a bathtub or shower stall."

Amended by Chapter 199, 2021 General Session

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) In IECC, Section C403.11.2.3, the words "by the designer" are deleted.
- (2) In IECC, Section R103.2, all words after the words "herein governed." are deleted and replaced with the following: "Construction documents required for building permits shall include all documentation required to be submitted in order to issue a building permit only those items specified in 10-5-132(8) of the state building code."
- (3) In IECC, Section R303.3, all wording after the first sentence is deleted.
- (4) In IECC, Section R401.2, a new number 4 is added as follows:
 - "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"
 - (a) on or after July 1, 2023, 8 percent better than code, and
 - (b) On or after July 1, 2027 12 percent better than code."
- (5) IECC, Table R402.1.2, in the column titled CEILING U-FACTOR, the following changes are made:
 - (a) In the row for climate zone 3, "0.026" is deleted and replaced with "0.30".
 - (b) In the row for climate zone 5, "0.024" is deleted and replaced with "0.026".

~~(5)~~(6) In IECC, Table R402.1.3 in the column entitled 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, for gas, 90 AFUE, or, for oil, 84 AFUE, and all other component requirements are met."

~~(7)~~ In IECC, Table R402.1.3, the following changes are made.

~~(a)~~ In the column titled CEILING R-VALUE, in the row for climate zone 3, the "49" is deleted and replaced with "38" and in the row for climate zone 5 and the row for climate zone 6, the "60" is deleted and replaced with "49".

~~(b)~~ In the column titled WOOD FRAME WALL R-VALUE, in the row for climate zone 5, "20 + 5 or 13 + 5 10ci 0 + 15" is deleted and replaced with "24 or 13 + 7ci" "19 + 5ci" "0 + 20ci".

~~(c)~~ In the column titled SLAB R-VALUE & DEPTH, in the row for climate zone 3, the "10ci, 2ft" is deleted and replaced with 10ci, 1 ft" and in the row for climate zone 5 the "10ci, 4 ft. is deleted and replaced with "10ci, 2 ft".

~~(8)~~ In IECC, Section R402.1.5, the following is added at the end" Compliance with this section may be shown by demonstrating a result, using the software RESCheck 2012 Utah Energy Conservation Code of:

~~(a)~~ 5 percent better than code.

~~(b)~~ on or after July 1, 2023, "8 percent better than code.

~~(c)~~ on or after January 1, 2025, 10 percent better than code.

~~(d)~~ on or after January 1, 2027, 12 percent better than code."

~~(9)~~ In IECC, Section R402.2.1, in the last sentence, the words "and the Total UA alternative in Section R402.1.5 are deleted."

~~(10)~~ In IECC, Section 402.2.9.1, the following is added at the end, "or lowered from top of slab 4 inches when a 4 inch thermal break material, such as but not limited to felt or asphalt impregnated fiber board, with a minimum thickness of ¼ inch is installed at the upper 4 inch of slab."

~~(11)~~ In IECC, Section R402.3.3, the last sentence is deleted.

~~(12)~~ In IECC, Section R402.3.4, the last sentence is deleted.

~~(6)~~ In IECC, Section R402.4.1, in the first sentence, the word "and" is deleted and replaced with the word "or".

~~(7)~~(13) In IECC, Section R402.4.1.1, the last sentence is deleted and replaced with the following:

"Where allowed by the code official, the builder may certify compliance to components criteria indicated in Table R402.4.1.1 for items which are not readily visible during regularly scheduled inspections by submitting photographs or third party inspections. ~~may not be inspected during regularly scheduled inspections.~~"

~~(14)~~ In IECC, Table R402.4.1.1, on the row for "Rim joists" in the column for "AIR BARRIER CRITERIA", the word "exterior" is deleted in the first sentence."

~~(15)~~ In IECC, Table R402.4.1.1, on the row for "Electrical/phone box on exterior wall", in the column for "AIR BARRIER CRITERIA", the last sentence is deleted and replaced with the following sentence: "Alternatively, closed cell foam, caulking, or gaskets shall be used or air seal boxes shall be installed."

~~(8)~~(16) In IECC, Section R402.4.1.2, the following changes are made:

(a) In the first sentence: