TITLE 748. OKLAHOMA UNIFORM BUILDING CODE COMMISSION
CHAPTER 20. ADOPTED CODES

SUBCHAPTER 2. IBC® ~~2018~~ 2024

748:20-2-1. Adoption of the International Building Code®, ~~2018 Edition (IBC® 2018~~ 2024 Edition (IBC® 2024) [AMENDED]

(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Building Code®, ~~2018~~ 2024 Edition (IBC® ~~2018~~ 2024), ~~second~~ first printing (~~January 2019~~ August 2023) as amended and modified in this subchapter as the statewide minimum code for commercial building construction in the State of Oklahoma pursuant to 59 O.S. 1000.23.

(b) The OUBCC through formal action expressly chose to adopt the IBC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for commercial building construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Building Code® 2021 Edition (IBC® 2021) for any purpose.

(c) As part of its 2012 code cycle, the International Code Council, Inc.® (ICC®) reorganized the format of certain of its model codes as it was foreseeable to ICC that additional chapters will need to be added in the future as model regulations for new processes or operations are developed. The format reorganization was designed by ICC to accommodate such future chapters by providing reserved (unused) chapters in several parts of certain of its model codes as part of its 2012 code cycle. The format reorganization continues into the ICC's ~~2018~~ 2024 code cycle and is adopted by the OUBCC to the extent provided in this subchapter by the phrase "reserved for future use" inserted in lieu of titles for chapters.

(d) ~~The OUBCC has pulled, from the ICC website, published errata to the second printing of the IBC® through July 31, 2019. Any errata~~ Errata published by the ICC for the IBC® 2024 edition ~~after that date~~ has not been reviewed or incorporated into these rules.

(e) This material contains information which is proprietary to and copyrighted by the International Code Council, Inc. The acronym "ICC" and the ICC logo are trademarks and service marks of ICC. ALL RIGHTS RESERVED.

748:20-2-2. Effect of Adoption [AMENDED]

The IBC® ~~2018~~ 2024 as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for commercial building construction in Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-2-3. IBC® ~~2018~~ 2024 and Other Appendices [AMENDED]

(a) None of the appendices of the IBC® ~~2018~~ 2024 have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial building construction in the State of Oklahoma.

(b) Appendices A through ~~N~~ P are not adopted as the minimum code for commercial building construction within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices in accordance with 59 O.S. § 1000.29.

748:20-2-4. IBC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IBC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for commercial building construction within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.

(b) The ICC® has reserved Chapter 34 for possible future use. The OUBCC has not adopted Chapter 34 and the chapter is not considered part of the statewide minimum code for commercial building construction within the State of Oklahoma.

(c) To the extent any references in the IBC® ~~2018~~ 2024 as amended and modified in this sub-chapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found

in the IBC® ~~2018~~ 2024 as amended and modified in this sub-chapter and in the IBC® ~~2018~~ 2024 Chapter 35 entitled "Referenced Standards."

748:20-2-6. IBC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IBC® ~~2018~~ 2024 includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IBC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for commercial building construction in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IBC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for commercial building construction.

(2) All provisions of the adopted IBC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for commercial building construction in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to Oklahoma law ~~and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code~~. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.

(3) Section 105.1.1 Annual permit. This section has been modified to clarify an annual permit is a yearly permit that represents a group of individual permits for each alteration to already approved electrical, gas, mechanical or plumbing installation. This section shall read: 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.

(4) Section 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.

(5) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create, departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IBC® ~~2018~~ 2024.

(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IBC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-2-7. IBC® ~~2018~~ 2024 Chapter 2 Definitions [AMENDED]

Chapter 2 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: SHARED COMMON USE AREAS. This definition has been added to clarify what is considered as shared common use areas. This definition has been added to read: SHARED COMMON USE AREAS. Rooms, spaces, or elements, inside

or outside of a building which are available for the use of the occupants of more than one tenant space or building. These areas may include, but are not limited to, restrooms, hallways, lounges, lobbies, reception counters, laundry rooms, refuse rooms, mail rooms, recreation areas and passageways among or between buildings or tenant spaces.

~~(1) The definition of a CAPACITOR ENERGY STORAGE SYSTEM" has been modified to delete the additional two sub-definitions for a "Preengineered capacitor energy storage system" and a "Prepackaged capacitor energy storage system." This definition has been modified to read: CAPACITOR ENERGY STORAGE SYSTEM. A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a building or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.~~

~~(A) The definition of a "Preengineered stationary storage battery system" has been stricken from the code.~~

~~(B) The definition of a "Prepackaged stationary storage battery system" has been stricken from the code.~~

~~(2) The definition of an INTERMODAL SHIPPING CONTAINER has been added to clarify multiple references in the code. This section has been added to read: INTERMODAL SHIPPING CONTAINER. A six-sided steel unit originally constructed as a general cargo container used for the transport of goods and materials.~~

748:20-2-8. IBC® ~~2018~~ 2024 Chapter 3 Use and Occupancy Classification [AMENDED]

Chapter 3 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 305.2.4 Seven or fewer children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility in the home and clarifies the total number of children includes both those under and over two and one-half years of age. This section has been added to read: 305.2.4 Seven or fewer children in a dwelling. A facility such as the above within a detached dwelling and having seven or fewer children receiving such day care shall be permitted to comply with the International Residential Code®. This number shall include children two and one-half years or less of age.

(2) Section 305.2.5 Eight to 12 children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility with eight to 12 children in a dwelling, allowing the licensed daycare facility to comply with the requirements of the IRC® so long as the structure if fire-sprinklered, and clarifies the total number of children include both those under and over two and one-half years of age. This section has been added to read: 305.2.5 Eight to 12 children in a dwelling. A facility such as the above within a detached dwelling and having eight to 12 children receiving such day care shall comply with the International Residential Code® provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code®. This number shall include children two and one-half years or less of age.

(3) Section 308.5.5 Seven or fewer children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility in the home and clarifies the total number of children includes both those under and over two and one-half years of age. This section has been added to read: 308.5.5 Seven or fewer children in a dwelling. A facility such as the above within a detached dwelling and having seven or fewer children receiving such day care shall be permitted to comply with the International Residential Code®. This number shall include children two and one-half years or less of age.

(4) Section 308.5.6 Eight to 12 children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility with eight to 12 children in a dwelling, allowing the licensed daycare facility to comply with the requirements of the IRC® so long as the structure if fire-sprinklered, and clarifies the total number of children include both those under and over two and one-half years of age. This section has been added to read: 308.5.6 Eight to 12 children in a dwelling. A facility such as the above within a detached dwelling and having eight to 12 children receiving such day care shall comply with the International Residential Code® provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code®. This number shall include children two and one-half years or less of age.

~~(1)~~(5) Section 310.4 Residential Group R-3. This section has been modified to limit a lodging house to four guest rooms with no more than two person per room if constructed in compliance with the requirements of the International Residential Code®, to align the section to the requirements in Title 74 O.S. § 317.1. This section has been modified to read: 310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as a Group R-1, R-2, R-4 or I, including:

(A) Buildings that do not contain more than two dwelling units

(B) Care facilities that provide accommodations for five or fewer persons receiving care

(C) Congregate living facilities (nontransient) with 16 or fewer occupants

(i) Boarding houses (nontransient)

(ii) Convents

(iii) Dormitories

(iv) Emergency services living quarters

~~(iv)~~(v) Fraternities and sororities

~~(v)~~(vi) Monasteries

(D) Congregate living facilities (transient) with 10 or fewer occupants - Boarding houses (transient)

(E) Lodging houses (transient) with four or fewer guest rooms and ~~no~~ not more than ~~2~~ two persons per room.

(F) Hotels (nontransient) with five or fewer guest rooms.

(G) Motels (nontransient) with five or fewer guest rooms.

~~(2)~~(6) Section 310.4.2 Lodging houses. This section has been modified to limit a lodging house to four guest rooms and no more than two persons per room if constructed in compliance with the requirements in the International Residential Code® to align the section with the requirements in Title 74 O. S. § 317.1. This section has been modified to read: 310.4.2 Lodging houses. Owner-occupied lodging houses with four or fewer guest rooms and ~~no~~ not more than ~~2~~ two persons per room shall be ~~permitted to be~~ constructed in accordance with this code or the International Residential Code®, provided that facilities constructed using the International Residential Code® are protected by an automatic sprinkler system installed in accordance with Section P2904 of the International Residential Code®.

748:20-2-9. IBC® ~~2018~~ 2024 Chapter 4 Special Detailed Requirements Based on Use and Occupancy [AMENDED]

Chapter 4 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) Section [F] 403.4.8.2 Fuel line piping protection. This section has been modified to add a third option for separating fuel lines supplying a generator set inside a building utilizing a fire-resistant pipe-protection system that has been tested in accordance with UL 1489. This section has been modified to read: [F] 403.4.8.2. Fuel line piping protection. Fuel lines supplying a generator set inside a building shall be separated from areas of the building other than the room the generator is located in, by one of the following methods:~~

~~(A) A fire-resistant pipe-protection system that has been tested in accordance with UL 1489. The system shall be installed as tested and in accordance with the manufacturer's installation instructions, and shall have a rating of not less than 2 hours. Where the building is protected throughout with an automatic fire sprinkler system installed in accordance with Section 903.3.1.1, the required rating shall be reduced to 1 hour.~~

~~(B) An assembly that has a fire-resistance rating of not less than 2 hours. Where the building is protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, the required fire-resistance rating shall be reduced to 1 hour.~~

~~(C) Other approved methods.~~

~~(2)~~(1) Section 406.7.2.1 Canopies used to support gaseous hydrogen systems. This section has been modified by deleting the word "hydrogen" in the heading and in the third requirement; and by adding the wording "lighter-than-air" to the section header to make the section applicable to all lighter-than-air fuels. This section has been modified to read: 406.7.2.1 Canopies used to support lighter-than-air gaseous systems. Canopies that are used to shelter dispensing operations where flammable compressed gases are located on the roof of the canopy shall be in accordance with the following:

(A) Item 1. The canopy shall meet or exceed Type I construction requirements.

(B) Item 2. Operations located under canopies shall be limited to refueling only.

(C) Item 3. The canopy shall be constructed in a manner that prevents the accumulation of gas.

~~(3)~~(2) Section 406.7.2.2. Canopies sheltering units and devices that dispense lighter-than-air gas. This section has been added to require all canopies to be designed to prevent the accumulation or entrapment of ignitable vapors under canopies when dispensing lighter-than-air gas or all electrical equipment installed beneath the canopy is required to be suitable for Class I, Division 2 hazardous (classified) locations. This section has been added to read: 406.7.2.2 Canopies sheltering units and devices that dispense lighter-than-air gas. Where CNG, LNG, or Hydrogen motor fuel dispensing devices are installed beneath a canopy, the canopy shall be designed to prevent the accumulation or entrapment of ignitable vapors, including provisions for natural or mechanical ventilation means, or all electrical equipment installed beneath the canopy or within the enclosure shall be suitable for Class I, Division 2 hazardous (classified) locations. Tank vents that are installed within or attached to the canopy shall extend a minimum of 5 feet (1524 mm) above the highest projection of the canopy. Compression and storage equipment located on the top of the canopy shall be in accordance with current State of Oklahoma adopted International Fire Code®, Section 2309.

~~(4) Table 414.5.1 Explosion Control Requirements. This table has been modified to add electrochemical energy storage systems to the Special Uses section of the table and to add footnote "i" to the notes at the bottom of the table. The table has been modified to read: Table 414.5.1 Explosion Control Requirements. The superscript letters "a" and "h" are listed after the title indicating the relative footnotes applicable to the entire table. The table has 30 rows with 4 columns per row and is described below.~~

~~(A) Row 1 is the header row and contains the headers for the four columns as listed below:~~

~~(i) Row 1, column1, header is entitled "MATERIAL."~~

~~(ii) Row 1, column 2, header is entitled "CLASS."~~

~~(iii) Row 1, column 3, header is entitled "Barricade construction (Explosion Control Method)."~~

~~(iv) Row 1, column 4, header is entitled "Explosion (deflagration) venting or explosion (deflagration) prevention systems (Explosion Control Method)" with a superscript "b" after the word "systems" to indicate footnote "b" applies.~~

~~(B) Row 2 contains the following information in each of the four columns listed for the header row number 1:~~

~~(i) Row 2, column 1 contains the wording "HAZARD CATEGORY."~~

~~(ii) Row 2, column 2 is blank.~~

~~(iii) Row 2, column 3 is blank.~~

~~(iv) Row 2, column 4 is blank.~~

~~(C) Row 3 contains the following information in each of the four columns listed for the header row number 1:~~

~~(i) Row 3, column 1 contains the wording "Combustible dusts" with a superscript "c" after the word "dust" to indicate footnote "c" applies.~~

~~(ii) Row 3, column 2 contains a hyphen with no words or numbers.~~

~~(iii) Row 3, column 3 contains the wording "Not Required."~~

~~(iv) Row 3, column 4 contains the wording "Required."~~

~~(D) Row 4 contains the following information in each of the four columns listed for the header row number 1:~~

~~(i) Row 4, column 1 contains the wording "Cryogenic flammables."~~

~~(ii) Row 4, column 2 contains a hyphen with no words or numbers.~~

~~(iii) Row 4, column 3 contains the wording "Not Required."~~

~~(iv) Row 4, column 4 contains the wording "Required."~~

~~(E) Row 5 contains the following information in each of the four columns listed for the header row number 1:~~

~~(i) Row 5, column 1 contains the wording "Explosives."~~

~~(ii) Row 5, column 2 contains the wording "Division 1.1."~~

~~(iii) Row 5, column 3 contains the wording "Required."~~

~~(iv) Row 5, column 4 contains the wording "Not Required."~~

~~(F) Row 6 contains the following information in each of the four columns listed for the header row number 1:~~

~~(i) Row 6, column 1 contains the wording "Explosives."~~

~~(ii) Row 6, column 2 contains the wording "Division 1.2."~~

(iii) Row 6, column 3 contains the wording "Required."

(iv) Row 6, column 4 contains the wording "Not Required."

(G) Row 7 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 7, column 1 contains the wording "Explosives."

(ii) Row 7, column 2 contains the wording "Division 1.3."

(iii) Row 7, column 3 contains the wording "Not Required."

(iv) Row 7, column 4 contains the wording "Required."

(H) Row 8 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 8, column 1 contains the wording "Explosives."

(ii) Row 8, column 2 contains the wording "Division 1.4."

(iii) Row 8, column 3 contains the wording "Not Required."

(iv) Row 8, column 4 contains the wording "Required."

(I) Row 9 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 9, column 1 contains the wording "Explosives."

(ii) Row 9, column 2 contains the wording "Division 1.5."

(iii) Row 9, column 3 contains the wording "Required."

(iv) Row 9, column 4 contains the wording "Not Required."

(J) Row 10 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 10, column 1 contains the wording "Explosives."

(ii) Row 10, column 2 contains the wording "Division 1.6."

(iii) Row 10, column 3 contains the wording "Required."

(iv) Row 10, column 4 contains the wording "Not Required."

(K) Row 11 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 11, column 1 contains the wording "Flammable gas."

(ii) Row 11, column 2 contains the wording "Gaseous."

(iii) Row 11, column 3 contains the wording "Not Required."

(iv) Row 11, column 4 contains the wording "Required."

(L) Row 12 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 12, column 1 contains the wording "Flammable gas."

(ii) Row 12, column 2 contains the wording "Liquefied."

(iii) Row 12, column 3 contains the wording "Not Required."

(iv) Row 12, column 4 contains the wording "Required."

(M) Row 13 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 13, column 1 contains the wording "Flammable liquid."

(ii) Row 13, column 2 contains the letters "IA" followed by a superscript "d" to indicate footnote "d" applies.

(iii) Row 13, column 3 contains the wording "Not Required."

(iv) Row 13, column 4 contains the wording "Required."

(N) Row 14 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 14, column 1 contains the wording "Flammable liquid."

(ii) Row 14, column 2 contains the letters "IB" followed by a superscript "e" to indicate footnote "e" applies.

(iii) Row 14, column 3 contains the wording "Not Required."

(iv) Row 14, column 4 contains the wording "Required."

(O) Row 15 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 15, column 1 contains the wording "Organic peroxides."

(ii) Row 15, column 2 contains the letter "U."

(iii) Row 15, column 3 contains the wording "Required."

(iv) Row 15, column 4 contains the wording "Not Permitted."

(P) Row 16 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 16, column 1 contains the wording "Organic peroxides."

(ii) Row 16, column 2 contains the letter "I."

(iii) Row 16, column 3 contains the wording "Required."

(iv) Row 16, column 4 contains the wording "Not Permitted."

(Q) Row 17 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 17, column 1 contains the wording "Oxidizer liquids and solids."

(ii) Row 17, column 2 contains the number "4."

(iii) Row 17, column 3 contains the wording "Required."

(iv) Row 17, column 4 contains the wording "Not Permitted."

(R) Row 18 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 18, column 1 contains the wording "Pyrophoric gas."

(ii) Row 18, column 2 contains a hyphen with no words or numbers.

(iii) Row 18, column 3 contains the wording "Not Required."

(iv) Row 18, column 4 contains the wording "Required."

(S) Row 19 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 19, column 1 contains the wording "Unstable (reactive)."

(ii) Row 19, column 2 contains the number "4."

(iii) Row 19, column 3 contains the wording "Required."

(iv) Row 19, column 4 contains the wording "Not Permitted."

(T) Row 20 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 20, column 1 contains the wording "Unstable (reactive)."

(ii) Row 20, column 2 contains the wording "3 Detonable."

(iii) Row 20, column 3 contains the wording "Required."

(iv) Row 20, column 4 contains the wording "Not Permitted."

(U) Row 21 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 21, column 1 contains the wording "Unstable (reactive)."

(ii) Row 21 column 2 contains the wording "3 Nondetonable".

(iii) Row 21, column 3 contains the wording "Not Required."

(iv) Row 21, column 4 contains the wording "Required."

(V) Row 22 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 22, column 1 contains the wording "Water-reactive liquids and solids."

(ii) Row 22, column 2 contains the number "3."

(iii) Row 22, column 3 contains the wording "Not Required."

(iv) Row 22, column 4 contains the wording "Required."

(W) Row 23 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 23 column 1 contains the wording "Water-reactive liquids and solids."

(ii) Row 23, column 2 contains the number "2" followed by a superscript "g" to indicate footnote "g" applies.

(iii) Row 23, column 3 contains the wording "Not Required."

(iv) Row 23, column 4 contains the wording "Required."

(X) Row 24 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 24 column 1 contains the wording "SPECIAL USES."

(ii) Row 24, column 2 is blank

(iii) Row 24, column 3 is blank.

(iv) Row 24, column 4 is blank.

(Y) Row 25 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 25 column 1 contains the wording "Acetylene generator rooms"

(ii) Row 25, column 2 contains a hyphen with no words or numbers.

(iii) Row 25, column 3 contains the wording "Not Required."

(iv) Row 25, column 4 contains the wording "Required."

(Z) Row 26 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 26 column 1 contains the wording "Electrochemical energy storage systems" followed by a superscript "i" to indicate footnote "i" applies.

(ii) Row 26, column 2 contains a hyphen with no words or numbers.

(iii) Row 26, column 3 contains the wording "Not Required."

(iv) Row 26, column 4 contains the wording "Required."

(AA) Row 27 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 27 column 1 contains the wording "Grain processing."

(ii) Row 27, column 2 contains a hyphen with no words or numbers.

(iii) Row 27, column 3 contains the wording "Not Required."

(iv) Row 27, column 4 contains the wording "Required."

(BB) Row 28 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 28 column 1 contains the wording "Liquefied petroleum gas distribution facilities."

(ii) Row 28, column 2 contains a hyphen with no words or numbers.

(iii) Row 28, column 3 contains the wording "Not Required."

(iv) Row 28, column 4 contains the wording "Required."

(CC) Row 29 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 29 column 1 contains the wording "Where explosion hazards exist" followed by a superscript "f" to indicate footnote "f" applies.

(ii) Row 29, column 2 contains the wording "Detonation."

(iii) Row 29, column 3 contains the wording "Required."

(iv) Row 29, column 4 contains the wording "Not Permitted."

(DD) Row 30 contains the following information in each of the four columns listed for the header row number 1:

(i) Row 30 column 1 contains the wording "Where explosion hazards exist" followed by a superscript "f" to indicate footnote "f" applies.

(ii) Row 30, column 2 contains the wording "Deflagration."

(iii) Row 30, column 3 contains the wording "Not Required."

(iv) Row 30, column 4 contains the wording "Required."

(EE) There are nine footnotes that follow the table and are listed below:

(i) Footnote "a" See Section 414.1.3.

(ii) Footnote "b" See the International Fire Code®.

(iii) Footnote "c" As generated during manufacturing or processing.

(iv) Footnote "d" Storage or use.

(v) Footnote "e" In open use or dispensing.

~~(vi) Footnote "f" Rooms containing dispensing and use of hazardous materials where an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.~~

~~(vii) Footnote "g" A method of explosion control shall be provided where Class 2 water-reactive materials can form potentially explosive mixtures.~~

~~(viii) Footnote "h" Explosion venting is not required for Group H-5 fabrication areas complying with Section 415.11.1 and the International Fire Code®.~~

~~(ix) Footnote "i" Where explosion control is required in Section 1206.6 of the International Fire Code®.~~

~~(5) Section 419.1 General. This section has been modified to add a new exception to allow Group B, M, and F occupancies located in a detached dwelling unit to be constructed in accordance with the IRC® if they comply with the limitations in Section 419.1.1. This section has been modified to read: 419.1 General. A live/work unit shall comply with Sections 419.1 through 419.9. Exceptions:~~

~~(A) Dwelling or sleeping units that include an office that is less than 10 percent of the area of the dwelling unit are permitted to be classified as dwelling units with accessory occupancies in accordance with Section 508.2.~~

~~(B) Group B, M, and F occupancies that are located in a detached dwelling unit complying with the limitations of Section 419.1.1 shall be permitted to be constructed in accordance with the International Residential Code®.~~

~~(C) The office of a self-service storage facility with a dwelling or sleeping unit shall not be considered a live/work unit.~~

~~(6) Section 419.1.1 Limitations. This section has been modified to limit the nonresidential portion of the live/work unit to not greater than 2,500 square feet (232 square meters). This section has been modified to read: 419.1.1 Limitations. The following shall apply to all live/work areas:~~

~~(A) The nonresidential portion of the live/work unit is permitted to be not greater than 2,500 square feet (232 square meters) in area;~~

~~(B) The nonresidential area is permitted to be not more than 50 percent of the area of each live/work unit;~~

~~(C) The nonresidential area function shall be limited to the first or main floor only of the live/work unit; and~~

~~(D) Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time.~~

~~(7) Section 423.1 General. This section has been modified to include above and below ground storm shelters and limit the use of the term storm shelter to those structures constructed according to this section. This section has been modified to read: 423.1 General. This section applies to the construction of above or below ground storm shelters constructed as separate detached buildings, or rooms or spaces within buildings, structures, or portions thereof for the purpose of providing protection from storms that produce high winds, such as tornados and hurricanes during the storm. Any room or structure, as may be used as a place of refuge during a severe wind storm event, shall not be defined as a storm shelter unless specifically designed to the requirements as listed in Section 423. Design of facilities for use as emergency shelters after the storm are outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV Structure.~~

~~(8) Section 423.1.1 Hardened Spaces. This section has been added to prohibit the use of a room or structure, used as a place of refuge during a severe wind event from being called a storm shelter unless specifically designed to the requirements listed in Section 423. This section has been added to read: 423.1.1 Hardened spaces. Any room or structure, as may be used as a place of refuge during a severe wind storm event, shall not be defined as a storm shelter unless specifically designed to the requirements as listed in Section 423.~~

~~(9)~~(3) Section 423.3 Critical emergency operations. This section has been modified to remove a reference to shelter design wind speed and Figure 304.2(1) of the ICC 500®. This section has been modified to read: 423.3 Critical emergency operations. Buildings that contain 911 call stations, emergency operation centers, and normally occupied fire, rescue, ambulance and police stations shall comply with Table 1604.5 as a Risk Category IV structure and shall be provided with a storm shelter constructed in accordance with ICC 500®.

~~(10)~~(4) Section ~~423.4~~ 423.5 Group E occupancies. This section has been modified to require all Group E occupancies with an occupant load over 200 to have a storm shelter constructed in accordance with ICC 500®;

clarify the second exception requires the Group E occupancy to be in conjunction with religious activities as well as be accessory to places of religious worship and add a fourth exception requiring all additions to existing Group E occupancies comply with the International Existing Building Code®. This section has been modified to read: ~~423.4~~ 423.5 Group E occupancies. All Group E occupancies with an occupant load of 200 or more shall have a storm shelter constructed in accordance with ICC 500®. Exceptions:

(A) Exception 1. Group E day care facilities.

(B) Exception 2. Group E occupancies used in conjunction with religious activities accessory to places of religious worship.

(C) Exception 3. Buildings meeting the requirements for shelter design in ICC 500®.

(D) Exception 4. Additions to Group E occupancies shall comply with the requirements of Section ~~1106~~ 303 of the International Existing Building Code®.

~~(11)~~(5) Section ~~423.4.1~~ 423.5.1 Required occupant capacity. This section has been modified to change the section heading and require the occupant capacity of the storm shelter to ~~include all buildings on the site and be the greater of the total occupant load of the classrooms, vocational room and offices of the Group E occupancy or the occupant load of the largest indoor assembly space associated with the Group E occupancy. For clarification, the exceptions apply to the entire section and are not exceptions to item B~~ be based on the total number of enrolled students and staff in the building on a regular basis and require the information to be submitted on district or school letterhead and signed by the owner or owner's authorized agent; and add a third exception to specify when approved by the building code official temporary facilities shall be exempt from the storm shelter requirements when the temporary facilities are part of a phased building project that includes a storm shelter. This section has been modified to read: ~~423.4.1~~ 423.5.1 ~~Required occupant~~ Occupant capacity. The required occupant capacity of the storm shelter shall include ~~all of the buildings on the site and shall be the greater of the following~~ the total number of currently enrolled students and staff in the building on a regular basis. The enrollment and staff numbers must be submitted on District or School letterhead and be signed by the Owners or Owner's Authorized Agent. Exceptions:

~~(A) The total occupant load of the classrooms, vocational rooms and offices of the Group E occupancy.~~

~~(B) The occupant load of the largest indoor assembly space that is associated with the Group E occupancy.~~

~~(C) Exceptions:~~

~~(i)~~(A) Exception 1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on the site, the storm shelter shall at a minimum accommodate the ~~required occupant capacity for~~ students and staff within the new building.

~~(ii)~~(B) Exception 2. The required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters or safe rooms on the site.

(C) Exception 3. Where approved by the building code official, temporary facilities shall be exempt from storm shelter requirements, when said facilities are part of a phased building project that include a storm shelter.

~~(12)~~(6) Section ~~423.5~~ 423.6 Required. This section has been added to specify the requirements when storm shelters are provided. This section has been added to read: ~~423.5~~ 423.6 Required. Where storm shelters are provided, they shall be provided in compliance with ICC 500® except as required by Sections ~~423.5.1~~ 423.6.1 through ~~423.5.11~~ 423.6.7.

~~(13)~~(7) Section ~~423.5.1~~ 423.6.1 Storm shelter documents. This section has been added to require the construction documents prepared for the storm shelter to be maintained and protected within the storm shelter by the owner or owner's authorized agent. This section has been added to read: ~~423.5.1~~ 423.6.1 Storm shelter documents. The construction documents which were prepared for the construction of the storm shelter, shall be maintained and protected within the storm shelter by the owner or owner's authorized agent.

~~(14) Section 423.5.2 Signage. This section has been added to clarify that all signs for a storm shelter, as outlined in ICC 500® Sections 108, 504.1, 504.1.1, and 504.1.2, comply with the applicable signage requirements of ICC A117.1®. This section has been added to read: 423.5.2 Signage. All signs, as outlined in ICC 500® Sections 108, 504.1, 504.1.1 and 504.1.2 shall comply with the applicable requirements of ICC A117.1®.~~

~~(15)~~(8) Section ~~423.5.2.1~~ 423.6.2 Entrance signage. This section has been added to clarify entrance signage as required by ICC 500® Section 504.1.1 is not required for the storm shelter when the storm shelter can be accessed from within the host building and is only open to the occupants of the host building. This section has

been added to read: ~~423.5.2.1~~ 423.6.2 Entrance signage. Entrance signage, as outlined in ICC 500® Section 504.1.1 shall not be required at exterior entrances where the shelter can be accessed from within a host building and is only open to the occupants of the host building.

~~(16) Section 423.5.3 Roof live load reduction for shelters. This section has been added to clarify roof live loads may not be reduced as allowed in Section 1607.13.2.1 (Equation 16-26) if the roof live load is stipulated under ICC 500® Section 303.2. This section has been added to read: 423.5.3 Roof live load reduction for shelters. Roof live load reduction in Section 1607.13.2.1 (Equation 16-26) shall not be allowed for roof live loads stipulated under ICC 500® Section 303.2.~~

~~(17)~~(9) Section ~~423.5.4~~ 423.6.3 Design wind speed. This section has been added to modify the requirements of ICC 500® Section 304.2 to clarify the minimum design wind speed for all storm shelters in the State of Oklahoma shall be set at 250 miles per hour. This section has been added to read: ~~423.5.4~~ 423.6.3 Design wind speed. For storm shelters, the minimum design wind speed for the entire State of Oklahoma shall be 250 miles per hour.

~~(18) Section 423.5.5 Usable storm shelter floor area. This section has been added to modify the requirements of ICC 500® Section 501.1.2 to clarify when calculating the maximum usable floor area of a shelter, the areas within a privacy enclosure for sanitary facilities shall not be included. This section has been added to read: 423.5.5 Usable storm shelter floor area. The usable storm shelter floor area shall be determined by ICC 500® Section 501.1.2.1 or 501.1.2.2. Exception: Areas within privacy enclosures for sanitary facilities shall not be included in the usable floor area calculations.~~

~~(19)~~(10) Section ~~423.5.6~~ 423.6.4 Door operation. This section has been added to modify the requirements of ICC 500® Section 501.5 to specify means of egress doors shall be operable from the inside of the storm shelter without the use of keys or special knowledge or effort. This section has been added to read: ~~423.5.6~~ 423.6.4 Door operation. Means of egress doors shall be operable from the inside without the use of keys or special knowledge or effort.

~~(20)~~(11) Section ~~423.5.6.1~~ 423.6.4.1 Additional door and shutter operation. This section has been added to clarify doors and shutters designed to protect windows and other unprotected openings not required as a means of egress in storm shelters shall be operable from the inside without the use of keys or special relocatable tools. This section has been added to read: ~~423.5.6.1~~ 423.6.4.1 Additional door and shutter operation. Doors and shutters designed to protect windows or other unprotected openings not in a required means of egress in storm shelters shall be operable from the inside without the use of keys or special relocatable tools.

~~(21)~~(12) ~~423.5.7~~ 423.6.5 Height of storm shelter. This section has been added to clarify how to determine the location of the natural ventilation openings in storm shelters in accordance with ICC 500® Section 702.1.1.1, by providing a definition for the height of the storm shelter to be calculated by average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter. This section has been added to read: ~~423.5.7~~ 423.6.5 Height of storm shelter. When determining the location of natural ventilation in accordance with ICC 500® Section 702.1.1.1, the height of the storm shelter shall be defined as an average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter.

~~(22)~~(13) Section ~~423.5.8~~ 423.6.6 Additional facilities for storm shelters. This section has been added to modify the requirements of ICC 500® Section 702.2.2 to clarify when the required number of sanitation facilities for the storm shelter exceeds the number of required facilities provided for the normal occupancy of space, additional facilities may be temporary toilets, chemical toilets or other approved means and must have privacy enclosures with minimum clear inside dimensions of 5 feet by 5 feet (1524 mm by 1524 mm). This section has been added to read: ~~423.5.8~~ 423.6.6 Additional facilities for storm shelters. Where the required number of sanitation facilities for the storm shelter exceeds the number of facilities provided for the normal occupancy of the space, the additional facilities shall be permitted to be temporary sanitary fixtures, chemical toilets, or other means approved by the authority having jurisdiction. Temporary toilets, chemical toilets, or other approved means shall have temporary or permanent privacy enclosures such as fabric, portable screens, or other means approved by the authority having jurisdiction. Privacy enclosures shall have minimum clear inside dimensions of 5 feet by 5 feet (1524 mm by 1524 mm).

~~(23) Section 423.5.9 Sanitary facilities support systems. This section has been added to modify the requirements of ICC 500® Section 702.2.3 to clarify the support systems discussed in the section are for~~

~~temporary sanitation facilities. This section has been added to read: 423.5.9. Sanitary facilities support systems. Support systems for the temporary sanitation facilities (e.g. bladders, storage tanks or vessels, etc.) shall be capable of supplying water and containing waste for the design capacity of the tornado shelter.~~
~~(24) Section 423.5.10 Conversion of plumbing systems. This section has been added to omit ICC 500® Section 702.2.4 from the minimum requirements of the code. This section has been added to read: 423.5.10 Conversion of plumbing systems. ICC 500® Section 702.2.4 is omitted.~~
~~(25) Section 423.5.11 First aid kit. This section has been added to modify the requirements of ICC 500® Section 702.4 to specify that first aid kits for community shelters shall be required to be ANSI rated for the number of occupants in the shelter. This section has been added to read: 423.5.11 First aid kit. An ANSI compliant first aid kit rated for the number of storm shelter occupants, as listed in the construction documents, shall be supplied in all tornado shelters.~~
(14) 432.6.7 Sanitation support method and storage capacity for supply and wastewater. This section has been added to clarify ICC 500 Sections 702.4.4 and 702.4.4.1 are omitted from the minimum requirements of this code. This section has been added to read: 423.6.7 Sanitation support method and storage capacity for supply and wastewater ICC 500 Sections 702.4.4 and 702.4.4.1 are omitted.
~~(26)~~(15) Section 429 Cultivation, Extraction and Processing of Plant Material. This section header has been added to clarify a new section has been added related to the cultivation, extraction and processing of plant material. This section has been added to read: 429 Cultivation, Extraction and Processing of Plant Material.
~~(27)~~(16) Section 429.1 General. This section has been added to clarify plant growing facilities that utilized carbon dioxide enrichment systems in accordance with Section 5307.4 of the International Fire Code® and plant processing or extraction facilities in accordance with Chapter 39 of the International Fire Code® shall also comply with Sections 429.2 through 429.6. This section has been added to read: 429.1 General. Plant growing facilities that utilize carbon dioxide enrichment systems in accordance with Section 5307.4 of the International Fire Code® and plant processing or extraction facilities in accordance with Chapter 39 of the International Fire Code® shall also comply with Sections 429.2 through 429.6.
~~(28)~~(17) Section 429.2 Construction. This section has been added to clarify the construction of buildings used for the extraction process that include the act of extraction of the oils and fats by use of solvent, desolventizing of the raw material, production of the miscella, distillation of the solvent from the miscella and solvent recovery shall comply with the section. It provides an exception for extraction processes that utilize nonhazardous solvents or carbon dioxide. This section has been added to read: 429.2 Construction. The construction of buildings used for the extraction process that include the act of extraction of the oils and fats by use of solvent, desolventizing of the raw material, production of the miscella, distillation of the solvent ~~form~~ from the miscella and solvent recovery shall comply with this section. Exception: Extraction process that utilizes nonhazardous solvents or carbon dioxide.
~~(29)~~(18) Section 429.2.1 Noncombustible construction. This section has been added to clarify extraction equipment and processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® shall be located in a room constructed of noncombustible construction. This section has been added to read: 429.2.1 Noncombustible construction. Extraction equipment and processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® shall be located in a room constructed of noncombustible materials.
~~(30)~~(19) Section 429.2.2 Prohibited occupancies. This section has been added to clarify extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® are not permitted in any building containing a Group A, E, I or R occupancy. This section has been added to read: 429.2.2 Prohibited occupancies. Extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® shall not be located in any building containing a Group A, E, I, or R occupancy.
~~(31)~~(20) Section 429.3 Equipment location. This section has been added to clarify extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® as solvents shall be located in a room dedicated to extraction and the room shall not be used for any other purpose. The section prohibits the storage of solvents in the extraction room. This section has been added to read: 429.3 Equipment location. The extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International

Fire Code® as solvents shall be located in a room dedicated to extraction and the room shall not be used for any other purpose. There shall be no storage of solvents in the extraction room.

~~(32)~~(21) Section 429.4 Interior finish. This section has been added to require the interior finish of wall and ceilings in plant growing, processing and extraction facilities to comply with this section and Section 803. This section has been added to read: 429.4 Interior finish. Interior finish of walls and ceilings in plant growing, processing and extraction facilities shall comply with this section and Section 803.

~~(33)~~(22) Section 429.4.1 Plastic, mylar and other thin sheeting. This section has been added to require plastic, mylar or other thin sheeting that covers any walls or ceilings comply with this section and Section 803. This section has been added to read: 429.4.1 Plastic, mylar and other thin sheeting. Plastic, mylar and other thin sheeting that covers any walls or ceilings shall comply with this section and Section 803.

~~(34)~~(23) Section 429.4.1.1 Installation. This section has been added to prohibit plastic, mylar or other thin sheeting to be hung from ceilings or suspended overhead structures to create divider walls or rooms. This section has been added to read: 429.4.1.1 Installation. Plastic, mylar and other thin sheeting shall not be hung from ceilings or suspended overhead structures to create divider walls or rooms.

~~(35)~~(24) Section 429.5 Emergency power system. This section has been added to require emergency power to lighting and ventilation systems in the extraction room when the extraction process utilizes hydrocarbon gases or liquids as solvents, in accordance with Section 2702. This section has been added to read: 429.5 Emergency power system. For extraction processes utilizing hydrocarbon gases or liquids as solvents, the extraction room lighting and ventilation system shall be provided with emergency power in accordance with Section 2702.

~~(36)~~(25) Section 429.6 Means of egress. This section has been added to require at least one means of egress door from an extraction room, utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code®, swing in the direction of egress travel. It requires the egress door to be equipped with panic hardware or fire exit hardware and to have a self-closing or automatic-closing device. This section has been added to read: 429.6 Means of egress. Extraction rooms utilizing materials classified as physical hazards in accordance with Section 307 of the International Fire Code® shall have a minimum of one exit access door that swings in the direction of egress travel. The exit access door shall be equipped with panic hardware or fire exit hardware and a self-closing or automatic-closing device.

748-20-2-10. IBC® ~~2018~~ 2024 Chapter 5 General Building Heights and Areas [AMENDED]

Chapter 5 of the Oklahoma adopted IBC ~~2018~~ 2024 is adopted with the following ~~modification~~ modifications:

~~Table 509 Incidental uses has been modified to remove the row related to stationary storage battery systems. This table has been modified read as follows: Table 509 Incidental uses. The table contains 18 rows with 2 columns in each row as described below:~~

~~(1) Row 1 is the header row and contains the headers for the two columns as listed below:~~

~~(A) Row 1, column 1 header is entitled "Room or Area."~~

~~(B) Row 1, column 2 header is entitled "Separation and/or Protection."~~

~~(2) Row 2 contains the following information in each of the two columns listed for the header row number 1:~~

~~(A) Row 2, column 1 contains the wording "Furnace room where any piece of equipment is over 400,000 Btu per hour input."~~

~~(B) Row 2, column 1 contains the wording "1 hour or provide automatic sprinkler system."~~

~~(3) Row 3 contains the following information in each of the two columns listed for the header row number 1:~~

~~(A) Row 3, column 1 contains the wording "Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower."~~

~~(B) Row 3, column 2 contains the wording "1 hour or provide automatic sprinkler system."~~

~~(4) Row 4 contains the following information in each of the two columns listed for the header row number 1:~~

~~(A) Row 4, column 1 contains the wording "Refrigerant machinery room."~~

~~(B) Row 4, column 2 contains the wording "1 hour or provide automatic sprinkler system."~~

~~(5) Row 5 contains the following information in each of the two columns listed for the header row number 1:~~

~~(A) Row 5, column 1 contains the wording "Hydrogen fuel gas rooms, not classified as Group H."~~

~~(B) Row 5, column 2 contains the wording "1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies."~~

~~(6) Row 6 contains the following information in each of the two columns listed for the header row number 1:~~

~~(A) Row 6, column 1 contains the wording "Incinerator rooms."~~

(B) Row 6, column 2 contains the wording "2 hours and provide automatic sprinkler system."

(7) Row 7 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 7, column 1 contains the wording "Paint shops, not classified as Group H, located in occupancies other than Group F."

(B) Row 7, column 2 contains the wording "2 hours; or 1 hour and provide an automatic sprinkler system."

(8) Row 8 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 8, column 1 contains the wording "In Group E occupancies, laboratories and vocational shops not classified as Group H."

(B) Row 8, column 2 contains the wording "1 hour or provide automatic sprinkler system."

(9) Row 9 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 9, column 1 contains the wording "In Group I-2 occupancies, laboratories not classified as Group H."

(B) Row 9, column 2 contains the wording "1 hour and provide automatic sprinkler system."

(10) Row 10 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 10, column 1 contains the wording "In ambulatory care facilities, laboratories not classified as Group H."

(B) Row 10, column 2 contains the wording "1 hour or provide automatic sprinkler system."

(11) Row 11 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 11, column 1 contains the wording "Laundry rooms over 100 square feet."

(B) Row 11, column 2 contains the wording "1 hour or provide automatic sprinkler system."

(12) Row 12 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 12, column 1 contains the wording "In Group I-2, laundry rooms over 100 square feet."

(B) Row 12, column 2 contains the wording "1 hour."

(13) Row 13 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 13, column 1 contains the wording "Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces."

(B) Row 13, column 2 contains the wording "1 hour."

(14) Row 14 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 14, column 1 contains the wording "In Group I-2, physical plant maintenance shops."

(B) Row 14, column 2 contains the wording "1 hour."

(15) Row 15 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 15, column 1 contains the wording "In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater."

(B) Row 15, column 2 contains the wording "1 hour."

(16) Row 16 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 16, column 1 contains the wording "In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet."

(B) Row 16, column 2 contains the wording "1 hour or provide automatic sprinkler system."

(17) Row 17 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 17, column 1 contains the wording "In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet."

(B) Row 17, column 2 contains the wording "1 hour."

(18) Row 18 contains the following information in each of the two columns listed for the header row number 1:

(A) Row 18, column 1 contains the wording "Electrical installations and transformers."

~~(B) Row 18, column 2 contains the wording "See Sections 110.26 through 110.34 and Sections 450.8 through 450.48 of NFPA 70® for protection and separation requirements."~~

~~(19) At the bottom of the table the following appears: "For SI: 1 square foot equals 0.0929 square meters, 1 pound per square inch (psi) equals 6.9 kPa, 1 British thermal unit (Btu) per hour equals 0.293 watts, 1 horsepower equals 746 watts, 1 gallon equals 3.785 L, and 1 cubic foot equals 0.0283 meters cubed."~~

(1) 508.5 Live/work units. This section has been modified to remove a reference to Section 508.5.7 from live/work units in a building constructed in accordance with the International Residential Code® and to add two exceptions to the section. This section has been modified to read: 508.5 Live/work units. Live/work units shall comply with one of the following:

(A) Item 1. For a live/work unit located in a building constructed in accordance with this code, both the residential and non-residential portions of the live/work unit shall comply with Sections 508.5 through 508.5.11.

(B) Item 2. For a live/work unit located in a building constructed in accordance with the International Residential Code®, the non-residential portion of the live/work unit shall comply with Sections 508.5.1 through 508.5.11, and the residential portion of the live/work unit shall be constructed in accordance with the International Residential Code®.

(C) Exceptions:

(i) Exception 1. Dwelling or sleeping units that include an office that is less than 10 percent of the area of the dwelling unit are permitted to be classified as dwelling units with accessory occupancies in accordance with Section 508.2.

(ii) Exception 2. Group B, M, and F occupancies other than facilities utilizing materials classified as physical hazards in accordance with Section 307 of this code, that are located in a detached dwelling unit complying with the limitations of Section 508.5.1, shall be permitted to be constructed in accordance with the International Residential Code®.

(iii) Exception 3. The office of a self-service storage facility with a dwelling or sleeping unit shall not be considered a live/work unit.

(2) Section 508.5.1 Limitations. This section has been modified to clarify the square foot of the non-residential portion of the live/work unit. This section has been modified to read: 508.5.1 Limitations. The following shall apply to live/work areas:

(A) Item 1. The nonresidential portion of the live/work unit is permitted to be not greater than 2500 square feet (232 square meters) in area.

(B) Item 2. The nonresidential area is permitted to be not more than 50 percent of the area of each live/work unit.

(C) Item 3. The nonresidential area function shall be limited to the first or main floor only of the live/work unit.

(3) Section 508.5.7 Fire protection. This section has been modified to remove a requirement for fire sprinklers for live/work units constructed in accordance with the International Residential Code®. This section has been modified to read: 508.5.7 Fire protection. Live/work units in buildings constructed in accordance with this code shall be provided with all of the following:

(A) Item 1. An automatic sprinkler system in accordance with Section 903.3.1.1. or 903.3.1.2.

(B) Item 2. Smoke alarms in accordance with Section 907.2.11.

(C) Item 3. Where required by Section 907.2.9.2, a manual fire alarm system.

748-20-2-12. IBC® 2018 Chapter 7 Fire and Smoke Protection Features [REVOKED]

~~Chapter 7 of the Oklahoma adopted IBC® 2018 is adopted with the following modifications:~~

~~(1) Section 706.8 Openings. This section has been modified to require openings in double fire walls constructed in accordance with NFPA® 221 to be protected using one fire door or fire shutter assembly in each separate wall. A third exception to the section has been added for fire protection assemblies, ratings and markings for openings in double fire walls constructed in accordance with NFPA® 221 that meet the fire rating indicated in Table 706.8. This section has been modified to read: 706.8 Openings. Each opening through a fire wall shall be protected in accordance with Section 716 and shall not exceed 156 square feet (15 square meters). Openings in double fire walls, constructed in accordance with NFPA® 221, shall be protected using~~

~~one fire door or fire shutter assembly in each separate wall. The aggregate width of openings at any floor level shall not exceed 25 percent of the length of the wall. Exceptions:~~

~~(A) Openings are not permitted in party walls constructed in accordance with Section 706.1.1.~~

~~(B) Openings shall not be limited to 156 square feet (15 square meters) where both buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

~~(C) Fire protection assemblies, ratings and markings for openings in double fire walls, constructed in accordance with NFPA® 221, shall meet the fire rating indicated in Table 706.8.~~

~~(2) Table 706.8 Opening Fire Protection Assemblies, Ratings and Markings for Double Fire Walls Constructed in Accordance with NFPA® 221. This table has been added to the code to provide the requirements for constructing double fire walls in accordance with NFPA® 221. The table has been added to read: Table 706.8 Opening Fire Protection Assemblies, Ratings and Markings for Double Fire Walls Constructed in Accordance with NFPA® 221. The table contains 4 rows and 9 columns, as described below:~~

~~(A) Row 1 contains the headers for each column, which are listed below in order from column one through column nine:~~

~~(i) Row 1, column 1 heading is entitled "Required Single Fire Wall Assembly Rating (Hours)."~~

~~(ii) Row 1, column 2 heading is entitled "Each Wall of the Double Fire Wall Assembly Rating (Hours)."~~

~~(iii) Row 1, column 3 heading is entitled "Minimum Fire Door and Fire Shutter Assembly Rating (Hours)."~~

~~(iv) Row 1, column 4 heading is entitled "Door Vision Panel Size" and includes a superscript letter "a" after the word "Size."~~

~~(v) Row 1, column 5 heading is entitled "Fire Rated Glazing Marking Door Vision Panel" and includes superscript letters "b" and "c" after the word "Panel."~~

~~(vi) Row 1, column 6 heading is entitled "Minimum Sidelight/Transom Assembly Fire-Protection Rating (Hours)."~~

~~(vii) Row 1, column 7 heading is entitled "Minimum Sidelight/Transom Assembly Fire-Resistance Rating (Hours)."~~

~~(viii) Row 1, column 8 heading is entitled "Fire-Protection Rated Glazing Marking Sidelight/Transom Panel (Hours)."~~

~~(ix) Row 1, column 9 heading is entitled "Fire-Resistance Rated Glazing Marking Sidelight/Transom Panel (Hours)."~~

~~(B) Row 2 contains the following information in each of the nine columns listed for the header row number 1:~~

~~(i) Row 2, column 1 contains the number "4."~~

~~(ii) Row 2, column 2 contains the number "3."~~

~~(iii) Row 2, column 3 contains the number "3."~~

~~(iv) Row 2, column 4 contains the wording "See note a."~~

~~(v) Row 2, column 5 contains the wording "D hyphen H hyphen W hyphen 180."~~

~~(vi) Row 2, column 6 contains the wording "Not Permitted."~~

~~(vii) Row 2, column 7 contains the number "3."~~

~~(viii) Row 2, column 8 contains the wording "Not Permitted."~~

~~(ix) Row 2, column 9 contains the wording "W hyphen 180."~~

~~(C) Row 3 contains the following information in each of the nine columns listed in the header row number 1:~~

~~(i) Row 3, column 1 contains the number "3."~~

~~(ii) Row 3, column 2 contains the number "2."~~

~~(iii) Row 3, column 3 contains the number and wording "1 hyphen one half."~~

~~(iv) Row 3, column 4 contains the wording "100 sq. in."~~

~~(v) Row 3, column 5 contains the wording "less than or equal to 100 sq. in. equals D hyphen H hyphen 90, greater than 100 sq. in. equals D hyphen H hyphen W hyphen 90"~~

~~(vi) Row 3, column 6 contains the wording "Not Permitted."~~

~~(vii) Row 3, column 7 contains the number "2."~~

~~(viii) Row 3, column 8 contains the wording "Not Permitted."~~

~~(ix) Row 3, column 9 contains the wording "W hyphen 120."~~

(D) Row 4 contains the following information in each of the nine columns listed in the header row number 1:

(i) Row 4, column 1 contains the number "2."

(ii) Row 4, column 2 contains the number "1."

(iii) Row 4, column 3 contains the number "1."

(iv) Row 4, column 4 contains the wording "100 sq. in."

(v) Row 4, column 5 contains the wording "less than or equal to 100 sq. in. equals D hyphen H hyphen 60, greater than 100 sq. in. equals D hyphen H hyphen W hyphen 60"

(vi) Row 4, column 6 contains the wording "Not Permitted."

(vii) Row 4, column 7 contains the number "1."

(viii) Row 4, column 8 contains the wording "Not Permitted."

(ix) Row 4, column 9 contains the wording "W hyphen 60."

(E) Several footnotes are provided under the table with the following wording:

(i) "For SI: 1 square inch equals 645.2 mm"

(ii) Footnote a. Fire-resistance-rated glazing tested to ASTME E-119 in accordance with Section 716.1.2.3 shall be permitted, in the maximum size tested.

(iii) Footnote b. Under the column heading "Fire-rated glazing marking door vision panel," W refers to the fire-resistance rating of the glazing, not the frame.

(iv) Footnote c. See Section 716.1.2.2.1 and Table 716.1(1) for additional permitted markings.

(3) Table 721.1(2) Rated Fire-Resistance Periods for Various Walls and Partitions. This table has been modified to correct errata published by the ICC, in Row 16, Sub-rows 1, 2 and 3. This table has been modified to read: Table 721.1(2) Rated Fire-Resistance Periods for Various Walls and Partitions. Following the table title are the three superscript letters: "a," "o," and "p" to indicate those footnotes are applicable to the entire table. The table contains 17 rows and 4 columns. Column 4 contains 4 subcolumns. The table is described below.

(A) Row 1 contains the headers for the table and are listed below:

(i) Row 1, column 1 is entitled "Material."

(ii) Row 1, column 2 is entitled "Item Number."

(iii) Row 1, column 3 is entitled "Construction."

(iv) Row 1, column 4 is entitled "Minimum Finished Thickness Face-to-Face (inches). A superscript letter "b" is after the wording "Face-to-Face" before the word "(inches)" to indicate footnote "b" applies. The subcolumns are listed below:

(I) Row 1, column 4, subcolumn 1 is entitled "4 hours."

(II) Row 1, column 4, subcolumn 2 is entitled "3 hours."

(III) Row 1, column 4, subcolumn 3 is entitled "2 hours."

(IV) Row 1, column 4, subcolumn 4 is entitled "1 hour."

(B) Row 2 lists the material type entitled "1. Brick of clay or shake" and contains 4 subrows. No changes have been made to this row or any subrow.

(C) Row 3 lists the material type entitled "2. Combination of clay brick and load-bearing hollow clay tile" and contains 2 subrows. No changes have been made to this row or any subrow.

(D) Row 4 lists the material type entitled "3. Concrete masonry units" and contains four subrows. No changes have been made to this row or any subrow.

(E) Row 5 lists the material type entitled "4. Solid concrete" and contains superscript letters "h" and "i" after the word concrete. The row contains four subrows. No changes have been made to this row or any subrow.

(F) Row 6 lists the material type entitled "5. Glazed or unglazed facing tile, nonload bearing" and contains eight subrows. No changes have been made to this row or any subrow.

(G) Row 7 lists the material type entitled "6. Solid gypsum plaster" and contains six subrows. No changes have been made to this row or any subrow.

(H) Row 8 lists the material type entitled "7. Solid perlite and Portland cement." No changes have been made to this row.

(I) Row 9 lists the material type entitled "8. Solid neat wood fibered gypsum plaster." No changes have been made to this row.

(J) Row 10 lists the material type entitled "9. Solid wall board partition." No changes have been made to this row.
(K) Row 11 lists the material type entitled "10. Hollow (studless) gypsum wallboard partition" and contains two subrows. No changes have been made to this row or any subrow.
(L) Row 12 lists the material type entitled "11. Noncombustible studs-interior partition with plaster each side" and contains four subrows. No changes have been made to this row or any subrow.
(M) Row 13 lists the material type entitled "12. Wood studs-interior partition with plaster each side" and contains four subrows. No changes have been made to this row or any subrow.
(N) Row 14 lists the material type entitled "13. Noncombustible studs-interior partition with gypsum wallboard each side" and contains three subrows. No changes have been made to this row or any subrow.
(O) Row 15 lists the material type entitled "14. Wood studs-interior partition with gypsum wallboard each side" and contains six subrows. No changes have been made to this row or any subrow.
(P) Row 16 lists the material type entitled "15. Exterior or interior walls (continued) and contains twenty subrows. No changes have been made to this row or any subrow.
(Q) Row 17 lists the material type entitled "16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5" and contains three subrows.

(i) Subrow 1 lists the Item Number entitled "16-1.1" with a superscript letter "q" has been modified to correct the Type X gypsum wallboard size from 4 inches wide to 4 feet wide in the construction requirements of column 3.

(I) This subrow has been modified to read: 2" x 4" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally unblocked, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered vertically, horizontal joints blocked and fastened with 6d common nails (bright) - 12" on center in the field, and 6" on center panel edges. Cavity to be filled with 3 1/2" mineral wool insulation. Rating established for exposure from interior side only.

(II) No changes have been made to column 4 or any subcolumn.

(ii) Subrow 2 lists the Item Number entitled "16-1.2" with the superscript letter "q" has been modified to correct the Type X gypsum wallboard size from 4 inches to 4 feet wide in the construction requirements of column 3.

(I) This subrow has been modified to read: 2" x 6" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound, exterior side covered with 7/16" wood structural panels fastened with 6d common nails (bright) spaced 12" on center in the field and 6" on center along the panel edges. Cavity to be filled with 5 1/2" mineral wool insulation. Rating established from the gypsum-covered side only.

(II) No changes have been made to column 4 or any subcolumn.

(iii) Subrow 3 lists the Item Number entitled "16-1.3" with the superscript letter "q" has been modified to correct the size of the Type X gypsum wallboard size from 4 inches to 4 feet wide in the construction requirements of column 3.

(I) This subrow has been modified to read: 2" x 6" wood studs at 16" centers with double top plates, single bottom plates; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws spaced 7" on center. Joints to be covered with tape and joint compound. Exterior covered with 3/8" wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 mineral fiber insulation installed in the stud cavity. Rating established from the gypsum-covered side only.

(II) No changes have been made to column 4 or any subcolumn.

(R) No changes have been made to any of the footnotes to the table.

748:20-2-14. IBC® ~~2018~~ 2024 Chapter 9 Fire Protection Systems [AMENDED]

Chapter 9 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: Section 903.5.1 Records retention. This section has been added to require all new fire sprinkler systems record documentation to be provided with a documentation cabinet as approved and specify what documentation should be inside the cabinet. This section has been added to read: 903.5.1 Records retention. For all new fire sprinkler systems, record documentation must be provided in a documentation cabinet at an approved location. This documentation cabinet shall include as-built drawings, product data, hydraulic calculations, and all approval documentation as required by the fire code official.

~~(1) Section 903.2.9 Group S-1. This section has been modified to add an exception to the fifth requirement in the list for when an automatic fire sprinkler system is required. This section has been modified to read: 903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:~~

~~(A) A Group S-1 fire area exceeds 12,000 square feet (1115 square meters).~~

~~(B) A Group S-1 fire area is located more than three stories above grade plane.~~

~~(C) The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 square meters).~~

~~(D) A Group S-1 fire area used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 square meters).~~

~~(E) A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 square meters). Exception: Self-service storage facility where the fire area is less than 5,000 square feet (464 square meters).~~

~~(2) Section 907.2.22 Energy storage systems. This section has been modified to change the header name from "Battery rooms" to "Energy storage systems" and to add an option for radiant-energy detection systems to be installed in rooms and walk-in units containing energy storage systems as required in Section 1206. This section has been modified to read: 907.2.22 Energy storage systems. An automatic smoke detection system or radiant-energy detection system shall be installed in rooms, areas, and walk-in units containing energy storage systems as required in Section 1206 of the International Fire Code®.~~

~~(3) Section 907.2.23 Capacitor energy storage systems. This section has been stricken from the code.~~

~~(4) Section 911.1.3 Size. This section has been modified to include an exception to make the fire command center smaller when approved by the fire code official. This section has been modified to read: 911.1.3. Size. The fire command center shall be not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 square meters) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater. Exception: When approved by the fire code official the fire command center can be reduced in size to not less than a minimum of 96 square feet (9 square meters) with a minimum dimension of 8 feet (2438 mm).~~

~~(5) Section 916.7 Gas sampling. This section has been modified to correct errata published by the ICC, in the second exception to clarify the toxic gases sample analysis to be performed is for all toxic gas that are not HPM. This section has been modified to read: 916.7 Gas sampling. Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:~~

~~(A) For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.~~

~~(B) For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes, in accordance with Section 6004.2.2.7 of the International Fire Code®.~~

~~(C) Where a less frequent or delayed sampling interval is approved.~~

748:20-2-15. IBC® ~~2018~~ 2024 Chapter 10 Means of Egress [AMENDED]

Chapter 10 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) Section 1003.4 Floor surface. This section has been modified to change the heading name form "Slip resistance surface" to "Floor surface" and to prohibit openings in the horizontal floor plane. This section has been modified to read: 1003.4 Floor surface. Circulation paths of the means of egress shall have a slip-resistant surface and be securely attached. Floor surfaces that are a part of a means of egress shall have a solid surface. A floor for this purpose is also defined as the space between a floor surface and a guard if it projects beyond the edge of a floor. Exceptions:~~

(A) Where approved by the Building Official, openings in floor surfaces shall be a size that does not permit the passage of 1/2-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.

(B)Where approved by the Building Official in Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in the floor surface shall not be prohibited provided a sphere with a diameter of 1 1/8 inches (29 mm) cannot pass through the opening.

(2) Section 1008.2.3 Exit discharge. This section has been modified to allow for required exit discharge illumination to be provided by the building lighting or other site lighting such as street lighting and adds a second exception to the requirement for buildings that comply for a single exit in accordance with Table 1006.2.1. This section has been modified to read: 1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the exit discharge from each exit to the public way. Illumination may be provided by the building or other site lighting such as street lighting. Exceptions:

(A) Illumination shall not be required where the path of exit discharge meets both of the following requirements:

(i) The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.

(ii) A dispersal area shall be illuminated to a level not less than 1 foot-candle (11 lux) at the walking surface.

(B) Buildings that comply for a single exit in accordance with Table 1006.2.1.

(3) Section 1010.1.10 Panic and fire exit hardware. This section has been modified to add a third paragraph to require personnel doors in rooms or spaces that contain electrical equipment rated 800 amperes or more that contain overcurrent devices, switching devices, or control devices where the personnel door intended for entrance to and egress from the working space is less than 25 feet from the nearest edge of the working space, to be equipped with panic hardware or fire exit hardware This section has been modified to read: 1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware. Exceptions:

(A) A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.

(B) Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.

(4) Electrical rooms rated 1200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

(5) Where electrical equipment rated 800 amperes or more that contains overcurrent devices, switching devices, or control devices is installed and there is a personnel door(s) intended for entrance to and egress from the working space less than 25 feet (7.6 m) from the nearest edge of the working space, the personnel door shall be equipped with panic hardware or fire exit hardware. The door(s) shall open in the direction of egress.

(6) Section 1015.4 Opening limitations. This section has been modified to prohibit an opening in the horizontal plane of the floor walking surface. This section has been modified to read: 1015.4 Opening limitations. Required guards shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height. The 4 inch sphere allowable opening permitted by this section only applies to openings in a vertical plane not openings in floors or similar horizontal surfaces. Exceptions:

(A) From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings that allow passages of a sphere 4 3/8 inches (111 mm) in diameter.

(B) The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow the passage of a sphere 6 inches (152 mm) in diameter.

(C) At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.

~~(D) In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship's ladders, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.~~

~~(E) In assembly seating areas, guards required at the end of aisles in accordance with Section 1029.17.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.~~

~~(F) Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, guards on the open sides of stairs shall not have openings that allow passage of a sphere 4 3/8 inches (111 mm) in diameter.~~

~~(7)~~(1) Section 1015.6 Mechanical equipment, systems and devices. This section has been modified to clarify the circumstances under which guards shall be provided and to modify the exception to allow the authority having jurisdiction to approve the use of a fall/restraint system instead of guards. This section has been modified to read: 1015.6 Mechanical equipment, systems and devices. Guards shall be provided where various components that require services are located on a roof or elevated structure and have a condition as set forth in Sections 1015.6.1 through 1015.6.3. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. Exception: When approved by the authority having jurisdiction, guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.

~~(8)~~(2) Section 1015.6.1 Roof edge. This section has been added to clarify the circumstances required to exist for the installation of guards at the roof edge when the components needing service are within a specific distance of the roof edge. This section has been added to read: 1015.6.1 Roof edge. Guards shall be provided when components are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface or elevated structure and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of the component that requires service.

~~(9)~~(3) Section 1015.6.2 Skylights. This section has been added to clarify the circumstances for the installation of guards around components near skylights and to provide exceptions to the requirement. This section has been added to read: 1015.6.2 Skylights. Guards shall be provided when a skylight is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the skylight. Exceptions:

(A) Exception 1. Guards are not required when the skylight is located at least 42 inches (1067 mm) above the highest point of the walking surface adjacent to the skylight or component.

(B) Exception 2. Guards are not required if some other provision for skylight fall-thru protection is provided and approved by the authority having jurisdiction.

~~(10)~~(4) Section 1015.6.3 Roof hatch. This section has been added to clarify the circumstances for the installation of guards around components installed within a specific distance from the roof hatch. This section has been added to read: 1015.6.3 Roof hatch. Guards shall be provided when a roof hatch is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the roof hatch. If the component is within 10 feet (3048 mm) of the ladder access side of the roof hatch, the guard shall incorporate a self-closing, self-latching gate. The gate shall have a top edge of not less than 42 inches (1067 mm) above the elevated surface adjacent to the gate and shall not allow the passage of a ~~21 inch~~ 21-inch (533 mm) sphere.

~~(11)~~(5) Section 1015.7 Roof access. This section has been modified to allow the authority having jurisdiction to approve the use of a fall-restraint system instead of a guard in the exception and provide criteria for installation of the fall-restraint system. This section has been modified to read: 1015.7 Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533

mm) in diameter. Exception: When approved by the authority having jurisdiction, guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of the walking surfaces.

(6) Section 1016.2.2 Shared common use areas. This section has been added to clarify when shared common use areas are utilized by more than one tenant, a direct independent means of egress must be provided without the necessity to return through any tenant space or building and clarifies the signage and illumination requirements for the access. This section has been added to read: 1016.2.2 Shared common use areas. Shared common use areas utilized by more than one tenant must provide for direct access to an independent means of egress without the necessity to return through any tenant space or building. Such common areas shall be provided with signage designating each adjoining suite to comply with the ICC ANSI A-117® and the International Fire Code® as well as means of egress signage and illumination complying with other sections of this Chapter and those required to be accessible in accordance with Chapter 11 and Section 1111.

(7) 1031.2 Where required. This section has been modified to require emergency escape and rescue openings to be provided for all Group R-2 occupancies and authorize the fire code official to increase the minimum height requirement for emergency escape and rescue openings based on the responding fire department's capabilities. This section has been modified to read: 1031.2 Where required. In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in the following occupancies:

(A) Item 1. Group R-2 occupancies.

(B) Item 2. Group R-3 and R-4 occupancies.

(8) Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way. Exceptions:

(A) Exception 1. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.

(B) Exception 2. Emergency escape and rescue openings are not required for basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.

(C) Exception 3. Basements without habitable spaces and having not more than 200 square feet (10.16 square meters) in floor area shall not be required to have emergency escape and rescue openings.

(D) Exception 4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.

(E) Exception 5. Within individual dwelling and sleeping units in Groups R-2 and R-3, where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:

(i) Exception 5.1 One means of egress and one emergency escape and opening.

(ii) Exception 5.2 Two means of egress.

(F) Exception 6. The fire code official is authorized to increase the minimum height requirement for emergency escape and rescue openings based on the responding fire department's capabilities.

748:20-2-16. IBC® 2024 Chapter 11 Accessibility [NEW]

Chapter 11 of the Oklahoma adopted IBC® 2024 is adopted with the following modifications:

(1) Section 1110.4 Adult changing stations. This section has been modified to require compliance with ICC ANSI A117.1, to include ICC Supplement 1 and add an exception to the section related to required adult changing stations installed in areas serving outdoor uses, accessible to the public outside of normal operational hours to allow for the installation of stationary, non-adjustable changing tables with a specific height range. This section has been modified to read: 1110.4 Adult changing stations. Where required, adult

changing stations shall be accessible. Where required, adult changing stations shall be accessible and shall comply with Sections 1110.4.1 through 1110.4.4 and the ICC ANSI A117.1, 2017 to include ICC Supplement 1. Exception: Adult changing stations located in areas serving outdoor uses, such as but not limited to public parks, which are accessible to the public outside of normal operational hours, are permitted to install stationary, non-adjustable, changing tables with a surface height between 17 inches (431.8 mm) to 19 inches (482.6 mm).

(2) Section 1110.4.1 Where required. This section has been modified to require adult changing stations be provided in public or private parks and campgrounds. This section has been modified to read: 1110.4.1 Where required. Not fewer than one adult changing station shall be provided in the following locations:

(A) Item 1. In assembly and mercantile occupancies, where family or assisted-use toilets or bathing rooms are required to comply with Section 1110.2.1.

(B) Item 2. In Group B occupancies providing education facilities for students above the 12th grade, where an aggregate of 12 or more male and female water closets are required to serve the classrooms and lecture halls.

(C) Item 3. In Group E occupancies, where a room or space used for assembly purposes requires an aggregate of six or more male and female water closets for the room or space.

(D) Item 4. In highway rest stops and highway service plazas.

(E) Item 5. Public or private parks and campgrounds.

(3) Section 11104.2 Room. This section has been modified to add a second exception to the section to allow for the room to be locked during normal hours of operation under certain circumstances. This section has been modified to read: 1110.4.2 Room. Adult changing stations shall be located in toilet rooms that include only one or more water closets and only one lavatory. Fixtures located in such rooms shall be included in determining the number of fixtures provided in the occupancy. The occupants shall have access to the required adult changing station at all times that the associated occupancy is occupied. Exceptions:

(A) Exception 1. Adult changing stations shall be permitted to be located in family or assisted toilet rooms required in Section 1110.2.1.

(B) Exception 2. Where adult changing stations are provided in separate rooms, and in addition to the minimum fixture requirements as listed elsewhere by this code, such rooms shall be permitted to be locked during normal hours of operation where access may be granted by staff, and information signage is posted at the door to the facility. This exception shall not apply to those rooms otherwise required by or used in combination with this code as to be provided for family or assisted use; nor shall it be interpreted to allow for such facilities to be locked where other single, multi-user, or family restrooms are not.

784:20-2-20. IBC® ~~2018~~ 2024 Chapter 15 Roof Assemblies and Rooftop Structures [AMENDED]

Chapter 15 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modification: Section ~~1511.3.1.1~~ 1512.3 Roof recover. ~~Exceptions.~~ This section has been modified to add a fourth condition when a roof recover shall not be permitted. This section has been modified to read: ~~1511.3.1.1 Exceptions~~ 1512.3 Roof recover. The installation of a new roof covering over an existing covering shall be permitted where any of the following conditions occur:

(1) Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.

(2). Complete and separate roofing systems, such as standing-seam metal roof panel systems, that are designed to transmit the roof loads directly to the building's structural system and do not rely on existing roofs and roof coverings for support shall not require the removal of the existing roof coverings.

(3) Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 1512.3.1.

(4) The application of a new protective roof coating over an existing protective roof coating, metal roof panel, built-up roof, spray polyurethane foam roofing system, metal roof shingle, mineral-surfaced roll roofing, modified bitumen roofing or thermoset and thermoplastic single-ply roofing shall be permitted without tear off of existing roof coverings.

(5) Exceptions: A roof recover shall not be permitted where any of the following conditions occur:

~~(1) Where the~~ (A) Item 1. The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.

~~(2) Where the~~ (B) Item 2. The existing roof covering is slate, clay, cement or asbestos-cement tile.

~~(3) Where the~~ (C) Item 3. The existing roof has two or more applications of any type of roof covering.

~~(4)~~(D) Item 4. Where the existing roof has one or more applications of asphalt shingles, additional applications of asphalt shingles shall not be permitted.

748:20-2-21. IBC® ~~2018~~ 2024 Chapter 16 Structural Design [AMENDED]

Chapter 16 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification:

~~(1) Section 1604.10 Loads on storm shelters. This section has been modified to add a reference to Section 423.5.3 to point to a change made to that section related to roof live loads and storm shelters. This section has been modified to read: 1604.10 Loads on storm shelters. Loads and load combinations on storm shelters shall be determined in accordance with Section 423.5.3 and ICC 500®.~~

~~(2) Figure 1609.3(1) Basic Wind Speeds, V, for Risk Category II Buildings and Other Structures. The footnotes to this figure have been modified to correct errata published by the ICC. The errata corrects the URL reference in footnote number 6 from "www.atcouncil.org/windspeed" to "www.hazards.atcouncil.org." The footnotes for this figure have been modified to read: Notes:~~

~~(A) Footnote 1. Values are nominal design 3-second gust wind speeds in miles per hour (m divided by s) at 33 feet (10 meters) above the ground for Exposure C category.~~

~~(B) Footnote 2. Linear interpolation is permitted between contours. Point values are provided to aid with interpolation.~~

~~(C) Footnote 3. Islands, coastal areas, and land boundaries outside the last contour shall use the last wind speed contour.~~

~~(D) Footnote 4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~

~~(E) Footnote 5. Wind speeds correspond to approximately a 7 percent probability of exceedance in 50 years (Annual Exceedance Probability equals 0.00143, MRI equals 700 Years).~~

~~(F) Footnote 6. Location-specific basic wind speeds shall be permitted to be determined using www.hazards.atcouncil.org.~~

~~(3) Figure 1609.3(2) Basic Wind Speeds, V, for Risk Category III Buildings and Other Structures. The footnotes to this figure have been modified to correct errata published by the ICC. The errata corrects the footnotes to include the "N" in the word "Notes" above the footnotes and to include the footnote numbers cut off in the printing. Footnote 6 has been modified to change the URL reference from "www.atcouncil.org/windspeed" to "www.hazards.atcouncil.org." The footnotes for this figure have been modified to read: Notes:~~

~~(A) Footnote 1. Values are nominal design 3-second gust wind speeds in miles per hour (m divided by s) at 33 feet (10 meters) above the ground for Exposure C category.~~

~~(B) Footnote 2. Linear interpolation is permitted between contours. Point values are provided to aid with interpolation.~~

~~(C) Footnote 3. Islands, coastal areas, and land boundaries outside the last contour shall use the last wind speed contour.~~

~~(D) Footnote 4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~

~~(E) Footnote 5. Wind speeds correspond to approximately a 3 percent probability of exceedance in 50 years (Annual Exceedance Probability equals 0.000588, MRI equals 1700 Years).~~

~~(F) Footnote 6. Location-specific basic wind speeds shall be permitted to be determined using www.hazards.atcouncil.org.~~

~~(4) Figure 1609.3(3) Basic Wind Speeds, V, for Risk Category IV Buildings and Other Structures. The footnotes to this figure have been modified to correct errata published by the ICC. The errata corrects the URL reference in footnote number 6 from "www.atcouncil.org/windspeed" to "www.hazards.atcouncil.org." The footnotes for this figure have been modified to read: Notes:~~

~~(A) Footnote 1. Values are nominal design 3-second gust wind speeds in miles per hour (m divided by s) at 33 feet (10 meters) above the ground for Exposure C category.~~

~~(B) Footnote 2. Linear interpolation is permitted between contours. Point values are provided to aid with interpolation.~~

~~(C) Footnote 3. Islands, coastal areas, and land boundaries outside the last contour shall use the last wind speed contour.~~

~~(D) Footnote 4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~

~~(E) Footnote 5. Wind speeds correspond to approximately a 1.6 percent probability of exceedance in 50 years (Annual Exceedance Probability equals 0.00033, MRI equals 3000 Years).~~

~~(F) Footnote 6. Location-specific basic wind speeds shall be permitted to be determined using www.hazards.atcouncil.org.~~

~~(5) Figure 1609.3(1) Basic Wind Speeds, V, for Risk Category I Buildings and Other Structures. The footnotes to this figure have been modified to correct errata published by the ICC. The errata corrects the URL reference in footnote number 6 from "www.atcouncil.org/windspeed" to "www.hazards.atcouncil.org." The footnotes for this figure have been modified to read: Notes:~~

~~(A) Footnote 1. Values are nominal design 3-second gust wind speeds in miles per hour (m divided by s) at 33 feet (10 meters) above the ground for Exposure C category.~~

~~(B) Footnote 2. Linear interpolation is permitted between contours. Point values are provided to aid with interpolation.~~

~~(C) Footnote 3. Islands, coastal areas, and land boundaries outside the last contour shall use the last wind speed contour.~~

~~(D) Footnote 4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~

~~(E) Footnote 5. Wind speeds correspond to approximately a 15 percent probability of exceedance in 50 years (Annual Exceedance Probability equals 0.00333, MRI equals 300 Years).~~

~~(F) Footnote 6. Location-specific basic wind speeds shall be permitted to be determined using www.hazards.atcouncil.org.~~

~~(6)~~ Section 1611.1 Design rain loads. This section has been modified to ~~increase secondary drain size for short duration intensities the equation at the end of the section is still applicable~~ specify the rainfall data needed for designing secondary drains shall be pulled from the National Oceanic and Atmospheric Administration Precipitation Frequency Data Server (PFDS) and that the sizing shall be based on the data for a 15-minute duration from the nearest station for the specified Risk Category of the structure. This section has been modified to read: 1611.1 Design rain loads. Each portion of a roof shall be designed to sustain the load of rainwater ~~that will accumulate on it if the primary drainage system for that portion is blocked plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow. The design rainfall shall be based on a rainfall rate of 10.2 inches per hour~~ as per the requirements of Chapter 8 of ASCE 7. Rain loads shall be based on the summation of the static head, d with a subscript "s", hydraulic head, d with a subscript "h", and ponding head, d with a subscript "p", using Equation 16-20. The hydraulic calculations assuming a flow rate corresponding to a rainfall intensity equal to or greater than 15-minute duration storms by the rainfall found in the National Oceanic and Atmospheric Administration Precipitation Frequency Data Server (PFDS). The sizing shall be based on the data for 15-minute rainfall rates at the nearest station for the risk categories given in Table 1611.1. The ponding head shall be based on structural analysis as the depth of water due to deflections on the roof subjected to unfactored rain load and unfactored dead load.

~~(A) Equation 16-35~~

~~(B) R equals 5.2 (d with a subscript "s" plus d with a subscript "h")~~

~~(C) For SI: R equals 0.0098 (d with a subscript "s" plus d with a subscript "h") where:~~

~~(i) d with a subscript "h" equals Additional depth of water on the undeflected roof above the inlet of secondary drainage system at its design flow (in other words, the hydraulic head) in inches (mm).~~

~~(ii) D with a subscript "s" equals Depth of water on the undeflected roof up to the inlet of secondary drainage system when the primary drainage system is blocked (in other words, the static head) in inches (mm).~~

~~(iii) R equals Rain load on the undeflected roof, in psf (kN divided by square meters). Where the phrase "undeflected roof" is used, deflections from loads (including dead loads) shall not be considered when determining the amount of rain on the roof.~~

748:20-2-22. IBC® 2018 Chapter 17 Special Inspections and Tests [REVOKED]

~~Chapter 17 of the Oklahoma adopted IBC® 2018 is adopted with the following modifications:~~

~~(1) Section 1704.2.1 Special inspector qualifications. This section has been modified to require all special inspectors to meet at least one of the required minimum qualifications for each specific special inspection listed in Table 1704.2 before performing special inspections. This section has been modified to read: 1704.2.1 Special inspector qualifications. Prior to the start of construction, the approved agencies shall provide written documentation to the building official demonstrating the competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction. Experience or training shall be considered to be relevant where the documented experience or training is related in complexity to the same type of special inspection or testing activities for projects of similar complexity and material qualities. The special inspector shall be qualified in accordance with Table 1704.2. These qualifications are in addition to the qualifications specified in other sections of this code.~~

~~(2) The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved agency and their personnel are permitted to act as special inspectors for the work designed by them, provided they qualify as special inspectors.~~

~~(3) Table 1704.2 Minimum Qualifications for Special Inspections. This table has been added to provide a list of certifications and qualifications required before performing special inspections. This table has been added to read: Table 1704.2 Minimum Qualifications for Special Inspections. Four superscript numbers appear at the end of the table title and read as "1, 2, 3, 4" to indicate all four footnotes to the table are applicable to the entire table. The table contains 13 rows and 2 columns and is described below:~~

~~(A) Row 1 contains the header row and lists the column headings below:~~

~~(i) Row 1, column 1, heading is entitled "Category of Inspection."~~

~~(ii) Row 1, column 2, heading is entitled "Required Certification."~~

~~(B) Row two contains the following information:~~

~~(i) Row 2, column 1 lists the special inspection category "High Strength Steel Bolting and Steel Erection."~~

~~(ii) Row 2, column 2 lists the four possible certifications a special inspector should have at least one of, to inspect the special inspection category "High Strength Steel Bolting and Steel Erection:"~~

~~(I) ICC Structural Steel and Bolting Special Inspector.~~

~~(II) AWS/AISC Certified Structural Steel Inspector.~~

~~(III) EIT with relevant experience.~~

~~(IV) PE with relevant experience.~~

~~(C) Row 3 contains the following information:~~

~~(i) Row 3, column 1 lists the special inspection category "Steel Welding."~~

~~(ii) Row 3, column 2 lists two possible certifications a special inspector should have at least one of, to inspect the special inspection category "Steel Welding."~~

~~(I) ICC Structural Welding SI.~~

~~(II) AWS Certified Welding Inspector.~~

~~(D) Row 4 contains the following information:~~

~~(i) Row 4, column 1 lists the special inspection category "Nondestructive Testing."~~

~~(ii) Row 4, column 2 lists the one certification a special inspector should have to inspect the special inspection category "Nondestructive Testing." The certification is: ASNT SNT-TC-1A, NDT Level II or III.~~

~~(E) Row 5 contains the following information:~~

~~(i) Row 5, column 1 lists the special inspection category "Prestressed Concrete."~~

~~(ii) Row 5, column 2 lists five possible certifications a special inspector should have at least one of, to inspect the special inspection category "Prestressed Concrete:"~~

~~(I) ICC Prestressed Concrete Special Inspector.~~

~~(II) PTI Level 1 Unbonded Post-Tension Inspector.~~

~~(III) ACI Concrete Field Tech 1 Certification (for field testing only).~~

~~(IV) EIT with relevant experience.~~

~~(V) PE with relevant experience.~~

~~(F) Row 6 contains the following information:~~

(i) Row 8, column 1 lists the special inspection category "Reinforced Concrete, Post-installed Structural Anchors."

(ii) Row 8, column 2 lists five possible certifications a special inspector should have at least one of, to inspect the special inspection category "Reinforced Concrete, Post-installed Structural Anchors:"

(I) ICC Reinforced Concrete Special Inspector.

(II) ACI Concrete Construction Special Inspector.

(III) ACI Concrete Field Tech I Certification (for field testing only).

(IV) EIT with relevant experience.

(V) PE with relevant experience.

(G) Row 7 contains the following information:

(i) Row 7, column 1 lists the special inspection category "Masonry Construction."

(ii) Row 7, column 2 lists three possible certifications a special inspector should have at least one of, to inspect the special inspection category "Masonry Construction:"

(I) ICC Structural Masonry Special Inspector.

(II) EIT with relevant experience.

(III) PE with relevant experience.

(H) Row 8 contains the following information:

(i) Row 8, column 1 lists the special inspection category "Soils."

(ii) Row 8, column 2 lists four possible certifications a special inspector should have at least one of, to inspect the special inspection category "Soils:"

(I) NICET II.

(II) ICC Soils SI.

(III) EIT with relevant experience.

(IV) PE with relevant experience.

(I) Row 9 contains the following information:

(i) Row 9, column 1 lists the special inspection category "Driven deep foundation, Cast-in-place deep foundations, Helical pile foundations, Excavation."

(ii) Row 9, column 2 lists three possible certifications a special inspector should have at least one of, to inspect the special inspection category "Driven deep foundation, Cast-in-place deep foundations, Helical pile foundations, Excavation:"

(I) NICETT II (geotechnical or construction, or construction material testing or soils.

(II) EIT with relevant experience.

(III) PE with relevant experience.

(J) Row 10 contains the following information:

(i) Row 10, column 1 lists the special inspection category "Sprayed fire-resistant materials, Mastic and intumescent fire-resistance coatings."

(ii) Row 10, column 2 lists the five possible certifications a special inspector should have at least one of, to inspect the special inspection category "Sprayed fire-resistant materials, Mastic and intumescent fire-resistance coatings;"

(I) ICC Spray-applied Fireproofing Special Inspector.

(II) UL approved Spray-applied Fireproofing Inspector.

(III) EIT with relevant experience.

(IV) PE with relevant experience.

(V) RA with relevant experience.

(K) Row 11 contains the following information:

(i) Row 11, column 1 lists the special inspection category "Exterior insulation and finish systems (EIFS)."

(ii) Row 11, column 2 lists four possible certifications a special inspector should have at least one of, to inspect the special inspection category "Exterior insulation and finish systems (EIFS):"

(I) AWCI EIFS Inspector

(II) EIT with relevant experience.

(III) PE with relevant experience.

(IV) RA with relevant experience.

(L) Row 12 contains the following information:

(i) Row 12, column 1 lists the special inspection category "Fire-resistant penetrations and joints."

(ii) Row 12, column 2 lists three possible certifications a special inspector should have at least one of, to inspect the special inspection category "Fire-resistant penetrations and joints:"

(I) UL approved firestop inspector.

(II) FM approved firestop inspector.

(III) Inspector otherwise approved by the AHJ.

(M) Row 13 contains the following information:

(i) Row 13, column 1 lists the special inspection category "Testing for smoke control."

(ii) Row 13, column 2 lists three possible certifications a special inspector should have at least one of, to inspect the special inspection category "Testing for smoke control:"

(I) AABC technical certification

(II) EIT with relevant experience.

(III) PE with relevant experience.

(N) The following footnotes are listed beneath the table:

(i) The special inspector shall meet one of the required certifications listed for the applicable category of inspection.

(ii) Applicants shall comply with one of the following education and experience requirements in addition to the required certifications:

(I) Oklahoma Professional Engineer or Oklahoma Registered Architect and a minimum of three months of relevant work experience.

(II) Bachelor of Science Degree in Engineering, Architecture, or Physical Science and a minimum of six months of relevant work experience.

(III) Two years of verified college or technical school and a minimum of one year of relevant work experience.

(IV) High school or equivalent graduate and a minimum of one year of relevant work experience.

(iii) Oklahoma Professional Engineer or Oklahoma Registered Architect competent in the specific category are exempt from the required certifications listed in this table, but are subject to on-site assessment of competence by the authority having jurisdiction.

(iv) Abbreviations in the table as noted below:

(I) AA stands for Associate of Arts (degree)

(II) AABC stands for Associated Air Balance Council

(III) ACI stands for American Concrete Institute

(IV) ANSI stands for American National Standards Institute

(V) API stands for American Petroleum Institute

(VI) ANST stands for American Society for Nondestructive Testing

(VII) ASTM stands for American Society for Testing and Materials

(VIII)AWCI stands for Association of the Wall and Ceiling Industry

(IX)AWS stands for American Welding Society

(X) BS stands for Bachelor of Science (degree)

(XI) CWI stands for Certified Welding Inspector

(XII) EIFS stands for Exterior insulation and finish system

(XIII) FM stands for Factory Mutual Global

(XIV) IAS stands for International Accreditation Service

(XV) IBC stands for International Building Code

(XVI) ICC stands for International Code Council

(XVII) ICC-ES stands for ICC Evaluation Service

(XVIII) NDT stands for Nondestructive testing

(XIX) NICET stands for National Institute for Certification of Engineering Technologists

(XX) PE stands for Professional engineer

(XXI) RDP stands for Registered design professional

(XXII) SI stands for Special inspector

(XXIII) SIA stands for Special inspection agency

~~(XXIV) UL stands for Underwriters Laboratories~~
~~(XXV) EIT stands for Engineer in Training~~

748:20-2-23. IBC® ~~2018~~ 2024 Chapter 18 Soils and Foundations [AMENDED]

Chapter 18 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following ~~modification~~ modifications:

(1) Section 1807.2.1 General. This section was modified to require any retaining wall greater than 4 feet from the bottom of the footing to the top of the wall to have engineered plans from a professional engineer licensed in Oklahoma. This section has been modified to read: 1807.2.1 General. Retaining walls shall be designed to ensure stability against overturning, sliding, excessive foundation pressure, and water uplift. Any retaining wall greater than 4 feet from the bottom of the footing to the top of the wall shall include prepared plans, signed and sealed by a professional engineer licensed in the State of Oklahoma.

(2) Section 1809.4 Depth and width of footings has been modified to provide an exception to the code for minor buildings such as small storage buildings to be constructed without expensive foundations and be mounted on skids and would apply to light ~~gage~~ gauge metal or similar carports provided they are adequately anchored. This section has been modified to read: 1809.4 Depth and width of footings. The minimum depth of footings below the undisturbed ground surface shall be 12 inches (305 mm). Where applicable, the requirements of Section 1809.5 shall be satisfied. The minimum width of footings shall be 12 inches (305 mm). Exception: Single story free-standing building meeting all of the following conditions shall be permitted without footings:

~~(1)~~(A) Item 1. Assigned to ~~Occupancy~~ Risk Category 1, in accordance with Section 1604.5;
~~(2)~~(B) Item 2. Light-frame wood or metal construction;
~~(3)~~(C) Item 3. Area of 400 square feet (37 square meters) or less;
~~(4)~~(D) Item 4. Eave height of 10 feet (3048 mm) or less; and
~~(5)~~(E) Item 5. Building height of 15 feet (4572 mm) or less.

~~(b)~~(3) Such buildings shall have an approved ~~wooden~~ floor, or shall be placed on a concrete slab having a minimum thickness of 3 1/2 inches (89 mm). Buildings shall be anchored to resist uplift as required by Section 1609.

748:20-2-28. IBC® 2018 Chapter 23 Wood [REVOKED]

~~Chapter 23 of the Oklahoma adopted IBC® 2018 is adopted with the following modification: Section 2306.1 Allowable stress design has been modified to correct errata published by the ICC. The modification corrects the reference number of one standard and names for two of the applicable standards listed under the American Society of Agricultural and Biological Engineers. The standard "ASABE EP 484.2, Diaphragm Design of Metal-clad Post Frame Rectangular Buildings" has been corrected to read as "ASABE EP 484.3, Diaphragm Design of Metal-clad Wood-Frame Rectangular Buildings," and standard "ASABE EP 559.1 Design Requirements and Bending Properties for Mechanically Laminated Columns" has been corrected to read "ASABE EP 559.1 Design Requirements and Bending Properties for Mechanically Laminated Wood Assemblies." This section has been modified to read: 2306.1 Allowable stress design. The design and construction of wood elements in structures using allowable stress design shall be in accordance with the following applicable standards:~~

~~(1) American Woods Council~~
~~(A) ANSI/AWC NDS, National Design Specification for Wood Construction.~~
~~(B) SDPWS, Special Design Provisions for Wood and Seismic.~~
~~(2) American Society of Agricultural and Biological Engineers~~
~~(A) ASABE EP 484.3 Diaphragm Design of Metal-clad, Wood-Frame Rectangular Buildings.~~
~~(B) ASABE EP 486.2 Shallow Post Foundation Design.~~
~~(C) ASABE EP 559.1 Design Requirements and Bending Properties for Mechanically Laminated Wood Assemblies.~~
~~(3) APA - The Engineered Wood Association.~~
~~(A) ANSI 117, Standard Specifications for Structural Glued Laminated Timber of Softwood Species.~~
~~(B) ANSI A190.1, Structural Glued Laminated Timber Panel Design Specification~~
~~(C) Plywood Design Specification Supplement 1 - Design & Fabrication of Plywood Curved Panel~~
~~(D) Plywood Design Specification Supplement 2 - Design & Fabrication of Glued Plywood-lumber Beams~~

(E) Plywood Design Specification Supplement 3 - Design & Fabrication of Plywood Stressed-skin Panels
(F) Plywood Design Specification Supplement 4 - Design & Fabrication of Plywood Sandwich Panels
(G) Plywood Design Specification Supplement 5 - Design & Fabrication of All-plywood Beams
(H) APA T300, Glulam Connection Details
(I) APA S560, Field Notching and Drilling of Glued Laminated Timber Beams
(J) APA S475, Glued Laminated Beam Design Tables
(K) APA X450, Glulam in Residential Construction
(L) APA X440, Product and Application Guide: Glulam
(M) APA R540, Builders Tips: Proper storage and Handling of Glulam Beams
(4) Truss Plate Institute, Inc., TPI 1, National Design Standard for Metal Plate Connected Wood Truss Construction
(5) West Coast Lumber Inspection Bureau.
(A) AITC 104, Typical Construction Details
(B) AITC 110, Standard Appearance Grades for Structural Glued Laminated Timber
(C) AITC 113, Standard for Dimensions of Structural Glued Laminated Timber
(D) AITC 119, Standard Specifications for Structural Glued Laminated Timber of Hardwood Species
(E) AITC 220, Inspection Manual

748: 20-2-32. IBC® 2018 Chapter 27 Electrical [REVOKED]

Chapter 27 of the Oklahoma adopted IBC® 2018 is adopted with the following modifications:
(1) Section [F] 2702.1.2 Fuel-line piping protection. This section has been modified to add a third option for separating fuel lines supplying a generator set inside a building utilizing a fire-resistant pipe-protection system tested in accordance with UL 1489. This section has been modified to read: [F] 2702.1.2 Fuel-line piping protection. Fuel lines supplying a generator set inside a high-rise building shall be separated from areas of the building other than the room the generator is located in, by one of the following methods:
(A) A fire-resistant pipe-protection system that has been tested in accordance with UL 1489. The system shall be installed as tested and in accordance with the manufacturer's installation instructions, and shall have a rating of not less than 2 hours. Where the building is protected throughout with an automatic fire sprinkler system installed in accordance with Section 903.3.1.1, the required rating shall be reduced to 1 hour.
(B) An assembly that has a fire-resistance rating of not less than 2 hours. Where the building is protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, the required fire-resistance rating shall be reduced to 1 hour.
(C) Other approved methods.
(2) Section 2703 Lightning Protection Systems. This section header title has been added to signify a new section has been added to the code to address lightning protection systems. This section header has been added to read: 2703 Lightning Protection Systems.
(3) Section 2703.1 General. This section has been added to clarify when lightning protection systems are provided, they shall comply with Sections 2703.2 through 2703.4. This section has been added to read: 2703.1 General. Where provided, lightning protection systems shall comply with Sections 2703.2 through 2703.4.
(4) Section 2703.2 Installation. This section has been added to require all lightning protection systems for all new building and additions to be installed in accordance with NFPA® 780 and UL 96A. It provides an exception for when UL 96A may not be utilized. This section has been added to read: 2703.2 Installation. Lighting protection systems for all new buildings and additions shall be installed in accordance with one of the following standards:
(A) NFPA® 780.
(B) UL 96A.
(5) Exception. UL 96A shall not be utilized for structures used for the production, handling, or storage of ammunition, explosives, flammable liquids or gases, and other explosive ingredients including dust.
(6) 2703.3 Additions to existing systems. This section has been added to clarify where additions are constructed to a building that contains a lightning protection system, the existing systems lightning protection system shall be properly interconnected with the new lightning protection system. This section has been added to read: 2703.3 Additions to existing systems. Where additions are constructed to a building containing

~~a lighting protection system, the existing building's lightning protection system shall be properly interconnected to the new lightning protection system.~~

~~(7) 2703.4 Surge protection. This section has been added to require surge protective devices to be installed for all normal and emergency electrical systems and all communication systems in accordance with Section 2703.2 and NFPA 70. This section has been added to read: 2703.4 Surge protection. Surge protective devices shall be installed for all normal and emergency electrical systems and all communication systems in accordance with Section 2703.2 and NFPA® 70.~~

748:20-2-34. IBC® ~~2018~~ 2024 Chapter 29 Plumbing Systems [AMENDED]

Chapter 29 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following ~~modification~~ modifications:

(1) Section 2902.1 Minimum number of fixtures. This section has been modified to add an exception for required plumbing fixtures for buildings or facilities intended to be unoccupied as approved by the code official. This section has been modified to read: 2902.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number as shown in Table 2902.1 based on the actual use of the building or space. Uses not shown in Table 2902.1 shall be considered individually by the code official. The number of occupants shall be determined by this code. Exception: Plumbing fixtures shall not be required for buildings and facilities intended to be unoccupied and as approved by the code official, such as but not limited to, personal self-storage bays, shipping containers used only for on-site storage of materials, and structures housing equipment.

(2) Section 2902.4.1 Directional signage has been modified to limit the requirement to ~~Group~~ Groups A, B, I, M, and R-1 occupancies, clarify the number of signs needed, and provide two exceptions to the requirement. This section has been modified to read: 2902.4.1 Directional signage. Directional signage indicating the route to the required public toilet facilities in ~~group~~ Groups A, B, I, M, and R-1 occupancies shall be posted in a lobby, corridor, aisle, or similar space, such that the sign can be readily seen from the main entrance to the building or tenant space. Only one sign at each main entrance that is intended for public use shall be required. Exceptions:

~~(1)~~(A) Exception 1. Group A occupancies that are part of an overall group E occupancy need not have directional signage.

~~(2)~~(B) Exception 2. Private-use Group B occupancies need not have directional signage.

(3) Section 2902.7 Substitution. This section has been added to clarify when the requirements for drinking fountains may be substituted with water dispensers under specific circumstances. This section has been added to read: 2902.7 Substitution Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where three or more drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains. Exceptions:

(A) Exception 1. In Group A use with an occupant load of 50 or fewer where facilities are provided for the consumption of food or beverage and a container is provided free of charge, a water dispenser connected to the potable water distribution system and the drainage system shall be permitted to be substituted for the required drinking fountain. Water dispensers shall not be portable.

(B) Exception 2. In Group B, F, M, I-4 and S occupancies with an occupant load of 50 or fewer, a water dispenser connected to the potable water distribution system and the drainage system shall be permitted to be substituted for the required drinking fountain. Water dispensers shall not be portable.

(4) Section 2902.8 Service sink location. This section has been modified to change the Section number from 2902.7 to 2902.8. This section has been modified to read: 2902.8 Service sink location. Service sinks shall not be required to be located in individual tenant spaces in a covered mall provided that service sinks are located within a distance of travel 300 feet (91 meters) of the most remote location in the tenant space and not moved more than one story above or below the tenant space. Service sinks shall be located on an accessible route.

748:20-2-36. IBC® 2018 Chapter 31 Special Construction [REVOKED]

~~Chapter 31 of the Oklahoma adopted IBC® 2018 is adopted with the following modifications:~~

~~(1) Section 3101.1 Scope. This section has been modified to add intermodal shipping containers to the list of special building construction items that are governed by the provisions of this chapter. This section has been modified to read: 3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, solar energy systems, and intermodal shipping containers.~~
~~(2) Section 3114 Intermodal Shipping Containers, This section header has been added to signify a new section has been added to the code to address intermodal shipping containers. This section has been modified to read: 3114 Intermodal Shipping Containers.~~
~~(3) Section 3114.1 General. This section has been added to clarify this section and other applicable sections of the code shall apply to intermodal shipping containers that are repurposed for use as buildings or structures or as a part of buildings and structures. The section provides four exceptions to the section. This section has been added to read: 3114.1 General. The provisions of Section 3114 and other applicable sections of this code, shall apply to intermodal shipping containers that are repurposed for use as buildings or structures or as a part of buildings or structures. Exceptions:~~

~~(A) Intermodal shipping containers previously approved as existing relocatable buildings complying with Chapter 14 of the International Existing Building Code®.~~

~~(B) Energy Storage Systems (ESS) located in intermodal shipping containers complying with Chapter 12 of the International Fire Code®.~~

~~(C) Intermodal shipping containers that are listed as equipment complying with the standard for equipment, such as air chillers, engine generators, modular data centers, and other similar equipment.~~

~~(D) Intermodal shipping containers housing or supporting experimental equipment are exempt from the requirements of Section 3114 provided they comply with all of the following:~~

~~(i) Such units shall be single stand-alone units supported at grade level and used only for occupancies as specified under Risk Category I in Table 1604.5;~~

~~(ii) Such units are located a minimum of 8 feet from adjacent structures and are not connected to a fuel gas system or fuel gas utility; and~~

~~(iii) In hurricane-prone regions and flood hazard areas, such units are designed in accordance with the applicable provisions of Chapter 16.~~

~~(4) Section 3114.2 Construction documents. This section has been added to require construction documents to contain information to verify the dimensions and establish the physical properties of the steel components, and wood floor components, of the intermodal shipping container in addition to the information required by Sections 107 and 1603. This section has been added to read: 3114.2 Construction documents. The construction documents shall contain information to verify the dimensions and establish the physical properties of the steel components, and wood floor components, of the intermodal shipping container in addition to the information required by Sections 107 and 1603.~~
~~(5) Section 3114.3 Intermodal shipping container information. This section has been added to require intermodal shipping containers to bear an existing data plate containing information as required by ISO 6346 and verified by an approved agency. This section requires a report of the verification process and findings to be provided to the building owner. The section goes on to allow the building official to approve removing the markings and existing data plate from the intermodal shipping containers before they are repurposed for use as buildings or structures or as a part of a building or structure. This section has been added to read: 3114.3 Intermodal shipping container information. Intermodal shipping containers shall bear an existing data plate containing the following information as required by ISO 6346 and verified by an approved agency. A report of the verification process and findings shall be provided to the building owner.~~

~~(A) Manufacturer's name or identification number~~
~~(B) Date manufactured~~
~~(C) Safety approval number~~
~~(D) Identification number~~
~~(E) Maximum operating gross mass or weight (kg) (lbs.)~~
~~(F) Allowable stacking load for 1.8G (kg) (lbs.)~~
~~(G) Transverse racking test force (Newtons)~~
~~(H) Valid maintenance examination date~~

(6) Where approved by the building official, the markings and existing data plate are permitted to be removed from the intermodal shipping containers before they are repurposed for use as buildings or structures or as a part of buildings or structures.
(7) Section 3114.4 Protection against decay and termites. This section has been added to require wood structural floors of intermodal shipping containers to be protected from decay and termites in accordance with the applicable provisions of Section 2304.12.1.1. This section has been added to read: 3114.4 Protection against decay and termites. Wood structural floors of intermodal shipping containers shall be protected from decay and termites in accordance with the applicable provisions of Section 2304.12.1.1.
(8) Section 3114.5 Under-floor ventilation. This section has been added to require the space between the bottom of the floor joists and the earth under any intermodal shipping container, except spaces occupied by basements with cellars, to be provided with ventilation in accordance with Section 1202.4. This section has been added to read: 3114.5 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any intermodal shipping container, except spaces occupied by basements with cellars, shall be provided with ventilation in accordance with Section 1202.4.
(9) Section 3114.6 Roof assemblies. This section has been added to require intermodal shipping container roof assemblies to comply with the applicable requirements of Chapter 15 and provides an exception for single-unit stand-alone intermodal shipping containers not attached to, or stacked vertically over, other intermodal shipping containers, buildings or structures. This section has been added to read: 3114.6 Roof assemblies. Intermodal shipping container roof assemblies shall comply with the applicable requirements of Chapter 15. Exception: Single-unit stand-alone intermodal shipping containers not attached to, or stacked vertically over, other intermodal shipping containers, buildings or structures.
(10) Section 3114.7 Joints and voids. This section has been added to require joints and voids that create concealed spaces between intermodal shipping containers, that are connected or stacked, at fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assembles to be protected by an approved fire-resistance joint system in accordance with Section 715. This section has been added to read: 3114.7 Joints and voids. Joints and voids that create concealed spaces between intermodal shipping containers, that are connected or stacked, at fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system in accordance with Section 715.
(11) Section 3114.8 Structural. This section has been added to require intermodal shipping containers that conform to ISO 1496-1 that are repurposed for use as buildings or structures, or as a part of buildings or structures, to be designed in accordance with Chapter 16 and this section. This section has been added to read: 3114.8 Structural. Intermodal shipping containers which conform to ISO 1496-1 that are repurposed for use as buildings or structures, or as a part of buildings or structures, shall be designed in accordance with Chapter 16 and this section.
(12) Section 3114.8.1 Foundations. This section has been added to require intermodal shipping containers repurposed for use as a permanent building or structure to be supported on foundations or other supporting structures designed and constructed in accordance with Chapters 16 through 23 of this code. This section has been added to read: 3114.8.1 Foundations. Intermodal shipping containers repurposed for use as a permanent building or structure shall be supported on foundations or other supporting structures designed and constructed in accordance with Chapters 16 through 23 of this code.
(13) Section 3114.8.1.1 Anchorage. This section has been added to require intermodal shipping containers to be anchored to foundations or other supporting structures as necessary to provide a continuous load path for all applicable design and environmental loads in accordance with Chapter 16. This section has been added to read: 3114.8.1.1 Anchorage. Intermodal shipping containers shall be anchored to foundations or other supporting structures as necessary to provide a continuous load path for all applicable design and environmental loads in accordance with Chapter 16.
(14) Section 3114.8.2 Welds. This section was added to require all new welds and connections to be equal to or greater than the original connections. This section has been added to read: 3114.8.2 Welds. All new welds and connections shall be equal to or greater than the original connections.
(15) Section 3114.8.3 Structural design. This section has been added to require the structural design for the intermodal shipping containers repurposed for use as a building or structure, or as part of a building or structure to comply with Section 3114.8.4 or 3114.8.5. This section has been added to read: 3114.8.3

~~Structural design. The structural design for the intermodal shipping containers repurposed for use as a building or structure, or as part of a building or structure, shall comply with Section 3114.8.4 or 3114.8.5.~~
~~(16) Section 3114.8.4 Detailed design procedure. This section has been added to require a structural analysis meeting the requirements of this section to be provided to the building code official to demonstrate the structural adequacy of the intermodal shipping containers. An exception has been provided for shipping containers designed in accordance with Section 3114.8.5. This section has been added to read: 3114.8.4 Detailed design procedure. A structural analysis meeting the requirements of this section shall be provided to the building official to demonstrate the structural adequacy of the intermodal shipping containers. Exception: Intermodal shipping containers designed in accordance with Section 3114.8.5.~~
~~(17) Section 3114.8.4.1 Material properties. This section has been added to require structural material properties for existing intermodal shipping container steel components to be established by material testing where the steel grade and composition cannot be identified by the manufacturer's designation. This section has been added to read: 3114.8.4.1 Material properties. Structural material properties for existing intermodal shipping container steel components shall be established by material testing where the steel grade and composition cannot be identified by the manufacturer's designation.~~
~~(18) Section 3114.8.4.2 Seismic design parameters. This section has been added to require the seismic force-resisting system to be designed and detailed in accordance with one of three requirements. This section has been added to read: 3114.8.4.2 Seismic design parameters. The seismic force-resisting system shall be designed and detailed in accordance with one of the following:~~
~~(A) Where all or portions of the corrugated steel container sides are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the ASCE 7 Table 12.2-1 requirements for light-frame bearing-wall systems with shear panels of all other materials,~~
~~(B) Where all or portions of the corrugated steel container sides are retained, but are not considered to be the seismic force-resisting system, an independent seismic force-resisting system shall be selected, designed and detailed in accordance with ASCE 7 Table 12.2-1, or~~
~~(C) Where all or portions of the corrugated steel container sides are retained and integrated into a seismic force-resisting system other than as permitted by Section 3114.8.2 Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.11 and ASCE 7 Section 12.2.1.1 or 12.2.1.2.~~
~~(19) Section 3114.8.4.3 Allowable shear value. This section has been added to require allowable shear values for the intermodal shipping container corrugated steel sheet panel side walls and end walls to be demonstrated by testing and analysis in accordance with Section 104.11. It further requires where penetrations are made in the side walls or end walls designated as part of the lateral force-resisting system, the penetrations to be substantiated by rational analysis. This section has been added to read: 3114.8.4.3 Allowable shear value. The allowable shear values for the intermodal shipping container corrugated steel sheet panel side walls and end walls shall be demonstrated by testing and analysis in accordance with Section 104.11. Where penetrations are made in the side walls or end walls designated as part of the lateral force-resisting system, the penetrations shall be substantiated by rational analysis.~~
~~(20) Section 3114.8.5 Simplified structural design of single-unit containers. This section has been added to specify single-unit intermodal shipping containers conforming to the limitations of Section 3114.8.5.1 shall be permitted to be designed in accordance with the simplified structural design provisions of this section. This section has been added to read: 3114.8.5 Simplified structural design of single-unit containers. Single-unit intermodal shipping containers conforming to the limitations of Section 3114.8.5.1 shall be permitted to be designed in accordance with the simplified structural design provisions of this section.~~
~~(21) 3114.8.5.1 Limitations. This section has been added to provide a list of limitations for the use of Section 3114.8.5. This section has been added to read: 3114.8.5.1 Limitations. Use of Section 3114.8.5 is subject to all of the following limitations:~~
~~(A) The intermodal shipping container shall be a single-unit, stand-alone unit supported on a foundation and shall not be in contact with or supporting any other shipping container or other structure.~~
~~(B) The intermodal shipping container top and bottom rails, corner castings, and columns or any portion thereof shall not be notched, cut, or removed in any manner.~~
~~(C) The intermodal shipping container shall be erected in a level and horizontal position with the floor located at the bottom.~~

(D) The intermodal shipping container shall be located in Seismic Design Category A, B, C or D.

(22) Section 3114.8.5.2 Simplified structural design. This section has been added to require where permitted by Section 3114.8.5.1, single-unit, stand-alone intermodal shipping containers be designed using a list of assumptions for corrugated steel shear walls. This section has been added to read: 3114.8.5.2. Simplified structural design. Where permitted by Section 3114.8.5.1, single-unit, stand-alone intermodal shipping containers shall be designed using the following assumptions for the corrugated steel shear walls:

(A) The appropriate detailing requirements contained in Chapters 16 through 23,

(B) Response modification coefficient, R equals 2,

(C) Over strength factor, * equals 2.5,

(D) Deflection amplification factor, C equals 2, and

(E) Limits on structural height, h equals 9.5 feet (2900 mm).

(23) Section 3114.8.5.3 Allowable shear. This section has been added to require the allowable shear for the corrugated steel side walls (longitudinal) and end walls (transverse) for wind design and for seismic design using the coefficients of Section 3114.8.5.2 to be in accordance with Table 3114.8.5.3 provided that a specific list of conditions is met. This section has been added to read: 3114.8.5.3 Allowable shear. The allowable shear for the corrugated steel side walls (longitudinal) and end walls (transverse) for wind design and for seismic design using the coefficients of Section 3114.8.5.2 shall be in accordance with Table 3114.8.5.3 provided that all of the following conditions are met:

(A) The total linear length of all openings in any individual side walls or end walls shall be limited to not more than 50 percent of the length of that side wall or end wall.

(B) Any full height wall length, or portion thereof, less than 4 feet (305 mm) long shall not be considered as a portion of the lateral force-resisting system.

(C) All side walls or end walls used as part of the lateral force-resisting system shall have an existing or new boundary element on all sides to form a continuous load path, or paths, with adequate strength and stiffness to transfer all forces from the point of application to the final point of resistance.

(D) Where openings are made in container walls, floors, or roofs for doors, windows and other openings:

(i) The openings shall be framed with steel elements that are designed in accordance with Chapter 16 and Chapter 22.

(ii) The cross section and material grade of any new steel element shall be equal to or greater than the steel element removed.

(E) A maximum of one penetration not greater than a 6-inch (152 mm) diameter hose for conduits, pipes, tubes or vents, or not greater than 16 square inches (10 322 mm^2) for electrical boxes, is permitted for each individual 8 foot length (2438 mm) lateral force-resisting wall. Penetrations located in walls that are not part of the wall lateral force-resisting system shall not be limited in size or quantity. Existing intermodal shipping container vents shall not be considered a penetration.

(F) End wall door or doors designated as part of the lateral force-resisting system shall be welded closed.

(24) Table 3114.8.5.3 Allowable Shear Values for Intermodal Shipping Container Corrugated Steel Walls for Wind or Seismic Loading. This table has been added to provide allowable shear values for side walls and end walls for specific container designations with specific container dimensions for both nominal length and nominal height. The table has been added to read: Table 3114.8.5.3. Allowable Shear Values for Intermodal Shipping Container Corrugated Steel Walls for Wind or Seismic Loading. The table contains 16 rows with 5 columns per row; and is described below:

(A) Row 1 is the header row and lists the following headers in each of the five columns:

(i) Row 1, column 1 is entitled "Container Designation" with a superscript "b" after "Designation."

(ii) Row 1, column 2 is entitled "Container Dimension (Nominal Length)."

(iii) Row 1, column 3 is entitled "Container Dimension (Nominal Height)."

(iv) Row 1, column 4 is entitled "Allowable Side Wall Shear Values (PLF)" with the superscript letters "a" and "c" after "(PLF)."

(v) Row 1, column 5 is entitled "Allowable End Wall Shear Values (PLF)" with the superscript letters "a" and "c" after "(PLF)."

(B) Row 2 contains the following information:

(i) Row 2, column 1 lists the container designation "1EEE."

(ii) Row 2, column 2 lists the container dimension nominal length of "45 feet (13.7 m)."

(iii) Row 2, column 3 lists the container dimension nominal height of "9.5 feet (2896 mm)."
(iv) Row 2, column 4 lists the allowable side wall shear value (PLF) of "75."
(v) Row 2, column 5 lists the allowable end wall shear value (PLF) of "843."
(C) Row 3 contains the following information:
(i) Row 3, column 1 lists the container designation "1EE."
(ii) Row 3, column 2 lists the container dimension nominal length of "45 feet (13.7 m)."
(iii) Row 3, column 3 lists the container dimension nominal height of "9.5 feet (2896 mm)."
(iv) Row 3, column 4 lists the allowable side wall shear value (PLF) of "75."
(v) Row 3, column 5 lists the allowable end wall shear value (PLF) of "843."
(D) Row 4 contains the following information:
(i) Row 4, column 1 lists the container designation "1AAA."
(ii) Row 4, column 2 lists the container dimension nominal length of "40 feet (12.2 m)."
(iii) Row 4, column 3 lists the container dimension nominal height of "9.5 feet (2896 mm)."
(iv) Row 4, column 4 lists the allowable side wall shear value (PLF) of "84."
(v) Row 4, column 5 lists the allowable end wall shear value (PLF) of "843."
(E) Row 5 contains the following information:
(i) Row 5, column 1 lists the container designation "1AA."
(ii) Row 5, column 2 lists the container dimension nominal length of "40 feet (12.2 m)."
(iii) Row 5, column 3 lists the container dimension nominal height of "8.5 feet (2591 mm)."
(iv) Row 5, column 4 lists the allowable side wall shear value (PLF) of "84."
(v) Row 5, column 5 lists the allowable end wall shear value (PLF) of "843."
(F) Row 6 contains the following information:
(i) Row 6, column 1 lists the container designation "1A."
(ii) Row 6, column 2 lists the container dimension nominal length of "40 feet (12.2 m)."
(iii) Row 6, column 3 lists the container dimension nominal height of "8.0 feet (2438 mm)."
(iv) Row 6, column 4 lists the allowable side wall shear value (PLF) of "84."
(v) Row 6, column 5 lists the allowable end wall shear value (PLF) of "843."
(G) Row 7 contains the following information:
(i) Row 7, column 1 lists the container designation "1AX."
(ii) Row 7, column 2 lists the container dimension nominal length of "40 feet (12.2 m)."
(iii) Row 7, column 3 lists the container dimension nominal height of "less than 8.0 feet (2438 mm)."
(iv) Row 7, column 4 lists the allowable side wall shear value (PLF) of "84."
(v) Row 7, column 5 lists the allowable end wall shear value (PLF) of "843."
(H) Row 8 contains the following information:
(i) Row 8, column 1 lists the container designation "1BBB."
(ii) Row 8, column 2 lists the container dimension nominal length of "30 feet (9.1 m)."
(iii) Row 8, column 3 lists the container dimension nominal height of "9.5 feet (2896 mm)."
(iv) Row 8, column 4 lists the allowable side wall shear value (PLF) of "112."
(v) Row 8, column 5 lists the allowable end wall shear value (PLF) of "843."
(I) Row 9 contains the following information:
(i) Row 9, column 1 lists the container designation "1BB."
(ii) Row 9, column 2 lists the container dimension nominal length of "30 feet (9.1 m)."
(iii) Row 9, column 3 lists the container dimension nominal height of "8.5 feet (2591 mm)."
(iv) Row 9, column 4 lists the allowable side wall shear value (PLF) of "112."
(v) Row 9, column 5 lists the allowable end wall shear value (PLF) of "843."
(J) Row 10 contains the following information:
(i) Row 10, column 1 lists the container designation "1B."
(ii) Row 10, column 2 lists the container dimension nominal length of "30 feet (9.1 m)."
(iii) Row 10, column 3 lists the container dimension nominal height of "8.0 feet (2438 mm)."
(iv) Row 10, column 4 lists the allowable side wall shear value (PLF) of "112."
(v) Row 10, column 5 lists the allowable end wall shear value (PLF) of "843."
(K) Row 11 contains the following information:
(i) Row 11, column 1 lists the container designation "1BX."

~~(ii) Row 11, column 2 lists the container dimension nominal length of "30 feet (9.1 m)."~~
~~(iii) Row 11, column 3 lists the container dimension nominal height of "less than 8.0 feet (2438 mm)."~~
~~(iv) Row 11, column 4 lists the allowable side wall shear value (PLF) of "112."~~
~~(v) Row 11, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(L) Row 12 contains the following information:~~
~~(i) Row 12, column 1 lists the container designation "1CC."~~
~~(ii) Row 12, column 2 lists the container dimension nominal length of "20 feet (6.1 m)."~~
~~(iii) Row 12, column 3 lists the container dimension nominal height of "8.5 feet (2591 mm)."~~
~~(iv) Row 12, column 4 lists the allowable side wall shear value (PLF) of "168."~~
~~(v) Row 12, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(M) Row 13 contains the following information:~~
~~(i) Row 13, column 1 lists the container designation "1CC."~~
~~(ii) Row 13, column 2 lists the container dimension nominal length of "20 feet (6.1 m)."~~
~~(iii) Row 13, column 3 lists the container dimension nominal height of "8.0 feet (2438 mm)."~~
~~(iv) Row 13, column 4 lists the allowable side wall shear value (PLF) of "168."~~
~~(v) Row 13, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(N) Row 14 contains the following information:~~
~~(i) Row 14, column 1 lists the container designation "1CX."~~
~~(ii) Row 14, column 2 lists the container dimension nominal length of "20 feet (6.1 m)."~~
~~(iii) Row 14, column 3 lists the container dimension nominal height of "less than 8.0 feet (2438 mm)."~~
~~(iv) Row 14, column 4 lists the allowable side wall shear value (PLF) of "168."~~
~~(v) Row 14, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(O) Row 15 contains the following information:~~
~~(i) Row 15, column 1 lists the container designation "1D."~~
~~(ii) Row 15, column 2 lists the container dimension nominal length of "10 feet (3.0 m)."~~
~~(iii) Row 15, column 3 lists the container dimension nominal height of "8.0 feet (2438 mm)."~~
~~(iv) Row 15, column 4 lists the allowable side wall shear value (PLF) of "337."~~
~~(v) Row 15, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(P) Row 16 contains the following information:~~
~~(i) Row 16, column 1 lists the container designation "1DX."~~
~~(ii) Row 16, column 2 lists the container dimension nominal length of "10 feet (3.0 m)."~~
~~(iii) Row 16, column 3 lists the container dimension nominal height of "less than 8.0 feet (2438 mm)."~~
~~(iv) Row 16, column 4 lists the allowable side wall shear value (PLF) of "337."~~
~~(v) Row 16, column 5 lists the allowable end wall shear value (PLF) of "843."~~

~~(Q) Three footnotes to the table read as follows:~~
~~(i) Footnote a: The allowable shear for the side walls and end walls of the intermodal shipping containers are derived from ISO 1496-1 and reduced by a factor of safety of 5.~~
~~(ii) Footnote b: Container designation type is derived from ISO 668.~~
~~(iii) Footnote c: Limitations of Section 3114.8.5.1 shall apply.~~

748:20-2-37. IBC® ~~2018~~ 2024 Chapter 32 Encroachments into the Public Right-of-Way [AMENDED]

Chapter 32 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modification: Section 3201.3 Other Laws has been modified to allow the authority having jurisdiction the ability in unusual circumstances to evaluate the risk of making an exception to a requirement in this chapter. This section has been modified to read: 3201.3 Other Laws. The provisions of this chapter shall not be construed to permit the violation of other laws or ordinances regulating the use and occupancy of public property or to prevent the holders of public right-of-way to grant special permission for encroachments in their rights-of-way greater than those permitted in Section 3202.

748:20-2-38. IBC® 2024 Chapter 33 Safeguards During Construction [NEW]

Chapter 33 of the Oklahoma adopted IBC® 2024 is adopted with the following modifications:
(1) Section 3311.1 Where required. This section has been modified to change the height requirement of standpipes provided for use during construction from 40 feet to 30 feet. This section has been modified to

read: 3311.1 Where required. In buildings required to have standpipes by Section 905.3.1, not fewer than one standpipe shall be provided for use during construction. Such standpipes shall be installed prior to construction exceeding 30 feet (9144) mm in height above the lowest level of fire department vehicle access. Such standpipes shall be provided with fire department hose connections at locations adjacent to stairways complying with Section 3310.1. As construction progresses, such standpipes shall be extended to within one floor of the highest point of construction secured to decking or flooring.

(2) Section [F] 3313.1 Where required. The exception to this section has been modified to allow the fire code official to approve other water supply alternatives under certain circumstances. This section has been modified to read: [F] 3313.1 Where required. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible building materials arrive on the site, on commencement of vertical combustible construction, and on installation of a standpipe system in buildings under construction, in accordance with Sections 3313.2 through 3313.5. Exception: The fire code official is authorized to reduce the fire flow requirements or approve other water supply alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

(3) Section [F] 3313.2 Combustible building materials. This section has been modified to add an exception to authorize the fire code official to reduce the fire flow requirements or allow other alternatives under certain circumstances. This section has been modified to read: [F] 3313.2 Combustible building materials. When combustible building materials of the building under construction are delivered to a site, a minimum fire flow of 500 gallons per minute (1893 liters per minute) shall be provided. The fire hydrant used to provide this fire flow supply shall be within 500 feet (152 meters) of the combustible building materials, as measured along an approved fire apparatus access lane. Where the site configuration is such that one fire hydrant cannot be located with 500 feet (152 meters) of all combustible building materials, additional fire hydrants shall be required to provide coverage in accordance with this section. Exception: The fire code official is authorized to reduce the fire flow requirements or allow other alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

748:20-2-40. IBC® ~~2018~~ 2024 Chapter 35 Referenced Standards [AMENDED]

Chapter 35 of the Oklahoma adopted IBC® ~~2018~~ 2024 is adopted with the following modifications:

(1) The reference to ICC 500® has been modified to change the sections to be referenced. This section has been modified to read: ~~ICC 500® 14~~ ICC 500® 2023 ICC/NSSA Standard on the Design and Construction of Storm Shelters, Code reference sections: 202, 423.1, 423.2, 423.3, 423.3.1, 423.4, 423.5, ~~423.5.1, 423.5.2, 423.5.2.1, 423.5.3, 423.5.4, 423.5.5, 423.5.6, 423.5.6.1, 423.5.7, 423.5.8, 423.5.9, 423.5.10~~, , 423.6, 423.6.1, 423.6.2, 423.6.3, 423.6.4, 423.6.4.1, 423.6.5, 423.6.6, 423.6.7, 1031.2, 1604.5.1 and ~~423.5.11~~ 1604.10.

(2) The reference to the International Existing Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IEBC® 18~~ IEBC®-24 International Existing Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(3) The reference to the International Energy Conservation Code® has been modified to change the edition year to 2006. This section has been modified to read: IECC®-06 International Energy Conservation Code®.

(4) The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC® 18~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(5) The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFGC® 18~~ IFGC®-24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(6) The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC® 18~~ IMC®-24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(7) The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IPC® 18~~ IPC®-24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(8) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(9) The referenced standard for NFPA® 70 National Electrical Code® has been modified to add after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~70-17~~ 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.
~~(10) The referenced standard ISO 668 - 2013 Series 1 Freight Containers - Classifications, Dimensions and Ratings has been added to the referenced standards. This standard has been added to read: ISO 668 - 2013 Series 1 Freight Containers - Classifications, Dimensions and Ratings. Code reference sections: Table 3114.8.5.3.~~
~~(11) The referenced standard ISO 1496-1 - 2013 Series 1 Freight Containers - Specification and Testing - Part 1: General Cargo Containers for General Purposes has been added to the referenced standards. This standard has been added to read: ISO1496-1 - 2013 Series 1 Freight Containers - Specification and Testing - Part 1: General Cargo Containers for General Purposes. Code reference sections: 3114.8, Table 3114.8.5.3.~~
~~(12) The referenced standard ISO 6346 - 1995 with Amendment 3 - 2012 Freight Containers - Coding, Identification and Marking has been added to the referenced standards. This standard has been added to read: ISO 6346 - 1995 with Amendment 3 - 2012 Freight Containers - Coding, Identification and Marking. Code reference section: 3114.3.~~
~~(13) The referenced standard NFPA® 780 - 17 Standard for the Installation of Lightning Protection Systems has been added to the referenced standards. This standard has been added to read: NFPA® 780 - 17 Standard for the Installation of Lighting Protection Systems. Code reference section: 2703.2.~~
~~(14) The referenced standard UL 96A - 2016 Standard for Installation Requirements for Lightning Protection Systems has been added to the referenced standards. This standard has been added to read: UL 96A - 2016 Standard for Installation Requirements for Lightning Protection Systems. Code reference section: 2703.2~~
~~(15) The referenced standard UL 1489-2016 Fire Resistant Piping Protection Systems Carrying Combustible Liquids has been added to the referenced standards. This standard has been added to read: UL 1489-2016 Fire Resistant Piping Protection Systems Carrying Combustible Liquids. Code reference sections: 403.4.8.2, 2702.1.2.~~

SUBCHAPTER 4. IFC® ~~2018~~ 2024

748:20-4-1. Adoption of the International Fire Code®, ~~2018~~ 2024 Edition (IFC® ~~2018~~ 2024) [AMENDED]
(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Fire Code®, ~~2018~~ 2024 Edition (IFC® ~~2018~~ 2024), ~~second~~ first printing (~~April, 2018~~ October 2023) as amended and modified in this subchapter as the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma pursuant to 59 O.S. § 1000.23.
(b) The OUBCC through formal action expressly chose to adopt the IFC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Fire Code®, 2021 Edition (IFC®, 2021) for any purpose.
(c) As part of its 2012 code cycle, the International Code Council, Inc. (ICC) reorganized the format of certain of its model codes as it was foreseeable to ICC that additional chapters will need to be added in the future as model regulations for new processes or operations are developed. The format reorganization was designed by ICC to accommodate such future chapters by providing reserved (unused) chapters in several parts of certain of its model codes as part of its 2012 code cycle. The format reorganization continues into the ICC's ~~2018~~ 2024 code cycle and is adopted by the OUBCC to the extent provided in this subchapter by the phrase "reserved for future use" inserted in lieu of titles for chapters.

(d) ~~The OUBCC has pulled from the ICC website, published errata to the second printing of the IFC® through July 31, 2019. Any errata~~ Errata published ~~after that date~~ by the ICC for the IFC® 2024 has not been reviewed or incorporated into these rules.
(e) This material contains information which is proprietary to and copyrighted by the International Code Council, Inc. The acronym "ICC" and the ICC logo are trademarks and service marks of ICC. ALL RIGHTS RESERVED.

748:20-4-2. Effect of Adoption [AMENDED]

The IFC® ~~2018~~ 2024 as amended and revised by these rules is hereby established and adopted as the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-4-3. IFC® 2018 2024 and Other Appendices [AMENDED]

(a) None of the appendices of the IFC® ~~2018~~ 2024 have been adopted by the OUBCC for inclusion in the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma.
(b) The OUBCC hereby creates a new appendix entitled "Appendix ~~O~~ P, Egress Path Markings for Existing Buildings."
(c) The OUBCC has removed from Chapter 11 of the IFC® ~~2018~~ 2024, Section 1104.25 entitled "Egress Path Markings" and has relocated and renumbered the section to the newly created Appendix ~~O~~ P entitled "Egress Path Markings for Existing Buildings."
(d) Appendices A through ~~O~~ P are not adopted as the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices in accordance with 59 O.S. § 1000.29.

748:20-4-4. IFC® 2018 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IFC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.
(b) The ICC® has reserved Chapters 13 through 19, Chapters ~~40~~ 42 through 49, Chapter 52, and Chapters 68 through 79 for possible future use. The OUBCC has not adopted Chapters 13 through 19, Chapters ~~40~~ 42 through 49, Chapter 52, and Chapters 68 through 79 and these chapters are not considered part of the statewide minimum code for residential and commercial fire prevention and fire protection systems within the State of Oklahoma.
(c) To the extent any references in the IFC® ~~2018~~ 2024 as amended and modified in this sub-chapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IFC® ~~2018~~ 2024 as amended and modified in this sub-chapter and in the IFC® 2018 Chapter 80 entitled "Referenced Standards."

748:20-4-6. IFC® 2018 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IFC® ~~2018~~ 2024 includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IFC® ~~2018~~ 2024 as amended and revised by the Commission, as the statewide minimum code to be used by all entities for residential and commercial fire prevention and fire protection systems in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IFC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for residential and commercial fire prevention and fire protection systems.
(2) All provisions of the adopted IFC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for residential and commercial fire prevention and fire protection systems within Oklahoma pursuant to 59 O.S. § 1000.23, which may only be

amended or altered pursuant to Oklahoma law ~~and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code~~. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.

(3) Section 105.1.1 Annual permit. This section has been modified to clarify an annual permit is a yearly permit that represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. This section has been modified to read: 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.

(4) Section 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.

~~(5) Section 105.6.51 Energy storage systems. This section has been added to require an operational permit for stationary and mobile energy storage systems regulated by Section 1206. This section has been added to read: 105.6.51 Energy storage systems. An operational permit is required for stationary and mobile energy storage systems regulated by Section 1206.~~

~~(6) Section 105.7.2 Energy storage systems. This section has been modified to change the heading from "Battery systems" to "Energy storage systems" and require a construction permit to install energy storage systems regulated by Section 1206. This section has been modified to read: 105.7.2 Energy storage systems. A construction permit is required to install energy storage systems regulated by Section 1206.~~

~~(7) Section 105.7.3 Capacitor energy storage systems. This section has been stricken from the code.~~

~~(8)~~(5) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create, departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IFC® ~~2018~~ 2024.

~~(9)~~(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IFC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-4-7. IFC® 2018 2024 Chapter 2 Definitions [AMENDED]

Chapter 2 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) The definition of [BG] ACCESSORY STORAGE SPACES has been modified to correct errata published by the ICC, in the printing of the definition. The definition has been modified to read: [BG] ACCESSORY STORAGE SPACES. A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.~~

~~(2)~~(1) The definition of an AUTHORITY HAVING ~~JURISIDCTION~~ JURISDICTION has been added to clarify the different individuals that may have authority within the code. This definition has been added to read:

AUTHORITY HAVING JURISDICTION. Means an organization, office, or individual responsible for enforcing the requirements of the State Adopted Building Codes, including the prior authorization or approval of any equipment, materials, installations or procedures used in all or in part of the construction of a new or alteration or renovation of an existing building or structure, including integral finishes, fixtures and building system therein.

~~(3) The definition of BATTERY TYPES has been modified to add a definition of the battery type "Nickle metal hydride (Ni-MH)" and delete the definitions of a "Preengineered stationary storage battery system," "Prepackaged stationary storage battery system," and "Sodium-beta storage battery." The definition of BATTERY TYPES has been modified to read:~~

~~(A) Flow battery. A type of storage battery that includes chemical components dissolved in two different liquids. Ion exchange, which provides the flow of electrical current, occurs through the membrane while both liquids circulate in their respective spaces.~~

~~(B) Lead-acid battery. A storage battery that is comprised of lead electrodes immersed in sulphuric acid electrolyte.~~

~~(C) Lithium-metal polymer battery. A storage battery that is similar to the lithium ion battery except that it has a lithium metal anode in the place of a traditional carbon or graphite anode.~~

~~(D) Lithium-ion battery. A storage battery with lithium ions serving as the charge carriers of the battery. The electrolyte is a polymer mixture of carbonates with an inorganic salt and can be in a liquid or a gelled polymer form. Lithiated metal oxide is typically a cathode and forms of carbon or graphite typically form the anode.~~

~~(E) Nickle-cadmium (Ni-Cd) battery. An alkaline storage battery in which the positive active material is nickel oxide, the negative contains cadmium and the electrolyte is potassium hydroxide.~~

~~(F) Nickle-metal hydride (Ni-MH) battery. An alkaline storage battery in which the positive active material is nickel oxide, the negative electrodes is an intermetallic compound and the electrolyte is usually potassium hydroxide.~~

~~(G) Stationary storage battery. A group of electrochemical cells interconnected to supply a nominal voltage of DC power to a suitably connected electrical load, designed for service in a permanent location.~~

~~(4) The definition of a CAPACITOR ENERGY STORAGE SYSTEM has been modified to delete the two definitions for a "Preengineered capacitor energy storage system" and a "Prepackaged capacitor energy storage system." This definition has been modified to read: CAPACITOR ENERGY STORAGE SYSTEM. A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a building or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.~~

~~(A) The definition of a "Preengineered stationary storage battery system" has been stricken from the code.~~

~~(B) The definition of a "Prepackaged stationary storage battery system" has been stricken from the code.~~

~~(5) The definition of a "CAPACITOR ARRAY" has been stricken from the code.~~

~~(6)~~(2) The definition of a DISPENSING AREA has been added to clarify multiple references in the code with regard to fuel dispensing. This definition has been added to read: DISPENSING AREA. The appropriate hazardous (classified) locations for the fuel being dispensed in accordance with the National Electrical Code® – NFPA® 70.

~~(7) The definition of an ENERGY STORAGE MANAGEMENT SYSTEM has been modified to amend the definition title to add the word "storage" between "energy" and "management;" remove a reference to stationary batteries; remove the requirement to generate an alarm and trouble signal; and require the system to disconnect electrical power to the energy storage system or place it in a safe condition if potentially hazardous temperatures or other conditions are detected. This definition has been modified to read: ENERGY STORAGE MANAGEMENT SYSTEM. An electronic system that protects energy storage systems from operating outside their safe operating parameters, and disconnects electrical power to the energy storage system or places it in a safe condition if potentially hazardous temperatures or other conditions are detected.~~

~~(8) The definition of an ENERGY STORAGE SYSTEM (ESS) has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM (ESS). One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time.~~

~~(9) The definition of an ENERGY STORAGE SYSTEM CABINET has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM CABINET. A cabinet containing components of the energy storage system that is included in the UL 9540 listing for the system. Personnel are not able to enter the enclosure, other than reaching in to access components for maintenance purposes.~~
~~(10) The definition of an ENERGY STORAGE SYSTEM COMMISSIONING has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM COMMISSIONING. A systematic process that provides documented confirmation that an energy storage system functions according to the intended design criteria and complies with applicable code requirements.~~
~~(11) The definition of an ENERGY STORAGE SYSTEM, ELECTROCHEMICAL has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM, ELECTROCHEMICAL. An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among others, battery energy storage systems and capacitor energy storage systems.~~
~~(12) The definition of an ENERGY STORAGE SYSTEM, MOBILE has been added to clarify multiple references in the code. The definition has been added to read: ENERGY STORAGE SYSTEM, MOBILE. An energy storage system capable of being moved and utilized for temporary energy storage applications, and not installed as fixed or stationary electrical equipment. The system can include integral wheels for transportation, or be loaded on a trailer and unloaded for charging, storage, and deployment.~~
~~(13) The definition of an ENERGY STORAGE SYSTEM, STATIONARY has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM, STATIONARY. An energy system installed as fixed or stationary electrical equipment in a permanent location.~~
~~(14) The definition of an ENERGY STORAGE SYSTEM, WALK-IN UNIT has been added to clarify multiple references in the code. This definition has been added to read: ENERGY STORAGE SYSTEM, WALK-IN UNIT. A pre-fabricated building that contains energy storage systems. It includes doors that provide walk-in access for personnel to maintain, test and service the equipment, and is typically used in outdoor and mobile energy storage system applications.~~
~~(15)~~(3) The definition of a MAIN RAILROAD TRACK has been added to provide clarity to building code officials. This definition has been added to read: MAIN RAILROAD TRACK. That part of the railway, exclusive of switch tracks, branches, yards, and terminals upon which trains are operated by timetable or train order or both.
(4) The definition of a SELF-SERVICE STORAGE FACILITY from the International Building Code®, (Section 202) has been added to clarify multiple references in the code. This definition has been added to read: SELF-SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.
(5) The definition of a SHARED COMMON USE AREAS has been added to clarify what is considered as shared common use areas. This definition has been added to read: SHARED COMMON USE AREAS. Rooms, spaces, or elements, inside or outside of a building which are available for the use of occupants of more than one tenant space or building. These areas may include, but are not limited to, restrooms, hallways, lounges, lobbies, reception counters, laundry rooms, refuse rooms, mail rooms, recreational areas, and passageways among and between buildings or tenant spaces.
(6) Section 203.4.2.4 Seven or fewer children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility in the home and clarifies the total number of children includes both those under and over two and one-half years of age. This section has been added to read: 203.4.2.4 Seven or fewer children in a dwelling. A facility such as the above within a detached dwelling and having seven or fewer children receiving such day care shall be permitted to comply with the International Residential Code®. This number shall include children two and one-half years or less of age.
(7) Section 203.4.2.5 Eight to 12 children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility with eight to 12 children in a dwelling, allowing the licensed daycare facility to comply with the requirements of the IRC® so long as the structure if fire-sprinklered, and clarifies the total number of children include both those under and over two and one-half years of age. This section has been added to read: 203.4.2.5 Eight to 12 children in a dwelling. A facility such as the above within a detached dwelling and having eight to 12 children receiving such day care shall comply with the International Residential Code® provided an automatic sprinkler system is installed in

accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code®. This number shall include children two and one-half years or less of age.

(8) Section 203.7.4.5 Seven or fewer children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility in the home and clarifies the total number of children includes both those under and over two and one-half years of age. This section has been added to read: 203.7.4.5 Seven or fewer children in a dwelling. A facility such as the above within a detached dwelling and having seven or fewer children receiving such day care shall be permitted to comply with the International Residential Code®. This number shall include children two and one-half years or less of age.

(9) Section 203.7.4.6 Eight to 12 children in a dwelling. This section has been added to align the code with the Oklahoma Department of Human Services regulations for a licensed daycare facility with eight to 12 children in a dwelling, allowing the licensed daycare facility to comply with the requirements of the IRC® so long as the structure if fire-sprinklered, and clarifies the total number of children include both those under and over two and one-half years of age. This section has been added to read: 203.7.4.6 Eight to 12 children in a dwelling. A facility such as the above within a detached dwelling and having eight to twelve children receiving such day care shall comply with the International Residential Code® provided an automatic sprinkler system is installed in accordance with Section 9033.1.3 or Section P2904 of the International Residential Code®. This number shall include children two and one-half years or less of age.

~~(16)~~(10) Section 203.9.3 ~~The definition for~~ Residential Group R-3. This section has been modified to align the section ~~to~~ with the requirements in Title 74 O.S. § 317.1 and clarify the International Residential Code® ~~2015~~ (IRC® ~~2015~~) can be utilized so long as the lodging house facilities have four or fewer rooms and limit the number of guests to no more than two persons per room, if constructed in compliance with the requirements of the International Residential Code®. This ~~definition~~ section has been modified to read: [BG] 203.9.3 Residential Group R-3. Residential R-3 occupancies where occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I including: ~~Boarding houses (non-transient) with 16 or fewer occupants, Boarding houses (transient) with 10 or fewer occupants, Buildings that do not contain more than two dwelling units, Care facilities that provide accommodations for five or fewer persons receiving care, Congregate living facilities (non-transient with 16 or fewer occupants), Congregate living facilities (transient) with 10 or fewer occupants and Lodging houses with four or fewer guest rooms and no more than 2 persons per room.~~

~~(A) [BG] Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the International Residential Code ® provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code®.~~

~~(B) [BG] Lodging houses. Owner-occupied lodging houses with four or fewer guest rooms and no more than 2 persons per room, shall be permitted to be constructed in accordance with the International Residential Code®.~~

(A) Buildings that do not contain more than two dwelling units.

(B) Care facilities that provide accommodations for five or fewer persons receiving care.

(C) Congregate living facilities (nontransient) with 16 or fewer occupants

(i) Boarding houses (non-transient)

(ii) Convents

(iii) Dormitories

(iv) Emergency services living quarters

(v) Fraternities and sororities

(vi) Monasteries

(D) Congregate living facilities (transient) with 10 or fewer occupants

(E) Boarding houses (transient)

(F) Lodging houses with four or fewer guest rooms and no more than 2 persons per room.

(G) Hotels (nontransient) with five or fewer guestrooms

(H) Motels (nontransient) with five or fewer guest rooms.

(11) Section 203.9.3.2 [BG] Lodging houses. This section has been modified to align the section to the requirements in Title 74 O.S. § 317.1 and clarify the International Residential Code® (IRC®) can be utilized so long as the lodging house facilities have four or fewer rooms and limit the number of guests to no more than two persons per room, if constructed in compliance with the requirements of the International Residential Code®. This section has been modified to read: 203.9.3.2 Lodging houses. Owner-occupied lodging houses with four or fewer guest rooms and no more than 2 persons per room, shall be constructed in accordance with the International Building Code® or the International Residential Code®, provided that facilities constructed using the International Residential Code are protected by an automatic sprinkler system installed in accordance with P2904 of the International Residential Code.

~~(17) The definition of [BG] MISCELLANEOUS GROUP U has been modified to include greenhouses not classified as another occupancy. This definition has been modified to read: [BG] MISCELLENEOUS GROUP U. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:~~

~~(A) Agricultural buildings~~

~~(B) Aircraft hangar, accessory to a one- or two-family residence (see Section 412.4 of the International Building Code®)~~

~~(C) Barns~~

~~(D) Carports~~

~~(E) Communication equipment structures with a gross floor area of less than 1,500 square feet (139 square meters)~~

~~(F) Fences more than 6 feet (1829 mm) high~~

~~(G) Grain silos, accessory to a residential occupancy~~

~~(H) Livestock shelters~~

~~(I) Private garages~~

~~(J) Retaining walls~~

~~(K) Sheds~~

~~(L) Stables~~

~~(M) Tanks~~

~~(N) Towers~~

~~(O) [BG] GREENHOUSES. Greenhouses not classified as another occupancy shall be classified as Use Group U.~~

~~(18) The definition of a SELF-SERVICE STORAGE FACILITY from the International Building Code®, (Section 202) has been added to clarify multiple references in the code. This definition has been added to read: SELF-SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.~~

748:20-4-8. IFC® ~~2018~~ 2024 Chapter 3 General Requirements [AMENDED]

Chapter 3 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 301.1 Scope. This section has been modified to clarify the scope of the chapter applies to life safety in addition to the occupancy and maintenance of all structures and premises for precautions against the spread of fire and general requirements of fire safety. This section has been modified to read: 301.1 Scope. The provisions of this chapter shall govern the occupancy and maintenance of all structures and premises for precautions against fire and the spread of fire and general requirements of fire and life safety.

(2) Section 308.1.6.3 Sky lanterns. This section has been modified to prohibit the use of any sky lanterns in the State of Oklahoma. This section has been modified to read: 308.1.6.3 Sky lanterns. A person shall not release or cause to be released a sky lantern in the State of Oklahoma per Title 68 O.S. § 1624.1.

~~(3) Section 311.5 Placards. This section has been modified to correct errata published by the ICC by changing the section number reference, to be utilized when determining if vacant or abandoned buildings or structures are deemed unsafe related from structural or interior hazards, from Section 110 to Section 111. This section~~

has been modified to read: 311.5 Placards. Any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 111 of this code relating to structural or interior hazards shall be marked as required by Sections 311.5.1 through 311.5.5.

(4) Section 311.5.4 Placard symbols. This section has been modified to correct errata published by the ICC. The correction adds the symbols to be used for the placards. The section has been modified to read: 311.5.4 Placard symbols. The design of placards shall use the following symbols:

(A) A square comprised of four equal sides with four equal 90-degree angles drawn in black with a white center has been added as the symbol for the first placard. This symbol shall mean that the structure had normal structural conditions at the time of marking.

(B) A square comprised of four equal sides with four equal 90-degree angles drawn in black with a white center and a diagonal line drawn in the middle of the white center from the upper left 90-degree angle to the lower right 90-degree angle has been added for the symbol for the second placard. This symbol shall mean that structural or interior hazards exist and interior fire-fighting or rescue operations should be conducted with extreme caution.

(C) A square comprised of four equal sides with four equal 90-degree angles drawn in black with a white center and two diagonal lines drawn in the middle of the white center, one from the upper left 90-degree angle to the lower right 90-degree angle and one from the upper right 90-degree angle to the lower left 90-degree angle, forming a "X" has been added. This symbol shall mean that structure or interior hazards exist to a degree that consideration should be given to limit fire-fighting to exterior operations only; with entry only occurring for known life hazards.

(D) Vacant marker hazard identification symbols: The following symbols shall be used to designate known hazards on the vacant building marker. They shall be placed directly above the symbol.

(i) R/O - Roof open.

(ii) S/M - Stairs, steps and landing missing.

(iii) F/E - Avoid fire escapes.

(iv) H/F - Holes in floor.

(5) Table 315.7.6(1) Separation Distance between Wood Pallet Stacks and Buildings. This table lists the different separation distances needed between wood pallets based on the wall construction and opening type of the building where the pallets are stored. This table has been modified to change the separation distances between wood pallets in several categories. The table has been modified to read: Table 315.7.6(1) Separation Distance between Wood Pallet Stacks and Buildings. The modified table contains 9 rows and 3 columns with the third column split into three subcolumns as described below:

(A) Row 1 contains the header for each column and subcolumn and is listed below:

(i) Row 1, column 1 is entitled "Wall Construction."

(ii) Row 1, column 2 is entitled "Opening Type."

(iii) Row 1, column 3 is entitled "Wood Pallet Separation Distance (feet)" and has three subcolumns as described below:

(I) Row 1, column 3, subcolumn 1 is entitled "Less than or Equal to 50 Pallets."

(II) Row 1, column 3, subcolumn 2 is entitled "51 to 200 Pallets."

(III) Row 1, column 3, subcolumn 3 is entitled "Greater than 200 Pallets."

(B) Row 2 has not been modified and contains the following:

(i) Row 2, column 1 contains the wall type "Masonry."

(ii) Row 2, column 2 contains the wall type "None."

(iii) Row 2, column 3, subcolumn 1 contains the wood pallet separation distance "2."

(iv) Row 2, column 3, subcolumn 2 contains the wood pallet separation distance "2."

(v) Row 2, column 3, subcolumn 3 contains the wood pallet separation distance "2."

(C) Row 3 has not been modified and contains the following:

(i) Row 3, column 1 contains the wall type "Masonry."

(ii) Row 3, column 2 contains the wall type "Fire-rated glazing with open sprinklers."

(iii) Row 3, column 3, subcolumn 1 contains the wood pallet separation distance "2."

(iv) Row 3, column 3, subcolumn 2 contains the wood pallet separation distance "5."

(v) Row 3, column 3, subcolumn 3 contains the wood pallet separation distance "20."

~~(D) Row 4 has been modified in column 3 subcolumns 1 and 2. The row, with the corrected information, is listed below:~~

~~(i) Row 4, column 1 contains the wall type "Masonry."~~

~~(ii) Row 4, column 2 contains the wall type "Fire-rated glazing."~~

~~(iii) Row 4, column 3, subcolumn 1 contains the wood pallet separation distance "5."~~

~~(iv) Row 4, column 3, subcolumn 2 contains the wood pallet separation distance "10."~~

~~(v) Row 4, column 3, subcolumn 3 contains the wood pallet separation distance "20."~~

~~(E) Row 5 has been modified in column 3 subcolumns 1 and 2. The row, with the corrected information, is listed below:~~

~~(i) Row 5, column 1 contains the wall type "Masonry."~~

~~(ii) Row 5, column 2 contains the wall type "Plain glass with open sprinklers."~~

~~(iii) Row 5, column 3, subcolumn 1 contains the wood pallet separation distance "5."~~

~~(iv) Row 5, column 3, subcolumn 2 contains the wood pallet separation distance "10."~~

~~(v) Row 5, column 3, subcolumn 3 contains the wood pallet separation distance "20."~~

~~(F) Row 6 has been modified in column 3 subcolumns 1 and 2. The row, with the corrected information, is listed below:~~

~~(i) Row 6, column 1 contains the wall type "Noncombustible."~~

~~(ii) Row 6, column 2 contains the wall type "None."~~

~~(iii) Row 6, column 3, subcolumn 1 contains the wood pallet separation distance "5."~~

~~(iv) Row 6, column 3, subcolumn 2 contains the wood pallet separation distance "10."~~

~~(v) Row 6, column 3, subcolumn 3 contains the wood pallet separation distance "20."~~

~~(G) Row 7 has been modified in column 3 subcolumns 1 and 2. The row with the corrected information is listed below:~~

~~(i) Row 7, column 1 contains the wall type "Wood with open sprinklers."~~

~~(ii) Row 7, column 2 contains the wall type "dash."~~

~~(iii) Row 7, column 3, subcolumn 1 contains the wood pallet separation distance "5."~~

~~(iv) Row 7, column 3, subcolumn 2 contains the wood pallet separation distance "10."~~

~~(v) Row 7, column 3, subcolumn 3 contains the wood pallet separation distance "20."~~

~~(H) Row 8 has not been modified and contains the following:~~

~~(i) Row 8, column 1 contains the wall type "Wood."~~

~~(ii) Row 8, column 2 contains the wall type "None."~~

~~(iii) Row 8, column 3, subcolumn 1 contains the wood pallet separation distance "15."~~

~~(iv) Row 8, column 3, subcolumn 2 contains the wood pallet separation distance "30."~~

~~(v) Row 8, column 3, subcolumn 3 contains the wood pallet separation distance "90."~~

~~(I) Row 9 has not been modified and contains the following:~~

~~(i) Row 9, column 1 contains the wall type "Any."~~

~~(ii) Row 9, column 2 contains the wall type "Plain glass."~~

~~(iii) Row 9, column 3, subcolumn 1 contains the wood pallet separation distance "15."~~

~~(iv) Row 9, column 3, subcolumn 2 contains the wood pallet separation distance "30."~~

~~(v) Row 9, column 3, subcolumn 3 contains the wood pallet separation distance "90."~~

~~(J) Below the table the following information is listed: "For SI: 1 foot equals 304.8 mm."~~

~~(6)~~(3) Section ~~320~~ 323 Storm Shelters. This section header has been added to the code to signify the addition of a new section of code to address upkeep and maintenance of commercial storm shelters. This section header has been added to read: SECTION ~~320~~ 323 STORM SHELTERS.

~~(7)~~(4) Section ~~320.1 Inspection and maintenance~~ 323.1 General. This section has been added to require the evaluation, maintenance and repair of commercial storm shelters to comply with ~~an occupant load of 50 or more to be inspected and maintained in accordance with this section and~~ ICC 500®. This section has been added to read: ~~320.1 Inspection and maintenance~~ 323.1 General. Storm shelters ~~with an occupant load of 50 or more~~ shall be ~~inspected and~~ evaluated, maintained and repaired in accordance with ~~this section and~~ ICC 500®.

~~(8) Section 320.1.1 Visual inspection. This section has been added to require quarterly visual inspections of the shelter envelope and the impact protective devices, such as doors and door hardware to ensure there is no visible damage. This section has been added to read: 320.1.1 Visual inspection. Visual inspection of the shelter~~

~~envelope and the impact protective devices, such as doors and door hardware, shall occur quarterly to ensure there is no visible damage to the shelter envelope or impact protective systems.~~

~~(9) Section 320.1.2 Functional inspection. This section has been added to require quarterly functional inspections of the impact protective devices, such as doors and door hardware to make sure the devices ensure proper door operation. This section has been added to read: 320.1.2 Functional inspection. Functional inspections of the impact protective devices, such as doors and door hardware, shall occur quarterly, to ensure these devices are maintained to ensure proper door operation.~~

~~(10) Section 320.1.3 Recordkeeping. This section has been added to require records to be kept of the quarterly inspections and any other tests, services and other operations and maintenance to be maintained on the premises or other approved location for not less than 3 years, or a different time period where specified in this code or referenced standards. It requires the records to be made available for inspection by the fire code official, if requested. This section authorizes the fire code official to prescribe the form and format of such recordkeeping and to require that certain required records be filed with the fire code official. This section has been added to read: 320.1.3 Recordkeeping. A record of the quarterly inspections, and any other tests, servicing and other operations and maintenance shall be maintained on the premises or other approved location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the fire code official upon request, and a copy of the records shall be provided to the fire code official if requested. The fire code official is authorized to prescribe the form and format of such recordkeeping. The fire code official is authorized to require that certain required records be filed with the fire code official.~~

~~(11) Section 320.1.4 Supervision. This section has been added to require the maintenance and testing of the storm shelter to be under the supervision of a responsible person who shall ensure that such maintenance and testing are conducted at specified intervals in accordance with this code. This section has been added to read: 320.1.4 Supervision. Maintenance and testing shall be under the supervision of a responsible person who shall ensure that such maintenance and testing are conducted at specified intervals in accordance with this code.~~

~~(12) Section 320.2 Damage or missing components. This section has been added to require storm shelters to be maintained in accordance with ICC 500® so the roof and walls are intact and undamaged. The section requires any damage to the storm shelter or its impact protective systems that impairs the functionality of the shelter to be repaired or replaced and that missing equipment and components are replaced. This section has been added to read: 320.2 Damage or missing components. Storm shelters shall be maintained in accordance with ICC 500® so that walls and roofs are intact and undamaged. Any damage to the storm shelter or its impact protective systems that impair functionality shall be repaired or replaced in accordance with ICC 500®. Missing equipment and components shall be replaced.~~

~~(13) Section 320.3 Replacement components. This section has been added to require when necessary, the replacement of any impact protective systems, including certified doors, shutters windows or their frames, hardware and closing mechanisms, replacements shall comply with the applicable ICC 500® requirements. This section has been added to read: 320.3 Replacement components. Where it is necessary to replace impact protective systems, including certified doors, shutters, windows or their frames, hardware and closing mechanisms, replacements shall comply with applicable ICC 500® requirements.~~

748:20-4-9. IFC® 2018 Chapter 4 Emergency Planning and Preparedness [REVOKED]

~~Chapter 4 of the Oklahoma adopted IFC® 2018 is adopted with the following modification: Section 407.4 Training, has been modified to correct errata published by the ICC, which deletes the word "Material" from the last sentence in the paragraph. This section has been modified to read: 407.4 Training. Persons responsible for the operation of areas in which hazardous materials are stored, dispensed, handled or used shall be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of a fire, leak or spill. Responsible persons shall be designated and trained to be liaison personnel for the fire department. These persons shall aid the fire department in preplanning emergency responses and identification of where hazardous materials are located, and shall have access to Safety Data Sheets and be knowledgeable in the site emergency response procedures.~~

748:20-4-10. IFC® ~~2018~~ 2024 Chapter 5 Fire Service Features [AMENDED]

Chapter 5 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modification: ~~Section 508.1.3 Size, has been modified to include an exception to make the fire command center smaller when approved by the fire code official. This section has been modified to read: 508.1.3 Size. The fire command center shall be not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 square meters) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater. Exception: When approved by the fire code official the fire command center can be reduced in size to not less than a minimum of 96 square feet (9 square meters) with a minimum dimension of 8 feet (2438 mm).~~ Section 510.1 Emergency responder communications enhancement systems in new buildings. This section has been modified to authorize the fire code official to require a third-party inspection by an approved agency to ensure adequate radio coverage is provided. This section has been modified to read:

(1) 510.1 Emergency responder communications enhancement systems in new buildings. Approved in-building emergency responder communications enhancement systems (ERCES) for emergency responders shall be provided in all new buildings. In-building ERCES within the building shall be based on the existing coverage levels of public safety communications systems utilized by the jurisdiction, measured at the exterior of the building. The ERCES where required, shall be of a type determined by the fire code official and the frequency license holder(s). This section shall not require improvement of the existing public safety communications system.

(2) The fire code official is authorized to require a third-party inspection by an approved agency to ensure adequate radio coverage is provided.

(3) Exceptions:

(A) Exception 1. Where approved by the building official and the fire code official, a wired communications system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained instead of an approved communications coverage system.

(B) Exception 2. Where it is determined by the fire code official that the communications coverage system is not needed.

(C) Exception 3. In facilities where emergency responder communications coverage is required and such systems, components or equipment required could have a negative impact on normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder communications coverage system.

(D) Exception 4. One-story buildings not exceeding 12,000 square feet (11115 square meters) with no below-ground areas.

748:20-4-11. IFC® ~~2018~~ 2024 Chapter 6 Building Services and Systems [AMENDED]

Chapter 6 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: ~~(1)~~ Section [M] ~~607.2~~ 606.2 Where required. This section has been modified to allow a Type II hood equipped with a suppression system listed in accordance with UL 300A or meeting the requirements ICC-ES 1031, to be permitted in new construction or renovation of, when approved, adult day care facilities or child day care facilities having an occupant load of 16 or less, with a single domestic medium duty cooking appliance utilized for warming food only. This section has been modified to read: [M] ~~607.2~~ 606.2 Where required. A Type I hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produce grease vapors. Exceptions:

~~(A)~~(1) Factory-built commercial exhaust hoods that are listed and labeled in accordance with UL 710, and installed in accordance with Section 304.1 of the International Mechanical Code®, shall not be required to comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4, and 507.5 of the International Mechanical Code®.

~~(B)~~(2) Factory built-commercial cooking recirculating systems that are listed and labeled in accordance with UL 710B, and installed in accordance with Section 304.1 of the International Mechanical Code®, shall not be required to comply with Sections 507.1.5, 507.2.3, 507.2.5, 507.2.8, 507.3.1, 507.3.3, 507.4, and 507.5 of the International Mechanical Code®. Spaces in which such systems are located shall be considered to be kitchens and shall be ventilated in accordance with Table 403.3.1.1 of the International Mechanical Code®. For the purpose of determining the floor area required to be ventilated, each individual appliance shall be considered as occupying not less than 100 square feet (9.3 square meters).

~~(C)~~(3) Where cooking appliances are equipped with integral down-draft exhaust systems and such appliances and exhaust systems are listed and labeled for the application in accordance with NFPA 96®, a hood shall not be required at or above them.

~~(D)~~(4) A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg divided by meters cubed or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 meters cubed divided by s) in accordance with UL 710B.

~~(E)~~(5) Where required, a Type II hood equipped with a suppression system listed in accordance with UL 300A, or meeting the requirements of ICC-ES 1031, shall be permitted in new construction and renovation of adult day care facilities or child day care facilities having an occupant load of 16 or less, with a single domestic medium duty cooking appliance, utilized for warming food only.

~~(2) Section 608.1 General. This section has been modified to address errata published by the ICC, to correct section number references from "610.2 through 610.7" to "608.2 through 608.7." This section has been modified to read: 608.1 General. Storage of cooking oil (grease) in commercial cooking operations utilizing above-ground tanks with a capacity greater than 60 gal (227 L) installed within a building shall comply with Section 608.2 through 608.7 and NFPA 30. For purposes of this section, cooking oil shall be classified as a Class IIIB liquid unless otherwise determined by testing.~~

748:20-4-14. IFC® ~~2018~~ 2024 Chapter 9 Fire Protection Systems [AMENDED]

Chapter 9 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification:

Section 903.5.1 Records retention. This section has been added to require all new fire sprinkler systems record documentation to be provided with a documentation cabinet as approved and specify what documentation should be kept inside the cabinet. This section has been added to read: 903.5.1 Records retention. For all new fire sprinkler systems, record documentation must be provided in a documentation cabinet at an approved location. This documentation cabinet shall include as-built drawings, product data, hydraulic calculations, and all approval documentation as required by the fire code official.

~~(1) Section 903.2.9 Group S-1. This section has been modified to add an exception to the fifth requirement in the list for when an automatic fire sprinkler system is required. This section has been modified to read: 903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:~~

~~(A) A Group S-1 fire area exceeds 12,000 square feet (1115 square meters).~~

~~(B) A Group S-1 fire area is located more than three stories above grade plane.~~

~~(C) The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 square meters).~~

~~(D) A Group S-1 fire area used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 square meters).~~

~~(E) A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 square meters). Exception : Self-service storage facility where the fire area is less than 5,000 square feet (464 square meters).~~

~~(2) Table 903.2.11.6 Additional Required Fire Suppression Systems. This table has been modified to add a row for stationary and mobile energy storage systems. This table has been modified to read: Table 903.2.11.6 Additional Required Fire Suppression Systems. The table contains 62 rows with two columns per row and is described below:~~

~~(A) Row 1 is the header row and has the following headers in the two columns:~~

~~(i) Row 1, column 1 is entitled "Section"~~

~~(ii) Row 1, column 2 is entitled "Subject"~~

~~(B) Row 2 has not been modified and contains the following information:~~

~~(i) Row 2, column 1 contains the section number "914.2.1."~~

~~(ii) Row 2, column 2 contains the wording "Covered and open mall buildings."~~

~~(C) Row has not been modified and contains the following information:~~

~~(i) Row 3, column 1 contains the section number "914.3.1."~~

~~(ii) Row 3, column 2 contains the wording "High-rise buildings."~~

~~(D) Row 4 has not been modified and contains the following information:~~

~~(i) Row 4, column 1 contains the section number "914.4.1."~~

(ii) Row 4, column 2 contains the wording "Atriums."

(E) Row 5 has not been modified and contains the following information:

(i) Row 5, column 1 contains the section number "914.5.1."

(ii) Row 5, column 2 contains the wording "Underground structures."

(F) Row 6 has not been modified and contains the following information:

(i) Row 6, column 1 contains the section number "914.6.1."

(ii) Row 6, column 2 contains the wording "Stages."

(G) Row 7 has not been modified and contains the following information:

(i) Row 7, column 1 contains the section number "914.7.1."

(ii) Row 7, column 2 contains the wording "Special amusement buildings."

(H) Row 8 has not been modified and contains the following information:

(i) Row 8, column 1 contains the section number "914.8.2."

(ii) Row 8, column 2 contains the wording "Air traffic control towers."

(I) Row 9 has not been modified and contains the following information:

(i) Row 9, column 1 contains the section number "914.8.3, 914.8.6."

(ii) Row 9, column 2 contains the wording "Aircraft hangars."

(J) Row 10 has not been modified and contains the following information:

(i) Row 10, column 1 contains the section number "914.9."

(ii) Row 10, column 2 contains the wording "Flammable finishes."

(K) Row 11 has not been modified and contains the following information:

(i) Row 11, column 1 contains the section number "914.10."

(ii) Row 11, column 2 contains the wording "Drying rooms."

(L) Row 12 has not been modified and contains the following information:

(i) Row 12, column 1 contains the section number "914.11.1."

(ii) Row 12, column 2 contains the wording "Ambulatory care facilities."

(M) Row 13 has not been modified and contains the following information:

(i) Row 13, column 1 contains the section number "1029.6.2.3."

(ii) Row 13, column 2 contains the wording "Smoke-protected assembly seating."

(N) Row 14 has not been modified and contains the following information:

(i) Row 14, column 1 contains the section number "1103.5.1."

(ii) Row 14, column 2 contains the wording "Existing Group A occupancies."

(O) Row 15 has not been modified and contains the following information:

(i) Row 15, column 1 contains the section number "1103.5.2."

(ii) Row 15, column 2 contains the wording "Pyroxylin plastic storage in existing buildings."

(P) Row 16 has not been modified and contains the following information:

(i) Row 16, column 1 contains the section number "1103.5.3."

(ii) Row 16, column 2 contains the wording "Existing Group I-2 occupancies."

(Q) Row 17 has not been modified and contains the following information:

(i) Row 17, column 1 contains the section number "1103.5.4."

(ii) Row 17, column 2 contains the wording "Existing Group I-2, Condition 2 occupancies."

(R) Row 18 has not been modified and contains the following information:

(i) Row 18, column 1 contains the section number "1103.5.4."

(ii) Row 18, column 2 contains the wording "Pyroxylin plastics."

(S) Row 19 has been modified and contains the following information:

(i) Row 19, column 1 contains the section number "Table 1206.7, Table 1206.8, Table 1206.9, Table 1206.10."

(ii) Row 19, column 2 contains the wording "Stationary and mobile energy storage systems."

(T) Row 20 has not been modified and contains the following information:

(i) Row 20, column 1 contains the section number "2108.2."

(ii) Row 20, column 2 contains the wording "Dry cleaning plants."

(U) Row 21 has not been modified and contains the following information:

(i) Row 21, column 1 contains the section number "2108.3."

(ii) Row 21, column 2 contains the wording "Dry cleaning machines."

~~(V) Row 22 has not been modified and contains the following information:~~

~~(i) Row 22, column 1 contains the section number "2309.3.1.5.2."~~

~~(ii) Row 22, column 2 contains the wording "Hydrogen motor fuel-dispensing area canopies."~~

~~(W) Row 23 has not been modified and contains the following information:~~

~~(i) Row 23, column 1 contains the section number "2404.2."~~

~~(ii) Row 23, column 2 contains the wording "Spray finishing in Group A, E, I or R."~~

~~(X) Row 24 has not been modified and contains the following information:~~

~~(i) Row 24 column 1 contains the section number "2404.4."~~

~~(ii) Row 24, column 2 contains the wording "Spray booths and spray rooms."~~

~~(Y) Row 25 has not been modified and contains the following information:~~

~~(i) Row 25, column 1 contains the section number "2405.2."~~

~~(ii) Row 25, column 2 contains the wording "Dip-tank rooms in Group A, I or R."~~

~~(Z) Row 26 has not been modified and contains the following information:~~

~~(i) Row 26, column 1 contains the section number "2405.4.1."~~

~~(ii) Row 26, column 2 contains the wording "Dip tanks."~~

~~(AA) Row 27 has not been modified and contains the following information:~~

~~(i) Row 27, column 1 contains the section number "2405.9.4."~~

~~(ii) Row 27, column 2 contains the wording "Hardening and tempering tanks."~~

~~(BB) Row 28 has not been modified and contains the following information:~~

~~(i) Row 28, column 1 contains the section number "2703.10."~~

~~(ii) Row 28, column 2 contains the wording "HPM facilities."~~

~~(CC) Row 29 has not been modified and contains the following information:~~

~~(i) Row 29, column 1 contains the section number "2703.10.1.1."~~

~~(ii) Row 29, column 2 contains the wording "HPM work station exhaust."~~

~~(DD) Row 30 has not been modified and contains the following information:~~

~~(i) Row 30, column 1 contains the section number "2703.10.2."~~

~~(ii) Row 30, column 2 contains the wording "HPM gas cabinets and exhausted enclosures."~~

~~(EE) Row 31 has not been modified and contains the following information:~~

~~(i) Row 31, column 1 contains the section number "2703.10.3."~~

~~(ii) Row 31, column 2 contains the wording "HPM exit access corridor."~~

~~(FF) Row 32 has not been modified and contains the following information:~~

~~(i) Row 32, column 1 contains the section number "2703.10.4."~~

~~(ii) Row 32, column 2 contains the wording "HPM exhaust ducts."~~

~~(GG) Row 33 has not been modified and contains the following information:~~

~~(i) Row 33, column 1 contains the section number 2703.10.4.1."~~

~~(ii) Row 33, column 2 contains the wording "HPM noncombustible ducts."~~

~~(HH) Row 34 has not been modified and contains the following information:~~

~~(i) Row 34, column 1 contains the section number "2703.10.4.2."~~

~~(ii) Row 34, column 2 contains the wording "HPM combustible ducts."~~

~~(II) Row 35 has not been modified and contains the following information:~~

~~(i) Row 35, column 1 contains the section number "2807.3."~~

~~(ii) Row 35, column 2 contains the wording "Lumber production conveyor enclosures."~~

~~(JJ) Row 36 has not been modified and contains the following information:~~

~~(i) Row 36, column 1 contains the section number 2808.7."~~

~~(ii) Row 36, column 2 contains the wording "Recycling facility conveyor enclosures."~~

~~(KK) Row 37 has not been modified and contains the following information:~~

~~(i) Row 37, column 1 contains the section number "3006.1."~~

~~(ii) Row 37, column 2 contains the wording "Class A and B ovens."~~

~~(LL) Row 38 has not been modified and contains the following information:~~

~~(i) Row 38, column 1 contains the section number "3006.2."~~

~~(ii) Row 38, column 2 contains the wording "'Class C and D ovens."~~

~~(MM) Row 39 has not been modified and contains the following information:~~

~~(i) Row 39, column 1 contains the section number "Table 3206.2."~~

(ii) Row 39, column 2 contains the wording "Storage fire protection."

(NN) Row 40 has not been modified and contains the following information:

(i) Row 40, column 1 contains the section number "3206.4."

(ii) Row 40, column 2 contains the wording "Storage."

(OO) Row 41 has not been modified and contains the following information:

(i) Row 41, column 1 contains the section number "3704.5."

(ii) Row 41, column 2 contains the wording "Storage of more than 1,000 cubic feet of loose combustible fibers."

(PP) Row 42 has not been modified and contains the following information:

(i) Row 42, column 1 contains the section number "5003.8.4.1."

(ii) Row 42, column 2 contains the wording "Gas rooms."

(QQ) Row 43 has not been modified and contains the following information:

(i) Row 43, column 1 contains the section number "5003.8.5.2."

(ii) Row 43, column 2 contains the wording "Exhausted enclosures."

(RR) Row 44 has not been modified and contains the following information:

(i) Row 44, column 1 contains the section number "5004.5."

(ii) Row 44, column 2 contains the wording "Indoor storage of hazardous materials"

(SS) Row 45 has not been modified and contains the following information:

(i) Row 45, column 1 contains the section number "5005.1.8."

(ii) Row 45, column 2 contains the wording "Indoor dispensing of hazardous materials."

(TT) Row 46 has not been modified and contains the following information:

(i) Row 46, column 1 contains the section number "5104.4.1."

(ii) Row 46, column 2 contains the wording "Aerosol product warehouses."

(UU) Row 47 has not been modified and contains the following information:

(i) Row 47, column 1 contains the section number "5106.3.2."

(ii) Row 47, column 2 contains the wording "Aerosol display and merchandising areas."

(VV) Row 48 has not been modified and contains the following information:

(i) Row 48, column 1 contains the section number "5306.2.1."

(ii) Row 48, column 2 contains the wording "Exterior medical gas storage room."

(WW) Row 49 has not been modified and contains the following information:

(i) Row 49, column 1 contains the section number "5306.2.2."

(ii) Row 49, column 2 contains the wording "Interior medical gas storage room."

(XX) Row 50 has not been modified and contains the following information:

(i) Row 50, column 1 contains the section number "5306.2.3."

(ii) Row 50, column 2 contains the wording "Medical gas storage cabinet."

(YY) Row 51 has not been modified and contains the following information:

(i) Row 51, column 1 contains the section number "5606.5.2.1."

(ii) Row 51, column 2 contains the wording "Storage of smokeless propellant."

(ZZ) Row 52 contains the following information for the two columns described in header row 1.

(i) Row 52, column 1 contains the section number "5606.5.2.3."

(ii) Row 52, column 2 contains the wording "Storage of small arms primers."

(AAA) Row 53 has not been modified and contains the following information:

(i) Row 53, column 1 contains the section number "5704.3.7.5.1."

(ii) Row 53, column 2 contains the wording "Flammable and combustible liquid storage rooms."

(BBB) Row 54 has not been modified and contains the following information:

(i) Row 54, column 1 contains the section number "5704.3.8.4."

(ii) Row 54, column 2 contains the wording "Flammable and combustible liquid storage warehouses."

(CCC) Row 55 has not been modified and contains the following information:

(i) Row 55 column 1 contains the section number "5705.3.7.3."

(ii) Row 55, column 2 contains the wording "Flammable and combustible liquid Group H-2 or H-3 areas."

(DDD) Row 56 has not been modified and contains the following information:

(i) Row 56, column 1 contains the section number "6004.1.2."

(ii) Row 56, column 2 contains the wording "Gas cabinets for highly toxic and toxic gas."

(EEE) Row 57 has not been modified and contains the following information:

(i) Row 57, column 1 contains the section number "6004.1.3."

(ii) Row 57, column 2 contains the wording "Exhausted enclosures for highly toxic and toxic gas."

(FFF) Row 58 has not been modified and contains the following information:

(i) Row 58, column 1 contains the section number "6004.2.2.6

(ii) Row 58, column 2 contains the wording "Gas rooms for highly toxic and toxic gas."

(GGG) Row 59 has not been modified and contains the following information:

(i) Row 59, column 1 contains the section number "6004.3.3."

(ii) Row 59, column 2 contains the wording "Outdoor storage for highly toxic and toxic gas."

(HHH) Row 60 has not been modified and contains the following information:

(i) Row 60, column 1 contains the section number "6504.1.1."

(ii) Row 60, column 2 contains the wording "Pyroxylin plastic storage cabinets."

(III) Row 61 has not been modified and contains the following information:

(i) Row 61, column 1 contains the section number "6504.1.3."

(ii) Row 61, column 2 contains the wording "Pyroxylin plastic storage vaults."

(JJJ) Row 62 has not been modified and contains the following information:

(i) Row 62, column 1 contains the section number "6504.2."

(ii) Row 62, column 2 contains the wording "Pyroxylin plastic storage and manufacturing."

(KKK) Below the table, the following information is listed: For SI: 1 cubic foot equals 0.023 cubic meters.

(3) Section 907.2.6.1.1 Smoke alarms. This section has been modified to correct errata published by the ICC to change a section number reference from "907.2.11" to "907.2.10." This section has been modified to read: 907.2.6.1.1 Smoke alarms. Single- and multiple- station smoke alarms shall be installed in accordance with Section 907.2.10.

(4) Section 907.2.22 Energy storage systems. This section has been modified to change the header name from "Battery rooms" to "Energy storage systems" and by adding an option for a radiant energy detection system to be installed in rooms, areas and walk-in units containing energy storage systems as required in Section 1206. This section has been modified to read: 907.2.22 Energy storage systems. An automatic smoke detection system or radiant-energy detection system shall be installed in rooms, areas, and walk-in units containing energy storage systems as required in Section 1206.

(5) Section 907.2.23 Capacitor energy storage systems. This section has been stricken from the code.

(6) Table 911.1 Explosion Control Requirements. This table has been modified to add electrochemical energy storage systems to the Special Uses section of the table and to add footnote "g" to the notes at the bottom of the table. This table has been modified to read: Table 911.1 Explosion Control Requirements. The title "Explosion Control Requirements" has a superscript "f" after the title indicating footnote "f" applies. The table contains 30 rows with four columns per row and is described below.

(A) Row 1 is the header row and contains the headers for the four columns listed below:

(i) Row 1, column1 header is entitled "MATERIAL."

(ii) Row 1, column 2 header is entitled "CLASS."

(iii) Row 1, column 3 header is entitled "Barricade construction (Explosion Control Method)."

(iv) Row 1, column 4 header is entitled "Explosion (deflagration) venting or explosion (deflagration) prevention systems (Explosion Control Method)."

(B) Row 2 has not been modified and contains the following:

(i) Row 2, column 1 contains the wording "HAZARD CATEGORY."

(ii) Row 2, column 2 is blank.

(iii) Row 2, column 3 is blank.

(iv) Row 2, column 4 is blank.

(C) Row 3 has not been modified and contains the following:

(i) Row 3, column 1 contains the wording "Combustible dusts" with a superscript "a" to indicate footnote "a" applies.

(ii) Row 3, column 2 contains a hyphen with no words or numbers.

(iii) Row 3, column 3 contains the wording "Not Required."

(iv) Row 3, column 4 contains the wording "Required."

(D) Row 4 has not been modified and contains the following:
(i) Row 4, column 1 contains the wording "Cryogenic fluids."
(ii) Row 4, column 2 contains the wording "Flammable."
(iii) Row 4, column 3 contains the wording "Not Required."
(iv) Row 4, column 4 contains the wording "Required."
(E) Row 5 has not been modified and contains the following:
(i) Row 5, column 1 contains the wording "Explosives."
(ii) Row 5, column 2 contains the wording "Division 1.1."
(iii) Row 5, column 3 contains the wording "Required."
(iv) Row 5, column 4 contains the wording "Not Required."
(F) Row 6 has not been modified and contains the following:
(i) Row 6, column 1 contains the wording "Explosives."
(ii) Row 6, column 2 contains the wording "Division 1.2."
(iii) Row 6, column 3 contains the wording "Required."
(iv) Row 6, column 4 contains the wording "Not Required."
(G) Row 7 has not been modified and contains the following:
(i) Row 7, column 1 contains the wording "Explosives."
(ii) Row 7, column 2 contains the wording "Division 1.3."
(iii) Row 7, column 3 contains the wording "Not Required."
(iv) Row 7, column 4 contains the wording "Required."
(H) Row 8 has not been modified and contains the following:
(i) Row 8, column 1 contains the wording "Explosives."
(ii) Row 8, column 2 contains the wording "Division 1.4."
(iii) Row 8, column 3 contains the wording "Not Required."
(iv) Row 8, column 4 contains the wording "Required."
(I) Row 9 has not been modified and contains the following:
(i) Row 9, column 1 contains the wording "Explosives."
(ii) Row 9, column 2 contains the wording "Division 1.5."
(iii) Row 9, column 3 contains the wording "Required."
(iv) Row 9, column 4 contains the wording "Not Required."
(J) Row 10 has not been modified and contains the following:
(i) Row 10, column 1 contains the wording "Explosives."
(ii) Row 10, column 2 contains the wording "Division 1.6."
(iii) Row 10, column 3 contains the wording "Required."
(iv) Row 10, column 4 contains the wording "Not Required."
(K) Row 11 has not been modified and contains the following:
(i) Row 11, column 1 contains the wording "Flammable gas."
(ii) Row 11, column 2 contains the wording "Gaseous."
(iii) Row 11, column 3 contains the wording "Not Required."
(iv) Row 11, column 4 contains the wording "Required."
(L) Row 12 has not been modified and contains the following:
(i) Row 12, column 1 contains the wording "Flammable gas."
(ii) Row 12, column 2 contains the wording "Liquefied."
(iii) Row 12, column 3 contains the wording "Not Required."
(iv) Row 12, column 4 contains the wording "Required."
(M) Row 13 has not been modified and contains the following:
(i) Row 13, column 1 contains the wording "Flammable liquids."
(ii) Row 13, column 2 contains the letters "IA" with a superscript "b" to indicated footnote "b" applies.
(iii) Row 13, column 3 contains the wording "Not Required."
(iv) Row 13, column 4 contains the wording "Required."
(N) Row 14 has not been modified and contains the following:
(i) Row 14, column 1 contains the wording "Flammable liquids."
(ii) Row 14, column 2 contains the letters "IB" with a superscript "c" to indicate footnote "b" applies.

~~(iii) Row 14, column 3 contains the wording "Not Required."~~
~~(iv) Row 14, column 4 contains the wording "Required."~~
~~(O) Row 15 has not been modified and contains the following:~~
~~(i) Row 15, column 1 contains the wording "Organic peroxides."~~
~~(ii) Row 15, column 2 contains the wording "Unclassified detonable."~~
~~(iii) Row 15, column 3 contains the wording "Required."~~
~~(iv) Row 15, column 4 contains the wording "Not Permitted."~~
~~(P) Row 16 has not been modified and contains the following:~~
~~(i) Row 16, column 1 contains the wording "Organic peroxides."~~
~~(ii) Row 16, column 2 contains the letter "I."~~
~~(iii) Row 16, column 3 contains the wording "Required."~~
~~(iv) Row 16, column 4 contains the wording "Not Permitted."~~
~~(Q) Row 17 has not been modified and contains the following:~~
~~(i) Row 17, column 1 contains the wording "Oxidizer liquids and solids."~~
~~(ii) Row 17, column 2 contains the number "4."~~
~~(iii) Row 17, column 3 contains the wording "Required."~~
~~(iv) Row 17, column 4 contains the wording "Not Permitted."~~
~~(R) Row has not been modified and contains the following:~~
~~(i) Row 18, column 1 contains the wording "Pyrophoric."~~
~~(ii) Row 18, column 2 contains the wording "Gases."~~
~~(iii) Row 18, column 3 contains the wording "Not Required."~~
~~(iv) Row 18, column 4 contains the wording "Required."~~
~~(S) Row 19 has not been modified and contains the following:~~
~~(i) Row 19, column 1 contains the wording "Unstable (reactive)."~~
~~(ii) Row 19, column 2 contains the number "4."~~
~~(iii) Row 19, column 3 contains the wording "Required."~~
~~(iv) Row 19, column 4 contains the wording "Not Permitted."~~
~~(T) Row 20 has not been modified and contains the following:~~
~~(i) Row 20, column 1 contains the wording "Unstable (reactive)."~~
~~(ii) Row 20, column 2 contains the wording "3 Detonable."~~
~~(iii) Row 20, column 3 contains the wording "Required."~~
~~(iv) Row 20, column 4 contains the wording "Not Permitted."~~
~~(U) Row 21 has not been modified and contains the following:~~
~~(i) Row 21, column 1 contains the wording "Unstable (reactive)."~~
~~(ii) Row 21 column 2 contains the wording "3 Nondetonable".~~
~~(iii) Row 21, column 3 contains the wording "Not Required."~~
~~(iv) Row 21, column 4 contains the wording "Required."~~
~~(V) Row 22 has not been modified and contains the following:~~
~~(i) Row 22, column 1 contains the wording "Water-reactive liquids and solids."~~
~~(ii) Row 22, column 2 contains the number "3."~~
~~(iii) Row 22, column 3 contains the wording "Not Required."~~
~~(iv) Row 22, column 4 contains the wording "Required."~~
~~(W) Row 23 has not been modified and contains the following:~~
~~(i) Row 23 column 1 contains the wording "Water-reactive liquids and solids."~~
~~(ii) Row 23, column 2 contains the number "2" with a superscript "e" to indicate footnote "e" applies.~~
~~(iii) Row 23, column 3 contains the wording "Not Required."~~
~~(iv) Row 23, column 4 contains the wording "Required."~~
~~(X) Row 24 has not been modified and contains the following:~~
~~(i) Row 24 column 1 contains the wording "SPECIAL USES."~~
~~(ii) Row 24, column 2 is blank~~
~~(iii) Row 24, column 3 is blank.~~
~~(iv) Row 24, column 4 is blank.~~
~~(Y) Row 25 has not been modified and contains the following:~~

~~(i) Row 25 column 1 contains the wording "Acetylene generator rooms"~~
~~(ii) Row 25, column 2 contains a hyphen~~
~~(iii) Row 25, column 3 contains the wording "Not Required."~~
~~(iv) Row 25, column 4 contains the wording "Required."~~
~~(Z) Row 26 has been added to the table and contains the following:~~
~~(i) Row 26 column 1 contains the wording "Electrochemical energy storage systems" followed by a superscript "g."~~
~~(ii) Row 26, column 2 contains a hyphen.~~
~~(iii) Row 26, column 3 contains the wording "Not Required."~~
~~(iv) Row 26, column 4 contains the wording "Required."~~
~~(AA) Row 27 has not been modified and contains the following:~~
~~(i) Row 27 column 1 contains the wording "Grain processing."~~
~~(ii) Row 27, column 2 contains a hyphen.~~
~~(iii) Row 27, column 3 contains the wording "Not Required."~~
~~(iv) Row 27, column 4 contains the wording "Required."~~
~~(BB) Row 28 has not been modified and contains the following:~~
~~(i) Row 28 column 1 contains the wording "Liquefied petroleum gas distribution facilities."~~
~~(ii) Row 28, column 2 contains a hyphen.~~
~~(iii) Row 28, column 3 contains the wording "Not Required."~~
~~(iv) Row 28, column 4 contains the wording "Required."~~
~~(CC) Row 29 has not been modified and contains the following:~~
~~(i) Row 29 column 1 contains the wording "Where explosion hazards exist" followed by a superscript "d."~~
~~(ii) Row 29, column 2 contains the wording "Detonation."~~
~~(iii) Row 29, column 3 contains the wording "Required."~~
~~(iv) Row 29, column 4 contains the wording "Not Permitted."~~
~~(DD) Row 30 has not been modified and contains the following:~~
~~(i) Row 30 column 1 contains the wording "Where explosion hazards exist" with a superscript "d" to indicate footnote "d" applies.~~
~~(ii) Row 30, column 2 contains the wording "Deflagration."~~
~~(iii) Row 30, column 3 contains the wording "Not Required."~~
~~(iv) Row 30, column 4 contains the wording "Required."~~
~~(EE) Footnote "a" states: "Combustible dusts that are generated during manufacturing or processing. See definition of "Combustible dust" in Chapter 2."~~
~~(FF)Footnote "b" states: "Storage or use."~~
~~(GG) Footnote "c" states: "In open use or dispensing."~~
~~(HH) Footnote "d" states: "Rooms containing dispensing and use of hazardous materials where an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process."~~
~~(II) Footnote "e" states: "A method of explosion control shall be provided where Class 2 water-reactive materials can form potentially explosive mixtures."~~
~~(JJ) Footnote "f" states: "Explosion venting is not required for Group H-5 fabrication areas complying with Chapter 27 and the International Building Code®."~~
~~(KK) Footnote "g" has been added and states: "Where explosion control is required in Section 1206.6."~~

748:20-4-15. IFC® ~~2018~~ 2024 Chapter 10 Means of Egress [AMENDED]

Chapter 10 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) Section 1003.4 Floor surface. This section has been modified to change the heading name from "Slip resistance surface" to "Floor surface" and to prohibit openings in the horizontal floor plane. This section has been modified to read: 1003.4 Floor surface. Circulation paths of the means of egress shall have a slip-resistant surface and be securely attached. Floor surfaces that are a part of a means of egress shall have a solid surface. A floor for this purpose is also defined as the space between a floor surface and a guard if it projects beyond the edge of a floor. Exceptions:~~

(A) Where approved by the Building Official, openings in floor surfaces shall be a size that does not permit the passage of 1/2-inch-diameter (12.7 mm) sphere. Elongated openings shall be placed so that the long dimension is perpendicular to the direction of travel.

(B)Where approved by the Building Official in Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in the floor surface shall not be prohibited provided a sphere with a diameter of 1 1/8 inches (29 mm) cannot pass through the opening.

(2) Section 1008.2.3 Exit discharge. This section has been modified to allow required exit discharge lighting to be provided by the building lighting or other site lighting such as street lighting and adds a second exception to the requirement, for buildings that comply for a single exit in accordance with Table 1006.2.1. This section has been modified to read: 1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the exit discharge from each exit to the public way. Illumination may be provided by the building or other site lighting such as street lighting. Exceptions:

(A) Illumination shall not be required where the path of exit discharge meets both of the following requirements:

(i) The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.

(ii) A dispersal area shall be illuminated to a level not less than 1 foot-candle (11 lux) at the walking surface.

(B) Buildings that comply for a single exit in accordance with Table 1006.2.1.

(3) Section 1010.1.10 Panic and fire exit hardware. This section has been modified to add a third paragraph to require personnel doors in rooms or spaces that contain electrical equipment rated 800 amperes or more that contain overcurrent devices, switching devices, or control devices where the personnel door intended for entrance to and egress from the working space is less than 25 feet from the nearest edge of the working space, to be equipped with panic hardware or fire exit hardware. This section has been modified to read: 1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware. Exceptions:

(A) A main exit of a Group A occupancy shall be permitted to have locking hardware in accordance with Section 1010.1.9.4, Item 2.

(B) Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electromagnetically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.

(4) Electrical rooms with equipment rated 1200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

(5) Where electrical equipment rated 800 amperes or more that contains overcurrent devices, switching devices, or control devices is installed and there is a personnel door(s) intended for entrance to and egress from the working space less than 25 feet (7.6 m) from the nearest edge of the working space, the personnel door shall be equipped with panic hardware or fire exit hardware. The door(s) shall open in the direction of egress.

(6) Section 1015.4 Opening limitations. This section has been modified to prohibit an opening in the horizontal plane of the floor walking surface. This section has been modified to read: 1015.4 Opening limitations. Required guards shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height. The 4 inch sphere allowable opening permitted by this section only applies to openings in a vertical plane not openings in floors or similar horizontal surfaces. Exceptions:

(A) From a height of 36 inches (914 mm) to 42 inches (1067 mm), guards shall not have openings that allow passages of a sphere 4 3/8 inches (111 mm) in diameter.

(B) The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow the passage of a sphere 6 inches (152 mm) in diameter.

(C) At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.

~~(D) In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship's ladders, guards shall not have openings that allow passage of a sphere 21 inches (533 mm) in diameter.~~

~~(E) In assembly seating areas, guards required at the end of aisles in accordance with Section 1029.17.4 shall not have openings that allow passage of a sphere 4 inches (102 mm) in diameter up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings that allow passage of a sphere 8 inches (203 mm) in diameter.~~

~~(F) Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, guards on open sides of stairs shall not have openings that allow passage of a sphere 4 3/8 inches (111 mm) in diameter.~~

~~(7)~~(1) Section 1015.6 Mechanical equipment, systems and devices. This section has been modified to clarify the circumstances under which guards shall be provided and to modify the exception to allow the authority having jurisdiction to approve the use of a fall/restraint system instead of guards. This section has been modified to read: 1015.6 Mechanical equipment, systems and devices. Guards shall be provided where various components that require services are located on a roof or elevated structure and have a condition as set forth in Sections 1015.6.1 through 1015.6.3. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. Exception: When approved by the authority having jurisdiction, guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.

~~(8)~~(2) Section 1015.6.1 Roof edge. This section has been added to clarify the circumstances required to exist for the installation of guards at the roof edge when the components needing service are within a specific distance of the roof edge. This section has been added to read: 1015.6.1 Roof edge. Guards shall be provided when components are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface or elevated structure and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of the component that requires service.

~~(9)~~(3) Section 1015.6.2 Skylights. This section has been added to clarify the circumstances for the installation of guards around components near skylights and to provide exceptions to the requirement. This section has been added to read: 1015.6.2 Skylights. Guards shall be provided when a skylight is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the skylight. Exceptions:

(A) Exception 1. Guards are not required when the skylight is located at least 42 inches (1067 mm) above the highest point of the walking surface adjacent to the skylight or component.

(B) Exception 2. Guards are not required if some other provision for skylight fall through protection is provided and approved by the authority having jurisdiction.

~~(10)~~(4) Section 1015.6.3 Roof hatch. This section has been added to clarify the circumstances for the installation of guards around components installed within a specific distance from the roof hatch. This section has been added to read: 1015.6.3 Roof hatch. Guards shall be provided when a roof hatch is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the roof hatch. If the component is within 10 feet (3048 mm) of the ladder access side of the roof hatch, the guard shall incorporate a self-closing, self-latching gate. The gate shall have a top edge of not less than 42 inches (1067 mm) above the elevated surface adjacent to the gate and shall not allow the passage of a ~~21-inch~~ 21-inch (533 mm) sphere.

~~(11)~~(5) Section 1015.7 Roof access. This section has been modified to allow the authority having jurisdiction to approve the use of a fall-restraint system instead of a guard in the exception and provide criteria for installation of the fall-restraint system. This section has been modified to read: 1015.7 Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. Exception: When approved by the authority having jurisdiction, guards are not required

where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of the walking surfaces.

(6) Section 1016.2.2 Shared common use areas. This section has been added to clarify when shared common use areas are utilized by more than one tenant, a direct independent means of egress must be provided without the necessity to return through any tenant space or building; and clarifies the signage and illumination requirements for the access. This section has been modified to read: 1016.2.2 Shared common use areas. Shared common use areas utilized by more than one tenant must provide for direct access to an independent means of egress without the necessity to return through any tenant space or building. Such common areas shall be provided with signage designating each adjoining suite to comply with ICC ANSI A-117®, means of egress signage and illumination, and complying with other sections of this code and those required to be accessible in accordance with Chapter 11, Section 1111 of the International Building Code®.

(7) 1031.2 Where required. This section has been modified to require emergency escape and rescue openings to be provided for all Group R-2 occupancies and authorize the fire code official to increase the minimum height requirement for emergency escape and recue openings based on the responding fire department's capabilities. This section has been modified to read: 1031.2 Where required. In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in the following occupancies:

(A) Item 1. Group R-2 occupancies.

(B) Item 2. Group R-3 and R-4 occupancies.

(8) Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way. Exceptions:

(A) Exception 1. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.

(B) Exception 2. Emergency escape and rescue openings are not required for basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.

(C) Exception 3. Basements without habitable spaces and having not more than 200 square feet (10.16 square meters) in floor area shall not be required to have emergency escape and rescue openings.

(D) Exception 4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.

(E) Exception 5. Within individual dwelling and sleeping units in Groups R-2 and R-3, where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:

(i) Exception 5.1 One means of egress and one emergency escape and opening.

(ii) Exception 5.2 Two means of egress.

(F) Exception 6. The fire code official is authorized to increase the minimum height requirement for emergency escape and rescue openings based on the responding fire department's capabilities.

748:20-4-16. IFC® ~~2018~~ 2024 Chapter 11 Construction Requirements for Existing Buildings [AMENDED]

Chapter 11 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 1103.4.2 Three to five stories. This section has been modified to add a fifth exception to provide relief from this section of the code when vertical openings comply with the requirements of Section 803.2.1 of the IEBC®. This section has been modified to read: 1103.4.2 Three to five stories. In other than Group I-2 and I-3 occupancies, interior vertical openings connecting three to five stories shall be protected by either 1-hour fire-resistant-rated construction or an automatic sprinkler system shall be installed throughout the building in accordance with Section 903.3.1.1 or 903.3.1.2. Exceptions:

(A) Vertical opening protection is not required for Group R-3 occupancies.

(B) Vertical opening protection is not required for open parking garages.

(C) Vertical opening protection for escalators shall be in accordance with Section 1103.4.5, 1103.4.6 or 1103.4.7.

(D) Exit access stairways and ramps shall be in accordance with Section 1103.4.8.

(E) Vertical openings that comply with the requirements of Section 802.2.1 of the IEBC®.

~~(2) Section 1103.7.6 Group R-2. This section has been modified to address errata published by the ICC. The correction is in the last exception and requires each dwelling unit to be provided with smoke alarms complying with the requirements of Section 907.2.10. This section has been modified to read: 1103.7.6 Group R-2. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-2 occupancies more than three stories in height or with more than 16 dwelling or sleeping units. Exceptions:~~

~~(A) Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 3/4 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.~~

~~(B) A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.~~

~~(C) A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress doors opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6, Exception 3.~~

~~(D) A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units, do not exceed three stories in height and comply with both of the following:~~

~~(i) Each dwelling unit is separated from other contiguous dwelling units by fire barriers having a fire-resistance rating of not less than 3/4 hour.~~

~~(ii) Each dwelling unit is provided with smoke alarms complying with the requirements of Section 907.2.10.~~

~~(3)~~(2) Section 1104.25 Egress path markings. This section, including the exception, has been moved and renumbered into the newly created Appendix ~~O~~ P, entitled "Egress Path Markings for Existing Buildings" and is not adopted as a minimum standard for residential or commercial fire prevention and fire protection systems within the State of Oklahoma. The section number 1104.25 itself, will stay as part of this code for numbering alignment but will not have any requirements attached to it.

748:20-4-17. IFC® 2018 Chapter 12 Energy Systems [REVOKED]

~~Chapter 12 of the Oklahoma adopted IFC® 2018 is adopted with the following modifications:~~

~~(1) Section 1201.1 Scope. This section has been modified to add repair, retrofitting, commissioning and decommissioning of energy systems to the list of provisions that the chapter applies to, in regards to energy systems used for generating or storing energy. This section has been modified to read: 1201.1 Scope. The provisions of this chapter shall apply to the installation, operation, maintenance, repair, retrofitting, testing, commissioning and decommissioning of energy systems used for generating or storing energy. It shall not apply to equipment associated with the generation, control, transformation, transmission, or distribution of energy installations that is under the exclusive control of an electric utility or lawfully designated agency.~~

~~(2) Section 1201.3 Mixed system installation. This section has been modified to clarify where approved, aggregate nameplate kWh of all energy storage systems in a fire area shall not exceed the maximum quantity specified for any of the energy systems in the chapter. This section has been modified to read: 1201.3 Mixed system installation. Where approved, the aggregate nameplate kWh energy of all energy storage systems in a fire area shall not exceed the maximum quantity specified for any of the energy systems in this chapter. Where required by the fire code official, a hazard mitigation analysis shall be provided and approved in accordance with Section 104.7.2 to evaluate any potential interaction between various energy systems and technologies.~~

(3) Section 1202.1 Definitions. This section has been modified to delete "Lead acid battery," "CAPACITOR ARRAY," and "STATIONARY BATTERY ARRAY," from the list of terms defined in Chapter 2. The change modifies the term "ENERGY MANAGEMENT SYSTEMS" to "ENERGY STORAGE MANAGEMENT SYSTEMS," and adds "ENERGY STORAGE SYSTEM," "ENERGY STORAGE SYSTEM CABINET," ENERGY STORAGE SYSTEM COMMISSIONING," "ENERGY STORAGE SYSTEM DECOMMISSIONING," "ENERGY STORAGE SYSTEM, ELECTROCHEMICAL," "ENERGY STORAGE SYSTEM, MOBILE," and "ENERGY STORAGE SYSTEM, WALK-IN UNIT" to the list of terms defined in Chapter 2. This section has been modified to read:

(A) BATTERY SYSTEM, STATIONARY STORAGE.
(B) BATTERY TYPES.
(C) CAPACITOR ENERGY STORAGE SYSTEM.
(D) CRITICAL CIRCUIT.
(E) EMERGNCY POWER SYSTEM.
(F) ENERGY STORAGE MANAGEMENT SYSTEM.
(G) ENERGY STORAGE SYSTEM.
(H) ENERGY STORAGE SYSTEM CABINET.
(I) ENERGY STORAGE SYSTEM COMMISSIONING.
(J) ENERGY STORAGE SYSTEM DECOMMISSIONING.
(K) ENERGY STORAGE SYSTEM, ELECTROCHEMICAL.
(L) ENERGY STORAGE SYSTEM, MOBILE.
(M) ENERGY STORAGE SYSTEM, WALK-IN UNIT.
(N) FUEL CELL POWER SYSTEM, STATIONARY.
(O) STANDBY POWER SYSTEM.

(4) Section 1203.2.3 Emergency responder radio coverage systems. This section has been modified to address errata published by the ICC. The correction requires the standby power to be capable of operating the emergency responder radio coverage system at 100 percent of the system operation for a duration of not less than 12 hours. This section has been modified to read: 1203.2.3 Emergency responder radio coverage systems. Standby power shall be provided for emergency responder radio coverage systems as required by Section 510.4.2.3. The standby power shall be capable of operating the emergency responder radio coverage system at 100 percent system operation for a duration of not less than 12 hours.

(5) Section 1203.2.5 Exhaust ventilation. This section has been added to require standby power to be provided for mechanical exhaust ventilation systems required by Section 1206.6.1.2.1; and require the system to be capable of powering the required load for a duration of not less than two hours. This section has been added to read: 1203.2.5 Exhaust ventilation. Standby power shall be provided for mechanical exhaust ventilation systems as required by 1206.6.1.2.1. The system shall be capable of powering the required load for a duration of not less than two hours.

(6) Section 1203.2.6 Exit signs. This section has been modified to change the section number from "1203.2.5" to "1203.2.6." This section has been modified to read: 1203.2.6. Exit signs. Emergency power shall be provided for exit signs as required in Section 1013.6.3. The system shall be capable of powering the required load for a duration of not less than 90 minutes.

(7) Section 1203.2.7 Gas detection systems. This section has been modified to change the section number from "1203.2.6" to "1203.2.7," change the section references for required for emergency power from "1203.2.9" to "1203.2.10" and "1203.2.16" to "1203.2.17" and add a reference to Section 1206.6.2.2.4 for standby power. This section has been modified to read: 1203.2.7. Gas detection systems. Emergency power shall be provided for gas detection systems where required by Sections 1203.2.10 and 1203.2.17. Standby power shall be provided for gas detection systems where required by Sections 916.5 and 1206.6.2.2.4.

(8) Section 1203.2.8 Group I-2 occupancies. This section has been modified to change the section number from "1203.2.7" to "1203.2.8." This section has been modified to read: 1203.2.8. Group I-2 occupancies. Essential electrical systems for Group I-2 occupancies shall be in accordance with Section 407.11 of the International Building Code®.

(9) Section 1203.2.9 Group I-3 occupancies. This section has been modified to change the section number from "1203.2.8" to "1203.2.9." This section has been modified to read; 1203.2.9 Group I-3 occupancies. Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be

operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks. Exceptions:

(A) Emergency power is not required in facilities were the provisions for remote locking and unlocking of occupied rooms in Occupancy Condition 4 are not required as set forth in the International Building Code®.

(B) Emergency power is not required where remote mechanical operation releases are provided.

(10) Section 1203.2.10 Hazardous materials. This section has been modified to change the section number from "1203.2.9" to "1203.2.10." This section has been modified to read: 1203.2.10 Hazardous materials. Emergency and standby power shall be provided in occupancies with hazardous materials as required in the following sections:

(A) Sections 5004.7 and 5005.1.5 for hazardous materials.

(B) Sections 6004.2.2.8 and 6004.3.4.2 for highly toxic and toxic gases.

(C) Sections 6204.1.11 for organic peroxides.

(11) Section 1203.2.11 High-rise buildings. This section has been modified to change the section number from "1203.2.10" to "1203.2.11." This section has been modified to read: 1203.2.11 High-rise buildings. Standby power and emergency power shall be provided for high-rise buildings as required in Section 403 of the International Building Code®, and shall be in accordance with Section 1203.

(12) Section 1203.2.12 Special purpose horizontal sliding doors. This section has been modified to change the number from "1203.2.11" to "1203.2.12." This section has been modified to read: 1203.2.12 Special purpose horizontal sliding doors. Standby power shall be provided for horizontal sliding doors as required in Section 1010.1.4.3. The standby power supply shall have a capacity to operate not fewer than 50 closing cycles of the door.

(13) Section 1203.2.13 Hydrogen fuel gas room. This section has been modified to change the section number from "1203.2.12" to "1203.2.13." This section has been modified to read: 1203.2.13 Hydrogen fuel gas room. Standby power shall be provided for hydrogen fuel gas rooms as required by Section 5808.7.

(14) Section 1203.2.14 Laboratory suites. This section has been modified to change the section number from "1203.2.13" to "1203.2.14." This section has been modified to read: 1203.2.14 Laboratory suites. Standby or emergency power shall be provided in accordance with Section 5004.7 where laboratory suites are located above the sixth story above grade plane or located in a story below grade plane.

(15) Section 1203.2.15 Means of egress illumination. This section has been modified to change the section number from "1203.2.14" to "1203.2.15." This section has been added to read: 1203.2.15 Means of egress illumination. Emergency power shall be provided for means of egress illumination in accordance with Sections 1008.3 and 1104.5.1.

(16) Section 1203.2.16 Membrane structures. This section has been modified to change the section number from "1203.2.15" to "1203.2.16." This section has been modified to read: 1203.2.16 Membrane structures. Standby power shall be provided for auxiliary inflation systems in permanent structures in accordance with Section 2702 of the International Building Code®. Auxiliary inflation systems shall be provided in temporary air-supported and air-inflated membrane structures in accordance with Section 3103.10.4.

(17) Section 1203.2.17 Semiconductor fabrication facilities. This section has been modified to change the section number from "1203.2.16" to "1203.2.17." This section has been modified to read: 1203.2.17 Semiconductor fabrication facilities. Emergency power shall be provided for semiconductor fabrication facilities as required in Section 2703.15.

(18) Section 1203.2.18 Smoke control systems. This section has been modified to change the section number from "1203.2.17" to "1203.2.18." This section has been modified to read: 1203.2.18 Smoke control systems. Standby power shall be provided for smoke control systems as required in Section 909.11.

(19) Section 1203.2.19 Underground buildings. This section has been modified to change the section number from "1203.2.18" to "1203.2.19." This section has been modified to read: 1203.2.19 Underground buildings. Emergency and standby power shall be provided in underground buildings as required by Section 405 of the International Building Code® and shall be in accordance with Section 1203.

(20) Section 1205.1 General. This section has been modified to add an exception for the temporary use of a fuel cell powered electric vehicle to power a Group R-3 or R-4 building while parked so long as it complies with Section 1205.14. This section has been modified to read: 1205.1 General. Stationary fuel cell power systems in

new and existing occupancies shall comply with this section. Exception: The temporary use of a fuel cell powered electric vehicle to power a Group R-3 or R-4 building while parked shall comply with Section 1205.14.
(21) Section 1205.5 Residential use. This section has been modified to add an exception for the temporary use of a fuel cell powered electric vehicle to power a Group R-3 or R-4 building while parked as long as it complies with Section 1205.14. This section has been modified to read: 1205.5 Residential use. Stationary fuel cell powered systems shall not be installed in Group R-3 and R-4 buildings, or dwelling units associated with Group R-2 buildings unless they are specifically listed for residential use. Exception: The temporary use of a fuel cell powered electric vehicle to power a Group R-3 or R-4 building while parked shall comply with Section 1205.14.
(22) Section 1205.14 Group R-3 and R-4 Fuel Cell Vehicle ESS Use. This section has been added to allow the temporary use of a dwelling unit owner or occupant's fuel cell powered electrical vehicle to power a Group R-3 or R-4 dwelling while parked in an attached or detached garage or outside as long as it complies with the vehicle manufacturer's installation instructions and NFPA 70®. This section has been added to read: 1205.14 Group R-3 and R-4 Fuel Cell Vehicle ESS Use. The temporary use of the dwelling unit owner or occupant's fuel cell powered electrical vehicle to power a Group R-3 or R-4 dwelling while parked in an attached or detached garage or outside shall comply with the vehicle manufacturer's installation instructions and NFPA 70®.
(23) Section 1206.1 General. This section has been modified to delete the existing language in the section, change the title of the section from "Scope" to "General," and add new language stating the provisions in the section are applicable to stationary and mobile electrical Energy Storage Systems (ESS) and provides an exception for ESS in Group R-3 and R-4 occupancies that comply with Section 1206.11. This section has been modified to read: 1206.1 General. The provisions in this section are applicable to stationary and mobile electrical Energy Storage Systems (ESS). Exception: ESS in Group R-3 and R-4 occupancies shall comply with Section 1206.11.
(24) Table 1206.1 Energy Storage System (ESS) Threshold Quantities. This section has been modified to change the table number from "1206.2" to "1206.1" and the section heading from "Battery Storage System Threshold Quantities" to "Energy Storage System (ESS) Threshold Quantities." The rows for the battery types "Lithium, all types" and "Sodium, all types" have been deleted and four new rows have been added. The footnotes at the end of the table have been modified. The table has been added to read: Table 1206.1 Energy Storage System (ESS) Threshold Quantities. The table now contains 9 rows with 2 columns in each row and is described below:

(A) Row 1 is the header row and contains the following headings in each of the two columns:

(i) Row 1, column 1 is entitled "Technology."

(ii) Row 1, column 2 is entitled "Energy Capacity" with a superscript "a" at the end of the heading title to indicate footnote "a" applies.

(B) Row 2 has been modified to add a measurement in Megajoules to the second column. The row has been modified to read:

(i) Row 2, column 1 lists the technology "Flow batteries" with a superscript "b" to indicate footnote "b" applies.

(ii) Row 2, column 2 lists the energy capacity "20 KWh (72 Megajoules)."

(C) Row 3 has been modified to add a measurement in Megajoules to the second column along with a superscript "c" to indicate footnote "c" applies. The row has been modified to read:

(i) Row 3, column 1 lists the technology "Lead acid batteries, all types."

(ii) Row 3, column 2 lists the energy capacity "70 Kwh (252 Megajoules" with a superscript "c" to indicate footnote "c" applies.

(D) Row 4 has been modified to delete the original text related to "Lithium, all types" and the line below related to "Nickel cadmium batteries" has been moved up. The line has modified to add a measurement in Megajoules in the second column and has been modified to read:

(i) Row 4, column 1 lists the technology "Nickel cadmium batteries (Ni-Cd)."

(ii) Row 4, column 2 lists the energy capacity "70 KWh (252 Megajoules)."

(E) Row 5 has been added and contains the following:

(i) Row 5, column 1 lists the technology "Lithium-ion batteries."

(ii) Row 5, column 2 lists the energy capacity "20 KWh (70 Megajoules)."

(F) Row 6 had been added and contains the following:

(i) Row 6, column 1 lists the technology "Capacitor ESS."

(ii) Row 6, column 2 lists the energy capacity "3 KWh (10.8 Megajoules)."

(G) Row 7 has been added and contains the following:

(i) Row 7, column 1 lists the technology "Nickel Metal Hydride (NI-MH)."

(ii) Row 7, column 2 lists the energy capacity "70 KWh (252 Megajoules)."

(H) Row 8 has been added and contains the following:

(i) Row 8, column 1 lists the technology "Other electrochemical ESS technologies."

(ii) Row 8, column 2 lists the energy capacity "3 KWh (10.8 Megajoules)."

(I) Row 9 has been modified to add a measurement in Megajoules in the second column and has been modified to read:

(i) Row 9, column 1 lists the technology "Other battery technologies."

(ii) Row 9, column 2 lists the energy capacity "10 KWh (36 Megajoules)."

(J) The wording "For SI: 1 kilowatt hour = 3.6 megajoules" has been stricken from under the table.

(K) Footnote "a" has been modified to read: "Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1000."

(L) Footnote "b" states: "Shall include vanadium, zinc-bromide, polysulfide-bromide, and other flowing electrolyte type technologies."

(M) Footnote "c" has been modified to read: "50 gallons of lead acid battery electrolyte shall be considered equivalent to 70 kWh."

(25) Section 1206.1.1 Scope. This section has been added to require Energy Storage Systems (ESS) that have capacities exceeding the values shown in Table 1206.1 to comply with this section. This section has been added to read: 1206.1.1 Scope. ESS having capacities exceeding the values shown in Table 1206.1 shall comply with this section.

(26) 1206.1.2 Permits. This section has been modified to change the section number from "1206.2.1" to "1206.1.2," delete the requirement for permits to be obtained for the installation and operation of stationary battery storage systems in accordance with Section 105.7.2 and require permits to be obtained for electrical Energy Storage Systems under specific conditions. This section has been modified to read: 1206.1.2 Permits. Permits shall be obtained for ESS as follows:

(A) Construction permits shall be obtained for stationary ESS installations and for mobile ESS charging and storage installations covered by 1206.10.1. Permits shall be obtained in accordance with Section 105.7.2.

(B) Operational permits shall be obtained for stationary ESS installations and for mobile ESS deployment operations covered by Section 1206.10.3. Permits shall be obtained in accordance with Section 105.6.51.

(27) Section 1206.1.2.1 Communication utilities. This section has been added to clarify operational permits shall not be required for lead acid and nickel cadmium battery systems at facilities under the control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC. This section has been added to read: 1206.1.2.1 Communication utilities. Operational permits shall not be required for lead acid and nickel cadmium battery systems at facilities under the control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC.

(28) Section 1206.1.3 Construction documents. This section has been modified to change the section number from "1206.2.2" to "1206.1.3" and modify the list of criteria to be provided with the permit application for the electrical Energy Storage System (ESS). This section has been modified to read: 1206.1.3 Construction documents. The following information shall be provided with the permit application:

(A) Location and layout diagram of the room or area in which the ESS is to be installed.

(B) Details on the hourly fire-resistance ratings of assemblies enclosing the ESS.

(C) The quantities and types of ESS to be installed.

(D) Manufacturer's specifications, ratings and listings of each ESS.

(E) Description of the energy (battery) management system and their operation.

(F) Location and content of required signage.

(G) Details on fire suppression, smoke or fire detection, thermal management, ventilation, exhaust and deflagration venting systems, if provided.

(H) Support arrangement associated with the installation, including any required seismic restraint.

(I) A commissioning plan complying with 1206.2.1.

(J) A decommissioning plan complying with 1206.2.3.

(29) Section 1206.1.4 Hazard mitigation analysis. This section has been modified to change the section number from "1206.2.3" to "1206.1.4" and modify the conditions under which a failure modes and effects analysis (FMEA) or other approved hazard mitigation analysis shall be provided in accordance with Section 104.7.2. This section has been modified to read: 1206.1.4 Hazard mitigation analysis. A failure modes and effects analysis (FMEA) or other approved hazard mitigation analysis shall be provided in accordance with Section 104.7.2 under any of the following conditions:

(A) Where ESS technologies not specifically identified in Table 1206.1 are provided.

(B) More than one ESS technology is provided in a room or enclosed area where there is a potential for adverse interaction between technologies.

(C) Where allowed as a basis for increasing maximum allowable quantities. See Section 1206.5.2.

(30) Section 1206.1.4.1 Fault condition. This section has been modified to change the section number from "1206.2.3.1" to "1206.1.4.1." This section has been modified to read: 1206.1.4.1 Fault condition. The hazard mitigation analysis shall evaluate the consequences of the following failure mode. Only single failure modes shall be considered.

(A) A thermal runaway condition in a single ESS rack, module or unit.

(B) Failure of any battery (energy) management system.

(C) Failure of any required ventilation or exhaust system.

(D) Voltage surges on the primary electric supply.

(E) Short circuits on the load side of the ESS.

(F) Failure of the smoke detection, fire detection, fire suppression or gas detection system.

(G) Required spill neutralization not being provided or failure of a required secondary containment system.

(31) Section 1206.1.4.2 Analysis approval. This section has been modified to change thesection number from "1206.2.3.2" to "1206.1.4.2" and modify the requirements for the fire code official to approve the hazardous mitigation analysis under certain conditions. This section has been modified to read: 1206.1.4.2 Analysis approval. The fire code official is authorized to approve the hazardous mitigation analysis provided the consequences of the hazard mitigation analysis demonstrates:

(A) Fires will be contained within unoccupied ESS rooms or areas for the minimum duration of the fire-resistance rated separations identified in Section 1206.7.4.

(B) Fires in occupied work centers will be detected in time to allow occupants within the room or area to safely evacuate.

(C) Toxic and highly toxic gases released during fires will not reach concentrations in excess of Immediately Danger to Life and Health (IDLH) level in the building or adjacent means of egress routes during the time deemed necessary to evacuate occupants from any affected area.

(D) Flammable gases released from ESS during charging, discharging and normal operation will not exceed 25 percent of their lower flammability level (LFL).

(E) Flammable gases released from ESS during fire, overcharging and other abnormal conditions will be controlled through the use of ventilation of the gases preventing accumulation or by deflagration venting.

(32) Section 1206.1.4.3 Additional protection measures. This section has been modified to change the section reference number from "1206.2.3.3" to "1206.1.4.3," remove the wording "stationary storage battery," and replace it with "ESS" (Energy Storage Systems), and change a section reference number from "1206.2" to "1206." This section has been modified to read: 1206.1.4.3 Additional protection measures. Construction, equipment, and systems that are required for the ESS to comply with the hazardous mitigation analysis, including but not limited to those specifically described in Section 1206 shall be installed, maintained and tested in accordance with nationally recognized standards and design parameters.

(33) Section 1206.1.5 Large scale fire test. This section has been added to require large scale fire testing to be conducted on a representative Energy Storage System (ESS) in accordance with UL 9540A, when required elsewhere in Section 1206. The change requires the test to be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for a duration equal to the fire resistant rating of the room separation specified in Section 1206.7.4. The change requires the test report to be submitted to fire code official for review and approval in accordance with Section 104.7.2. This section has been added to read: 1206.1.5 Large scale fire test. Where

~~required elsewhere in Section 1206, large-scale fire testing shall be conducted on a representative ESS in in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas, and walk-in units will be contained within the room, enclosed area or walk-in unit for a duration equal to the fire resistance rating of the room separation specified in Section 1206.7.4. The test report shall be provided to the fire code official for review and approval in accordance with Section 104.7.2.~~

~~(34) Section 1206.1.6 Fire remediation. This section has been added to require specific actions for the system owner, agent or lessee to take, at their expense, to mitigate the hazard or remove damaged equipment from the premises to a safe location, when a fire or other event has damaged the Energy Storage System (ESS) and ignition or re-ignition of the ESS is possible. This section has been added to read: 1206.1.6 Fire remediation. Where a fire or other event has damaged ESS and ignition or re-ignition of the ESS is possible, the system owner, agent, or lessee shall take the following actions, at their expense, to mitigate the hazard or remove damaged equipment from the premises to a safe location.~~

~~(35) Section 1206.1.6.1 Fire mitigation personnel. This section has been added to require trained personnel to be on site to respond to a possible ignition or re-ignition of a damaged Energy Storage System (ESS) if, in the opinion of the fire code official, it is essential for public safety. The section requires the ESS system owner, agent or lessee to immediately dispatch one or more fire mitigation personnel to the premise, as required and approved, at their expense. The change requires the personnel to remain on duty continuously after the fire department leaves the premises until the damaged energy storage equipment is removed from the premises, or earlier if the fire code official indicates the public safety hazard has been abated. This section has been added to read: 1206.1.6.1 Fire mitigation personnel. Where, in the opinion of the fire code official, it is essential for public safety that trained personnel be on site to respond to possible ignition or re-ignition of a damaged ESS, the system owner, agent or lessee shall immediately dispatch one or more fire mitigation personnel to the premise, as required and approved, at their expense. These personnel shall remain on duty continuously after the fire department leaves the premise until the damaged energy storage equipment is removed from the premises, or earlier if the fire code official indicates the public safety hazard has been abated.~~

~~(36) Section 1206.1.6.2 Duties. This section has been added to list out four responsibilities of the on-duty fire mitigation personnel. This section has been added to read: 1206.1.6.2 Duties. On-duty fire mitigation personnel shall have the following responsibilities:~~

~~(A) Keep diligent watch for fires, obstructions to means of egress and other hazards.~~

~~(B) Immediately contact the fire department if their assistance is needed to mitigate any hazards or extinguish fires.~~

~~(C) Take prompt measures for remediation of hazards in accordance with the decommissioning plan in Section 1206.2.3.~~

~~(D) Take prompt measures to assist in the evacuation of the public from the structures.~~

~~(37) Section 1206.2 Commissioning, decommissioning, operation and maintenance. This section has been modified to delete the original heading and language for stationary storage battery systems and add language specifying commissioning, decommissioning, operation and maintenance shall be conducted in accordance with this section. This section has been modified to read: 1206.2 Commissioning, decommissioning operation and maintenance. Commissioning, decommissioning, operation and maintenance shall be conducted in accordance with this section.~~

~~(38) Section 1206.2.1 Commissioning. This section has been modified and the original section entitled "Permits" has been moved to Section 1206.1.2 and a new Section 1206.2.1 entitled "Commissioning" has been added. This section requires commissioning, of all newly installed Energy Storage Systems (ESS) and existing ESS that have been retrofitted, replaced or previously decommissioned and are returning to service, to be conducted prior to the ESS being placed in service in accordance with a commissioning plan that has been approved prior to initiating commissioning. The section specifies what criteria the commissioning plan shall include and includes an exception for commissioning of lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC. The exception requires a decommissioning plan to be provided and maintained where required by the fire code official. This section has been modified to read: 1206.2.1 Commissioning.~~

~~Commissioning of newly installed ESS, and existing ESS that have been retrofitted, replaced or previously decommissioned and are returning to service shall be conducted prior to the ESS being placed in service in accordance with a commissioning plan that has been approved prior to initiating commissioning. The commissioning plan shall include the following:~~

~~(A) A narrative description of the activities that will be accomplished during each phase of commissioning including the personnel intended to accomplish each of the activities.~~

~~(B) A listing of the specific ESS and associated components, controls and safety related devices to be tested, a description of the tests to be performed and the functions to be tested.~~

~~(C) Conditions under which all testing will be performed, which are representative of the conditions during normal operation of the system.~~

~~(D) Documentation of the owner's project requirements and the basis of design necessary to understand the installation and operation of the ESS.~~

~~(E) Verification that required equipment and systems are installed in accordance with the approved plans and specifications.~~

~~(F) Integrated testing for all fire and safety systems.~~

~~(G) Testing for any required thermal management, ventilation or exhaust systems associated with the ESS installation.~~

~~(H) Preparation and delivery of operation and maintenance documentation.~~

~~(I) Training of facility operating and maintenance staff.~~

~~(J) Identification and documentation of the requirements for maintaining system performance to meet the original design intent during the operation phase.~~

~~(K) Identification and documentation of personnel who are qualified to service, maintain and decommission the ESS, and respond to incidents involving the ESS, including documentation that such service has been contracted for a decommissioning plan for removing the ESS from service, and from the facility in which it is located.~~

~~(L) The plan shall include details on providing a safe, orderly shutdown of energy storage and safety systems with notification to the code officials prior to the actual decommissioning of the system. The decommissioning plan shall include contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by a fire or other event.~~

~~(M) Exception: Commissioning shall not be required for lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC. However a decommissioning plan shall be provided and maintained where required by the fire code official.~~

~~(39) Section 1206.2.1.1 Initial acceptance testing. This section has been added to require an Energy Storage System (ESS) to be evaluated during the commission process, for proper operation in accordance with the manufacturer's instructions and the commissioning plan prior to final approval. This section has been added to read: 1206.2.1.1 Initial acceptance testing. During the commissioning process an ESS shall be evaluated for proper operation in accordance with the manufacturer's instructions and the commissioning plan prior to final approval.~~

~~(40) Section 1206.2.1.2 Commissioning report. This section has been added to require a report describing the results of the system commissioning, including the results of the initial accepted testing required in Section 1206.2.1.1, to be provide to the code official prior to final inspection and approval and for the report to be maintained at an approved onsite location. This section has been added to read: 1206.2.1.2 Commissioning report. A report describing the results of the system commissioning and including the results of the initial acceptance testing required in Section 1206.2.1.1 shall be provided to the code official prior to final inspection and approval and maintained at an approved onsite location.~~

~~(41) Section 1206.2.2 Operation and maintenance. The original section 1206.2.2 entitled "Construction documents" has been moved to Section 1206.1.3 and a new section 1206.2.2 entitled "Operation and maintenance" has been added. This section requires an operation manual to be provided to both the Energy Storage System (ESS) owner or their authorized agent and the ESS operator before the ESS is put into operation. The section requires specific criteria to be listed in the manual and for the ESS to be operated and maintained in accordance with the manual. The section also requires a copy of the manual to be retained onsite at an approved location. This section has been modified to read: 1206.2.2. Operation and maintenance.~~

~~An operation and maintenance manual shall be provided to both the ESS owner or their authorized agent and the ESS operator before the ESS is put into operation and shall include the following:~~

~~(A) Manufacturer's operation manuals and maintenance manuals for the entire ESS or for each component of the system requiring maintenance, that clearly identify the required routine maintenance actions.~~

~~(B) Name, address and phone number of a service agency that has been contracted to service the ESS and its associated safety systems.~~

~~(C) Maintenance and calibration information, including wiring diagrams, control drawings, schematics, system programming instructions and control sequence descriptions for all energy storage control systems.~~

~~(D) Desired or field-determined control set points that are permanently recorded on control drawings at control devices or, for field control systems, in system programing instructions.~~

~~(E) A schedule for inspecting and recalibrating all ESS controls.~~

~~(F) A service record log form that lists the schedule for all required servicing and maintenance actions and space for logging such actions that are completed over time and retained on site.~~

~~(42) The ESS shall be operated and maintained in accordance with the manual and a copy of the manual shall be retained at an approved onsite location.~~

~~(43) Section 1206.2.2.1 Ongoing inspection and testing. This section has been added to require systems that monitor and protect the Energy Storage System (ESS) installation to be inspected and tested in accordance with the manufacturer's installation instructions and the operating and maintenance manual. The section requires records for testing and inspection to be maintained in the operation and maintenance manual. This section has been added to read: 1206.2.2.1 Ongoing inspection and testing. Systems that monitor and protect the ESS installation shall be inspected and tested in accordance with the manufacturer's instructions and the operating and maintenance manual. Inspection and testing records shall be maintained in the operation and maintenance manual.~~

~~(44) Section 1206.2.3 Decommissioning. The original section 1206.2.3 entitled "Hazard mitigation analysis" was moved to Section 1206.1.4 and a new section 1206.2.3 entitled "Decommissioning" has been added. The new section requires the code official to be notified prior to the decommissioning of an Energy Storage System (ESS) and for the decommissioning to be performed in accordance the specific criteria included in the decommissioning plan. This section has been modified to read: 1206.2.3 Decommissioning. The code official shall be notified prior to decommissioning of an ESS. Decommissioning shall be performed in accordance with the decommissioning plan that includes the following:~~

~~(A) A narrative description of the activities to be accomplished for removing the ESS from service, and from the facility in which it is located.~~

~~(B) A listing of any contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by fire or other event.~~

~~(45) Section 1206.2.4 Seismic and structural design. This section has been modified and renumbered to Section 1206.4.4.~~

~~(46) Section 1206.2.5 Vehicle impact protection. This section has been modified and renumbered to Section 1206.4.5.~~

~~(47) Section 1206.2.6 Combustible storage. This section has been modified and renumbered to Section 1206.4.6.~~

~~(48) Section 1206.2.7 Testing, maintenance and repair. This section has been stricken from the code.~~

~~(49) Section 1206.2.8 Location and construction. This section has been stricken from the code.~~

~~(50) Section 1206.2.8.1 Location. This section with the listed exceptions has been stricken from the code.~~

~~(51) Section 1206.2.8.2 Separation. This section has been modified and renumbered to Section 1206.4.3.~~

~~(52) Section 1206.2.8.3 Stationary battery arrays. This section with the listed exceptions has been stricken from the code.~~

~~(53) Section 1206.2.8.4 Separate rooms. This section has been stricken from the code.~~

~~(54) Section 1206.2.8.5 Occupied work centers. This section has been modified and renumbered to Section 1206.4.10.~~

~~(55) Section 1206.2.8.5.1 Cabinets. This section has been stricken from the code.~~

~~(56) Section 1206.2.8.6 Signage. This section has been modified and renumbered to 1206.4.8.~~

~~(57) Section 1206.2.8.6.1 Electrical disconnects. This section has been modified and renumbered to 1206.4.1.~~
~~(58) Section 1206.2.8.6.2 Cabinet signage. This section has been stricken from the code.~~
~~(59) Section 1206.2.8.7 Outdoor installations. This section has been modified and renumbered to 1206.8.~~
~~(60) Section 1206.2.8.7.1. Separation. This section and with the exception has been stricken from the code.~~
~~(61) Section 1206.2.8.7.2 Means of egress. This section has been modified and renumbered to Section 1206.5.8.~~
~~(62) Section 1206.2.8.7.3 Security of outdoor areas. This section has been stricken from the code.~~
~~(63) Section 1206.2.8.7.4 Walk-in units. This section has been stricken from the code.~~
~~(64) Section 1206.2.9 Maximum allowable quantities. This section has been modified and renumbered to Section 1206.5.2.~~
~~(65) Table 1206.2.9 Maximum allowable battery quantities. This table and the listed footnotes has been stricken from the code.~~
~~(66) Section 1206.2.9.1 Mixed battery systems. This section has been modified and renumbered to Section 1206.5.2.1.~~
~~(67) Section 1206.2.10 Storage batteries and equipment. This section has been stricken from the code.~~
~~(68) Section 1206.2.10.1 Listings. This section with the listed exception has been stricken from the code.~~
~~(69) Section 1206.2.10.2 Prepacked and preengineered systems. This section has been stricken from the code.~~
~~(70) Section 1206.2.10.3 Energy management system. This section has been modified and renumbered to Section 1206.3.4.~~
~~(71) Section 1206.2.10.4 Battery chargers. This section has been stricken from the code.~~
~~(72) Section 1206.2.10.5 Inverters. This section has been stricken from the code.~~
~~(73) Section 1206.2.10.6 Safety caps. This section has been modified and renumbered to Section 1206.6.4.~~
~~(74) Section 1206.2.10.7 Thermal runaway. This section has been modified and renumbered to Section 1206.6.5.~~
~~(75) Section 1206.2.10.8 Toxic and highly toxic gas. This section has been modified and renumbered to Section 1206.4.7.~~
~~(76) Section 1206.2.11 Fire extinguishing and detection systems. This section has been modified and renumbered to Section 1206.5.4.~~
~~(77) Section 1206.2.11.1 Fire extinguishing systems. This section including the exception, has been modified and renumbered to Section 1206.5.5.~~
~~(78) Section 1206.2.11.1.1 Alternative fire-extinguishing systems. This section has been modified and renumbered to Section 1206.5.5.1.~~
~~(79) Section 1206.2.11.2 Smoke detection system. This section has been stricken from the code.~~
~~(80) Section 1206.2.11.3 Ventilation. This section has been modified and renumbered to Section 1206.6.1.~~
~~(81) Section 1206.2.11.3.1 Cabinet ventilation. This section has been stricken from the code.~~
~~(82) Section 1206.2.11.3.2 Supervision. This section has been modified and renumbered to Section 1206.6.1.2.3.~~
~~(83) Section 1206.2.11.4 Gas detection system. This section has been modified and renumbered to Section 1206.6.1.2.4.~~
~~(84) Section 1206.2.11.4.1 System activation. This section including the exception, has been stricken from the code.~~
~~(85) Section 1206.2.11.5 Spill control and neutralization. This section has been modified and renumbered to Section 1206.6.2.~~
~~(86) Section 1206.2.12 Specific battery type requirements. This section has been stricken from the code.~~
~~(87) Section 1206.2.12.1 Lead-acid storage batteries. This section has been stricken from the code.~~
~~(88) Section 1206.2.12.2 Nickel-cadmium (Ni-Cd) storage batteries. This section has been stricken from the code.~~
~~(89) Section 1206.2.12.3 Lithium-ion storage batteries. This section has been stricken from the code.~~
~~(90) Section 1206.2.12.4 Sodium beta storage batteries. This section has been stricken from the code.~~
~~(91) Section 1206.2.12.5 Flow storage batteries. This section has been stricken from the code.~~
~~(92) Section 1206.2.12.6 Other battery technologies. This section has been stricken from the code.~~
~~(93) Section 1206.3 Equipment. The original section 1206.3 entitled "Capacitor energy storage systems" has been stricken and a new section entitled "Equipment" has been added. The new language requires equipment~~

~~for Energy Storage Systems (ESS) to be in accordance with Sections 1206.3.1 through 1206.3.9. This section has been modified to read: Equipment. ESS equipment shall be in accordance with Sections 1206.3.1 through 1206.3.9.~~

~~(94) Section 1206.3.1 Energy storage system listings. The original section 1203.6.1 entitled "Permits" has been modified and moved to section 1206.1.2 and a new section 1206.3.1 entitled "Energy storage system listings" has been added to require Energy Storage Systems (ESS) to be listed in accordance with UL 9540 with an exception for lead-acid and nickel cadmium battery systems installed in facilities under the exclusive control of communications utilities, and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76®. This section has been modified to read: 1206.3.1 Energy storage system listings. ESS shall be listed in accordance with UL 9540. Exception: Lead-acid and nickel cadmium battery systems installed in facilities under the exclusive control of communications utilities, and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76® are not required to be listed.~~

~~(95) Section 1206.3.2 Equipment listing. The original section 1206.3.2 entitled "Location and construction" has been stricken and a new section has been added to address equipment listing requirements for chargers, inverters, and energy storage management systems to be covered as part of the UL 9540 listing or be listed separately. This section has been added to read: 1206.3.2 Equipment listing. Chargers, inverters and energy storage management systems shall be covered as part of the UL 9540 listing or shall be listed separately.~~

~~(96) Section 1206.3.2.1 Location. This section has been stricken from the code.~~

~~(97) Section 1206.3.2.2 Separation. This section has been modified and renumbered to Section 1206.7.4.~~

~~(98) Section 1206.32.3 Capacitor arrays. This section with the exception has been stricken from the code.~~

~~(99) Section 1206.3.2.4 Signage. This section has been stricken from the code.~~

~~(100) Section 1206.3.2.5 Electrical disconnects. This section has been stricken from the code.~~

~~(101) Section 1206.3.2.6 Outdoor installation. This section with the exception has been modified and renumbered to Section 1206.8.~~

~~(102) Section 1206.3.2.6.1 Separation. This section with the exception has been modified and renumbered to Section 1206.8.3.~~

~~(103) Section 1206.3.2.6.3 Means of egress. This section with the exception has been stricken from the code.~~

~~(104) Section 1206.3.2.6.3 Security of outdoor areas. This section has been stricken from the code.~~

~~(105) Section 1206.3.2.6.4 Walk-in units. This section has been stricken from the code.~~

~~(106) Section 1206.3.3 Utility interactive systems. The original section 1206.3.3 entitled "Maximum allowable quantities" has been stricken and a new section entitled "Utility interactive systems" has been added to require inverters to be listed and labeled in accordance with UL 1741. The new section specifies only inverters listed and labeled for utility interactive system use and identified as interactive shall be allowed to operate in parallel with the electric utility power system to supply power to common loads. This section has been modified to read: 1206.3.3 Utility interactive systems. Inverters shall be listed and labeled in accordance with UL 1741. Only inverters listed and labeled for utility interactive system use and identified as interactive shall be allowed to operate in parallel with the electric utility power system to supply power to common loads.~~

~~(107) Section 1206.3.4 Energy storage management system. The original section 1206.3.4 entitled "Capacitors and equipment" has been stricken and the previous section 1206.2.10.3 entitled "Energy management system" has been modified and moved to this section. The changes to the section include adding the word "storage" in the heading and specifying when required by the Energy Storage System (ESS) listing, an approved energy storage management system shall be provided that monitors and balances cell voltages, currents and temperatures within the manufacturer's specifications. The section requires the system to disconnect electrical connections to the ESS or otherwise place it in a safe condition if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected. This section has been modified to read: 1206.3.4 Energy storage management system. Where required by the ESS listing, an approved energy storage management system shall be provided that monitors and balances cell voltages, currents and temperatures within the manufacturer's specifications. The system shall disconnect electrical connections to the ESS or otherwise place it in a safe condition, if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected.~~

~~(108) Section 1206.3.4.1 Listing. This section has been stricken from the code.~~

~~(109) Section 1206.3.4.2 Prepackaged and preengineered systems. This section has been stricken from the code.~~

~~(110) Section 1206.3.4.3 Energy management system. This section has been stricken from the code.~~
~~(111) Section 1206.3.4.4 Capacitor chargers. This section has been stricken from the code.~~
~~(112) Section 1206.3.4.5 Toxic and highly toxic gas. This section has been stricken from the code.~~
~~(113) Section 1206.3.5 Fire extinguishing and detection systems. This section has been stricken from the code.~~
~~(114) Section 1206.3.5.1 Fire extinguishing systems. This section has been stricken from the code.~~
~~(115) Section 1206.3.5.1.1. Alternative fire extinguishing systems. This section has been stricken from the code.~~
~~(116) Section 1206.3.5.2 Smoke detection system. This section has been stricken from the code.~~
~~(117) Section 1206.3.5.3 Ventilation. This section has been stricken from the code.~~
~~(118) Section 1206.3.5.3.1 Supervision. This section has been stricken from the code.~~
~~(119) Section 1206.3.5.4 Spill control and neutralization. This section has been stricken from the code.~~
~~(120) Section 1206.3.6 Repairs. The original section 1206.3.6 entitled "Testing, maintenance, and repairs" has been stricken and a new section entitled "Repairs" has been added in its place. The new language requires repairs to Energy Storage Systems (ESS) to be done by qualified personnel. The section requires repairs with other than identical parts to be considered retrofitting and comply with Section 1206.3.7 and be documented in the service records log. This section has been modified to read: 1206.3.6 Repairs. Repairs of ESS shall only be done by qualified personnel. Repairs with other than identical parts shall be considered retrofitting and comply with Section 1206.3.7. Repairs shall be documented in the service records log.~~
~~(121) Section 1206.3.7 Retrofits. This section has been added to address retrofitting of existing Energy Storage Systems (ESS) and requires compliance with specific criteria. This section has been added to read: 1206.3.7 Retrofits. Retrofitting of an existing ESS shall comply with the following:~~

~~(A) A construction permit shall be obtained in accordance with Section 105.7.2.~~

~~(B) New batteries, battery modules, capacitors and similar ESS components shall be listed.~~

~~(C) Battery management and other monitoring systems shall be connected and installed in accordance with the manufacturer's instructions.~~

~~(D) The overall installation shall continue to comply with UL 9540 listing requirements, where applicable.~~

~~(E) Systems that have been retrofitted shall be commissioned in accordance with Section 1206.2.1.~~

~~(F) Retrofits shall be documented in the service records log.~~

~~(122) Section 1206.3.7.1 Retrofitting lead acid and nickel cadmium. This section has been added to specify Section 1206.3.7 will not apply to retrofitting of lead acid and nickel cadmium batteries with other lead acid and nickel cadmium batteries at facilities under the exclusive control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC. This section has been added to read: 1206.3.7.1 Retrofitting lead acid and nickel cadmium batteries. Section 1206.3.7 shall not apply to retrofitting of lead acid and nickel cadmium batteries with other lead acid and nickel cadmium batteries at facilities under the exclusive control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC.~~
~~(123) Section 1206.3.8 Replacements. This section has been added to specify replacement of Energy Storage Systems (ESS) shall be considered new ESS installations and shall comply with the provisions of Section 1206 as applicable to new ESS. The section requires the ESS being replaced to be decommissioned in accordance with Section 1206.2.3. This section has been added to read: 1206.3.8 Replacements. Replacements of ESS shall be considered new ESS installations and shall comply with the provisions of Section 1206 as applicable to new ESS. The ESS being replaced shall be decommissioned in accordance with Section 1206.2.3.~~
~~(124) Section 1206.3.9 Reused and repurposed equipment. This section has been added to specify equipment and materials can only be reused or reinstalled as permitted in Section 104.7.1. The section prohibits the use of storage batteries previously used in other applications such as electric vehicle propulsion from being reused in applications regulated by Chapter 12, unless approved by the fire code official and the equipment is refurbished by a battery refurbishing company approved in accordance with UL 1974. This section has been added to read: 1206.3.9 Reused and repurposed equipment. Equipment and materials shall only be reused or reinstalled as permitted in Section 104.7.1. Storage batteries previously used in other applications, such as electric vehicle propulsion, shall not be reused in applications regulated by Chapter 12 unless (1) approved by the fire code official and (2) the equipment is refurbished by a battery refurbishing company approved in accordance with UL 1974.~~

~~(125) Section 1206.4 General installation requirements. This section has been added to require stationary and mobile Energy Storage Systems (ESS) to comply with the requirements of Sections 1206.4.1 through 1206.4.12. This section has been added to read: 1206.4 General installation requirements. Stationary and mobile ESS shall comply with the requirements of Sections 1206.4.1 through 1206.4.12.~~

~~(126) Section 1206.4.1 Electrical disconnects. This section has been added to contain the previously numbered Section 1206.2.8.6.1 entitled "Electrical disconnects." The section has been modified to require when the Energy Storage System (ESS) disconnecting means is not within sight of the main electrical service disconnecting means, placards or directories shall be installed at the location of the main electrical service disconnecting means indicating the location of the stationary storage battery system disconnecting means in accordance with NFPA 70®. An exception is provided for disconnects of lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC to be permitted to have electrical disconnect signage in accordance with NFPA 76®. This section has been added to read: 1206.4.1 Electrical disconnects. Where the ESS disconnecting means is not within sight of the main electrical service disconnecting means, placards or directories shall be installed at the location of the main electrical service disconnecting means indicating the location of the stationary storage battery system disconnecting means in accordance with NFPA 70®. Exception: Electrical disconnects for lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC shall be permitted to have electrical disconnect signage in accordance with NFPA 76®.~~

~~(127) Section 1206.4.2 Working clearances. This section has been added to require access and working space to be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with NFPA 70® and the manufacturer's instructions. This section has been added to read: 1206.4.2 Working clearances. Access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with NFPA 70® and the manufacturer's instructions.~~

~~(128) Section 1206.4.3 Fire-resistance rated separations. This section has been added to contain the previously numbered Section 1206.2.8, entitled "Separation." The section has been modified to expand the section header and require rooms or other indoor areas containing Energy Storage Systems (ESS) to be separated from other areas of the building in accordance with Section 1206.7.4 and permit the ESS to be in the same room as the equipment they support. This section has been added to read: 1206.4.3 Fire-resistance rated separations. Rooms and other indoors containing ESS shall be separated from other rooms or areas of the building in accordance with Section 1206.7.4. ESS shall be permitted to be in the same room with the equipment they support.~~

~~(129) Section 1206.4.4 Seismic and structural design. This section has been added to contain the previously numbered Section 1206.2.4 entitled "Seismic and structural design." The section has been modified to require Energy Storage Systems (ESS) to comply with the seismic design requirements of Chapter 16 of the International Building Code® and not exceed the floor-loading limitation of the building. This section has been added to read: 1206.4.4 Seismic and structural design. ESS shall comply with the seismic design requirements of Chapter 16 of the International Building Code® and not exceed the floor-loading limitation of the building.~~

~~(130) Section 1206.4.5 Vehicle impact protection. This section has been added to contain the previously numbered Section 1206.2.5 entitled "Vehicle impact protection." The section has been modified to require Energy Storage Systems (ESS) subject to impact by a motor vehicle, including fork lifts, to provide vehicle impact protection in accordance with Section 312. This section has been added to read: 1206.4.5 Vehicle impact protection. Where ESS are subject to impact by a motor vehicle, including fork lifts, vehicle impact protection shall be provided in accordance with Section 312.~~

~~(131) Section 1206.4.6 Combustible storage. This section has been added to contain the previously numbered Section 1206.2.6 entitled "Combustible storage." This section has been modified to prohibit combustible material from being stored in ESS rooms, areas and walk-in units. The section further specifies combustible materials in occupied work centers covered by Section 1206.4.10 shall be stored at least 3 feet (915 mm) from ESS cabinets. This section has been added to read: 1206.4.6 Combustible storage. Combustible materials shall not be stored in ESS rooms, areas, or walk-in units. Combustible materials in occupied work centers covered by Section 1206.4.10 shall be stored at least 3 feet (915 mm) from ESS cabinets.~~

(132) Section 1206.4.7 Toxic and highly toxic gases. This section has been added to contain the previously numbered Section 1206.2.10.8 entitled "Toxic and highly toxic gas." This section has been modified to require Energy Storage Systems (ESS) having the potential to release toxic and highly toxic gases during charging, discharging and normal use conditions to be provided with a hazardous exhaust system in accordance with Section 502.8 of the International Mechanical Code®. This section has been added to read: 1206.4.7 Toxic and highly toxic gases. ESS that have the potential to release toxic and highly toxic gases during charging, discharging, and normal use conditions shall be provided with a hazardous exhaust system in accordance with Section 502.8 of the International Mechanical Code®.

(133) Section 1206.4.8 Signage. This section has been added to contain the previously numbered Section 1206.2.8.6 entitled "Signage." This section has been modified to require approved signs to be provide on or adjacent to all entry doors for Energy Storage System (ESS) rooms, areas and on all enclosures of ESS cabinets and walk-in units located outdoors, on rooftops or in open parking garages. The section requires the signs designed to meet both the requirements of this section and NFPA 70®, specifies the signage shall include specific verbiage or equivalent, and provides an exception for electrochemical ESS to be permitted to include the signage required at the time they were installed. This section has been added to read: 1206.4.8 Signage. Approved signs shall be provide on or adjacent to all entry doors for ESS rooms or areas and on all enclosures of ESS cabinets and walk-in units located outdoors, on rooftops or in open parking garages. Signs designed to meet both the requirements of this section and NFPA 70 shall be permitted. The signage shall include the following or equivalent:

(A) "Energy Storage System", "Battery Storage System", "Capacitor Energy Storage System", or the equivalent.

(B) The room contains energized electrical circuits. The identification of the electrochemical ESS technology present.

(C) "Energized electrical circuits".

(D) If water reactive electrochemical ESS are present the sign shall include "APPLY NO WATER".

(E) Current contact information, including phone number, for personnel authorized to service the equipment and for fire mitigation personnel required by Section 1206.1.6.1.

(134) Exception: Existing electrochemical ESS shall be permitted to include the signage required at the time they were installed.

(135) Section 1206.4.9 Security of installations. This section has been added to require rooms, areas, or walk-in units in which electrochemical Energy Storage Systems (ESS) are located to be secured against unauthorized entry and safeguarded in an approved manner. The section prohibits security barriers, fences, landscaping, and other enclosures from inhibiting the required air flow to or exhaust from the electrochemical ESS and its components. This section has been added to read:1206.4.9 Security of installations. Rooms, areas, or walk-in units in which electrochemical ESS are located shall be secured against unauthorized entry and safeguarded in an approved manner. Security barriers, fences, landscaping, and other enclosures shall not inhibit the required air flow to or exhaust from the electrochemical ESS and its components.

(136) Section 1206.4.10 Occupied work centers. This section has been added to contain the previously numbered Section 1206.2.8.5 entitled "Occupied work centers." This section has been modified to require electrochemical Energy Storage Systems (ESS) located in rooms or areas occupied by personnel not directly involved with maintenance, service and testing of the system to be housed in locked noncombustible cabinets or other enclosures to prevent unauthorized access, require electrochemical ESS contained in cabinets in the occupied work centers to be located within 10 feet of the equipment they support, and requires the cabinets to include signage complying with Section 1206.4.8. This section has been added to read: 1206.4.10 Occupied work centers. Electrochemical ESS located in rooms or areas occupied by personnel not directly involved in the maintenance, service and testing of the system shall comply with the following:

(A) Electrochemical ESS located in occupied work centers shall be housed in locked noncombustible cabinets or other enclosures to prevent access by unauthorized personnel.

(B) Where electrochemical ESS are contained in cabinets in occupied work centers, the cabinets shall be located within 10 feet (30548 mm) of the equipment they support.

(C) Cabinets shall include signage complying with Section 1206.4.8.

(137) Section 1206.4.11 Open rack installation. This section has been added to clarify where electrochemical Energy Storage Systems (ESS) are installed in a separate equipment room and only authorized personnel have

~~access to the room, they shall be permitted to be installed on an open rack for ease of maintenance. This section has been added to read: 1206.4.11 Open rack installation. Where electrochemical ESS are installed in a separate equipment room and only authorized personnel have access to the room, they shall be permitted to be installed on an open rack for ease of maintenance.~~

~~(138) Section 1206.4.12 Walk-in units. This section has been added to specify walk-in units shall only be entered for inspection, maintenance and repair of Energy Storage System (ESS) units and ancillary equipment and shall not be occupied for other purposes. This section has been added to read: 1206.4.12 Walk-in units. Walk-in units shall only be entered for inspection, maintenance and repair of ESS units and ancillary equipment and shall not be occupied for other purposes.~~

~~(139) Section 1206.4.13 Egress. This section has been added to clarify personnel door(s) intended for entrance and egress from rooms designated as Energy Storage System (ESS) rooms shall open in the direction of egress and shall be equipped with listed panic hardware or listed fire exit hardware. This section has been added to read: 1206.4.13 Egress. A personnel door(s) intended for entrance to and egress from rooms designated as ESS shall open in the direction of egress and shall be equipped with listed panic hardware or listed fire exit hardware.~~

~~(140) Section 1206.5 Electrochemical ESS protection. This section has been added to specify protection of electrochemical Energy Storage Systems (ESS) shall be in accordance with Sections 1206.5.1 through 1206.5.8 where required by Section 1206.7 through 1206.10. This section has been added to read: 1206.5 Electrochemical ESS Protection. The protection of electrochemical ESS shall be in accordance with Sections 1206.5.1 through 1206.5.8 where required by Section 1206.7 through 1206.10.~~

~~(141) Section 1206.5.1 Size and separation. This section has been added to specify electrochemical Energy Storage Systems (ESS) shall be segregated into groups not exceeding 50 kWh (180 Megajoules). The section requires each group to be separated a minimum of 3 feet (914 mm) from other groups and from walls in the storage room area and requires the storage arrangements to comply with Chapter 10. Two exceptions are provided; one for lead acid and nickel cadmium battery systems under the exclusive control of communication facilities and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76®, and the other for the fire code official to approve larger capacities or smaller separation distances based on large scale testing complying with Section 1206.1.5. The section has been added to read: 1206.5.1 Size and separation. Electrochemical ESS shall be segregated into groups not exceeding 50 kWh (180 Megajoules). Each group shall be separated a minimum 3 feet (914 mm) from other groups and from walls in the storage area or room. The storage arrangements shall comply with Chapter 10. Exceptions:~~

~~(A) Lead acid and nickel cadmium battery systems in facilities under the exclusive control of communications facilities and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76®.~~

~~(B) The fire code official is authorized to approve larger capacities or smaller separation distances based on large scale fire testing complying with Section 1206.1.5.~~

~~(142) Table 1206.5 Maximum Allowable Quantities of Electrochemical ESS. This table has been added to specify the maximum allowable quantities for different types of technologies and the amount of kilo watts per hour (kWh). The table has been added to read: Table 1206.5 Maximum Allowable Quantities of Electrochemical ESS. The table contains 12 rows with 2 columns each and two footnotes and is described below:~~

~~(A) Row 1 is the header row and has header information in each of the two columns described below:~~

~~(i) Row 1, column 1 header is entitled "TECHNOLOGY".~~

~~(ii) Row 1, column 2 header is entitled "MAXIMUM ALLOWABLE QUANTITIES" with a superscript "a" to indicate footnote "a" applies.~~

~~(B) Row 2 contains the following information in each of the columns describe in the header row:~~

~~(i) Row 2, column 1 lists the technology type subgroup of "STORAGE BATTERIES".~~

~~(ii) Row 2, column 2 is blank.~~

~~(C) Row 3 contains the following information in each of the columns described in the header row:~~

~~(i) Row 3, column 1 lists the technology type of "Lead acid, all types".~~

~~(ii) Row 3, column 2 lists the maximum allowable quantity of "Unlimited".~~

~~(D) Row 4 contains the following information in each of the columns described in the header row:~~

~~(i) Row 4, column 1 lists the technology type of "Nickel cadmium (Ni-Cd)".~~

~~(ii) Row 4, column 2 lists the maximum allowable quantity of "Unlimited."~~

(E) Row 5 contains the following information in each of the columns described in the header row:

(i) Row 4, column 1 lists the technology type of "Nickel metal hydride (Ni-MH)."

(ii) Row 4, column 2 lists the maximum allowable quantity of "Unlimited."

(F) Row 6 contains the following information in each of the columns described in the header row:

(i) Row 6, column 1 lists the technology type of "Lithium-ion."

(ii) Row 6, column 2 lists the maximum allowable quantity of "600 kWh."

(G) Row 7 contains the following information in each of the columns described in the header row:

(i) Row 7, column 1 lists the technology type of "Flow batteries" with a superscript "b" to indicate footnote "b" applies.

(ii) Row 7, column 2 lists the maximum allowable quantity of "600 kWh."

(H) Row 8 contains the following information in each of the columns described in the header row:

(i) Row 8, column 1 lists the technology type of "Other battery technologies."

(ii) Row 8, column 2 lists the maximum allowable quantity of "200 kWh."

(I) Row 9 contains the following information in each of the columns describe in the header row:

(i) Row 9, column 1 lists the technology type subgroup of "CAPACITORS".

(ii) Row 9, column 2 is blank.

(J) Row 10 contains the following information in each of the columns described in the header row:

(i) Row 10, column 1 lists the technology type of "All types."

(ii) Row 10, column 2 lists the maximum allowable quantity of "20 kWh."

(K) Row 11 contains the following information in each of the columns described in the header row:

(i) Row 11, column 1 lists the technology type subgroup of "OTHER ELECTROCHEMICAL ESS."

(ii) Row 11, column 2 is blank.

(L) Row 12 contains the following information in each of the columns described in the header row:

(i) Row 12, column 1 lists the technology type of "All types."

(ii) Row 12, column 2 lists the maximum allowable quantity of "20 kWh."

(M) Footnote "a" states: "For electrochemical ESS units rated in Amp-Hours, kWh shall equal rated voltage times the Amp-hour rating divided by 1000."

(N) Footnote "b" states: "Shall include vanadium, zinc-bromide, polysulfide-bromide, and other flowing electrolyte type technologies."

(143) Section 1206.5.2 Maximum allowable quantities. This section has been added to contain the previously numbered Section 1206.2.9 entitled "Maximum allowable quantities." This section has been modified to clarify fire areas within rooms, areas and walk-in units containing electrochemical Energy Storage Systems (ESS) shall not exceed the maximum allowable quantities in Table 1206.4. Three exceptions are provided to allow the fire code official to approve electrochemical ESS amounts that exceed the amounts listed in Table 1206.5 under specific criteria; for lead-acid and nickel cadmium battery systems under the exclusive control of communications utilities; and for dedicated use buildings in compliance with Section 1206.7.1. This section has been added to read: 1206.5.2 Maximum allowable quantities. Fire areas within rooms, areas and walk-in units containing electrochemical ESS shall not exceed the maximum allowable quantities in Table 1206.5. Exceptions:

(A) Where approved by the fire code official, rooms, areas and walk-in units containing electrochemical ESS that exceed the amounts in Table 1206.5 shall be permitted based on a hazardous mitigation analysis in accordance with Section 1206.1.4 and large scale fire testing complying with Section 1206.1.5.

(B) Lead-acid and nickel cadmium battery systems installed in facilities under the exclusive control of communications utilities, operating at less than 50 VAC and 60 VDC in accordance with NFPA 76®.

(C) Dedicated use buildings in compliance with Section 1206.7.1.

(144) Section 1206.5.2.1. Mixed electrochemical energy systems. This section has been added to contain the previously numbered Section 1206.2.9.1 entitled "Mix battery systems." The section has been modified to change the section header and require in rooms, areas, and walk-in units that contain different types of electrochemical energy technologies, the total aggregate quantities of the systems to be determined based on the sum of percentages of each technology type quantity divided by the maximum allowable quantity of each technology type. The section specifies the sum of the percentages shall not exceed 100 percent of the maximum allowable quantity. This section has been added to read: 1206.5.2.1 Mixed electrochemical energy systems. Where rooms, areas and walk-in units contain different types of electrochemical energy

technologies, the total aggregate quantities of the systems shall be determined based on the sum of percentages of each technology type quantity divided by the maximum allowable quantity of each technology type. The sum of the percentages shall not exceed 100 percent of the maximum allowable quantity.

(145) Section 1206.5.3 Elevation. This section has been added to specify where electrochemical Energy Storage Systems (ESS) may not be located. Three exceptions are provided for lead acid and nickel cadmium battery systems under the exclusive control of communications utilities; where approved installations shall be permitted in underground vaults complying with NFPA 70; and installations permitted on higher or lower floors, when approved by the fire code official. This section has been added to read: 1206.5.3 Electrochemical ESS shall not be located in the following areas:

(A) Where the floor is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, or

(B) Where the floor is located below the lowest level of exit discharge.

(C)Exceptions:

(i) Lead acid and Nickel cadmium battery systems less than 50 VAC and 60 VDC installed in facilities under the exclusive control of communications utilities in accordance with NFPA 76.

(ii) Where approved, installations shall be permitted in underground vaults complying with NFPA 70, Article 450, Part III.

(iii) Where approved by the fire code official, installations shall be permitted on higher and lower floors.

(146) Section 1206.5.4 Fire detection. This section has been added to contain the previously numbered Section 1206.2.11" entitled "Fire extinguishing and detection systems." The section has been modified to change the section heading name to "Fire detection," and require an approved automatic smoke detection system or radiant energy–sensing fire detection system complying with Section 907.2 to be installed in rooms, indoor areas, and walk-in units containing electrochemical ESS. The section requires an approved radiant energy–sensing fire detection system to be installed to protect open parking garage and rooftop installations, and requires alarm signals from detection systems to be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72®, or where approved to a constantly attended location This section has been added to read: 1206.5.4 Fire detection. An approved automatic smoke detection system or radiant energy–sensing fire detection system complying with Section 907.2 shall be installed in rooms, indoor areas, and walk-in units containing electrochemical ESS. An approved radiant energy–sensing fire detection system shall be installed to protect open parking garage and rooftop installations. Alarm signals from detection systems shall be transmitted to a central station, proprietary or remote station service in accordance with NFPA 72, or where approved to a constantly attended location.

(147) Section 1206.5.4.1 System status. This section has been added to specify where required by the fire code official, visible annunciation shall be provided on cabinet exteriors or in other approved locations to indicate that potentially hazardous conditions associated with Energy Storage Systems (ESS) exists. This section has been added to read: 1206.5.4.1 System status. Where required by the fire code official, visible annunciation shall be provided on cabinet exteriors or in other approved locations to indicate that potentially hazardous conditions associated with the ESS exist.

(148) Section 1206.5.5 Fire suppression systems. This section has been added to contain the previously numbered Section 1206.2.11.1 entitled "Fire extinguishing systems." The section has been modified to require rooms and areas within buildings and walk-in units containing electrochemical Energy Storage Systems (ESS) to be protected by an automatic fire suppression system designed and installed in accordance with specific criteria and provides an exception for fire suppression systems for lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VCD. This section has been added to read: 1206.5.5 Fire suppression systems. Rooms and areas within buildings and walk-in units containing electrochemical ESS shall be protected by an automatic fire suppression system designed and installed in accordance with one of the following:

(A) An automatic sprinkler systems designed and installed in accordance with Section 903.3.1.1 with a minimum density of 0.3 gpm divided by square foot based on the fire area or 2,500 square foot design area, whichever is smaller.

(B) Where approved, an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a sprinkler hazard classification based on large scale fire testing complying with Section 1206.1.5.

(C)The following alternate automatic fire extinguishing systems designed and installed in accordance with Section 904, provided the installation is approved by the fire code official based on large scale fire testing complying with Section 1206.1.5

(i) NFPA 12®, Standard on Carbon Dioxide Extinguishing Systems

(ii) NFPA 15®, Standard for Water Spray Fixed Systems for Fire Protection

(iii) NFPA 750®, Standard on Water Mist Fire Protection Systems

(iv) NFPA 2001®, Standard on Clean Agent Fire Extinguishing Systems

(v) NFPA 2010®, Standard for Fixed Aerosol Fire-Extinguishing Systems

(D) Exception: Fire suppression systems for lead acid and nickel cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VDC shall be provided where required by NFPA 76®.

(149) Section 1206.5.5.1 Water reactive systems. This section has been added to contain the previously numbered Section 1206.2.11.1.1 entitled "Alternative fire-extinguishing systems." The section has been modified to require electrochemical Energy Storage Systems (ESS) that utilize water reactive materials to be protected by an approved alternative automatic fire-extinguishing system in accordance with Section 904, where the installation is approved by the fire code official based on large scale fire testing complying with Section 1206.1.5. This section has been added to read: 1206.5.5.1 Water reactive systems. Electrochemical ESS that utilize water reactive materials shall be protected by an approved alternative automatic fire-extinguishing system in accordance with Section 904, where the installation is approved by the fire code official based on large scale fire testing complying with Section 1206.1.5.

(150) Section 1206.5.6 Maximum enclosure size. This section has been added to clarify the size limitations on outdoor walk-in units housing Energy Storage Systems (ESS) not exceed 53 feet by 8 feet by 9.5 feet high, not including bolt-on HVAC and related equipment, as approved. The section requires outdoor walk-in units exceeding the size limitations to be considered indoor installations and comply with the requirements of Section 1206.7. This section has been added to read: 1206.5.6 Maximum enclosure size. Outdoor walk-in units housing ESS shall not exceed 53 feet by 8 feet by 9.5 feet high, not including bolt-on HVAC and related equipment, as approved. Outdoor walk-in units exceeding these limitations shall be considered indoor installations and comply with the requirements in Section 1206.7.

(151) Section 1206.5.7 Vegetation control. This section has been added to clarify areas within 10 feet (3 m) on each side of outdoor Energy Storage Systems (ESS) be cleared of combustible vegetation and other combustible growth. The section specifies single specimens of trees, shrubbery, or cultivated ground cover such as green grass, ivy, succulents, or similar plants used as ground cover shall be permitted to be exempt provided that they do not form a means of readily transmitting fire. This section has been added to read: 1206.5.7 Vegetation control.-Areas within 10 feet (3 m) on each side of outdoor ESS shall be cleared of combustible vegetation and other combustible growth. Single specimens of trees, shrubbery, or cultivated ground cover such as green grass, ivy, succulents, or similar plants used as ground covers shall be permitted to be exempt provided that they do not form a means of readily transmitting fire.

(152) Section 1206.5.8 Means of egress separation. This section has been added to contain the previously numbered Section 1206.2.8.7.2 entitled "Means of egress." The section has been modified to require Energy Storage Systems (ESS) located outdoors and in open parking garages to be separated from any means of egress as required by the fire code official to ensure safe egress under fire conditions, but not less than 10 feet (3058 mm). The section provides an exception for the fire code official to authorize a reduced separation distance if large-scale fire testing complying with Section 1206.1.5 is provided that shows that a fire involving the ESS will not adversely impact occupant egress. This section has been added to read: 1206.5.8 Means of egress separation. ESS located outdoors and in open parking garages shall be separated from any means of egress as required by the fire code official to ensure safe egress under fire conditions, but in no case less than 10 feet (3048 mm). Exception: The fire code official is authorized to approve a reduced separation distance if large-scale fire testing complying with Section 1206.1.5 is provided that shows that a fire involving the ESS will not adversely impact occupant egress.

~~(153) Section 1206.6 Electrochemical ESS technology specific protection. This section has been added to require electrochemical Energy Storage Systems (ESS) to comply with the requirements of this section in accordance with the applicable requirements of Table 1206.6. This section has been added to read: 1206.6 Electrochemical ESS technology specific protection. Electrochemical ESS installations shall comply with the requirements of this section in accordance with the applicable requirements of Table 1206.6.~~

~~(154) Table 1206.6 Electrochemical ESS Technology Specific Requirements. This table has been added to provide guidance for different battery types and which sections of this code they are required to comply with. The table has been added to read: 1206.6 Electrochemical ESS Technology Specific Requirements. The table contains 6 rows and 7 columns and has five footnotes. The table and footnotes are described below:~~

~~(A) Row 1 is the header row and lists the seven column headings as described below:~~

~~(i) Row 1, column 1 lists the header "Compliance Required" with a superscript "b" to indicate footnote "b" applies.~~

~~(ii) Row 1, column 2 lists the header "Battery Technology Lead-Acid."~~

~~(iii) Row 1, column 3 lists the header "Battery Technology Ni-Cad and Ni-MH."~~

~~(iv) Row 1, column 4 lists the header "Battery Technology Litium-ion."~~

~~(v) Row 1, column 5 lists the header "Battery Technology Flow."~~

~~(vi) Row 1, column 6 lists the header "Other ESS and Battery Technologies" with a superscript "b" to indicate footnote "b" applies.~~

~~(vii) Row 1, column 7 lists the header "Capacitor ESS" with a superscript "b" to indicate footnote "b" applies.~~

~~(B) Row 2 lists the following for the seven columns:~~

~~(i) Row 2, column 1 lists "1206.6.1 Exhaust ventilation."~~

~~(ii) Row 2, column 2 lists "Yes."~~

~~(iii) Row 2, column 3 lists "Yes."~~

~~(iv) Row 2, column 4 lists "No."~~

~~(v) Row 2, column 5 lists "Yes."~~

~~(vi) Row 2, column 6 lists "Yes."~~

~~(vii) Row 2, column 7 "Yes."~~

~~(C) Row 3 lists the following for the seven columns:~~

~~(i) Row 3, column 1 lists "1206.6.2 Spill control and neutralization."~~

~~(ii) Row 3, column 2 lists "Yes" with a superscript "c" to indicate footnote "c" applies.~~

~~(iii) Row 3, column 3 lists "Yes" with a superscript "c" to indicate footnote "c" applies.~~

~~(iv) Row 3, column 4 lists "No."~~

~~(v) Row 3, column 5 lists "Yes."~~

~~(vi) Row 3, column 6 lists "Yes."~~

~~(vii) Row 3, column 7 "Yes."~~

~~(D) Row 4 lists the following for the seven columns:~~

~~(i) Row 4, column 1 lists "1206.6.3 Explosion control."~~

~~(ii) Row 4, column 2 lists "Yes" with a superscript "a" to indicate footnote "a" applies.~~

~~(iii) Row 4, column 3 lists "Yes" with a superscript "a" to indicate footnote "a" applies.~~

~~(iv) Row 4, column 4 lists "Yes."~~

~~(v) Row 4, column 5 lists "No."~~

~~(vi) Row 4, column 6 lists "Yes."~~

~~(vii) Row 4, column 7 "Yes."~~

~~(E) Row 5 lists the following for the seven columns:~~

~~(i) Row 5, column 1 lists "1206.6.4 Safety caps."~~

~~(ii) Row 5, column 2 lists "Yes."~~

~~(iii) Row 5, column 3 lists "Yes."~~

~~(iv) Row 5, column 4 lists "No."~~

~~(v) Row 5, column 5 lists "No."~~

~~(vi) Row 5, column 6 lists "Yes."~~

~~(vii) Row 5, column 7 "Yes."~~

~~(F) Row 6 lists the following for the seven columns:~~

(i) Row 6, column 1 lists "1206.6.5 Thermal runaway."
(ii) Row 6, column 2 lists "Yes" with a superscript "d" to indicate footnote "d" applies.
(iii) Row 6, column 3 lists "Yes."
(iv) Row 6, column 4 lists "Yes" with a superscript "e" to indicate footnote "e" applies.
(v) Row 6, column 5 lists "No."
(vi) Row 6, column 6 lists "Yes" with a superscript "e" to indicate footnote "e" applies.
(vii) Row 6, column 7 "Yes."

(G) Footnote "a" states: "Not required for lead-acid and nickel cadmium batteries atfacilities under the exclusive control of communications utilities that comply with NFPA 76® and operate at less than 50 VAC and 60 VDC."

(H) Footnote "b" states: "Protection shall be provided unless documentation acceptable to the fire code official is provided in accordance with Section 104.7.2 that provides justification why the protection is not necessary based on the technology used."

(I) Footnote "c" states: "Applicable to vented (i.e. flooded) type nickel cadmium and lead acid batteries."

(J) Footnote "d" states: "Not required for vented (i.e. flooded) type lead acid batteries."

(K) Footnote "e" states: "The thermal runaway protection is permitted to be part of a battery management system that has been evaluated with the battery as part of the evaluation to UL 1973."

(155) Section 1206.6.1 Exhaust ventilation. This section has been modified to change the section number from "1206.2.11.5" to "1206.6.1," change the section heading from "Ventilation" to "Exhaust ventilation" and clarify where required by Table 1206.6 or elsewhere in this code, exhaust ventilation of rooms, areas, and walk-in units containing electrochemical Energy Storage Systems (ESS) shall be provided in accordance with the International Mechanical Code® and Section 1206.6.1.1 or 1206.1.2. This section has been added to read: 1206.6.1 Exhaust ventilation. Where required by Table 1206.6 or elsewhere in this code, exhaust ventilation of rooms, areas, and walk-in units containing electrochemical ESS shall be provided in accordance with the International Mechanical Code® and Section 1206.6.1.1 or 1206.6.1.2.

(156) Section 1206.6.1.1 Ventilation based on LFL. This section has been added to clarify the exhaust ventilation system shall be designed to limit the maximum concentration of flammable gas to 25 percent of the lower flammable limit (LFL) of the total volume of the room, area, or walk-in unit during the worst-case event of simultaneous charging of batteries at the maximum charge rate, in accordance with nationally recognized standards. This section has been added to read: 1206.6.1.1 Ventilation based on LFL. The exhaust ventilation system shall be designed to limit the maximum concentration of flammable gas to 25 percent of the lower flammable limit (LFL) of the total volume of the room, area, or walk-in unit during the worst-case event of simultaneous charging of batteries at the maximum charge rate, in accordance with nationally recognized standards.

(157) Section 1206.6.1.2 Ventilation based upon exhaust rate. This section has been added to clarify mechanical exhaust ventilation shall be provided at a rate of not less than 1 cubic foot divided by min divided by square feet (5.1 L divided by sec divided by square meter) of floor area of the room, area or walk-in unit. The section requires the ventilation to be either continuous or be activated by a gas detection system in accordance with Section 1206.1.2.4. This section has been added to read: 1206.6.1.2 Ventilation based upon exhaust rate. Mechanical exhaust ventilation shall be provided at a rate of not less than 1 cubic foot divided by min divided by square feet (5.1 L divided by sec divided by square meter) of floor area of the room, area or walk-in unit. The ventilation shall be either continuous or shall be activated by a gas detection system in accordance with Section 1206.1.2.4.

(158) Section 1206.6.1.2.1 Standby power. This section has been added to require mechanical exhaust ventilation to be provided with a minimum of two hours of standby power in accordance with Section 1203.2.5. This section has been added to read: 1206.1.2.1 Standby power. Mechanical exhaust ventilation shall be provided with a minimum of two hours of standby power in accordance with Section 1203.2.5.

(159) Section 1206.6.1.2.2 Installation instructions. This section has been added to require mechanical exhaust ventilation systems to be installed in accordance with the manufacturer's installation instructions and the International Mechanical Code®. This section has been added to read: 1206.6.1.2.2 Installation instructions. Mechanical exhaust ventilation systems shall be installed in accordance with the manufacturer's installation instructions and the International Mechanical Code®.

(160) Section 1206.6.1.2.3 Supervision. This section has been added to contain the previously numbered Section 1206.2.11.3.2 entitled "Supervision." The section has been modified to clarify required mechanical exhaust ventilation systems to be supervised by an approved central location, proprietary or remote station service in accordance with NFPA 72®, or shall initiate an audible and visual signal at an approved constantly attended on-site location. This section has been added to read: 1206.6.2.3 Supervision. Required mechanical exhaust ventilation systems shall be supervised by an approved central station, proprietary or remote station service in accordance with NFPA 72®, or shall initiate an audible and visual signal at an approved constantly attended on-site location.

(161) Section 1206.6.1.2.4 Gas detection system. This section was added to contain the previously numbered Section 1206.2.11.4 entitled "Gas detection system." The section has been modified to clarify when required by Section 1206.6.1.2, rooms, areas and walk-in units containing Energy Storage Systems (ESS) shall be protected by an approved continuous gas detection system that complies with Section 916 and four additional criteria. This section has been added to read: 1206.6.1.2.4 Gas detection system. Where required by Section 1206.6.1.2, rooms, areas and walk-in units containing ESS shall be protected by an approved continuous gas detection system that complies with Section 916 and with the following:

(A) The gas detection system shall be designed to activate the mechanical ventilation system when the level of flammable gas in the room, area or walk-in unit exceeds 25 percent of the LFL.

(B) The mechanical ventilation system shall remain on until the flammable gas detected is less than 25 percent of the LFL.

(C) The gas detection system shall be provided with a minimum of 2 hours of standby power in accordance with Section 1203.2.6.

(D) Failure of the gas detection system shall annunciate a trouble signal at an approved central station, proprietary or remote station service in accordance with NFPA 72®, or shall initiate an audible and visual trouble signal at an approved constantly attended on-site location.

(162) Section 1206.6.2 Spill control and neutralization. This section has been added to contain the previously numbered Section 1206.2.11.5 entitled "Spill control and neutralization." The section clarifies, where required by Table 1206.6 or elsewhere in the code, areas containing free-flowing liquid electrolyte or hazardous materials shall be provided with spill control and neutralization in accordance with this section. This section has been added to read: 1206.6.2 Spill control and neutralization. Where required by Table 1206.6 or elsewhere in this code, areas containing free-flowing liquid electrolyte or hazardous materials shall be provided with spill control and neutralization in accordance with this section.

(163) Section 1206.6.2.1 Spill control. This section has been added to require spill control to prevent the flow of liquid electrolyte or hazardous materials to adjoining rooms or areas. The section requires the method to be capable of containing a spill from the largest battery or vessel. This section has been added to read: 1206.6.2.1 Spill control. Spill control shall be provided to prevent the flow of liquid electrolyte or hazardous materials to adjoining rooms or areas. The method shall be capable of containing a spill from the single largest battery or vessel.

(164) Section 1206.6.2.2 Neutralization. This section has been added to specify an approved method to neutralize spilled liquid electrolyte shall be provided that is capable of neutralizing a spill from the largest battery or vessel to a pH between 5.0 and 9.0. This section has been added to read: 1206.6.2.2 Neutralization. An approved method to neutralize spilled liquid electrolyte shall be provided that is capable of neutralizing a spill from the largest battery or vessel to a pH between 5.0 and 9.0.

(165) Section 1206.6.2.3 Communication Utilities. This section has been added to specify the requirements of Section 1206.6.2 only apply where the aggregate capacity of multiple vessels exceeds 1,000 gallons (3785 L) for lead acid and nickel cadmium battery systems operating at less than 50 VAC and 60 VDC that are located at facilities under the exclusive control of communication utilities and those facilities comply with NFPA 76® in addition to applicable requirements of this code. This section has been added to read: 1206.6.2.3 Communication Utilities. The requirements of Section 1206.6.2 only apply where the aggragate capacity of multiple vessels exceeds 1,000 gallons (3785 L) for lead acid and nickel cadmium battery systems operating at less than 50 VAC and 60 VDC that are located at facilities under the exclusive control of communication utilities and those facilities comply with NFPA 76® in addition to applicable requirements of this code.

(166) Section 1206.6.3 Explosion control. This section has been added to clarify when required by Table 1206.6 or elsewhere in this code, explosion control complying with Section 911 shall be provided for rooms, areas or

~~walk-in units containing electrochemical Energy Storage Systems (ESS). Two exceptions have been provided to allow the fire code official to waive the explosion control under two specific circumstances. This section has been added to read: 1206.6.3 Explosion control. Where required by Table 1206.6 or elsewhere in this code, explosion control complying with Section 911 shall be provided for rooms, areas or walk-in units containing electrochemical ESS. Exceptions:~~

~~(A) Where approved, explosion control is permitted to be waived by the fire code official based on large scale fire testing complying with Section 1206.1.5 which demonstrates that flammable gases are not liberated from electrochecmical ESS cells or modules where tested in accordance with UL 9540A.~~

~~(B) Where approved, explosion control is permitted to be waived by the fire code official based on documentation provided in accordance with Section 104.7 that demonstrates that the electrochemical ESS technology to be used does not have the potential to release flammable gas concentrations in excess of 25 percent of the LFL anywhere in the room, area or walk-in unit or structure under thermal runaway or other fault conditions.~~

~~(167) Section 1206.6.4 Safety caps. This section has been added to contain the previously numbered Section 1206.2.10.6 entitled "Safety caps." The section has been modified to specify where required by Table 1206.6 or elsewhere in this code, vented batteries and other Energy Storage Systems (ESS) shall be provided with flame-arresting safety caps. This section has been added to read: 1206.6.4 Safety caps. Where required by Table 1206.6 or elsewhere in this code, vented batteries and other ESS shall be provided with flame-arresting safety caps.~~

~~(168) Section 1206.6.5 Thermal runaway. This section has been added to contain the previously numbered Section 1206.2.10.7. The section has been modified to specify where required by Table 1206.6 and elsewhere in this code, batteries and other Energy Storage Systems (ESS) shall be provided with a listed device or other approved method to prevent, detect and minimize the impact of thermal runaway. This section has been added to read: 1206.6.5 Thermal runaway. Where required by Table 1206.6 or elsewhere in this code, batteries and other ESS shall be provided with a listed device or other approved method to prevent, detect and minimize the impact of thermal runaway.~~

~~(169) Section 1206.7 Indoor installations. This section has been added to require indoor Energy Storage Systems (ESS) installations to be in accordance with Sections 1206.7.1 through 1206.7.4. This section has been added to read: 1206.7 Indoor installations. Indoor ESS shall be in accordance with Sections 1206.7.1 through 1206.7.4.~~

~~(170) Section 1206.7.1 Dedicated use buildings. This section has been added to clarify for the purpose of Table 1206.7 dedicated use Energy Storage System (ESS) buildings shall be classified as Group F-1 occupancies and shall comply with specific criteria. This section has been added to read: 1206.7.1 Dedicated use buildings. For the purpose of Table 1206.7 dedicated use ESS buildings shall be classified as Group F-1 occupancies and comply with all of the following:~~

~~(A) The building shall only be used for ESS, electrical energy generation, and other electrical grid related operations.~~

~~(B) Occupants in the room and areas containing ESS are limited to personnel that, operate, service, test and repair the ESS and other energy systems.~~

~~(C) No other occupancy types shall be permitted in the building.~~

~~(D) Administrative and support personnel shall be permitted in areas within the buildings that do not contain ESS provided:~~

~~(i) The areas do not occupy more than 10 percent of the building area of the story in which they are located.~~

~~(ii) A means of egress is provided from the incidental use areas to the public way that does not require the occupants to traverse through areas containing ESS or other energy system equipment.~~

~~(171) Section 1206.7.2 Non-dedicated use buildings. This section has been added to clarify for the purpose of Table 1206.7 non-dedicated use buildings include all use buildings that contain Energy Storage Systems (ESS) that contain ESS and do not comply with Section 1206.7.1 dedicated use building requirements. This section has been added to read: 1206.7.2 Non-dedicated use buildings. For the purpose of Table 1206.7, non-dedicated use buildings include all buildings that contain ESS and do not comply with Section 1206.7.1 dedicated use buildings.~~

(172) Table 1206.7 Indoor ESS Installations. This table has been added to clarify the compliance required for dedicated and non-dedicated use buildings under specific sections of this chapter. The table has been added to read: Table 1206.7 Indoor ESS Installations. The table contains 10 rows with 3 columns per row and has five footnotes and is described below:

(A) Row 1 is the header row and contains the three column headings described below:

(i) Row 1, column 1 is entitled "Compliance Required."

(ii) Row 1, column 2 is entitled "Dedicated Use Buildings" with a superscript "a" to indicate footnote "a" applies.

(iii) Row 1, column 3 is entitled "Non-Dedicated Use Buildings" with a superscript "b" indicate footnote "b" applies.

(B) Row 2 contains the following information in each of the three columns:

(i) Row 2, column 1 contains the wording "1206.4 General installation requirements."

(ii) Row 2, column 2 contains the word "Yes."

(iii) Row 2, column 3 contains the word "Yes."

(C) Row 3 contains the following information in each of the three columns:

(i) Row 3, column 1 contains the wording "1206.5.1 Size and separation."

(ii) Row 3, column 2 contains the word "Yes."

(iii) Row 3, column 3 contains the word "Yes."

(D) Row 4 contains the following information in each of the three columns:

(i) Row 4, column 1 contains the wording "1206.5.2 Maximum allowable quantities."

(ii) Row 4, column 2 contains the word "No."

(iii) Row 4, column 3 contains the word "Yes."

(E) Row 5 contains the following information in each of the three columns:

(i) Row 5, column 1 contains the wording "1206.5.3 Elevation."

(ii) Row 5, column 2 contains the word "Yes."

(iii) Row 5, column 3 contains the word "Yes."

(F) Row 6 contains the following information in each of the three columns:

(i) Row 6, column 1 contains the wording "1206.5.4 Smoke and automatic fire detection" with a superscript "e" to indicate footnote "e" applies.

(ii) Row 6, column 2 contains the word "Yes" with a superscript "c" to indicate footnote "c" applies.

(iii) Row 6, column 3 contains the word "Yes."

(G) Row 7 contains the following information in each of the three columns:

(i) Row 7, column 1 contains the wording "1206.5 Fire suppression systems."

(ii) Row 7, column 2 contains the word "Yes" with a superscript "d" to indicate footnote "d" applies.

(iii) Row 7, column 3 contains the word "Yes."

(H) Row 8 contains the following information in each of the three columns:

(i) Row 8, column 1 contains the wording "1206.7.3 Dwelling units and sleeping units."

(ii) Row 8, column 2 contains the letters "NA."

(iii) Row 8, column 3 contains the word "Yes."

(I) Row 9 contains the following information in each of the three columns:

(i) Row 9, column 1 contains the wording "1206.7.4 Fire-resistance rated separations."

(ii) Row 9, column 2 contains the word "Yes."

(iii) Row 9, column 3 contains the word "Yes."

(J) Row 10 contains the following information in each of the three columns:

(i) Row 10, column 1 contains the wording "1206.6 Technology specific protection."

(ii) Row 10, column 2 contains the word "Yes."

(iii) Row 10, column 3 contains the word "Yes."

(K) Following the table is the wording "NA equals Not allowed."

(L) Footnote "a" states: "See Section 1206.7.1."

(M) Footnote "b" states: "See Section 1206.7.2."

(N) Footnote "c" states: "Where approved by the fire code official, alarm signals are not required to be transmitted to a central stations, proprietary or remote station service in accordance with NFPA 72®, or a

constantly attended location where local fire alarm annunciation is provided and trained personnel are always present."

(O) Footnote "d" states: "Where approved by the fire code official, fire suppression systems are permitted to be omitted in dedicated use buildings located more than 100 feet (30.5 M) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock and other exposure hazards.

(P) Footnote "e" states: "Lead-acid and nickel cadmium battery systems installed in Group U buildings and structures less than 1500 square feet (140 square meters) under the exclusive control of communications utilities, and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76® are not required to have an approved automatic smoke or fire detection system.

(173) Section 1206.7.3 Dwelling units and sleeping units. This section has been added to prohibit Energy Storage Systems (ESS) from being installed in sleeping units or in habitable spaces of dwelling units. This section has been added to read: 1206.7.3 Dwelling units and sleeping units. ESS shall not be installed in sleeping units or in habitable spaces of dwelling units.

(174) Section 1206.7.4 Fire-resistance rated separations. This section has been added to contain the previously numbered Section 1206.3.2.2 entitled "Separation." The section has been modified to clarify the specifications for fire-resistance rated separations in both dedicated and non dedicated use buildings, rooms and areas containing Energy Storage Systems (ESS). The section requires separation to be provided by 2 hour rated fire barriers and 2 hour rated horizontal assemblies constructed in accordance with Sections 707 and 711 of the International Building Code®, as appropriate. This section has been added to read: 1206.7.4 Fire-resistance rated separations. Rooms and areas containing ESS shall include fire-resistance rated separations as follows:

(A) In dedicated use buildings, rooms and areas containing ESS shall be separated from areas in which administrative and support personnel are located.

(B) In non-dedicated use buildings, rooms and areas containing ESS shall be separated from other areas in the building

(175) Separation shall be provided by 2 hour rated fire barriers constructed in accordance with Section 707 of the International Building Code® and 2 hour rated horizontal assemblies constructed in accordance with 711 of the International Building Code®, as appropriate.

(176) Section 1206.8 Outdoor installations. This section has been added to combine and contain the previously numbered Sections "1206.2.8.7" and "1206.3.2.6" both entitled "Outdoor installations." This section has been modified to clarify outdoor installations shall be in accordance with Sections 1206.8.1 through 1206.8.3. The section requires exterior wall installations for individual Energy Storage Systems (ESS) not exceeding 20 kWh to be in accordance with Section 1206.8.4 and deletes the exception that existed in the previously numbered section 1206.2.8.7. This section has been added to read: 1206.8 Outdoor installations. Outdoor installations shall be in accordance with Sections 1206.8.1 through 1206.8.3. Exterior wall installations for individual ESS units not exceeding 20 kWh shall be in accordance with Section 1206.8.4.

(177) 1206.8.1 Remote outdoor installations. This section has been added to clarify for the purpose of Table 1206.8, remote outdoor installations include Energy Storage Systems (ESS) located more than 100 feet (30.5 M) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock and other exposure hazards.This section has been added to read: 1206.8.1 Remote outdoor installations. For the purposeof Table 1206.8, remote outdoor installations include ESS located more than 100 feet (30.5 M) from buildings, lot lines, public ways, stored combustible materials, hazardous materials, high piled stock and other exposure hazards.

(178) Section 1206.8.2 Installations near exposures. This section specifies the purposes of Table 1206.8, installations near exposures include all outdoor Energy Storage Systems (ESS) that do not comply with Section 1206.8.1 remote outdoor location requirements. This section has been added to read: 1206.8.2 Installations near exposures. For the purpose of Table 1206.8, installations near exposures include all outdoor ESS that do not comply with Section 1206.8.1 remote outdoor location requirements.

(179) Table 1206.8 Outdoor ESS Installations. This table has been added to clarify the compliance required for remote installations and installations near exposures under specific sections of this chapter. The table has been added to read: Table 1206.8 Outdoor ESS Installations with a superscript "a" to indicate footnote "a" applies to the entire table. The table contains 11 rows with 3 columns per row and 4 footnotes. The table and footnotes are described below:

~~(A) Row 1 is the header row and contains the three column headings described below:~~

~~(i) Row 1, column 1 is entitled "Compliance Required."~~

~~(ii) Row 1, column 2 is entitled "Remote installations" with a superscript "a" to indicate footnote "a" applies.~~

~~(iii) Row 1, column 3 is entitled "Installations near exposures" and has a superscript "b" to indicate footnote "b" applies.~~

~~(B) Row 2 contains the following information in each of the three columns:~~

~~(i) Row 2, column 1 contains the wording "1206.4 All ESS installations."~~

~~(ii) Row 2, column 2 contains the word "Yes."~~

~~(iii) Row 2, column 3 contains the word "Yes."~~

~~(C) Row 3 contains the following information in each of the three columns:~~

~~(i) Row 3, column 1 contains the wording "1206.5.1 Size and separation."~~

~~(ii) Row 3, column 2 contains the word "No."~~

~~(iii) Row 3, column 3 contains the word "Yes" with a superscript "c" to indicate footnote "c" applies.~~

~~(D) Row 4 contains the following information in each of the three columns:~~

~~(i) Row 4, column 1 contains the wording "1206.5.2 Maximum allowable quantities."~~

~~(ii) Row 4, column 2 contains the word "No."~~

~~(iii) Row 4, column 3 contains the word "Yes."~~

~~(E) Row 5 contains the following information in each of the three columns:~~

~~(i) Row 5, column 1 contains the wording "1206.5.4 Smoke and automatic fire detection."~~

~~(ii) Row 5, column 2 contains the word "Yes."~~

~~(iii) Row 5, column 3 contains the word "Yes."~~

~~(F) Row 6 contains the following information in each of the three columns:~~

~~(i) Row 6, column 1 contains the wording "1206.5 Fire suppression systems."~~

~~(ii) Row 6, column 2 contains the word "Yes" with a superscript "d" to indicate footnote "d" applies.~~

~~(iii) Row 6, column 3 contains the word "Yes."~~

~~(G) Row 7 contains the following information in each of the three columns:~~

~~(i) Row 7, column 1 contains the wording "1206.5.6 Maximum enclosure size."~~

~~(ii) Row 7, column 2 contains the letters "Yes."~~

~~(iii) Row 7, column 3 contains the word "Yes."~~

~~(H) Row 8 contains the following information in each of the three columns:~~

~~(i) Row 8, column 1 contains the wording "1206.5.7 Vegetation Control."~~

~~(ii) Row 8, column 2 contains the word "Yes."~~

~~(iii) Row 8, column 3 contains the word "Yes."~~

~~(I) Row 9 contains the following information in each of the three columns:~~

~~(i) Row 9, column 1 contains the wording "1206.5.8 Means of egress separation."~~

~~(ii) Row 9, column 2 contains the word "Yes."~~

~~(iii) Row 9, column 3 contains the word "Yes."~~

~~(J) Row 10 contains the following information in each of the three columns:~~

~~(i) Row 10, column 1 contains the wording "1206.8.3 Clearance to exposures."~~

~~(ii) Row 10, column 2 contains the word "Yes."~~

~~(iii) Row 10, column 3 contains the word "Yes."~~

~~(K) Row 11 contains the following information in each of the three columns:~~

~~(i) Row 11, column 1 contains the wording "1206.6 Technology specific protection."~~

~~(ii) Row 11, column 2 contains the word "Yes."~~

~~(iii) Row 11, column 3 contains the word "Yes."~~

~~(L) Footnote "a" states: "See Section 1206.8.1."~~

~~(M) Footnote "b" states: "See Section 1206.8.2."~~

~~(N) Footnote "c" states: "In outdoor walk-in units, spacing is not required between ESS units and the walls of the enclosure."~~

~~(O) Footnote "d" states: "Where approved by the fire code official, fire suppression systems are permitted to be omitted.~~

~~(180) Section 1206.8.3 Clearance to exposures. This section has been added to contain the previously numbered Section 1206.2.6.1, entitled "Separation" The section has been modified to clarify Energy Storage Systems (ESS) located outdoors are required to be separated by a minimum of 10 feet (3048 mm) from a list of specific exposures with three exceptions to allow the clearances to be reduced when certain criteria is met. This section has been added to read: 1206.8.3 Clearance to exposures. ESS located outdoors shall be separated by a minimum of ten feet (3048 mm) from the following exposures:~~

~~(A) Lot lines~~

~~(B) Public ways~~

~~(C) Buildings~~

~~(D) Stored combustible materials~~

~~(E) Hazardous materials~~

~~(F) High-piled stock~~

~~(G) Other exposure hazards~~

~~(181) Exceptions:~~

~~(A) Clearances are permitted to be reduced to 3 feet (914mm) where a 1-hour free standing fire barrier, suitable for exterior use, and extending 5 feet (1524 mm) above and extending 5 feet (1524 mm) beyond the physical boundary of the ESS installations is provided to protect the exposure.~~

~~(B) Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where noncombustible exterior walls with no openings or combustible overhangs are provided on the wall adjacent to the ESS and the fire-resistance rating of the exterior wall is a minimum 2 hours.~~

~~(C) Clearances to buildings are permitted to be reduced to 3 feet (914 mm) where a weatherproof enclosure constructed of noncombustible materials is provided over the ESS, and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large scale fire testing comply with Section 1206.1.5.~~

~~(182) Section 1206.8.4 Exterior wall installations. This section has been added to clarify Energy Storage Systems (ESS) shall be permitted to be installed outdoors on exterior walls of buildings when specific criteria is met. The change provides one exception for smaller separation distances when approved based on large sale fire testing complying with Section 1206.1.5. This section has been added to read: 1206.6.8.4 Exterior wall installations. ESS shall be permitted to be installed outdoors on exterior walls of buildings when all of the following conditions are met:~~

~~(A) The maximum energy capacity of individual ESS units shall not exceed 20 kWh.~~

~~(B) The ESS shall comply with applicable requirements in Section 1206.~~

~~(C) The ESS shall be installed in accordance with the manufacturer's instructions andtheir listing.~~

~~(D) Individual ESS units shall be separated from each other by at least 3 feet (914 mm).~~

~~(E) The ESS shall be separated from doors, windows, operable openings into the buildings or HVAC inlets by at least 5 feet (1524 mm).~~

~~(183) Exception: Where approved, smaller separation distances in items 4 and 5 shall be permitted based on large scale fire testing complying with Section 1206.1.5.~~

~~(184) Section 1206.9 Special installations. This section has been added to clarify rooftop and open parking garage Energy Storage Systems (ESS) shall comply with Sections 1206.9.1 through 1206.9.6. This section has been added to read: 1206.9 Special installations. Rooftop and open parking garage ESS installations shall comply with Sections 1206.9.1 through 1206.9.6.~~

~~(185) Section 1206.9.1 Rooftop installations. This section has been added to clarify for the purpose of Table 1206.9, rooftop Energy Storage System (ESS) installations are those located on the roofs of buildings. This section has been added to read: 1206.9.1 Rooftop installations. For the purpose of Table 1206.9, rooftop ESS installations are those located on the roofs of buildings.~~

~~(186) Section 1206.9.2 Open parking garage installations. This section has been added to clarify for the purpose of Table 1206.9, open parking garage Energy Storage System (ESS) installations are those located in a structure or portion of a structure that complies with Section 406.5 of the International Building Code®. This section has been added to read: 1206.9.2 Open parking garage installations. For the purpose of Table 1206.9, open parking garage ESS installations are those located in a structure or portion of a structure that complies with Section 406.5 of the International Building Code®.~~

~~(187) Table 1206.9 Special ESS Installations. This table has been added to clarify the compliance required for special Energy Storage System (ESS) installations under specific sections of this chapter. The table has been added to read: Table 1206.9 Special ESS Installations. The table contains 12 rows with 3 columns per row and has two footnotes that follow the table. The table and footnotes are described below:~~

~~(A) Row 1 is the header row and contains the three column headings described below:~~

~~(i) Row 1, column 1 is entitled "Compliance Required."~~

~~(ii) Row 1, column 2 is entitled "Rooftops" with a superscript "a" to indicate footnote "a" applies.~~

~~(iii) Row 1, column 3 is entitled "Open Parking Garages" with a superscript "b" to indicate footnote "b" applies.~~

~~(B) Row 2 contains the following information in each of the three columns:~~

~~(i) Row 2, column 1 contains the wording "1206.4 All ESS installations."~~

~~(ii) Row 2, column 2 contains the word "Yes."~~

~~(iii) Row 2, column 3 contains the word "Yes."~~

~~(C) Row 3 contains the following information in each of the three columns:~~

~~(i) Row 3, column 1 contains the wording "1206.5.1 Size and separation."~~

~~(ii) Row 3, column 2 contains the word "Yes."~~

~~(iii) Row 3, column 3 contains the word "Yes."~~

~~(D) Row 4 contains the following information in each of the three columns:~~

~~(i) Row 4, column 1 contains the wording "1206.5.2 Maximum allowable quantities."~~

~~(ii) Row 4, column 2 contains the word "Yes."~~

~~(iii) Row 4, column 3 contains the word "Yes."~~

~~(E) Row 5 contains the following information in each of the three columns:~~

~~(i) Row 5, column 1 contains the wording "1206.5.4 Smoke and automatic fire detection."~~

~~(ii) Row 5, column 2 contains the word "Yes."~~

~~(iii) Row 5, column 3 contains the word "Yes."~~

~~(F) Row 6 contains the following information in each of the three columns:~~

~~(i) Row 6, column 1 contains the wording "1206.5 Maximum enclosure size."~~

~~(ii) Row 6, column 2 contains the word "Yes."~~

~~(iii) Row 6, column 3 contains the word "Yes."~~

~~(G) Row 7 contains the following information in each of the three columns:~~

~~(i) Row 7, column 1 contains the wording "1206.5.8 Means of egress separation."~~

~~(ii) Row 7, column 2 contains the letters "Yes."~~

~~(iii) Row 7, column 3 contains the word "Yes."~~

~~(H) Row 8 contains the following information in each of the three columns:~~

~~(i) Row 8, column 1 contains the wording "1206.9.3 Clearances to exposures."~~

~~(ii) Row 8, column 2 contains the word "Yes."~~

~~(iii) Row 8, column 3 contains the word "Yes."~~

~~(I) Row 9 contains the following information in each of the three columns:~~

~~(i) Row 9, column 1 contains the wording "1206.9.4 Fire suppression systems."~~

~~(ii) Row 9, column 2 contains the word "Yes."~~

~~(iii) Row 9, column 3 contains the word "Yes."~~

~~(J) Row 10 contains the following information in each of the three columns:~~

~~(i) Row 10, column 1 contains the wording "1206.9.5 Rooftop installations."~~

~~(ii) Row 10, column 2 contains the word "Yes."~~

~~(iii) Row 10, column 3 contains the word "No."~~

~~(K) Row 11 contains the following information in each of the three columns:~~

~~(i) Row 11, column 1 contains the wording "Open parking garage installations."~~

~~(ii) Row 11, column 2 contains the word "No."~~

~~(iii) Row 11, column 3 contains the word "Yes."~~

~~(L) Row 12 contains the following information in each of the three columns:~~

~~(i) Row 12, column 1 contains the wording "1206.6 Technology specific protection."~~

~~(ii) Row 12, column 2 contains the word "Yes."~~

~~(iii) Row 12, column 3 contains the word "Yes."~~

(M) Footnote "a" states: "See Section 1206.9.1."

(N) Footnote "b" states: "See Section 1206.9.2."

(188) Section 1206.9.3 Clearances to exposures. This section has been added to clarify Energy Storage Systems (ESS) located on rooftops and in open parking garages shall be separated by a minimum of 10 feet (3048 mm) from a list of specific exposure criteria and provides two exceptions to allow clearances to be reduced when certain criteria is met. This section has been added to read: 1206.9.3 Clearances to exposures. ESS located on rooftops and in open parking garages shall be separated by a minimum ten feet (3048 mm) from the following exposures:

(A) Buildings, except the building on which the rooftop ESS is mounted.

(B) Any portion of the building on which a rooftop system is mounted that is elevated above the rooftop on which the system is installed.

(C) Lot lines

(D) Public ways

(189) Exceptions:

(A) Clearances are permitted to be reduced to 3 feet (914 mm) where a 1-hour free standing fire barrier, suitable for exterior use, and extending 5 feet (1524 mm) above and extending 5 feet (1524 mm) beyond the physical boundary of the ESS installation is provided to protect the exposure.

(B) Clearances are permitted to be reduced to 3 feet (914 mm) where a weatherproof enclosure constructed of noncombustible materials is provided over the ESS and it has been demonstrated that a fire within the enclosure will not ignite combustible materials outside the enclosure based on large scale fire testing complying with Section 1206.1.5.

(190) Section 1206.9.4 Fire suppression systems. This section has been added to require Energy Storage Systems (ESS) located in walk-in units on rooftops or in walk-in units in open parking garages to be provided with automatic fire suppression systems within the ESS enclosure in accordance with Section 1206.5.5 The section requires areas containing ESS other than walk-in units in open parking structures on levels not open above to the sky be provided with an automatic suppression system complying with Section 1206.5.5. An exception is provided for a fire suppression system installations located in open parking garages, if large scale fire testing complying with Section 1206.1.5 is provided that shows that a fire will not impact the exposures in Section 1206.9.3. This section has been added to read: 1206.9.4 Fire suppression systems. ESS located in walk-in units on rooftops or walk-in units in open parking garages shall be provided with automatic fire suppression systems within the ESS enclosure in accordance with Section 1206.5.5. Areas containing ESS other than walk-in units in open parking structures on levels not open to the sky shall be provided with an automatic fire suppression system complying with Section 1206.5.5. Exception: A fire suppression system is not required in open parking garages if large scale testing complying with Section 1206.1.5 is provided that shows that a fire will not impact the exposures in Section 1206.9.3.

(191) Section 1206.9.5 Rooftop installations. This section requires Energy Storage Systems (ESS) and associated equipment located on rooftops and not enclosed by building construction to comply with a list of specific criteria. This section has been added to read: 1206.9.5 Rooftop installations. ESS and associated equipment that are located on rooftops and not enclosed by building construction shall comply with the following:

(A) Stairway access to the roof for emergency response and fire department personnel shall be provided either through a bulkhead from the interior of the building or a stairway on the exterior of the building.

(B) Service walkways at least 5 feet (1524 mm) in width shall be provided for service and emergency personnel from the point of access to the roof to the system.

(C) ESS and associated equipment shall be located from the edge of the roof a distance equal to at least the height of the system, equipment or component but not less than 5 feet (1524 mm).

(D) The roofing materials under and within 5 feet (1524 mm) horizontally from an ESS or associated equipment shall be noncombustible or shall have a Class A rating when tested in accordance with ASTM E108 or UL 790.

(E) A Class I standpipe outlet shall be installed at an approved location on the roof level of the building or in the stairway bulkhead at the top level.

(F) The ESS shall be the minimum of 10 feet (3048 mm) from the fire service access point on the roof top.

~~(192) Section 1206.9.6 Open parking garages. This section has been added to clarify Energy Storage Systems (ESS) and associated equipment located in open parking garages to comply with all of the items in a list of specific criteria. This section has been added to read: 1206.9.6 Open parking garages. ESS and associated equipment that are located in open parking garages shall comply with all of the following:~~

~~(A) ESS shall not be located within 50 feet (15240 mm) of air inlets for building HVAC systems. Exception: The distance shall be permitted to be reduced to 25 feet (7620 mm) if the automatic fire alarm system monitoring the radiant-energy-sensing detectors de-energizes the ventilation system connected to the air intakes upon detection of a fire.~~

~~(B) ESS shall not be located with 25 feet (7620 mm) of exits leading from the attached building where located on a covered level of the parking structure not directly open to the sky above.~~

~~(C) An approved fence with a locked gate or other approved barrier shall be provided to keep the general public at least 5 feet (1024 mm) from the outer enclosure of the ESS.~~

~~(193) Section 1206.10 Mobile ESS equipment and operations. This section has been added to require mobile Energy Storage Systems (ESS) equipment and operations to comply with Sections 1206.10.1 through 1206.10.7.7. This section has been added to read: 1206.10 Mobile ESS equipment and operations. Mobile ESS equipment and operations shall comply with Sections 1206.10.1 through 1206.10.7.7.~~

~~(194) Section 1206.10.1 Charging and storage. This section has been added to clarify for the purpose of Section 1206.10, charging and storage covers the operation where mobile Energy Storage Systems (ESS) are charged and stored so they are ready for deployment to another site, and where they are charged and stored after deployment. This section has been added to read: 1206.10.1 Charging and storage. For the purpose of Section 1206.10, charging and storage covers the operation where mobile ESS are charged and stored so they are ready for deployment to another site, and where they are charged and stored after a deployment.~~

~~(195) Section 1206.10.2 Deployment. This section has been added to clarify for the purpose of Section 1206.10, deployment covers the operations where mobile Energy Storage Systems (ESS) are located at a site other than the charging and storage site and are being used to provide power. This section has been added to read: 1206.10.2 Deployment. For the purpose of Section 1206.10, deployment covers the operations where mobile ESS are located at a site other than the charging and storage site and are being used to provide power.~~

~~(196) Section 1206.10.3 Permits. This section has been added to clarify construction and operational permits shall be provided for charging and storage of mobile Energy Storage Systems (ESS) and operational permits shall be provided for deployment of mobile ESS as required by Section 1206.1.2. This section has been added to read: 1206.10.3 Permits. Construction and operational permits shall be provided for charging and storage of mobile ESS and operational permits shall be provided for deployment of mobile ESS as required by Section 1206.1.2.~~

~~(197) Section 1206.10.4 Construction documents. This section has been added to require construction documents complying with Section 1206.1.3 to be provided with the construction permit application for mobile Energy Storage Systems (ESS) charging and storage locations. This section has been added to read: 1206.10.4 Construction documents. Construction documents complying with Section 1206.1.3 shall be provided with the construction permit application for mobile ESS charging and storage locations.~~

~~(198) 1206.10.4.1 Deployment documents. This section has been provided to clarify and list what information must be provided with the operation permit applications for mobile Energy Storage System (ESS) deployments. This section has been added to read; 1206.10.4.1 Deployment documents. The following information shall be provided with the operation permit applications for mobile ESS deployments:~~

~~(A) Relevant information for the mobile ESS equipment and protection measures in the construction documents as required by Section 1206.1.3.~~

~~(B) Location and layout diagram of the area in which the mobile ESS is to be deployed, including a scale diagram of all nearby exposures.~~

~~(C) Location and content of signage, including no smoking signs.~~

~~(D) Description of fencing to be provided around the ESS, including locking methods.~~

~~(E) Details on fire suppression, smoke and automatic fire detection, system monitoring, thermal management, exhaust ventilation, and explosion control, if provided.~~

~~(F) For deployment, the intended duration of operation, including anticipated connection and disconnection times and dates.~~

(G) Location and description of local staging stops during transit to the deployment site. See Section 1206.10.7.5.

(H) Description of the temporary wiring, including connection methods, conductor type and size, and circuit overcurrent protection to be provided.

(I) Description of how fire suppression system connections to water supplies or extinguishing agents are to be provided.

(J) Contact information for personnel who are responsible for maintaining and servicing the equipment, and responding to emergencies as required by Section 1206.1.6.1.

(199) Section 1206.10.5 Approved locations. This section has been added to restrict the locations where mobile Energy Storage Systems (ESS) are charged, stored, and deployed to those locations established on the construction and operational permits. This section has been added to read: 1206.10.5 Approved locations. Locations where mobile ESS are charged, stored and deployed shall be restricted to the locations established on the construction and operational permits.

(200) Section 1206.10.6 Charging and storage. This section has been added to clarify installations where mobile Energy Storage Systems (ESS) are charged and stored shall be treated as permanent ESS indoor or outdoor installations and shall comply with specific criteria. Two exceptions are provided, one for temporary wiring of electrical connections when complying with the manufacturer's instructions, the UL 9540 listing and NFPA 70®; and one for temporary connections to the water supply for fire suppression systems. This section has been added to read: 1206.10.6 Charging and storage. Installations where mobile ESS are charged and stored shall be treated as permanent ESS indoor or outdoor locations, and shall comply with the following sections, as applicable:

(A) Indoor charging and storage shall comply with Section 1206.7.

(B) Outdoor charging and storage shall comply with Section 1206.8.

(C) Charging and storage on rooftops and in open parking garages shall comply with Section 1206.9.

(201) Exceptions:

(A) Electrical connections shall be permitted to be made using temporary wiring complying with the manufacturer's instructions, the UL 9540 listing, and NFPA 70®.

(B) Fire suppression system connections to the water supply shall be permitted to use approved temporary connections.

(202) Section 1206.10.7 Deployed mobile ESS requirements. This section has been added to clarify that deployed mobile Energy Storage Systems (ESS) equipment and operations shall comply with this section and Table 1206.10. This section has been added to read: 1206.10.7 Deployed mobile ESS requirements. Deployed mobile ESS equipment and operations shall comply with this section and Table 1206.10.

(203) Section 1206.10.7.1 Duration. This section has been added to clarify mobile Energy Storage Systems (ESS) deployment shall not exceed 30 days and provides two exceptions for mobile ESS deployments that provide power durations longer than 30 days that comply with Section 1206.10.7, and Mobile ESS deployments that exceed 180 days if additional operation permits are obtained. This section has been added to read: 1206.10.7.1 Duration. The duration of mobile ESS deployment shall not exceed 30 days. Exceptions:

(A) Mobile ESS deployments that provide power for durations longer than 30 days shall comply with Section 1206.10.7.

(B) Mobile ESS deployments shall not exceed 180 days unless additional operational permits are obtained.

(204) Section 1206.10.7.2 Restricted locations. This section has been added to clarify deployed mobile Energy Storage System (ESS) operations shall not be located indoors, in covered parking garages, on rooftops, below grade or under building overhangs. This section has been added to read: 1206.7.2 Restricted locations. Deployed mobile ESS operations shall not be located indoors, in covered parking garages, on rooftops, below grade, or under building overhangs.

(205) Section 1206.10.7.3 Clearance to exposures. This section has been added to clarify deployed mobile Energy Storage Systems shall be separated by a minimum of 10 feet (3048 mm) from a list of specific exposures and must be separated by a minimum of 50 (1.5 m) feet from public seating areas and from tents, canopies and membrane structures with an occupant load of 30 or more. This section has been added to read: 1206.10.7.3 Clearances to exposures. Deployed mobile ESS shall be separated by a minimum 10 feet (3048 mm) from the following exposures:

(A) Public ways

(B) Buildings
(C) Stored combustible materials
(D) Hazardous materials
(E) High-piled stock
(F) Other exposure hazards

(206) Deployed mobile ESS shall be separated by a minimum of 50 feet (15.3 M) from public seating areas and from tents, canopies and membrane structures with an occupant load of 30 or more.

(207) Section 1206.10.7.4. Electrical connections. This section has been added to clarify electrical connections are required to be made in accordance with the manufacturer's instructions and the UL 9540 listing. The section requires temporary wiring for electrical power connections to comply with NFPA 70® and clarifies fixed electrical wiring shall not be provided. This section has been added to read: 1206.10.7.4 Electrical connections. Electrical connections shall be made in accordance with the manufacturer's instructions and the UL 9540 listing. Temporary wiring for electrical power connections shall comply with NFPA 70. Fixed electrical wiring shall not be provided.

(208) Section 1206.10.7.5 Local staging. This section has been added to clarify mobile Energy Storage Systems (ESS) in transit from the charging and storage location to the deployment location and back shall not be parked within 100 feet (30,480 mm) of an occupied building for more than one hour during transit, unless specifically approved by the fire code official when the permit is issued. This section has been added to read: 1206.10.7.5 Local staging. Mobile ESS in transit from the charging and storage location to the deployment location and back shall not be parked within 100 feet (30,480 mm) of an occupied building for more than one hour during transit, unless specifically approved by the fire code official when the permit is issued.

(209) Section 1206.10.7.6 Fencing. This section has been added to clarify an approved fence with a locked gate or other approved barrier shall be provided to keep the general public at least 5 feet (1524 mm) from the outside enclosure of a deployed mobile Energy Storage System (ESS). This section has been added to read: 1206.10.7.6 Fencing. An approved fence with a locked gate or other approved barrier shall be provided to keep the general public at least 5 feet (1524 mm) from the outer enclosure of a deployed mobile ESS.

(210) Section 1206.10.7.7. Smoking. This section has been added to prohibit smoking with 10 feet (3048 mm) of mobile Energy Storage Systems (ESS) and require signs to be posted in accordance with Section 310. This section has been added to read: 1206.10.7.7 Smoking. Smoking shall be prohibited within 10 feet (3048 mm) of mobile ESS. Signs shall be posted in accordance with Section 310.

(211) Table 1206.10 Mobile Energy Storage Systems (ESS). This table has been added to clarify which sections within this section are applicable during mobile Energy Storage System (ESS) deployment. The table has been added to read: Table 1206.10 Mobile Storage Energy Systems (ESS). The table contains 10 rows and two columns and has five footnotes at the end. The table is described below:

(A) Row 1 contains the header rows. Each of the two column headings are listed below:
    (i) Row 1, column 1 is entitled "Compliance Required."
    (ii) Row 1, column 2 is entitled "Deployment" with a superscript "a" indicate footnote "a" applies.
(B) Row 2 contains the following information in each of the two columns:
    (i) Row 2, column 1 contains the wording "1206.4 All ESS installations."
    (ii) Row 2, column 2 contains the wording "Yes" with a superscript "b" to indicate footnote "b" applies.
(C) Row 3 contains the following information in each of the two columns:
    (i) Row 3, column 1 contains the wording "1206.5.1 Size and separation."
    (ii) Row 3, column 2 contains the wording "Yes" with a superscript "c" to indicate footnote "c" applies.
(D) Row 4 contains the following information in each of the two columns:
    (i) Row 4, column 1 contains the wording "1206.5.2 Maximum allowable quantities."
    (ii) Row 4, column 2 contains the wording "Yes."
(E) Row 5 contains the following information in each of the two columns:
    (i) Row 5, column 1 contains the wording "1206.5.4 Smoke and automatic fire detection."
    (ii) Row 5, column 2 contains the wording "Yes" with a superscript "e" to indicate footnote "e" applies.
(F) Row 6 contains the following information in each of the two columns:
    (i) Row 6, column 1 contains the wording "1206.5.5 Fire suppression systems."

(ii) Row 6, column 2 contains the wording "Yes" with a superscript "d" to indicate footnote "d" applies.

(G) Row 7 contains the following information in each of the two columns:

(i) Row 7, column 1 contains the wording "1206.5.6 Maximum enclosure size."

(ii) Row 7, column 2 contains the wording "Yes."

(H) Row 8 contains the following information in each of the two columns:

(i) Row 8, column 1 contains the wording "1206.5.7 Vegetation control."

(ii) Row 8, column 2 contains the wording "Yes."

(I) Row 9 contains the following information in each of the two columns:

(i) Row 9, column 1 contains the wording "1206.5.8 Means of egress separation."

(ii) Row 9, column 2 contains the wording "Yes."

(J) Row 10 contains the following information in each of the two columns:

(i) Row 10, column 1 contains the wording "1206.6 Technology specific protection."

(ii) Row 10, column 2 contains the wording "Yes."

(K) Footnote "a" states: "See Section 1206.10.2."

(L) Footnote "b" states: "Mobile operations on wheeled vehicle or trailers shall not be required to comply with Section 1206.4.4 seismic and structural load requirements."

(M) Footnote "c" states: "In walk-in units, spacing is not required between ESS units and the walls of the enclosure."

(N) Footnote "d" states: "Fire suppression system connections to the water supply shall be permitted to use approved temporary connections."

(O) Footnote "e" states: "Alarm signals are not required to be transmitted to an approved location for mobile ESS deployed 30 days or less."

(212) Section 1206.11 ESS in Group R-3 and R-4 Occupancies. This section has been added to clarify Energy Storage Systems (ESS) in Group R-3 and R-4 occupancies shall be installed and maintained in accordance with Sections 1206.11.1 through 1206.11.9 and the temporary use of an owner or occupant's electric powered vehicle as an ESS shall be in accordance with Section 1206.4.10. This section has been added to read: 1206.11 ESS in Group R-3 and R-4 Occupancies. ESS in Group R-3 and R-4 occupancies shall be installed and maintained in accordance with Sections 1206.11.1 through 1206.11.9. The temporary use of an owner or occupant's electric powered vehicle as an ESS shall be in accordance with Section 1206.4.10.

(213) Section 1206.11.1 Equipment listings. This section has been added to clarify Energy Storage Systems (ESS) shall be listed and labeled in accordance with UL 9540. The section prohibits ESS listed and labeled solely for utility or commercial use to be used for residential applications and provides two exceptions to the section. This section has been added to read: 1206.11.1 Equipment listings. ESS shall be listed and labeled in accordance with UL 9540. ESS listed and labeled solely for utility or commercial use shall not be used for residential applications. Exceptions:

(A) Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached dedicated cabinets located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.

(B) ESS less than 1 kWh (3.6 Megajoules).

(214) Section 1206.11.2 Installation. This section has been added to require installation of Energy Storage Systems (ESS) to be installed in accordance with the manufacturer's instructions and their listing. This section has been added to read: 1206.11.2 Installation. ESS shall be installed in accordance with the manufacturer's instructions and their listings.

(215) Section 1206.11.2.1 Spacing. This section has been added to clarify individual units shall be separated from each other by at least 3 feet (914 mm) of spacing unless smaller separation distances are documented to be adequate based on large scale fire testing complying with Section 1206.1.5. This section has been added to read: 1206.11.2.1 Spacing. Individual units shall be separated from each other by at least 3 feet (914 mm) of spacing unless smaller separation distances are documented to be adequate based on large scale fire testing complying with Section 1206.1.5.

(216) Section 1206.11.3 Location. This section has been added to provide a list of specific locations where the Energy Storage System (ESS) can be installed. This section has been added to read: 1206.11.3 Location. ESS shall only be installed in the following locations:

(A) Detached garages and detached accessory structures.

(B) Attached garages separated from the dwelling unit living space and sleeping units in accordance with Section 406.3.2 of the International Building Code®.

(C) Outdoors on exterior walls located a minimum 3 ft. from doors and windows.

(D) Utility closets and storage or utility spaces within dwelling units and sleeping units.

(217) Section 1206.11.4 Energy ratings. This section has been added to clarify individual Energy Storage Systems (ESS) shall have a maximum rating of 20 kWh and lists the aggregate rating structures that shall not be exceeded. This section has been added to read: 1206.11.4 Energy ratings. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating structures shall not exceed:

(A) 40 kWh within utility closets and storage utility spaces.

(B) 80 kWh in attached or detached garages and detached accessory structures.

(C) 80 kWh on exterior walls.

(D) 80 kWh outdoors on the ground.

(218) Section 1206.11.5 Electrical installation. This section has been added to require Energy Storage Systems (ESS) to be installed in accordance with NFPA 70® and require inverters to be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. The section requires systems connected to the utility grid to use inverters listed for utility interaction. This section has been added to read: 1206.11.5 Electrical installation. ESS shall be installed in accordance with NFPA 70®. Inverters shall be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

(219) Section 1206.11.6 Fire detection. This section has been added to require rooms and areas within dwelling units, sleeping units and attached garages in which Energy Storage Systems (ESS) are installed to be protected by smoke alarms in accordance with Section 907.2.10. The section requires a heat detector listed and interconnected to the smoke alarms to be installed in locations within the dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing. This section has been added to read: 1206.11.6 Fire detection. Rooms and areas within dwelling units, sleeping units and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section 907.2.10. A heat detector listed and interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listings.

(220) Section 1206.11.7 Protection from impact. This section has been added to require energy storage systems (ESS) installed in a location subject to vehicle damage to be protected by approved barriers. The change requires appliances installed in garages to be installed in accordance with Section 304.3 of the International Mechanical Code®. This section has been added to read: 1206.11.7 Protection from impact. ESS installed in a location subject to damage shall be protected by approved barriers. Appliances in garages shall also be installed in accordance with Section 304.3 of the International Mechanical Code®.

(221) Section 1206.11.8 Ventilation. This section has been added to require indoor installations of Energy Storage Systems (ESS) that include batteries that produce hydrogen or other flammable gases during charging to be provided with exhaust ventilation in accordance with Section 1206.6.1. This section has been added to read: 1206.11.8 Ventilation. Indoor installations of ESS that include batteries that produce hydrogen or other flammable gases during charging shall be provided with exhaust ventilation in accordance with Section 1206.6.1.

(222) Section 1206.11.9 Toxic and highly toxic gas. This section has been added to prohibit Energy Storage Systems (ESS) that have the potential to release toxic or highly toxic gas during charging, discharging and normal use conditions from being installed within Group R-3 and R-4 occupancies. This section has been added to read: 1206.11.9 Toxic and highly toxic gas. ESS that have the potential to release toxic or highly toxic gas during charging, discharging and normal use conditions shall not be installed within Group R-3 or R-4 occupancies.

(223) Section 1206.11.10 Electric vehicle use. This section has been added to require the temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit or sleeping unit while parked in an attached or detached garage or outside to comply with the vehicle manufacturer's instructions and NFPA 70®. This section has been added to read: 1206.11.10 Electric vehicle use. The temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit or sleeping unit while parked in an attached or detached garage or outside shall comply with the vehicle manufacturer's instructions and NFPA 70®.

748:20-4-28. IFC® ~~2018~~ 2024 Chapter 23 Motor Fuel-Dispensing Facilities and Repair Garages [AMENDED]

Chapter 23 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 2301.7 Liquid natural gas (LNG) motor fuel-dispensing facilities. This section has been added to clarify that motor fuel-dispensing facilities for LNG shall comply with the requirements of Section 2303 and Chapter 55. This section has been added to read: 2301.7 Liquid natural gas motor fuel-dispensing facilities. Motor fuel-dispensing facilities utilizing liquid natural gas (LNG) fuel shall comply with the requirements of Section 2303 and Chapter 55.

(2) Section 2302 Definitions. This section has been modified to add to the terms "Main Railroad Track" and "Dispensing Area" to the list of terms defined in Chapter 2. This section has been modified to read: 2302.1 Definitions. The following terms are defined in Chapter 2:

(A) AIRCRAFT MOTOR-VEHICLE FUEL-DISPENSING FACILITY.

(B) ALCOHOL-BLENDED FUELS.

(C) AUTOMOTIVE MOTOR FUEL-DISPENSING FACILITY.

(D) DISPENSING AREA.

(E) DISPENSING DEVICE, OVERHEAD TYPE.

(F) FLEET VEHICLE MOTOR FUEL-DISPENSING FACILITY.

(G) LIQUEFIED NATURAL GAS (LNG).

(H) MAIN RAILROAD TRACK.

(I) MARINE MOTOR FUEL-DISPENSING FACILITY.

(J) REPAIR GARAGE.

(K) SELF-SERVICE MOTOR FUEL-DISPENSING FACILITY.

(3) Section 2303.1 Location of dispensing devices. This section has been modified to provide a sixth requirement when different types of fuel-dispensing devices for different fuels are located under the same canopy to prevent the accumulation or entrapment of ignitable vapors or all the electrical equipment located under the canopy must be suitable for Class I, Division 2 hazardous (classified) location. This section has been modified to read: 2303.1 Location of dispensing devices. Dispensing devices shall be located as follows:

(A) Item 1. Ten feet (3048 mm) or more from lot lines.

(B) Item 2. Ten feet (3048 mm) or more from buildings having combustible exterior wall surfaces or buildings having noncombustible exterior wall surfaces that are not part of a 1-hour-fire-resistance-rated assembly or buildings having combustible overhangs. Exception: Canopies constructed in accordance with the International Building Code® providing weather protection for the fuel islands.

(C) Item 3. Such that all portions of the vehicle being fueled will be on the premises of the motor fuel-dispensing facility.

(D) Item 4. Such that the nozzle, when the hose is fully extended, will not reach within 5 feet (1524 mm) of building openings.

(E) Item 5. 20 feet (6096 mm) or more from fixed sources of ignition.

(F) Item 6. Such that fuel dispensing is in view of the attendant at attended self-service motor fuel-dispensing facilities as required in Section 2304.2.4.

(G). Item 7. Where compressed natural gas (CNG), LNG, or Hydrogen motor fuel-dispensing devices are installed beneath a canopy or within an enclosure, either the canopy or enclosure shall be designed to prevent the accumulation or entrapment of ignitable vapors, including provisions for natural or mechanical ventilation means, or all electrical equipment installed beneath the canopy or within the enclosure shall be suitable for Class I, Division 2 hazardous (classified) locations. Tank vents that are installed within or attached to the canopy or enclosure shall extend a minimum of 5 feet (1524 mm) above the highest projection of the canopy. Compression and storage equipment located on top of the motor fuel-dispensing facility canopies shall be in accordance with current State of Oklahoma adopted International Fire Code®, Section 2309 and International Building Code®, Section 406.

(4) Section 2303.2.2 Local emergency disconnect switches. This section has been added to clarify when local emergency disconnect switches are required and when those switches are required to be interlocked with other local emergency disconnect switches. This section has been added to read: 2303.2.2 Local emergency disconnect switches. A local emergency disconnect switch, provided within 20 feet (6096 mm) of any dispensing unit shall be interlocked with all other dispensing units of the same fuel type and all other dispensing devices located within 20 feet (6096 mm) of the local emergency disconnect switch.

(5) Section 2303.2.3 Emergency disconnect switch lighting. This section has been added to clarify the requirements for providing illumination for emergency disconnect switch lighting. This section has been added to read: 2303.2.3 Emergency disconnect switch lighting. Permanent lighting shall be provided during hours of operation in times of darkness at all dispensing devices, required signage, emergency disconnects and emergency shutdown controls. The lighting shall be designed to provide illumination such that all dispensing devices, required signage, emergency disconnect switches and emergency shutdown controls are visible to the operator.

(6) Section 2304.3.7 Quantity limits. This section has been modified to include an exception to the requirement that dispensing devices at unsupervised locations be programmed or set to limit uninterrupted fuel delivery to 25 gallons and require manual action to resume delivery. This section has been modified to read: 2304.3.7 Quantity limits. Dispensing equipment used at unsupervised locations shall comply with one of the following:

(A) Dispensing devices shall be programmed or set to limit uninterrupted fuel delivery to 25 gallons (95 L) and require a manual action to resume delivery. Exception: Dispensing devices that are equipped with a listed breakaway device or equal approved by the Authority Having Jurisdiction. Such emergency breakaway device shall be installed, maintained and replaced in accordance with the manufacturer's instructions.

(B) The amount of fuel being dispensed shall be limited in quantity by a preprogrammed card as approved.

(7) Section 2307.3 Attendants. This section has been modified to add an exception to the requirement for an attendant when the dispensing equipment meets the guidelines of NFPA® 58 for a "Low emission transfer." This section has been modified to read: 2307.3 Attendants. Motor fuel-dispensing operations for LP-gas shall be conducted by qualified attendants or in accordance with Section 2307.7 by persons trained in the proper handling of LP-gas. Exception: When the dispensing equipment meets the guidelines of NFPA® 58 for "Low emission transfer," an attendant is not required.

(8) Section 2307.4.1 Low emission transfer. This section has been added to clarify when the dispensing equipment meets the guidelines of NFPA® 58, Section 6.30.5 for "Low emission transfer" then the transfer distance shall be reduced by one-half. This section has been added to read: 2307.4.1 Low emission transfer. When the dispensing equipment is installed in accordance with Section 6.30.5 of NFPA® 58 for "Low emission transfer," the transfer distance requirements in Table 6.7.2.1 and Section 6.27.4.3 of NFPA® 58 shall be reduced by one-half.

~~(9) Section 2307.7 Public fueling of motor vehicles. This section has been modified to provide an exception to the owner's requirement to train users when the dispensing equipment meets the guidelines of NFPA® 58 for a "Low emission transfer." This section has been modified to read: 2307.7 Public fueling of motor vehicles.~~

~~(A) Self-service LP-gas dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted containers providing fuel to the LP-gas powered vehicle.~~

~~(B) The requirements for self-service LP-gas dispensing systems shall be in accordance with the following:~~

~~(i) The arrangement and operation of the transfer of product into a vehicle shall be in accordance with this section and Chapter 61.~~

~~(ii) The system shall be provided with an emergency shut-off switch located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from dispensers.~~

~~(iii) The owner of the LP-gas motor fuel-dispensing facility or the owner's designee shall provide for the safe operation of the system and the training of users. Exception: If the LP-gas motor fuel-dispensing facility meets the requirements of a low emission transfer station per NFPA® 58, then training of the users is not the responsibility of the facility.~~

~~(iv) The dispenser and hose-end valve shall release not more than 1/8 fluid ounce (4 cc) of liquid to the atmosphere upon breaking the connection with the fill valve on the vehicle.~~

~~(v) Portable fire extinguishers shall be provided in accordance with Section 2305.5.~~

~~(vi) Warning signs shall be provided in accordance with Section 2305.6.~~

~~(vii) The area around the dispenser shall be maintained in accordance with Section 2305.7.~~

~~(10)~~(9) Section 2308.3.2 Warning signs. This section has been added to require warning signs to be posted on Compressed Natural Gas (CNG) dispensing devices. This section has been added to read: 2308.3.2 Warning signs. Warning signs complying with Section 310 shall be posted as follows:

(A) Warning sign(s) shall be conspicuously posted within sight of each dispenser in the fuel dispensing area and shall state the following:

(i) No smoking

(ii) Shut off motor

(iii) Flammable Gas

(iv) Natural gas vehicle fuel cylinders shall be inspected at intervals not exceeding 3 years or 36,000 miles to ensure safe operation of the vehicle

(v) Natural gas fuel cylinders past their end-of-life date shall not be refueled and shall be removed from service.

(B) A warning sign with the words "No smoking, flammable gas" shall be posted in all compressor and storage areas.

(C) The lettering on the sign shall be legible and large enough to be visible from each point of transfer.

(D) The service pressure of each dispenser shall be posted in view of the operator.

~~(11)~~(10) Section 2308.4 Private fueling of motor vehicles. This section has been modified to allow for the industry practice of utilizing CNG trailers that are not permanently attached to CNG powered vehicles ~~and delete the requirement for the owner to ensure the user of a CNG powered vehicle to be properly trained on the vehicle's filling procedures~~. This section has been modified to read: 2308.4 Private fueling of motor vehicles.

(A) Self-service CNG dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of approved, permanently mounted fuel containers.

(B) In addition to the requirements in Section 2305, the owner of a self-service CNG motor fuel-dispensing facility shall ensure the safe operation of the system and the training of users.

~~(12)~~(11) Section 2308.7 Emergency shutdown control. This section has been modified to change the word "control" to "devices" in the section heading, clarify the requirements of the emergency manual shutdown device, and provide an exception to those requirements for time-fill applications. This section has been modified to read: 2308.7 Emergency shutdown devices. A remote and local emergency manual shutdown device shall be provided. Upon activation, the emergency shutdown system shall automatically close valves between the main gas supply and the compressor, and between the storage containers and dispensers, and automatically shut off the power supply to the compressor and the following associated devices: dispensing enclosures; remote pumps; power, control, and signal circuits; and electrical equipment in the hazardous (classified) locations surrounding the fuel dispensing enclosures. All labeled emergency shutdown devices shall be interconnected, whether required or not. Resetting from an emergency shutoff condition shall require manual intervention and the manner of resetting shall be approved by the Authority Having Jurisdiction. Exception: In time-fill applications, in lieu of a defined remote and local emergency manual shutdown device, an emergency manual shutdown device shall be provided within 50 feet (15 240 mm) of each fixed point of dispensing hose attachment and located inside and outside the compressor area within 10 feet (3048 mm) of the main access to the compressor area.

~~(13)~~(12) Section 2308.7.1 Remote emergency shutdown device. This section has been added to clarify the distance requirements for remote emergency manual shutdown device placement and provide for an exception to the maximum distance required when located within line of sight of the dispensing enclosures and approved by the Authority Having Jurisdiction. This section has been added to read: 2308.7.1 Remote emergency shutdown device. A remote emergency manual shutdown device shall be located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from all dispensing enclosures and shall be provided inside and outside the compressor area within 10 feet (3048 mm) of the main access to the compressor area. Exception: A remote emergency shutdown device may be located greater than 100 feet (30 480 mm) from one or more dispensing enclosures when within line of sight of the dispensing enclosures and approved by the Authority Having Jurisdiction.

~~(14)~~(13) Section 2308.7.2 Local emergency shutdown device. This section has been added to require a local emergency manual shutdown device be provided within 15 feet (4572 mm) of each dispensing enclosure. This section has been added to read: 2308.7.2 Local emergency shutdown device. A local emergency manual shutdown device shall be located within 15 feet (4572 mm) of each dispensing enclosure.

~~(15)~~(14) Section 2311.4.3 Ventilation. This section has been modified to clarify the point at which the mechanical ventilation should be exhausted in a basement or pit. This section has been modified to read:

2311.4.3. Ventilation. Where ~~class~~ Class I liquids or LP-gas are stored or used within a building having a basement or pit wherein flammable vapors could accumulate, the basement or pit shall be provided with mechanical ventilation in accordance with the International Mechanical Code®, at a minimum rate of 1 1/2 cubic feet per minute per square foot (cfm divided by square foot) [0.0008 cubic meters per (second meter squared)] taken from a point within 12 inches (305 mm) of the floor to prevent the accumulation of flammable vapors.

~~(16)~~(15) Section 2311.8.1 Preparation of vehicles for repair. This section has been modified to clarify Liquefied Natural Gas vehicles comply with Section 2311.8.1.1 as applicable. This section has been modified to read: 2311.8.1 Preparation of vehicles for repair.

(A) For vehicles powered by gaseous fuels, the fuel shutoff valves shall be closed prior to repairing any portion of the vehicle fuel system.

(B) Vehicles powered by gaseous fuels in which the fuel system has been damaged shall be inspected and evaluated for fuel system integrity prior to being brought into the repair garage. The inspection shall include testing of the entire fuel delivery system for leakage. Liquefied Natural Gas (LNG) vehicles shall comply with Section 2311.8.1.1 as applicable.

~~(17)~~(16) Section 2311.8.1.1. Liquefied Natural Gas (LNG) This section has been added to clarify the process needed to measure and record the pressure of the LNG vehicle fuel system prior to and on every third day while in the repair facility to ensure the fuel pressure does not exceed the maximum allowable fuel pressure. This section has been added to read: 2311.8.1.1. Liquefied Natural Gas. Liquefied Natural Gas (LNG) vehicle fuel system pressure shall be measured and recorded prior to entering the repair facility and at least every third day the vehicle remains in the building. Records shall be posted on the windshield of the vehicle. The maximum allowable system pressure shall be no more than 170 psig. Pressure above 170 psig shall be reduced by operating the vehicle, or limited venting outdoors as required.

748:20-4-38. IFC® 2024 Chapter 33 Fire Safety during Construction and Demolition ~~[RESERVED]~~ [NEW]

Chapter 33 of the Oklahoma adopted IFC® 2024 is adopted with the following modifications:

(1) Section 3307.5 Where required. This section has been modified to change the height requirement of standpipes provided for use during construction from 40 feet to 30 feet. This section has been modified to read: 3307.5 Where required. In buildings required to have standpipes by Section 905.3.1, not less than one standpipe shall be provided for use during construction. Such standpipes shall be installed prior to construction exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access. Such standpipes shall be provided with fire department hose connections at locations adjacent to stairways complying with Section 3307.1.2. As construction progresses, such standpipes shall be extended to within one floor of the highest point of construction secured decking or flooring.

(2) Section 3307.2 Water supply for fire protection. This section has been modified to allow the fire code official to approve other water supply alternatives under certain circumstances. This section has been modified to read: 3307.2 Water supply for fire protection. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible building materials arrive on the site, on commencement of vertical combustible construction and on installation of a standpipe system in buildings under construction, in accordance with Sections 3307.2.1 through 3307.4. Exception: The fire code official is authorized to reduce the fire flow requirements or approve other water supply alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

(3) Section 3307.2.1 Combustible building materials. This section has been modified to add an exception to authorize the fire code official to reduce the fire flow requirements or allow other alternatives under certain circumstances. This section has been modified to read: 3307.2.1 Combustible building materials. When combustible building materials of the building under construction are delivered to a site, a minimum fire flow of 500 gallons per minute (1893 liters per minute) shall be provided. The fire hydrant used to provide this fire flow supply shall be within 500 feet (152 meters) of the combustible building material, as measured along an approved fire apparatus access lane. Where the site configuration is such that one fire hydrant cannot be located within 500 feet (152 meters) of all combustible building materials, additional fire hydrants shall be required to provide coverage in accordance with this section. Exception: The fire code official is authorized to

reduce the fire flow requirements or allow other alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

748:20-4-44. IFC® ~~2018~~ 2024 Chapter 39 Processing and Extraction Facilities [AMENDED]

Chapter 39 of the Oklahoma adopted IFC® ~~2018~~ 2024 ~~has been~~ is adopted with the following modifications:

(1) Section 3903.2 Prohibited occupancies. This section has been modified to clarify the section is applicable to both extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Building Code® and other provisions of this code and shall not be located in any building containing a Group A, E, I or R occupancy. This section has been modified to read: 3903.2 Prohibited occupancies. Extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Building Code® and other provisions of this code shall not be located in any building containing a Group A, E, I or R occupancy.

(2) Section 3903.3 Location. This section has been modified to clarify extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Building Code® and other provisions of this code shall be located in a room dedicated to extraction and prohibits the room from being used for any other purpose. The section prohibits the storage of solvents in the extraction room. This section has been modified to read: 3903.3 Location. The extraction equipment and extraction processes utilizing materials classified as physical hazards in accordance with Section 307 of the International Building Code® and other provisions of this code as solvents shall be located in a room dedicated to extraction and the room shall not be used for any other purpose. There shall be no storage of solvents in the extraction room.

(3) Section 3903.4 Post-process purification and winterization. This section has been modified to clarify post processing and winterization includes heating, cooling or pressurizing of the miscella to other than normal pressure or temperature to be approved and performed in an appliance listed for such use and requires compliance with Sections 3903.4.1 or 3903.4.2. The section prohibits the use of domestic or commercial cooking appliances. This section has been modified to read: 3903.4 Post-process purification and winterization. Post-processing and winterization involving the heating, cooling or pressurizing of the miscella to other than normal pressure or temperature shall be approved and performed in an appliance listed for such use and shall comply with Sections 3903.4.1 through 3903.4.3. Domestic or commercial cooking appliances and cooling appliances shall not be used.

(4) Section 3903.4.2 Refrigerators, freezers and other cooling equipment. This section has been added to require refrigerators, freezers and other cooling equipment used to store or cool flammable liquids to be listed for the storage of flammable and/or combustible liquids or shall be listed for Class I Division I locations in accordance with NFPA 70®. This section has been added to read: 3903.4.2 Refrigerators, freezers and other cooling equipment. Refrigerators, freezers and other cooling equipment used to store or cool flammable liquids shall be listed for the storage of flammable and/or combustible liquids or shall be listed for Class I, Division I locations in accordance with NFPA 70®.

(5) Section 3903.4.3. Post-processing. This section has been added to require post-processing operations, including dispensing of flammable liquids between containers, to be performed within a hazardous exhaust fume hood rated for exhausting flammable vapors and listed to UL 1805. The section requires the electrical equipment utilized within the hazardous exhaust fume hood to be rated for use in flammable atmospheres and provides an exception for the exhaust fume hood when an approved exhaust system is installed in accordance with NFPA 91®. This section has been added to read: 3903.4.3 Post-processing. Post-processing operations, including dispensing of flammable liquids between containers, shall be performed within a hazardous exhaust fume hood rated for exhausting flammable vapors and listed in accordance with UL 1805. Electrical equipment used within the hazardous exhaust fume hood shall be rated for use in flammable atmospheres. Exception: A hazardous exhaust fume hood is not required where an approved exhaust system is installed in accordance with NFPA 91®.

(6) Section 3903.5 Use of flammable and combustible liquids. This section has been modified to specify the use of flammable and combustible liquids for liquid extraction processes, including the dispensing of flammable liquids between containers, where the liquid is boiled, distilled, or evaporated, to be located within a hazardous exhaust fume hood, rated for exhausting flammable vapors and listed in accordance with UL 1805. The section requires all electrical equipment used within the hazardous exhaust fume hood to be rated for use

in flammable atmospheres and prohibits the heating of flammable or combustible liquids over an open flame, and provides exceptions when certain conditions are met. This section has been modified to read: 3903.5 Use of flammable and combustible liquids. The use of flammable and combustible liquids for liquid extraction processes, including dispensing of flammable liquids between containers, where the liquid is boiled, distilled, or evaporated shall be located within a hazardous exhaust fume hood, rated for exhausting flammable vapors and listed in accordance with UL 1805. Electrical equipment used within the hazardous exhaust fume hood shall be rated for use in flammable atmospheres. Heating of flammable or combustible liquids over an open flame is prohibited. Exceptions:

(A) The use of a heating element not rated for flammable atmospheres, where documentation from the manufacturer, or approved testing laboratory indicates the element is rated for heating of flammable liquids.

(B) Unheated processes at atmospheric pressure using less than 16 oz. (473 ml) of flammable liquids are not required to be located within a hazardous exhaust fume hood.

(C) A hazardous exhaust fume hood is not required where an approved exhaust system is installed in accordance with NFPA 91®. Electrical equipment used within this room shall be rated for use in flammable atmosphere.

(7) Section 3903.6 Liquefied petroleum gas. This section has been modified to require plant processing and extraction utilizing liquefied petroleum gas to comply with Sections 3903.6.1 through 3903.6.4 and other applicable provisions of this code. This section has been modified to read: 3903.6 Liquefied petroleum gas. Plant processing and extraction utilizing liquefied petroleum gas shall comply with Section 3903.6.1 through 3903.6.4 and other applicable provisions of this code.

(8) Section 3903.6.1 Release of gas. This section has been added to prohibit liquefied petroleum gases to be released to the atmosphere except when released in accordance with Section 7.3 of NFPA 58®. This section has been added to read: 3903.6 Release of gas. Liquefied petroleum gases shall not be released to the atmosphere except where released in accordance with Section 7.3 of NFPA 58®.

(9) Section 3903.6.2 Exhaust. This section has been added to require any plant processing and extraction utilizing liquefied petroleum gas including processes for off-gassing spent plant material and oil retrieval to be located under a chemical fume hood and listed in accordance with UL 1805. The section provides an exception where an approved exhaust system is installed in accordance with NFPA 91® This section has been added to read: 3903.6.2 Exhaust. Plant processing and extraction utilizing liquefied petroleum gas, including processes for off-gassing spent plant material and oil retrieval, shall be located under a chemical fume hood, and listed in accordance with ~~UL1805~~ UL 1805. Exception: A chemical fume hood is not required where an approved exhaust system is installed in accordance with NFPA 91®.

(10) Section 3903.6.3 Electrical. This section has been added to require the extraction room where liquefied petroleum gas is used as a solvent to be classified as Class I, Division I hazardous location in accordance with NFPA 70®. The section requires all conductive equipment and conductive objects within the extraction room to be bonded and grounded with a resistance of less than 1.0 times 10 to the sixth power ohms in accordance with NFPA 70®. This section has been added to read: 3903.6.3 Electrical. The extraction room where liquefied petroleum gas is used as a solvent shall be classified as Class I, Division I hazardous location in accordance with NFPA 70®. All conductive equipment and conductive objects within the extraction room shall be bonded and grounded with a resistance of less than 1.0 times 10 to the sixth power ohms in accordance with NFPA 70®.

(11) Section 3903.6.4 Automatic fire-extinguishing system. This section has been added to require chemical fume hoods and enclosures, including ductwork required by Section 3903.6.2 to be provided with an automatic fire-extinguishing system complying with Section 903.3.1.1, 904.6, 904.8 or 904.10. This section has been added to read: 3903.6.4 Automatic fire-extinguishing system. Chemical fume hoods and enclosures, including ductwork required by Section 3903.6.2 shall be provided with an automatic fire-extinguishing system complying with Section 903.3.1.1, 904.6, 904.8 or 904.10.

(12) Section ~~3903.7~~ 3903.8 Carbon dioxide extraction. This section has been added to require plant processing and extraction facilities utilizing carbon dioxide solvents to comply with Sections ~~3903.7.1~~ 3903.8.1 through ~~3903.7.3~~ 3903.8.3, Section 5307 and other applicable provisions of the code. This section has been added to read: ~~3903.7~~ 3903.8 Carbon dioxide extraction. Plant processing and extraction facilities utilizing carbon dioxide solvents shall comply with Sections ~~3903.7.1~~ 3903.8.1 through ~~3903.7.3~~ 3903.8.3, Section 5307 and other applicable provisions of this code.

(13) Section ~~3903.7.1~~ 3903.8.1 Storage and handling. This section has been added to require all carbon dioxide compressed gas cylinders to be secured to a fixed object to prevent falling. This section has been added to read: ~~3903.7.1~~ 3903.8.1 Storage and handling. All carbon dioxide compressed gas cylinders shall be secured to a fixed object to prevent falling.

(14) Section ~~3903.7.2~~ 3903.8.2 Gas detection system. This section has been added to require a gas detection system complying with Sections 916 and 5307.4.3 to be provided in a room where carbon dioxide solvents are used in the extraction process. This section has been added to read: ~~3903.7.2~~ 3903.8.2 Gas detection system. A gas detection system complying with Sections 916 and 5307.4.3 shall be provided in a room where carbon dioxide solvents are used in the extraction process.

(15) Section ~~3903.7.3~~ 3903.8.3 Carbon dioxide discharge. This section has been added to require the carbon dioxide equipment pressure relief device and blow-off valves to be piped to the exterior of the building. This section has been added to read: ~~3903.7.3~~ 3903.8.3 Carbon dioxide discharge. The carbon dioxide extraction equipment pressure relief device and blow-off valves shall be piped to the exterior of the building.

(16) Section ~~3905.3~~ 3905.4 Emergency power system. This section has been added to require the extraction room lighting and extraction room ventilation system to be provided with emergency power for extraction processes utilizing hydrocarbon gases or liquids as solvents, in accordance with Section 2702 of the International Building Code®. This section has been added to read: ~~3905.3~~ 3905.4 Emergency power system. For extraction processes utilizing hydrocarbon gases or liquids as solvents, the extraction room lighting and extraction room ventilation system shall be provided with emergency power in accordance with Section 2702 of the International Building Code®.

748:20-4-58. IFC® ~~2018~~ 2024 Chapter 53 Compressed Gases [AMENDED]

Chapter 53 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification:

~~(1) Section 5301.1 Scope has been modified to correct errata published by the ICC. The errata modifies the first exception to change a section reference from Section "606" to "605." This section has been modified to read: 5301.1 Scope. Storage, use and handling of compressed gasses in compressed gas containers, cylinders, tanks, and systems shall comply with this chapter and NFPA® 55, including those gases regulated elsewhere in this code. Partially full compressed gas containers, cylinders or tanks containing residual gases shall be considered as full for the purposes of the controls required.~~

~~(2) Liquefied natural gas for use as a vehicular fuel shall also comply with NFPA® 52 and NFPA® 59A.~~

~~(3) Compressed gases classified as hazardous materials shall also comply with Chapter 50 for general requirements and chapters addressing specific hazards, including Chapters 58 (Flammable Gases), 60 (Highly Toxic and Toxic Materials), 63 (Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids) and 64 (Pyrophoric Materials).~~

~~(4) Compressed hydrogen (CH2) shall also comply with the applicable portions of Chapters 23 and 58 of this code, the International Fuel Gas Code® and NFPA® 2.~~

~~(5) Cutting and welding gases shall also comply with Chapter 35.~~

~~(6) Exceptions:~~

~~(A) Gases used as refrigerants in refrigeration systems (see Section 605).~~

~~(B) Compressed natural gas (CNG) for use as a vehicular fuel shall comply with Chapter 23, NFPA® 52 and the International Fuel Gas Code®.~~

~~(C) Cryogenic fluids shall comply with Chapter 55.~~

~~(D) LP-gas shall comply with Chapter 61 and the International Fuel Gas Code®.~~

~~(7)~~ Section 5302.1 Definitions. This section has been modified to clarify the definition for a "CARBON DIOXIDE ENRICHMENT SYSTEM" has been added to the list of definitions defined in Chapter 2. This section has been modified to read: 5302.1 Definitions. The following terms are defined in Chapter 2:

~~(A)~~(1) CARBON DIOXIDE ENRICHMENT SYSTEM.

~~(B)~~(2) COMPRESSED GAS.

~~(C)~~(3) COMPRESSED GAS CONTAINER.

~~(D)~~(4) COMPRESSED GAS SYSTEM.

~~(E)~~(5) NESTING.

~~(F)~~(6) TUBE TRAILER.

~~(8) Section 5306.2.2 One-hour interior room. This section has been modified to correct errata published by the ICC. The modification requires in rooms where an exterior wall cannot be provided, a 1-hour interior room to be provided and requires the room to be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with section 707 of the International Building Code® or horizontal assemblies constructed in accordance with Section 711 of the International Building Code® or both, with a fire-resistance rating of to less than 1 hour. This section has been modified to read: 5306.2.3 One-hour interior room. Where an exterior wall cannot be provided for the room, a 1-hour interior room shall be provided and shall be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with Section 707 of the International Building Code® or horizontal assemblies constructed in accordance with Section 711 of the International Building Code®, or both, with a fire-resistance rating of not less than 1 hour. Openings between the room or enclosure and interior spaces shall be self-closing, smoke- and draft-control assemblies having a fire protection rating of not less than 1 hour. An automatic sprinkler system shall be installed within the room. The room shall be exhausted through a duct to the exterior. Supply and exhaust ducts shall be enclosed in a 1-hour rated shaft enclosure from the room to the exterior. Approved mechanical ventilation shall comply with the International Mechanical Code® and be provided at a minimum rate of 1 cfm per square foot [0.00508 cubic meters divided by (s times square meters)] of the area of the room.~~

748:20-4-60. IFC® ~~2018~~ 2024 Chapter 55 Cryogenic Fluids [AMENDED]

Chapter 55 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modification: Section 5501.1 Scope. This section has been modified to add a third exception for liquefied natural gas (LNG) facilities for LNG vehicular applications to comply with Chapter 23 and NFPA® 52. This section has been modified to read: 5501.1 Scope.

(1) Storage, use and handling of cryogenic fluids shall comply with this chapter and NFPA® 55. Cryogenic fluids classified as hazardous materials shall also comply with the general requirements of Chapter 50. Partially full containers containing residual cryogenic fluids shall be considered as full for the purposes of the controls required. Exceptions:

(A) Fluids used as refrigerants in refrigeration systems (see Section 605).

(B) Liquefied natural gas (LNG), which shall comply with NFPA® 59 A.

(C) LNG facilities for LNG vehicular applications, which shall comply with Chapter 23 and NFPA® 52.

(2) Oxidizing cryogenic fluids, including oxygen, shall comply with Chapter 63, as applicable.

(3) Flammable cryogenic fluids, including hydrogen, methane, and carbon monoxide, shall comply with Chapters 23 and 58, as applicable.

(4) Inert cryogenic fluids, including argon, helium and nitrogen, shall comply with ANSI/CGA P-18.

748:20-4-62. IFC® ~~2018~~ 2024 Chapter 57 Flammable and Combustible Liquids [AMENDED]

Chapter 57 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modification: Section 5705.5 Alcohol-based hand rubs classified as Class I or II. This section has been modified to require guards or shields on alcohol-based hand rub dispensers when installed over a carpeted area. This section has been modified to read: 5705.5 Alcohol-based hand rubs classified as Class I or II liquids. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids shall be in accordance with all of the following:

(1) The maximum capacity of each dispenser shall be 68 ounces (2 L).

(2) The minimum separation between dispensers shall be 48 inches (1219 mm)

(3) The dispensers shall not be installed above, below, or closer than 1 inch (25 mm) to an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor or intervening counter top shall be free of electrical receptacles, switches, appliances, devices or other ignition sources.

(4) Dispensers shall be mounted so that the bottom of the dispenser is not less than 42 inches (1067 mm) and not more than 48 inches (1219 mm) above the finished floor.

(5) Dispensers shall not obstruct required means of egress or be placed within 3 feet (914 mm) of an open flame, heating devise or other ignition source.

~~(5)~~(6) Dispensers shall not release their contents except when the dispenser is manually activated. Facilities shall be permitted to install and use automatically activated "touch free" alcohol-based hand-rub dispensing devices with the following requirements:

(A) Item 6.1 The facility or persons responsible for the dispensers shall test the dispensers each time a new refill is installed in accordance with the manufacturer's care and use instructions.

(B) Item 6.2 Dispensers shall be designed and must operate in a manner that ensures accidental or malicious activations of the dispensing devices are minimized. At a minimum, all devices subject to or used in accordance with this section shall have the following safety features:

(i) Item 6.2.1. Any activations of the dispenser shall only occur when an object is placed within 4 inches (98 mm) of the sensing device.

(ii) Item 6.2.2. The dispenser shall not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the United States Food and Drug Administration (USFDA).

(iii) Item 6.2.3. An object placed within the activation zone and left in place will cause only one activation.

~~(6)~~(7) Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 5704 and 5705.

~~(7)~~(8) Dispensers when installed over a carpeted area shall have a guard or shield to prevent alcohol-based hand rub product from dispensing onto the floor.

748:20-4-66. IFC® ~~2018~~ 2024 Chapter 61 Liquefied Petroleum Gases [AMENDED]

Chapter 61 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 6106.1 Attendants. This section has been modified to provide an exception to the requirement for a qualified attendant if the motor fuel-dispensing equipment meets the guidelines of NFPA® 58 for a "Low emission transfer." This section has been modified to read: 6106.1 Attendants. Dispensing of LP-gas shall be performed by a qualified attendant. Exception: When the dispensing equipment meets the guidelines of NFPA® 58 for "Low emission transfer" an attendant is not required.

(2) Section 6106.2 Overfilling. This section has been modified to include an overfilling prevention device on the container as one of the ways to measure the volume in the container. This section has been modified to read: 6106.2 Overfilling. LP-gas containers shall not be filled or maintained with LP-gas in excess of either the volume determined using the fixed liquid-level gauge installed in accordance with the manufacturer's specifications and in accordance with Section 5.9.5 of NFPA® 58, the volume determined by the overfilling prevention device installed on the container, or the weight determined by the required percentage of water capacity marked on the container. Portable LP-gas containers shall not be refilled unless equipped with an overfilling prevention device (OPD) where required by Section 5.9.3 of NFPA® 58.

748:20-4-85. IFC® ~~2018~~ 2024 Chapter 80 Referenced Standards [AMENDED]

Chapter 80 of the Oklahoma adopted IFC® ~~2018~~ 2024 is adopted with the following modifications:

(1) The reference standard ICC 500® ~~2014~~ 2023 ICC/NSSA Standard for the Design and Construction of Storm Shelters has been added to the list of referenced standards. The referenced standard has been added to read: ICC 500® ~~2014~~ 2023 ICC/NSSA Standard for the Design and Construction of Storm Shelters. Code section references: 320.1~~, 320.2, 320.3~~

(2) The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC® 18~~ IBC® 24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(3) The reference to the International Existing Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IEBC® 18~~ IEBC® 24 International Existing Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(4) The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to

read: ~~IFGC® 18~~ IFGC® 24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(5) The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC® 18~~ IMC® 24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(6) The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through OUBCC." This section has been modified to read: ~~IPC® 18~~ IPC® 24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(7) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(8) The referenced standard for NFPA® 70® National Electrical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(9) The referenced standard NFPA® 76 Standard for the Fire Protection of Telecommunications Facilities, 2016 edition has been added to the code to reference sections in Chapter 12. This standard has been added to read: 76-16 Standard for the Fire Protection of Telecommunication Facilities, with the following section references: 1206.1.2.1, 1206.2.1, 1206.3.1, 1206.3.7.1, 1206.4.1, 1206.5.1, 1206.5.2, 1206.5.3, 1206.5.5, Table 1206.6, 1206.6.2.3, and Table 1206.7.~~

~~(10) The referenced standard for NFPA® 260 Methods of Tests and Classification Systems for Cigarette Ignition Resistance of Components of Upholstered Furniture has been modified to address errata published by the ICC and changes the edition year from 2018 to 2013. This section has been modified to read: 260-13 Methods of Tests and Classification Systems for Cigarette Ignition Resistance of Components of Upholstered Furniture.~~

~~(11) The referenced standard for NFPA® 289 Standard Method of Fire Test for Individual Fuel Packages has been modified to address errata published by the ICC and changes the edition year from 2018 to 2013. This section has been modified to read: 289-13 Standard Method of Fire Test for Individual Fuel Packages.~~

~~(12) The referenced standard UL 1974-18 Evaluation for Repurposing Batteries has been added to the code. This referenced standard has been added to read: 1974-18 Evaluation for repurposing Batteries, referenced in code section number: 1206.3.9.~~

~~(13) The referenced standard UL 9540A-18 Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems, has been added to the code. This reference as has been added to read: 9540A-18 Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems, Referenced in code section number: 1206.1.5, 1206.6.3~~

748:20-4-86. Appendix ~~O~~ P, Egress Path Markings for Existing Buildings [AMENDED]

This appendix has been newly created and entitled "Appendix ~~O~~ P, Egress Path Markings for Existing Buildings." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

(1) Section ~~O101~~ P101 General. This section has been added to clarify scope and intent for this appendix. This section has been added to read: ~~O101~~ P101 General.

(A) Section ~~O101.1~~ P101.1 Scope. This section has been added to specify the provisions of the appendix and shall apply to existing high-rise buildings of Group A, B, E, I, M and R-1 occupancies. This section has been added to read: ~~O101.1~~ P101.1 Scope. The provisions of this appendix shall apply to existing high-rise buildings of Group A, B, E, I, M~~,~~ and R-1 occupancies in addition to the requirements of Chapter 11.

(B) Section ~~O101.2~~ P101.2 Intent. This section has been added to specify the intent of this appendix is to provide an additional degree of life-safety to persons occupying existing high-rise buildings of Group A, B, E, I, M and R-1 occupancies. This section has been added to read: ~~O101.2~~ P101.2 Intent. The intent of this appendix is to provide an additional degree of life-safety to persons occupying existing high-rise buildings

of Group A, B, E, I, M and R-1 occupancies where such buildings do not contain luminous egress path markings.

(2) Section ~~O102~~ P102. Egress path markings. This section, formerly numbered Section 1104.25 has been moved into Appendix ~~O~~ P entitled "Egress Path Markings for Existing Buildings." The section has been added to read: ~~O102~~ P102. Egress path markings. Existing high-rise buildings of Group A, B, E, I, M and R-1 occupancies shall be provided with luminous egress path markings in accordance with Section 1025. Exception: Open, unenclosed stairwells in historic buildings designated as historic under a state or local historic preservation program.

SUBCHAPTER 6. IRC® ~~2018~~ 2024

748:20-6-1. Adoption of International Residential Code® ~~2018~~ 2024 (IRC® ~~2018~~ 2024) [AMENDED]

(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Residential Code®, ~~2018~~ 2024 Edition (IRC® ~~2018~~ 2024), second printing (October 2024) as amended and modified in this subchapter to be the statewide minimum code for residential construction within the State of Oklahoma for one- and two-family dwellings and townhouses pursuant to 59 O.S. § 1000.23.

(b) The OUBCC through formal action expressly chose to adopt the IRC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for residential construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose to not adopt the International Residential Code®, ~~2012~~ 2021 Edition (IRC® ~~2012~~ 2021) for any purpose.

(c) As part of its 2015 code cycle, the International Code Council, Inc.® (ICC®) reorganized the format of certain of its model codes as it was foreseeable to ICC® that additional appendices will need to be added in the future as model regulations for new processes or operations are developed. The format reorganization was designed by ICC® to accommodate such future appendices by providing reserved (unused) appendices in certain of its model codes as part of its 2015 code cycle. That format reorganization continues into the ICC's ~~2018~~ 2024 code cycle and is adopted by the OUBCC to the extent provided in this subchapter by the phrase "reserved for future use" inserted in lieu of titles for chapters.

(d) Errata published by the ICC for the IRC® 2024 edition has not been reviewed or incorporated into these rules.

~~(d)~~(e)

748:20-6-2. Effect of Adoption [AMENDED]

The IRC® ~~2018~~ 2024, as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for residential building construction for one- and two-family dwellings and townhouses in Oklahoma pursuant to 59 O.S. § 1000.23 and may only be amended or altered by other jurisdictions pursuant to Oklahoma law.

748:20-6-3. IRC® 2018 2024 and Other Appendices [AMENDED]

(a) The OUBCC through formal action has chosen not to adopt appendices ~~A through X~~ AA, AB, AC (Reserved), BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, CA, CB, CC, CD, CE, CF, CG, CH, NA (Reserved), NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL or Resource A of the IRC® ~~2018~~ 2024 for inclusion in the statewide minimum code for residential construction in the State of Oklahoma. Appendices ~~A through X~~ AA, AB, AC (Reserved), BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, CA, CB, CC, CD, CE, CF, CG, CH, NA (Reserved), NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL and Resource A are informative and provide prescriptive requirements which are not mandatory unless specifically referenced in the adopting ordinance or order by other jurisdictions within the State of Oklahoma in accordance with 59 O.S. § 1000.29.

(b) The OUBCC hereby creates a new appendix ~~U~~ BP, entitled "Appendix ~~U~~ BP Automatic Fire Systems." Section ~~R313.2~~ R309.2 entitled "One- and two-family dwellings automatic fire systems" and Section ~~R313.2.1~~ R309.2.1 entitled "Design and installation" have been removed from Chapter 3 of the IRC® ~~2018~~ 2024 and relocated to Appendix ~~U~~ BP, entitled "Appendix ~~U~~ BP, Automatic Fire Systems."

(c) The OUBCC hereby creates a new appendix ~~V~~ BQ, entitled "Appendix ~~V~~ BQ, Swimming Pools, Spas and Hot Tubs." Section ~~R326.1~~ R328.1 entitled "General" has been modified and the original language published in this

section has been removed from Chapter 3 of the IRC® ~~2018~~ 2024 and relocated to Appendix ~~V~~ BQ entitled "Appendix ~~V~~ BQ Swimming Pools, Spas and Hot Tubs.

~~(d) The OUBCC hereby creates a new appendix W, entitled "Appendix W, Energy Efficiency." Section N1101.14 entitled "Certificate" has been removed from Chapter 11 of the IRC® 2018 and relocated to Appendix W, entitled "Appendix W, Energy Efficiency."~~

~~(e)~~(d) The OUBCC hereby creates a new Appendix ~~X~~ BR, entitled "Appendix ~~X~~ BR, Residential Tornado Provisions."

748:20-6-4. IRC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IRC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for residential construction within the State of Oklahoma for one- and two-family dwellings and townhouses pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.

(b) To the extent any references in the IRC® ~~2018~~ 2024 as amended and modified in this sub-chapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IRC® ~~2018~~ 2024 as amended and modified in this sub-chapter and in the IRC® ~~2018~~ 2024 Chapter 44 entitled "Referenced Standards."

748:20-6-6. IRC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IRC® ~~2018~~ 2024, includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IRC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for residential building construction in jurisdictions throughout and including the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IRC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for residential construction.

(2) All provisions of the adopted IRC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for residential building construction for one- and two-family dwellings and townhouses in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to Oklahoma law. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.

(3) Section R101.2 Scope. This section has been modified to amend the exceptions related to live/work units to remove the language "located in townhouses;" align the requirements for lodging houses to comply with statutes in Title 74 O. S. § 317.1; and to align the number of children in a home day care facility with those allowed by the Oklahoma Department of Health regulations as modified in the Oklahoma Uniform Building Code Commission adoption of the International Building Code® and International Fire Code®. This section has been amended to read: R101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height. Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

(A) Item 1. Live/work units in buildings constructed in accordance with this code and complying with the requirements of Section 508.5 of the International Building Code.

(B) Item 2. Owner-occupied lodging houses with four or fewer guestrooms and not more than two persons per room, provided that the facilities are protected with an automatic fire sprinkler system in accordance with Section P2904.

(C) Item 3. A care facility with five or fewer persons receiving custodial care within a dwelling unit.

(D) Item 4. A care facility with five or fewer persons receiving medical care within a dwelling unit.

(E) Item 5. A day care facility for Occupancy Groups other than E or I with five or fewer persons of any age receiving care within a dwelling unit.

(F) Item 6. A day care facility for Occupancy Groups E or I with eight to twelve children receiving such day care within a dwelling unit. This number shall include children two and one-half years or less of age.

~~(3)~~(4) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create, departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IRC® ~~2018~~ 2024.

~~(4)~~(5) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IRC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-6-7. IRC® ~~2018~~ 2024 Chapter 2 Definitions [AMENDED]

Chapter 2 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) BUILDING DRAIN. This definition has been modified to align with the industry standard where the site sewer (civil) picks up 5 feet (1524 mm) outside of the building. This definition has been modified to read: BUILDING DRAIN. That part of the lowest piping of a drainage system that receives the discharge from soil, waste, and other drainage pipes inside and that extends 5 feet (1524 mm) in developed length of pipe beyond the exterior walls of the building and conveys the drainage to the building sewer.

(2) LIVE/WORK UNIT. This definition has been modified to remove a requirement for the nonresidential portion of the live/work unit to be operated by the tenant and to clarify the unit complies with Section 508.5 of the International Building Code®. This definition has been modified to read: LIVE/WORK UNIT. A dwelling unit or sleeping unit in which a portion of the space includes a nonresidential use that complies with Section 508.5 of the International Building Code®.

~~(2) NATIONALLY RECOGNIZED TESTING LABORATORY. This definition has been added to define a Nationally Recognized Testing Laboratory. This definition has been added to read: NATIONALLY RECOGNIZED TESTING LABORATORY. A testing facility given this designation from the United States Occupational Safety and Health Administration (OSHA) that provides product safety testing and certification services to manufacturers.~~

(3) STORM SHELTER. The definition of a "STORM SHELTER" has been added to define a building, structure or portion thereof, built to provide protection from severe wind storm events such as tornados or hurricanes. The definition has been added to read: STORM SHELTER. A building, structure, or portions thereof, constructed in accordance with ICC 500® and designated for use during a severe wind storm event such as a hurricane or tornado.

(A) Community storm shelter. A storm shelter not defined as a "Residential storm shelter."

(B) Residential storm shelter. A storm shelter serving occupants of dwelling units and having an occupant load not exceeding 16 persons.

748:20-6-8. IRC® ~~2018~~ 2024 Chapter 3 Building Planning [AMENDED]

Chapter 3 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Table R301.2(1) Climatic and Geographic Design Criteria. This table has been modified to fill in the blank cell in row 2 under the Ice Barrier Underlayment Required column in the first section of the table with a “no” to clarify ice and water shield is not required in Oklahoma, except as otherwise provided for in Section 905.2.1 Ice barriers. This table has been modified to read: Table R301.2(1) Climatic and Geographic Design Criteria. The table contains two parts, the first part has two rows and ~~nine~~ eight columns with two ~~of~~ columns ~~that contain~~ containing subcolumns. The second part of the table contains five rows and ~~eight~~ seven columns with the first row merged into one column that reads "Manual J Design Criteria" with a superscript "n" following

the title to indicate footnote "n" is applicable to this portion of the table. The second part of the table and all the footnotes have not been modified. The table and the modification are described below:

(A) Row 1: The first row of part one contains the headers for each column in this portion of the table ~~is~~ as described below:

(i) Row 1, column 1 header is entitled "Ground Snow Load" with a superscript "o" to indicate footnote "o" is applicable.

(ii) Row 1, column 2 header is entitled "Wind Design" and contains four subcolumns as listed below:

(I) Row 1, column 2, subrow 1 header is entitled "Speed (mph)" with a superscript "d" after the word "~~speed~~ Speed" to indicate footnote "d" is applicable.

(II) Row 1, column 2, subrow 2 header is entitled "Topographic Effects" with a superscript "k" to indicate footnote "k" is applicable.

(III) Row 1, column 2, subrow 3 header is entitled "Special Wind Region" with a superscript "l" to indicated footnote "l" is applicable.

(IV) Row 1, column 2, subrow 4 header is entitled "Windborne Debris Zone" with a superscript "m" to indicate footnote "m" is applicable.

(iii) Row 1, column 3 header is entitled "Seismic Design Category" with a superscript "f" to indicate footnote "f" is applicable.

(iv) Row 1, column 4 header is entitled "Subject to Damage From" and contains three sub-columns as listed below:

(I) Row 1, column 4, subcolumn 1 header is entitled "Weathering" with a superscript "a" to indicate footnote "a" is applicable.

(II) Row 1, column 4, subcolumn 2 header is entitled "Frost Depth Line" with a superscript "b" to indicate footnote "b" is applicable.

(III) Row 1, column 4, subcolumn 3 header is entitled "Termite" with a superscript "c" to indicate footnote "c" is applicable.

~~(v) Row 1 column 5 header is entitled "Winter Design Temp" with a superscript "e" to indicate footnote "e" is applicable.~~

~~(vi)~~(v) Row 1, column ~~6~~ 5 header is entitled "Ice Barrier Underlayment Required" with a superscript "h" to indicate footnote "h" is applicable.

~~(vii)~~(vi) Row 1, column ~~7~~ 6 header is entitled "Flood Hazards" with a superscript "g" to indicate footnote "g" is applicable.

~~(viii)~~(vii) Row 1, column ~~8~~ 7 header is entitled "Air Freezing Index" with a superscript "i" to indicate footnote "i" is applicable.

~~(ix)~~(viii) Row 1, column ~~9~~ 8 header is entitled "Mean Annual Temp" with a superscript "j" to indicate footnote "j" is applicable.

(B) The second row of the first part has been modified to fill in the area under column ~~6~~ 5 entitled "Ice Barrier and Underlayment Required" and is described below:

(i) Row 2, column 1 has been left blank for the authority having jurisdiction to complete based on local conditions as required in footnote "o."

(ii) Row 2, column 2 subcolumns 1 through 4 are described below:

(I) Row 2, column 2, subcolumn 1 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "d."

(II) Row 2, column 2, subcolumn 2 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "k."

(III) Row 2, column 2, subcolumn 3 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "l."

(IV) Row 2, column 2, subcolumn 4 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "m."

(iii) Row 2, column 3 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "f."

(iv) Row 2, column 4, subcolumns 1 through 3 are described below:

(I) Row 2, column 4, subcolumn 1 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "a."

(II) Row 2, column 4, subcolumn 2 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "b."

(III) Row 2, column 4, subcolumn 3 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "c."

~~(v) Row 2, column 5 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "e."~~

~~(vi)~~(v) Row 2, column ~~6~~ 5 has been filled in with the word "NO" to indicate Ice barrier underlayment is not required in Oklahoma, except as otherwise provided for in Section 905.1.2 Ice barriers.

~~(vii)~~(vi) Row 2, column ~~7~~ 6 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "g."

~~(viii)~~(vii) Row 2, column ~~8~~ 7 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "i."

~~(ix)~~(viii) Row 2, column ~~9~~ 8 has been left blank for the authority having jurisdiction to complete based on local conditions as described in footnote "j."

(C) Row 3, the second part of the table has been merged into one column with the wording "Manual J Design Criteria" followed by a superscript "n" to indicate footnote "n" is applicable.

(D) Row 4 of the table has eight columns with the following headers:

(i) Row 4, column 1, contains the wording "Elevation."

(ii) Row 4, column 2, contains the wording "~~Latitude~~ Altitude correction factor" with a superscript "e" to indicate footnote "e" is applicable.

(iii) Row 4, column 3, contains the wording "~~Winter Heating~~ Coincident wet bulb."

(iv) Row 4, column 4, contains the wording "~~Summer Cooling~~ Indoor winder design relative humidity."

(v) Row 4, column 5, contains the wording "~~Altitude Correction Factor~~ Indoor winter design dry-bulb temperature."

(vi) Row 4, column 6, contains the wording "~~Indoor Design Temperature~~ Outdoor winter design dry-bulb temperature."

(vii) Row 4, column 7, contains the wording "~~Design Temperature Cooling~~ Heating temperature difference."

~~(viii) Row 4, column 8, contains the wording "Heating Temperature Difference."~~

(E) Row 5 of the table has ~~eight~~ seven columns that have been left blank for the authority having jurisdiction to complete.

(F) Row 6 of the table has eight columns that have the following headers:

(i) Row 6, column 1, contains the wording "~~Cooling Temperature Difference~~ Latitude."

(ii) Row 6, column 2, contains the wording "~~Wind Velocity Heating~~ Daily range."

(iii) Row 6, column 3, contains the wording "~~Wind Velocity Cooling~~ Summer design gains."

(iv) Row 6, column 4, contains the wording "~~Coincident Wet Bulb~~ Indoor summer design relative humidity."

(v) Row 6, column 5, contains the wording "~~Daily Range~~ Indoor summer design dry-bulb temperature."

(vi) Row 6, column 6, contains the wording "~~Winter Humidity~~ Outdoor summer design dry-bulb temperature."

(vii) Row 6, column 7, contains the wording "~~Summer Humidity~~ Cooling temperature difference."

~~(viii) Row 6, column 8, was left blank~~

(G) Row 7 of the table has ~~eight~~ seven columns that have been left blank for the authority having jurisdiction to complete.

(H) Under the table the following wording is shown: "For SI: 1 pound per square foot equals 0.0479 kPa, 1 mile per hour equals 0.447 meters per second."

(I) Footnote "a" reads: "Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure ~~R301.2(4)~~ R301.2(1). The grade of masonry units shall be determined from ASTM C34, ASTM C55, ASTM C62, ASTM C73, ASTM C90, ASTM C129, ASTM C145, ASTM C216, or ASTM C652."

(J) Footnote "b" reads: "Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finished grade."
(K) Footnote "c" reads: "The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage."
(L) Footnote "d" reads: "The jurisdiction shall fill in this part of the table with the wind speed from the ~~basic~~ ultimate design wind speed map [Figure ~~R301.2(5)A~~ R301.2(2)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4."
(M) Footnote "e" reads: "~~The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official. [Also see Figure R301.2(1).]~~ The jurisdiction shall fill in this section of the table to establish the design criteria using Table 10A from ACCA Manual J or established criteria determined by the jurisdiction."
(N) Footnote "f" reads: "The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1."
(O) Footnote "g" reads: "The jurisdiction shall fill in this part of the table with: ~~(a)~~ the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas~~;), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMSs and FBFMs~~ and the title and date of the currently effective Flood Insurance Study or other flood hazard and ~~map~~ maps adopted by the authority having jurisdiction, as amended."
(P) Footnote "h" reads: "In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with a "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
(Q) Footnote "i" reads: "The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table Air Freezing Index-USA Method (Base 32 degrees Fahrenheit)."
(R) Footnote "j" reads: "The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table 'Air Freezing Index-USA Method (Base 32 degrees Fahrenheit.)"
(S) Footnote "k" reads: "In accordance with Section ~~R301.2.1.5~~ R301.2(3), where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with 'YES.' Otherwise, the jurisdiction shall indicate 'NO' in this part of the table."
(T) Footnote "l" reads: "In accordance with Figure R301.2(5)A, where there is local historical ~~damage~~ data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with 'YES' and identify any specific requirements. Otherwise, the jurisdiction shall indicate 'NO' in this part of the table.
(U) Footnote "m" reads: "In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table."
(V) Footnote "n" reads: "The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction."
(W) Footnote "o" reads: "The jurisdiction shall fill in this section of the allowable stress design table using the Ground Snow Loads in Figure ~~R301.2(6)~~ R301.2(3)."

(2) Section R302.1 Exterior Walls. This section has been modified to add a sixth exception to the section for open metal carport structures constructed within zero feet of the property line without fire-resistive or opening protection when the location of such is approved. This section has been modified to read: R302.1 Exterior Walls. Construction, projections, openings and penetrations of the exterior walls of dwellings, townhouses and accessory buildings shall comply with Table R302.1(1) based on fire separation distance; or dwellings and townhouses equipped throughout with an automatic fire sprinkler system installed in accordance with Section P2904 shall comply with Table R302.1(2) based on fire separation distance.

(3) For the purposes of determining fire separation distance, dwellings and townhouses on the same lot shall be assumed to have an imaginary line between them. Where a new dwelling or townhouses is to be erected on the same lot as an existing dwelling or townhouse, the location of the assumed imaginary line with relation to the existing dwelling or townhouses shall be such that the existing dwelling or townhouse meets requirements of the section.

(4) Where a lot line exists between adjacent townhouse units, fire separation distance of exterior walls shall be measured to the lot line. Where a lot line does not exist between adjacent townhouse units, an imaginary line shall be assumed between the adjacent townhouse units and fire separation distance of exterior walls shall be measured to the imaginary line. Fire separation distance and requirements of Section R302.1 shall not apply to walls separating townhouse units that are required by Section R302.2. Exceptions:

(A) Exception 1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.

(B) Exception 2. Walls of individual dwelling units and their accessory buildings located on the same lot.

(C) Exception 3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

(D) Exception 4. Detached garages accessory to a dwelling unit located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).

(E) Exception 5. Foundation vents installed in compliance with this code are permitted.

(F) Exception 6. Open metal carport structures may be constructed within zero feet of the property line without fire-resistive or opening protection when the location of such is approved.

~~(2)~~(5) Table R302.1(1) Exterior Walls. This table has been modified to change the requirements for minimum fire separation distance and delete sub-rows. This table has been modified to read: Table R302.1(1) Exterior Walls. The table contains five rows and three columns. Some rows have sub-rows, and some columns have sub-columns. The table has two footnotes at the end of the table and is described below:

(A) Row 1 contains the headers for each column, which are listed below from column 1 through column 3.

(i) Row 1, column 1 header is entitled "EXTERIOR WALL ELEMENT."

(ii) Row 1, column 2 header is entitled "MINIMUM FIRE-RESISTANCE RATING."

(iii) Row 1, column 3 header is entitled "MINIMUM FIRE SEPARATION DISTANCE."

(B) Row 2 contains two sub-columns within column 1. The second sub-column in column 1 has three sub-rows that continue through columns 2 and 3. The row is described below:

(i) Row 2, column 1, sub-column 1 is entitled "Walls."

(ii) Row 2, sub-row 1, column 1, sub-column 2, is entitled "Fire-resistance rated."

(iii) Row 2, subrow 1, column 2, contains the wording "1 hour-tested in accordance with ASTM E119, UL 263 or Section ~~703.3~~ 703.2.2 of the International Building Code® with exposure from both sides."

(iv) Row 2, sub-row 1, column 3, contains the wording "0 feet."

(v) Row 2, sub-row 2, column 1, sub-column 2 is entitled "Not fire-resistance rated."

(vi) Row 2, sub-row 2, column 2, contains the wording "0 hours."

(vii) Row 2, sub-row 2, column 3, has been modified to change the fire separation distance to "greater than or equal to 3 feet."

(C) Row 3 contains two sub-columns within column 1. The second sub-column in column 1 has three sub-rows within that continue through columns 2 and 3. The row is described below:

(i) Row 3, column 1, sub-column 1 is entitled "Projections."

(ii) Row 3, sub-row 1, column 1, sub-column 2, is entitled "Not allowed" and has been deleted from the table along with the remaining content in columns 2 and 3.

(iii) Row 3, sub-row 2, column 1, sub-column 2, is entitled "Fire-resistance rated."

(iv) Row 3, sub-row 1, column 2, contains the wording "1 hour on the underside, or heavy timber, or fire-retardant-treated wood" with a superscript "a, b" at the end to indicate footnotes "a" and "b" are applicable.

(v) Row 3, sub-row 1, column 3, has been modified to change the minimum fire separation distance to "~~greater~~ less than 3 feet."

(vi) Row 3, sub-row 3, column 1, sub-column 3, is entitled "Not fire-resistance rated."

(vii) Row 3, sub-row 3, column 2, contains the wording "0 hours."

(viii) Row 3, sub-row 3, column 3, has been modified to change the minimum fire separation distance to "greater than or equal to 3 feet."

(D) Row 4 contains two sub-columns within column 1. The second sub-column in column 1 has three sub-rows 1 that continue through columns 2 and 3. The row is described below:

(i) Row 4, column 1, subcolumn 1, is entitled "Openings in walls."

(ii) Row 4, sub-row 1, column 1, sub-column 2, is entitled "Not allowed."

(iii) Row 4, sub-row 1, column 2, contains the wording "NA."

(iv) Row 4, sub-row 1, column 3, contains the wording "less than 3 feet."

(v) Row 4, sub-row 2, column 1, sub-column 2, is entitled "25 percent maximum of wall area" and has been deleted from the table along with the remaining content in columns 2 and 3.

(vi) Row 4, sub-row 3, column 1, sub-column 2, is entitled "Unlimited."

(vii) Row 4, sub-row 3, column 2, contains the wording "0 hours."

(viii) Row 4, sub-row 3, column 3, contains has been modified to change the minimum fire separation distance to "greater than or equal to 3 feet."

(E) Row 5 contains two sub-columns within column 1 and two sub-rows within columns 2 and 3. The row is described below:

(i) Row 5, column 1, sub-column 1, is entitled "Penetrations."

(ii) Row 5, column 1, subcolumn 2, is entitled "All."

(iii) Row 5, column 2, sub-row 1, contains the wording "Comply with Section R302.4."

(iv) Row 5, column 3, sub-row 1, contains the wording "less than 3 feet."

(v) Row 5, column 2, sub-row 2, contains the wording "None required."

(vi) Row 5, column 3, sub-row 2, has been modified to change the minimum fire separation distance to "greater than or equal to 3 feet."

(F) Under the table the following wording is listed "For SI: 1 foot equals 304.8 mm" and "NA equals Not Applicable."

(G) Footnote "a" reads: "The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing."

(H) Footnote "b" reads: "The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings that communicate with the attic are not installed in the overhang or gable wall."

~~(3)~~(6) Table R302.1(2) Exterior Walls - Dwellings ~~with~~ And Townhouses With An Automatic Fire ~~Sprinklers~~ Sprinkler System. This table has been modified to change the requirements for minimum fire separation distance and delete sub-rows. This table has been modified to read: Table R302.1(2) Exterior Walls - Dwellings with Fire Sprinklers. The table contains five rows and three columns. Some rows have sub-rows, and some columns have sub-columns. The table has three footnotes at the end of the table and is described below:

(A) Row 1 contains the headers for each column, which are listed below from column 1 through column 3.

(i) Row 1, column 1, header is entitled "EXTERIOR WALL ELEMENT."

(ii) Row 1, column 2, header is entitled "MINIMUM FIRE-RESISTANCE RATING."

(iii) Row 1, column 3, header is entitled "MINIMUM FIRE SEPARATION DISTANCE."

(B) Row 2 contains two sub-columns within column 1 and two sub-rows within the second sub-column of column 1 that continue through columns 2 and 3. The row is described below:

(i) Row 2 sub-column 1, is entitled "Walls."

(ii) Row 2, sub-row 1, column 1, sub-column 2, is entitled "Fire-resistance rated."

(iii) Row 2, sub-row 1, column 2, contains the wording "1 hour-tested in accordance with ASTM E119, UL 263 or Section ~~703.3~~ 703.2.2 of the International Building Code® with exposure from outside".

(iv) Row 2, sub-row 1, column 3, contains the wording "0 feet."

(v) Row 2, sub-row 2, column 1, sub-column 2, is entitled "Not fire-resistance rated."

(vi) Row 2, sub-row 2, column 2, contains the wording "0 hours."

(vii) Row 2, sub-row 2, column 3, contains the wording "3 feet" with a superscript "a" to clarify footnote "a" is applicable.

(C) Row 3 contains two sub-columns within column 1 and three sub-rows within the second sub-columns of column 1 that continue through columns 2 and 3. The row is described below:

(i) Row 3, column 1, sub-column 1, is entitled "Projections.

(ii) Row 3, sub-row 1, column 1, sub-column 2, is entitled "Not allowed" and has been deleted from the table along with the remaining content in columns 2 and 3.

(iii) Row 3, sub-row 2, column 1, sub-column 2, is entitled "Fire-resistance rated."

(iv) Row 3, sub-row 2, column 2, contains the wording "1 hour on the underside, or heavy timber, or fire-retardant-treated wood" with a superscript "b, c" at the end to indicate footnotes "b" and "c" are applicable.

(v) Row 3, sub-row 2, column 3, contains the wording "2 feet" with a superscript "a" to indicated footnote "a" is applicable.

(vi) Row 3, sub-row 3, column 1, sub-column 3, is entitled "Not fire-resistance rated."

(vii) Row 3, sub-row 3, column 2, contains the wording "0 hours."

(viii) Row 3, sub-row 3, column 3, contains the wording "3 feet."

(D) Row 4 contains two sub-columns within column 1 and two sub-rows within the second sub-column of column 1 that continue through columns 2 and 3. The row is described below:

(i) Row 4, column 1, sub-column 1, is entitled "Openings in walls."

(ii) Row 4, sub-row 1, column 1, sub-column 2, is entitled "Not allowed."

(iii) Row 4, sub-row 1, column 2, contains the wording "NA."

(iv) Row 4, sub-row 1, column 3, contains the wording "less than 3 feet."

(v) Row 4, sub-row 2, column 1, sub-column 2, is entitled "Unlimited."

(vi) Row 4, sub-row 2, column 2, contains the wording "0 hours."

(vii) Row 4, sub-row 2, column 3, contains the wording "3 feet" with a superscript "a" to indicate footnote "a" is applicable.

(E) Row 5 contains two sub-columns within column 1 and two sub-rows within columns 2 and 3. The row is described below:

(i) Row 5, column 1, sub-column 1, is entitled "Penetrations."

(ii) Row 5, column 1, sub-column 2, is entitled "All."

(iii) Row 5, sub-row 1 column 2, contains the wording "Comply with Section R302.4."

(iv) Row 5, sub-row 1 column 3, contains the wording "less than 3 feet."

(v) Row 5, sub-row 2 column 2, contains the wording "None required."

(vi) Row 5, sub-row 2 column 3, contains the wording "3 feet" with a superscript "a" to indicate footnote "a" is applicable.

(F) Under the table the following wording is listed "For SI: 1 foot equals 304.8 mm" and "NA equals Not Applicable."

(G) Footnote "a" reads: "For a residential subdivision where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line."

(H) Footnote "b" reads: "The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing."

(I) Footnote "c" reads: "The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where ~~gable~~ vent openings that communicate with the attic are not installed in the overhang or gable wall."

(7) R302.2.2 Common walls. This section has been modified to provide clarity to the section by adding the word fire in Item 1 and adding wording to clarify item 2 is referring to existing structures. This section has been modified to read: R302.2.2 Common Walls. Common walls separating townhouse units shall be assigned a fire-resistance rating in accordance with Item 1 or 2 and shall be rated for fire exposure from both sides. Common walls shall extend to and be tight against the exterior sheathing of the exterior walls or face of exterior walls without stud cavities, and the underside of the roof sheathing. The common wall shared by two townhouse units shall be constructed without openings, plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall. Electrical installations shall be in

accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

(A) Item 1. Where an automatic fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistant-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code.

(B) Item 2. For existing structures where an automatic fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code.

~~(4) Section R303.4 Mechanical ventilation. This section has been modified to add language to allow for visual confirmation. This section has been modified to read: R303.4 Mechanical ventilation. Where the air infiltration rate of a dwelling is 5 air changes per hour or less where tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa) or confirmed through visual testing in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole-house mechanical ventilation in accordance with Section M1505.4.~~

(8) Section R307.3 Required. This section has been added to stipulate in addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500® except as required by Sections R307.3.1 through R307.3.4.1 This section has been added to read: R307.3 Required. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500® except as required by Sections R307.3.1 through R307.3.4.1.

(9) Section R307.3.1 Design wind speed. This section has been added to modify the requirements of ICC 500® Section 304.2 to clarify the minimum design wind speed for all storm shelters in the State of Oklahoma shall be set at 250 miles per hour. This section has been added to read: R307.3.1 Design wind speed. For storm shelters, the minimum design wind speed for the entire State of Oklahoma shall be 250 miles per hour.

(10) Section R307.3.2 In-ground storm shelters. This section has been added to clarify for all in-ground storm shelters installed in garages, the rim of the shelter shall be raised a minimum of 1 inch (25 mm) above the highest point of the adjacent garage floor to resist surface drainage and to require the floor around the shelter to slope at a maximum slope of 1:8. This section has been added to read: R307.3.2 In-ground storm shelters. When installed in the floor of a garage, the rim of the storm shelter shall be raised a minimum of 1 inch (25 mm) above the highest point of the adjacent garage floor to resist surface drainage into the shelter. The floor around the shelter shall have an apron with a positive slope away from the shelter.

(11) Section R307.3.3 Height of storm shelter. This section has been added to clarify how to determine the location of the natural ventilation openings in storm shelters in accordance with ICC 500® Section 702.5.1, by providing a definition for the height of a storm shelter to be calculated by taking the average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter. This section has been added to read: R307.3.3 Height of storm shelter. When determining the location of natural ventilation in accordance with ICC 500® Section 702.5.1, the height of the storm shelter shall be defined as an average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter.

(12) Section R307.3.4 Occupant density. This section has been added to modify the requirements of ICC 500® Section 501.1.1 to clarify residential storm shelters may exceed the occupant density requirements in ICC 500® Table 502.4 and not be required to conform to the requirements of a community shelter. This section has been added to read: R307.3.4 Occupant density. Residential storm shelters located in or adjacent to one- and two-family dwellings may exceed the occupant density in ICC 500® Table 502.4 and shall not be required to conform to the requirements of a community shelter.

(13) R307.3.4.1 Shelter quantity requirement. This section has been added to clarify if a lot contains more than one townhouse or more than one single one- or two-family residence and a residential storm shelter is provided, there must be a minimum of one residential storm shelter provided for each dwelling unit, not including accessory dwelling units (ADUs) so long as applicable criteria is met. This section has been added to read: R307.3.4.1 Shelter quantity requirement. If a lot contains more than one townhouse or more than one single one- or two-family residence, and a residential storm shelter is provided, there must be a minimum of one residential storm shelter provided for each dwelling unit not including accessory dwelling units (ADUs), as long as all applicable provisions of this section are met.

(A) Each shelter must comply with the following:

(i) Item 1. Designated for the exclusive use of one specific dwelling unit.

(ii) Item 2. Clearly identified and available to the designated occupants at all times.

(iii) Item. 3. Located inside a dwelling unit or within a maximum travel distance of 500 feet from the entrance of the dwelling unit it serves.

(B) Providing a residential storm shelter to serve more than one dwelling unit shall be prohibited. Developments intending to provide shared storm shelter protection for multiple units shall be required to install a community storm shelter in accordance with ICC 500® requirements for community shelters.

(C) Exception: Tenants of dwelling units are not prohibited from installing their own personal storm shelter. However, any such shelter must be located either inside the tenant's dwelling unit or in a private yard designated for that unit. The shelter must not be accessible to other residents of the community without the tenant's explicit consent.

(14) Section R309.1 Townhouse automatic sprinkler systems. This section has been modified to add a second exception for new townhouses to clarify a sprinkler system is not required when a two-hour fire-resistance rated wall is installed between dwelling units. This section has been modified to read: R309.1 Townhouse automatic sprinkler systems. An automatic sprinkler system shall be installed in townhouses. Exceptions:

(A) Exception 1: An automatic sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have an automatic sprinkler system installed.

(B) Exception 2: An automatic sprinkler system shall not be required when a two-hour fire-resistance rated wall is installed between dwelling units.

(15) Section R309.2 One- and two-family dwellings automatic fire sprinkler systems. This section, including the exception, has been moved to the newly created Appendix BP, entitled "Appendix BP, Automatic Fire Systems" and is not adopted as a part of the statewide minimum code for residential construction within the State of Oklahoma. This section has been renumbered in Appendix BP to become BP101.1. Section R309.2 will stay as part of this code for numbering alignment but will not have any requirements attached to it.

(16) Section R309.2.1 Design and installation. This section has been moved to the newly created Appendix BP, entitled "Appendix BP, Automatic Fire Systems" and is not adopted as a part of the statewide minimum code for residential construction within the State of Oklahoma. This section has been renumbered in Appendix BP to become BP101.2. Section R309.2.1 will stay as part of this code for numbering alignment but will not have any requirements attached to it.

~~(5)~~(17) Section ~~R311.1~~ R318.1 Means of egress. This section has been modified to specify the section requirements apply to garages as well as dwellings, while allowing the means of egress from the garage to go through an adjacent dwelling. This section has been modified to read: ~~R311.1~~ R318.1 Means of egress. Dwellings or garages (attached or detached from the dwelling) shall be provided with a means of egress in accordance with this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the required egress door without traveling through a garage. The means of egress from the garage may travel through the adjacent dwelling. The required egress door shall open directly into a public way or to a yard or court that opens to a public way.

~~(6)~~(18) Section ~~R311.2~~ R318.2 Egress door. This section has been modified to specify ~~the section~~ these requirements apply to garages, as well as dwellings. This section has been modified to read: ~~R311.2~~ R318.2 Egress door. Not less than one egress door shall be provided for each dwelling unit or garage. The egress door shall be side-hinged and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall not be less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from the inside of the dwelling or garage without the use of a key or special knowledge or effort.

~~(7)~~(19) Section ~~R311.7.5.1~~ R318.7.5.1 Risers. This section has been modified to add a third exception that allows the top and bottom riser height to vary by 3/4 inch (19 mm). This section has been modified to read: ~~R311.7.5.1~~ R318.7.5.1 Risers. The riser height shall be not more than 7 3/4 inches (196 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. At open risers, openings located more than 30 inches (762 mm), as measured vertically, to the floor or grade below shall not permit the passage of a 4-inch-diameter (102 mm) sphere. Exceptions:

(A) Exception 1. The openings between adjacent treads is not limited on spiral stairways.

(B) Exception 2. The riser height of spiral stairways shall be in accordance with Section R311.7.10.1.

(C) Exception 3. The top and bottom riser in each flight of stairs may vary by 3/4 inch (19 mm).

~~(8) Section R313.2 One- and two-family dwellings automatic fire sprinkler systems. This section, including the exception, has been moved to the newly created Appendix U, entitled "Appendix U, Automatic Fire Systems" and is not adopted as a part of the statewide minimum code for residential construction within the State of Oklahoma. This section has been renumbered in Appendix U to become U101.1. The section number R313.2 itself, will stay as part of this code for numbering alignment but will not have any requirements attached to it.~~

~~(9) Section R313.2.1 Design and installation. This section has been moved to the newly created Appendix U, entitled "Appendix U, Automatic Fire Systems" and is not adopted as a part of the statewide minimum code for residential construction within the State of Oklahoma. This section has been renumbered in Appendix U to become U101.2. The section number R313.2.1 itself, will stay as part of this code for numbering alignment but will not have any requirements attached to it.~~

~~(10) Section R323.1 General. This section has been modified to include above and below ground storm shelters and to limit the use of the term storm shelter. This section has been modified to read: R323.1 General. This section applies to the construction of above or below ground storm shelters constructed as separate detached buildings, rooms within buildings, structures, or portions thereof for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. Any room or structure, as may be used as a place of refuge during a severe wind storm event, shall not be defined as a storm shelter unless specifically designed to the requirements listed in Section R323.~~

~~(11) Section R323.2 Required. This section has been added to stipulate in addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500® except as required by Sections R323.2.1 through R323.2.4 This section has been added to read: R323.2 Required. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500® except as required by Sections R323.2.1 through R323.2.4.~~

~~(12) Section R323.2.1 Design wind speed. This section has been added to modify the requirements of ICC 500® Section 304.2 to clarify the minimum design wind speed for all storm shelters in the State of Oklahoma shall be set at 250 miles per hour. This section has been added to read: R323.2.1 Design wind speed. For storm shelters, the minimum design wind speed for the entire State of Oklahoma shall be 250 miles per hour.~~

~~(13) Section R323.2.2 In-ground storm shelters. This section has been added to clarify for all in-ground storm shelters installed in garages, the rim of the shelter shall be raised a minimum of 1 inch (25 mm) above the highest point of the adjacent garage floor to resist surface drainage and to require the floor around the shelter to slope at a maximum slope of 1:8. This section has been added to read: R323.2.2 In-ground storm shelters. When installed in the floor of a garage, the rim of the storm shelter shall be raised a minimum of 1 inch (25 mm) above the highest point of the adjacent garage floor to resist surface drainage into the shelter. The floor around the shelter shall slope at a maximum slope of 1:8.~~

~~(14) Section R323.2.3 Height of storm shelter. This section has been added to clarify how to determine the location of the natural ventilation openings in storm shelters in accordance with ICC 500® Section 702.1.1.1, by providing a definition for the height of a storm shelter to be calculated by taking the average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter. This section has been added to read: R323.2.3 Height of storm shelter. When determining the location of natural ventilation in accordance with ICC 500® Section 702.1.1.1, the height of the storm shelter shall be defined as an average of the vertical dimensions from the floor elevation to the bottom of the storm shelter deck or to the underside of a hard ceiling within the storm shelter.~~

~~(15) Section R323.2.4 Occupant density. This section has been added to modify the requirements of ICC 500® Section 501.1.1 to clarify residential storm shelters may exceed the occupant density requirements in ICC 500® Table 502.4 and not be required to conform to the requirements of a community shelter. This section has been added to read: R323.2.4 Occupant density. Residential storm shelters located in or adjacent to one- and two-family dwellings may exceed the occupant density in ICC 500® Table 502.4 and shall not be required to conform to the requirements of a community shelter.~~

~~(16)~~(20) Section ~~R326.1~~ R328.1 General. This section has been modified to remove the requirement for the construction of swimming pools, spas, and hot tubs to comply with the International Swimming Pool and Spa Code™ to the newly created Appendix ~~V~~ BQ, entitled "Appendix ~~V~~ BQ, Swimming Pools, Spas and Hot Tubs,"

and has been renumbered in Appendix ~~V~~ BQ to become ~~V101.1~~ BQ101. ~~This section number R326.1~~ Section R328.1 ~~itself,~~ has the same title with new language added to require new swimming pools, spas and hot tubs requiring a permit to comply with Sections ~~R326.2~~ R328.2 through ~~R326.4~~ R328.5. This section has been modified to read: ~~R326.1~~ R328.1 General. Residential swimming pools, spas, and hot tubs requiring a permit shall comply with Sections ~~R326.2~~ R328.2 through ~~R326.4~~ R328.5.

~~(17)~~(21) Section ~~R326.2~~ R328.2 Enclosure. This section has been added to provide enclosure requirements for residential swimming pools, spas, and hot tubs. This section has been added to read: ~~R326.2~~ R328.2 Enclosure. Swimming pools shall be completely enclosed by a fence or barrier not less than 4 feet (1219 mm) in height or a screen enclosure. Openings in the fence or barrier shall not permit the passage of a 4-inch-diameter (102 mm) sphere. Exceptions:

(A) Exception 1. Swimming pools, spas and hot tubs on lots in excess of 2 acres are exempt from the requirements.

(B) Exception 2. A swimming pool with a power safety cover or a spa with a safety cover complying with ASTM F 1346 need not comply with this section.

~~(18)~~(22) Section ~~R326.3~~ R328.3 Gates. This section has been added to provide gate requirements for residential swimming pools, spas and hot tubs. This section has been added to read: ~~R326.3~~ R328.3 Gates. Exterior pedestrian access doors or gates shall be self-closing and have a self-latching device. Doors or gates other than pedestrian access doors or gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the door or gate, the release mechanism shall be located on the pool side of the door or gate, 3 inches (76 mm) or more below the top of the door or gate, and the door or gate and barrier shall be without openings greater than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism. Exception: Gates equipped with a locking device.

~~(19)~~(23) Section ~~R326.4~~ R328.4 Suction outlet fitting assemblies. This section has been added to clarify all suction outlet fitting assemblies shall be listed and labeled in compliance with ANSI/APSP/ICC 16. This section has been added to read: ~~R326.4~~ R328.4 Suction outlet fitting assemblies. Suction outlet fitting assemblies shall be listed and labeled in compliance with ANSI/APSP/ICC 16.

~~(20)~~(24) ~~R326.5~~ R328.5 Entrapment avoidance. This section has been modified to require suction entrapment avoidance for pools and spas to comply with ANSI/APSP/ICC 7 and provide an exception for portable spas and portable exercise pools listed in accordance with UL 1563 or CSA C22.2 No 218.1. This section has been modified to read: ~~R326.5~~ R328.5 Entrapment avoidance. Suction entrapment avoidance for pools and spas shall be provided in accordance with ANSI/APSP/ICC 7. Exception: Portable spas and portable exercise pools listed in accordance with UL 1563 or CSA C22.2 No 281.1.

~~(21) Section R327.3 Installation. This section has been modified to change the wording "stationary storage battery systems" to "ESS (Energy Storage Systems) and delete the requirement prohibiting them from being installed within the habitable space. This section has been modified to read: R327.3 Installation. ESS (Energy Storage Systems) shall be installed in accordance with the manufacturer's instructions and their listing, if applicable.~~

~~(22) Section R327.3.1 Locations. This section has been added to specify the locations where an ESS (Energy Storage Systems) may be installed. This section has been added to read: R327.3.1 Locations.~~

~~(A) ESS (Energy Storage Systems) shall be installed only in the following locations:~~

~~(i) Item 1. Detached garages and detached accessory structures.~~

~~(ii) Item 2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6~~

~~(iii) Item. 3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.~~

~~(iv) Item 4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch (15.9 mm) Type X gypsum wallboard.~~

~~(B) ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms.~~

748:20-6-9. IRC® 2018 2024 Chapter 4 Foundations [AMENDED]

Chapter 4 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section R402.2 Concrete. This section has been modified to include an exception for interior concrete slabs on grade and enclosed garage slabs to the requirement the concrete be air entrained. This section has been modified to read: R402.2 Concrete. Concrete shall have a minimum specified compressive strength of f 'c, as shown in Table R402.2. Concrete subject to moderate or severe weathering as indicated in Table R301.2(1) shall be air entrained as specified in Table R402.2. The maximum weight of fly ash, other pozzolans, silica fume, slag or blended cements that is included in concrete mixtures for garage floor slabs and for exterior porches, carport slabs, and steps that will be exposed to deicing chemicals shall not exceed the percentages of the total weight of the cementitious materials specified in Section 19.3.3.4 of ACI 318. Materials used to produce concrete testing thereof shall comply with the applicable standards listed in Chapters 19 and 20 of ACI 318 or ACI 332. Exception: Interior concrete slabs on grade and enclosed garage slabs are not required to be air-entrained.

~~(2) Table R403.1(1) Minimum width and thickness for concrete footings for light-frame construction (inches) with a superscript "a" and "b" to indicate footnotes "a" and "b" are applicable. This table has been modified to strike footnote "b" from the table title and from underneath the table. No other modifications were made to the table. The table title has been modified to read: Table R403.1(1) Minimum width and thickness for concrete footings for light-frame construction (inches) with a superscript "a" to indicate footnote "a" applies. The footnote at the bottom of the table has been amended to read: "a. Interpolation allowed. Extrapolation is not allowed."~~

~~(3) Table R403.1(2) Minimum width and thickness for concrete footings for light-frame construction with brick veneer (inches) with a superscript "a" and "b" to indicate footnotes "a" and "b" are applicable. This table has been modified to strike footnote "b" from the title and from underneath the table. No other modifications were made to the table. The table title has been modified to read: Table R403.1(2) Minimum width and thickness for No other modifications were made to the table. concert footings for light-frame construction with brick veneer (inches) with a super script "a" to indicate footnote "a" applies. The footnote at the bottom of the table has been amended to read: "a. Interpolation allowed. Extrapolation is not allowed."~~

~~(4) Table R403.1(3) Minimum width and thickness for concrete footings with cast-in-place concrete or fully grouted masonry wall construction (inches) with a superscript "a" and "b" to indicate footnotes "a" and "b" are applicable. This table has been modified to strike footnote "b" from the title and from underneath the table. No other modifications to the table were made. The table title has been modified to read: Table R403.1(3) Minimum width and thickness for concrete footings with cast-in-place concrete or fully grouted masonry wall construction (inches) with a superscript "a" to indicate footnote "a" applies. The footnote at the bottom of the table has been amended to read: "a. Interpolation allowed. Extrapolation is not allowed."~~

~~(5)~~(2) Section R403.1. General. This section has been modified to provide language specifying rebar reinforcement requirements in concrete footings. This section has been modified to read: R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, crushed stone footings, wood foundations, or other approved structural system that shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined by the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. Concrete footings shall be designed and constructed in accordance with the provisions of Section R403 or in accordance with ACI 332. Concrete footings shall meet the following requirements:

(A) Item 1. Add 2 number four (4) rebar to all footings.

(B) Item 2. All cold joints between footings and foundation walls (stem walls) shall be tied together by a number four (4) rebar at every corner not to exceed 6 feet (1828 mm) o.c. with embedment of 12 inches (304 mm) into each footing and wall.

(C) Exception: Portable structures not used as a dwelling unit not exceeding one story in height and 600 square feet (55.74 square meters) in area shall be except from the requirements of this section. In all cases, structures shall be secured to the earth or foundation/slab element in a minimum of four locations by an approved method.

~~(6)~~(3) Section R403.1.6 Foundation anchorage. This section has been modified to specify hand driven cut and concrete nails are not an approved fastener and include an exception for wood sole plates of braced wall panels anchorage under specific criteria. This section has been modified to read:

(A) R403.1.6 Foundation anchorage: Wood sill plates and wood walls supported directly on continuous foundations shall be anchored to the foundation in accordance with this section.

(B) Cold-formed steel framing shall be anchored directly to the foundation or fastened to wood sill plates anchored to the foundation. Anchorage of cold-formed steel framing shall be in accordance with Section R505.3.1 or R603.3.1, as applicable. Wood sill plates supporting cold-formed steel framing shall be anchored to the foundation in accordance with this section.

(C) Wood sole plates at the exterior walls on monolithic slabs, wood sole plates of braced wall panels at building interiors on monolithic slabs and all wood sill plates shall be anchored to the foundation with minimum 1/2-inch-diameter (12.7 mm) anchor bolts spaced not greater than 6 feet (1829 mm) on center or approved anchors or anchor straps spaced as required to provide equivalent anchorage to 1/2-inch-diameter (12.7 mm) anchor bolts. Bolts shall extend not less than 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. The bolts shall be located in the middle third of the width of the plate. A nut and washer shall be tightened on each anchor bolt. There shall not be fewer than two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Interior load bearing wall sole plates that are not part of a braced wall panel shall be positively anchored with approved fasteners. Hand driven cut or concrete nails are not approved fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Section R317 and R318. Exceptions:

(i) Exception 1. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with not less than one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners as shown in Item 9 of Table R602.3(1).

(ii) Exception 2. Connection of walls 12 inches (305 mm) total length or shorter connecting offset braced wall panels to the foundation without anchor bolts shall be permitted. The wall shall be attached at corners as shown in Item 9 of Table R602.3(1).

(iii) Exception 3. Wood sole plates of braced wall panels at building interiors on monolithic slabs may be anchored using connector(s) with a shear capacity of 2300 pounds and a tensile capacity of 800 pounds over a maximum span of 6 feet.

~~(7)~~(4) Section R403.1.7.3 Foundation Elevation. This section has been stricken from the code.

(5) Section R404.1.3.3.1.a Steel reinforcement. This section heading number has been modified to add the letter "a" behind it to indicate there are two sections with this header number. No further changes were made to this section. This section was modified to read: R404.1.3.3.1.a. Steel reinforcement. Steel reinforcement shall comply with the requirements of ASTM A615, A706 or A996M. ASTM A99M bars produced from rail steel shall be Type R. In buildings assigned to Seismic Design Category A, B, or C, the minimum yield strength of reinforcing steel shall be 40,000 psi (Grade 40) (276 MPa). In buildings assigned to Seismic Design Category D with a subscript "0", D with a subscript "1" or D with a subscript "2", the minimum yield strength shall be 60,000 psi (Grade 60) (414 MPa).

(6) Section R404.1.3.3.7.1.b Glass Reinforced Polymer (GFRP) reinforcement. This section has been added to address a glass reinforced polymer and given a "b" in at the end of the section header number to indicate it is the second of two header numbers with the same header number. This section has been added to read: R404.1.3.3.7.1.b Glass Reinforced Polymer (GERP) reinforcement. GFRP reinforcement complying with ASTM D7959 and designed and constructed in accordance with ACI 440.11 shall be permitted for foundation walls and spread footings not more than 48 inches (1219 mm) in height. Preformed corners must be used with GFRP reinforcement.

~~(8) Section R403.1.9. Protection of footings. This section has been added to provide protection to footings when trenching work is needed. This section has been added to read: R403.1.9. Protection of footings. Trenching for work including but not limited to plumbing, electrical, storm shelters, and pools shall comply with this section. Trenching installed parallel to footings and walls shall not extend into the bearing plane of a footing wall. The upper boundary of the bearing plane is a line that extends downward, at an angle of 45 degrees from horizontal, from the outside bottom edge of the footing wall.~~

748:20-6-10. IRC® ~~2018~~ 2024 Chapter 5 Floors [AMENDED]

Chapter 5 of the IRC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: ~~(1)~~ Section R506.2.1 Fill. This section has been modified to provide fill lift measurements. This section has been modified to read: R506.2.1 Fill. Fill material shall be free of vegetation and foreign material. The fill shall be compacted in ~~8 to~~

~~12~~ 8-to-12-inch (203 mm to 305 mm) lifts to ensure uniform support of the slab, and except where approved, the fill depths shall not exceed 48 inches (1220 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

~~(2) Section R506.2.3 Vapor retarder. This section has been modified to allow for other industry accepted vapor retarders installed according to the manufacturer's specifications. This section has been modified to read: R506.2.3 Vapor retarder. A 6 mil (0.006 inch; 152 micrometers) polyethylene sheeting, other industry accepted vapor retarder products installed per manufacturer specifications or approved vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists. Exception: The vapor retarder is not required for the following:~~

~~(A) Item 1. Garages, utility buildings and other unheated accessory structures.~~

~~(B) Item 2. For unheated storage rooms having an area less than 70 square feet (6.5 square meters) and carports.~~

~~(C) Item 3. Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.~~

~~(D) Item 4. Where approved by the building official, based on local site conditions.~~

748:20-6-11. IRC® 2018 2024 Chapter 6 Wall Construction [AMENDED]

Chapter 6 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Table R602.3(1) Fastening schedule. This table has been amended to add a new footnote ~~"k"~~ "j" to the table that is applicable to row ~~16~~ 17 of the table. The table has 47 rows, ~~39~~ 41 of the rows have four columns per row and ~~seven (7)~~ six (6) rows have one merged column that break the table out into categories between certain rows as described below:

(A) Row 1 contains the column headers for the table and are listed below:

(i) Row 1, column 1 is entitled "ITEM."

(ii) Row 1, column 2 is entitled "DESCRIPTION OF BUILDING ELEMENTS."

(iii) Row 1, column 3 is entitled "NUMBER AND TYPE OF FASTENER" with the superscript letters "a," "b," and "c" following the word "FASTENER" to indicate footnotes "a," "b," and "c" are applicable.

(iv) Row 1, column 4 is entitled "SPACING AND LOCATION."

(B) Row 2 only has one column and is entitled "Roof."

(C) Row 3, column 1 lists a "1." No changes have been made to this row.

(D) Row 4, column 1 lists a "2." No changes have been made to this row.

(E) Row 5, column 1 lists a "3." No changes have been made to this row.

(F) Row 6, column 1 lists a "4." No changes have been made to this row.

(G) Row 7, column 1 lists a "5." No changes have been made to this row.

(H) Row 8, column 1 lists a "6." No changes have been made to this row.

(I) Row 9, column 1 lists a "7." No changes have been made to this row.

(J) Row 10 only has one column and is entitled "Wall Test."

(K) Row 11, column 1 lists an "8." No changes have been made to this row.

(L) Row 12, column 1 lists a "9." No changes have been made to this row.

(M) Row 13, column 1 lists a "10." No changes have been made to this row.

(N) Row 14, column 1 lists an "11." No changes have been made to this row.

(O) Row 15, column 1 lists a "12." No changes have been made to this row.

(P) Row 16, column 1 lists a "13." No changes have been made to this row.

(Q) Row 17, column 1 lists a "14." No changes have been made to this row.

(R) Row 18, column 1 lists a "15." No changes have been made to this row.

(S) Row 19, column 1 lists a "16." ~~A new footnote "k" has been added to the table and is specific to this row. The row has two sub-rows and is described below~~ No changes have been made to this row.

~~(i) Row 19, column 2 lists "Top or bottom plate to stud" and has a superscript "k" after the word "stud" to indicate the newly added footnote "k" is applicable.~~

~~(ii) Row 19, column 3 has two sub-rows. No changes have been made to either sub-row in the column~~

~~(iii) Row 19, column 4 has two sub-rows. No changes have been made to either sub-row in the column.~~

(T) Row 20, column 1 lists a "17." ~~No changes have been made to this row~~ A new footnote "j" has been added to the table and is specific to this row. The row has two sub-rows and is described below

(i) Row 19, column 2 lists "Top or bottom plate to stud" and has a superscript "j" after the word "stud" to indicate the newly added footnote "j" is applicable.

(ii) Row 19, column 3 has two sub-rows. No changes have been made to either sub-row in the column

(iii) Row 19, column 4 has two sub-rows. No changes have been made to either sub-row in the column.

(U) Row 21, column 1 lists a "18." No changes have been made to this row.

(V) Row 22, column 1 lists a "19." No changes have been made to this row.

(W) Row 23, column 1 lists a "20." No changes have been made to this row.

(X) Row 24, column 1 lists a "21." No changes have been made to this row.

~~(X)~~(Y) Row ~~24~~ 25, has only one column and is entitled "Floor."

~~(Y)~~(Z) Row ~~25~~ 26, column 1 lists a "~~21~~ 22." No changes have been made to this row.

~~(Z)~~(AA) Row ~~26~~ 27, column 1 lists a "~~22~~ 23." No changes have been made to this row.

~~(AA)~~(BB) Row ~~27~~ 28, column 1 lists a "~~23~~ 24." No changes have been made to this row.

~~(BB)~~(CC) Row ~~28~~ 29, column 1 lists a "~~24~~ 25." No changes have been made to this row.

~~(CC)~~(DD) Row ~~29~~ 30, column 1 lists a "~~25~~ 26." No changes have been made to this row.

~~(DD)~~(EE) Row ~~30~~ 31, column 1 lists a "~~26~~ 27." No changes have been made to this row.

~~(EE)~~(FF) Row ~~31~~ 32, column 1 lists a "~~27~~ 28." No changes have been made to this row.

~~(FF)~~(GG) Row ~~32~~ 33, column 1 lists a "~~28~~ 29." No changes have been made to this row.

~~(GG)~~(HH) Row ~~33~~ 34, column 1 lists a "~~29~~ 30." No changes have been made to this row.

~~(HH)~~(II) Row ~~34~~ 35 has only one column and is entitled "Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing (see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing)."

~~(II)~~(JJ) Row ~~35~~ 36, column 1 lists a "~~30~~ 31." No changes have been made to this row.

~~(JJ)~~KK Row ~~36~~ 37, column 1 lists a "~~31~~ 32." No changes have been made to this row.

~~(KK)~~(LL) Row ~~37~~ 38, column 1 lists a "~~32~~ 33." No changes have been made to this row.

~~(LL)~~MM Row ~~38~~ 39 has only one column and is entitled "Other wall sheathing" with a superscript "g" to show that footnote "g" is applicable.

~~(MM)~~(NN) Row ~~39~~ 40, column 1 lists a "~~33~~ 34." No changes have been made to this row.

~~(NN)~~(00) Row ~~40~~ 41, column 1 lists a "~~34~~ 35." No changes have been made to this row.

~~(OO)~~ (PP) Row ~~41~~ 42, column 1 lists a "~~35~~ 36." No changes have been made to this row.

~~(PP)~~(QQ) Row ~~42~~ 43, column 1 lists a "36 37." No changes have been made to this row.

~~(QQ)~~(RR) Row ~~43~~ 44 has only one column and is entitled "Wood structural panels, combination subfloor underlayment to framing."

~~(RR)~~(SS) Row ~~44~~ 45, column 1 lists a "~~37~~ 38." No changes have been made to this row.

~~(SS)~~(TT) Row ~~45~~ 46, column 1 lists a "~~38~~ 39." No changes have been made to this row.

~~(TT)~~(UU) Row ~~46~~ 47, column lists a "~~39~~ 40." No changes have been made to this row.

~~(UU)~~(VV) Under the table, the following wording is listed "For SI: 1 inch equals 25.4 mm, 1 foot equals 304.8 mm, 1 mile per hour equals 0.447 m divided by s, 1 ksi equals 6.895 MPa."

~~(VV)~~(WW) There are ~~eleven (11)~~ ten (10) footnotes, including the newly added footnote "~~k~~ j," that follow the table and are listed below:

(i) Footnote "a" reads: "Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections are carbon steel and shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less. Connections using nails and staples of other materials, such as stainless steel, shall be designed by accepted engineering practice or approved under Section R104.2.2."

(ii) Footnote "b" reads: "~~Staples are 16 gage wire and have a minimum 7/16 -inch on diameter crown width~~ RSRS-10 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667."

(iii) Footnote "c" reads: "Nails shall be spaced not more than 6 inches on center at all supports where spans are 48 inches or greater."

(iv) Footnote "d" reads: "Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically."
(v) Footnote "e" reads: "Spacing of fasteners not included in this table shall be based on Table R602.3(2)."
(vi) Footnote "f" reads: "For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at ~~6~~ 4 inches on center where the ultimate design wind speed is less than 130 mph in Exposure B or greater than 110 mph in Exposure C ~~and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph~~. Fastener spacing applies where roof framing specific gravity is 0.42 or larger. Where roof framing specific gravity is greater than or equal to 0.35 but less than 0.42 in accordance with AWC NDS, fastening of roof sheathing shall be with RSRS-03 (2 1/2-inch by 0.131-inch by 0.281-inch head) nails."
(vii) Footnote "g" reads: "Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with ASTM C1280 or GA 253. Fiberboard sheathing shall conform to ASTM C208."
(viii) Footnote "h" reads: "Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking."
(ix) Footnote "i" reads: "Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joists to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required."
~~(x) Footnote "j" reads: "RSRS-01 is a Roof Sheathing Shank nail meting the specifications in ASTM F1667."~~
~~(xi)~~(x) The newly added footnote "~~k~~ j" reads: "When 7/16 inch structural sheathing is used with a minimum nailing spacing of 6 inches (152 mm) on the edge and 12 inches (305 mm) in the field, two-3 inch x 0.131 inch nails are acceptable for end nail conditions for the top and bottom plate to stud connection."

(2) Table R602.3(3) Requirements for wood structural panel wall sheathing used to resist wind pressures with a superscript letters "a, b, and c" to indicate associated footnotes. This table has been modified to add footnote "d" to the table heading to allow for alternative fasteners when certain criteria is met. No changes to the table itself have been made. The table title has been modified to read: Table 602.3(3) Requirements for wood structural panel wall sheathing used to resist wind pressures, with the superscript letters "a," "b," "c," and "d" after the word "pressures." The footnotes have been modified to read:

(A) Footnote "a" reads: "Panel strength axis parallel or perpendicular to supports. Three-plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports."
(B) Footnote "b" reads: "Table is based on wind pressures acting toward and away from building surfaces in accordance with Section R301.2. Lateral bracing requirements shall be in accordance with Section R602.10."
(C) Footnote "c" reads: "Wood structural panels with span ratings of Wall-16 or Wall-24 shall be permitted as an alternate to panels with a 24/0 span rating. Plywood siding rated at 16 o.c. or 24 o.c. shall be permitted as an alternate to panels with a 24/16 span rating. Wall-16 and Plywood siding 16 o.c. shall be used with studs spaced not more than 16 inches on center."
(D) Footnote "d" reads: "The following alternative fasteners will be acceptable with a wind exposure category of C or D, 0.099-inch x 2-1/4 inches at 3 inches o.c. along the edge and 6 inches o.c. in the field. Or 0.113-inch x 2-3/8 inches at 6 inches o.c. along the edge and 12 inches o.c. in the field."

(3) Section R602.10.5 Minimum length of a braced wall panel. This section has been modified to allow for the portal frame to begin at 12 1/2 feet (3810 mm) from the wall line end for CS-PF method. This section has been modified to read: R602.10.5 Minimum length of a braced wall panel. The minimum length of a braced wall panel shall comply with Table R602.10.5. For methods CS-WSP and CS-SFB, the minimum panel length shall be based on the adjacent clear opening height in accordance with Table R602.10.5 and Figure R602.10.5. Where a

panel has an opening on either side of differing heights, the taller opening height shall be used to determine the panel length. For method CS-PF, it is permissible to begin the portal frame at 12 1/2 feet (3810 mm) from the wall line end.

(4) Section R602.10.8 Braced wall panel connections. This section has been modified to include a fourth requirement to the section for anchoring wood sole plates to the building interiors on monolithic slabs using connectors with specific requirements. This section has been modified to read: R602.10. 8 Braced wall panel connections. Braced wall panels shall be connected to the floor framing or foundations as follows:

(A) Item 1. Where joists are perpendicular to a braced wall panel above or below, a rim joist, band joist or blocking shall be provided along the entire length of the braced wall panel in accordance with Figure R602.10.8(1). Fastening of top and bottom wall plates to framing, rim joist, band joist and/or blocking shall be in accordance with Table R602.3(1).

(B) Item 2. Where joists are parallel to a braced wall panel above or below, a rim joist, end joist or other parallel framing member shall be provided directly above and below the braced wall panel in accordance with Figure R602.10.8(2). Where a parallel framing member cannot be located directly above and below the panel, full-depth blocking at 16-inches (406 mm) spacing shall be provided between parallel framing members to each side of the braced wall panel in accordance with figure R602.10.8(2). Fastening of blocking and wall plates shall be in accordance with Table R602.3(1) and Figure R602.10.8(2).

(C) Item. 3. Connections of braced wall panels to concrete or masonry shall be in accordance with Section R403.1.6.

(D) Item 4. Wood sole plates of braced wall panels at building interiors on monolithic slabs maybe anchored using connector(s) with a shear capacity of 2300 pounds and a tensile capacity of 800 pounds over a maximum span of 6 feet (1829 mm).

(5) Section R602.12 Simplified wall bracing. This section has been modified to change wall height, roof eave height, and wind speed conditions. This section has been modified to read: R602.12 Simplified wall bracing. Buildings meeting all of the conditions listed below shall be permitted to be braced in accordance with this section as an alternate to the requirements of Section R602.10. The entire building shall be braced in accordance with this section; the use of other bracing provisions of Section R602.10, except as specified herein, shall not be permitted.

(A) Item. 1. There shall be not more than three stories above the top of a concrete or masonry foundation or basement wall. Permanent wood foundations shall not be permitted.

(B) Item 2. Floors shall not cantilever more than 24 inches (610 mm) beyond the foundation or bearing wall below.

(C) Item 3. Wall height shall not be greater than 12 feet (3658 mm)

(D) Item 4. The building shall have a roof eave-to-ridge height of 20 feet (6096 mm) or less.

(E) Item 5. Exterior walls shall have gypsum board with a minimum thickness of 1/2 inch (12.7 mm) installed on the interior side fastened in accordance with Table R702.3.5.

(F) Item. 6. The structure shall be located where the ultimate design wind speed is less than or equal to 115 mph (51.4 m/s), and the exposure category is B or C.

(G) Item. 7. The structure shall be located in Seismic Design Category A, B, or C for detached one- and two-family dwellings or Seismic Design Category A or B for townhouses.

(H) Item 8. Cripple walls shall not be permitted in three-story buildings.

(6) Section R602.12.2 Sheathing materials. This section has been modified to change the minimum thickness of wood structural panels. This section has been modified to read: R602.12.2 Sheathing materials. The following sheathing materials installed on the exterior side of exterior walls shall be used to construct a bracing unit as defined in Section R602.12.3. Mixing materials is prohibited.

(A) Item 1. Wood structural panels with a minimum thickness of 7/16 inch (11.11 mm) fastened in accordance with Table R602.3(3).

(B) Item 2. Structural fiberboard sheathing with a minimum thickness of 1/2 inch (12.7 mm) fastened in accordance with Table R602.3(1).

748:20-6-12. IRC® 2018 2024 Chapter 7 Wall Covering [AMENDED]

Chapter 7 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 703.1 General. This section has been modified to clarify and add requirements for direct applied exterior finish with water-resistive barrier installations. This section has been modified to read: 703.1 General. Exterior walls shall provide the building with a weather-resistive exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.4. Direct Applied Exterior Finish Systems Cement Board based stucco finish and direct applied masonry or stone shall comply with the following:

(A) Item 1. Direct applied masonry or stone shall comply with Section R703.7.3 Water-resistive barriers and product manufacture's installation specifications.

(B) Item 2. Cement Board Stucco Exterior Finish Systems shall be installed per manufacturer installation instructions and meet the minimum wall assembly details below. Products that make up the finished wall system that consists of base coat, secondary coat, reinforcing mesh and finish coat shall be of same manufacturer to ensure product/material compatibility and performance.

(i) Item 2.1. Approved Sheathing.

(ii) Item 2.2. Base flashing at bottom of walls and roofs.

(iii) Item 2.3. Water resistant barrier equal to or greater than 60-minute Grade D paper or ASTM D226.

(iv) Item 2.4. Approved Cement Board for wall application base for exterior wall ASTM C1326.

(v) Item 2.5. Approved Cement Board Joint Reinforcement Coat and Mesh.

(vi) Item 2.6. Base Coat.

(vii) Item 2.7. ~~Reinforcing Mesh ASTM E2098(Alkaline Resistant)~~ Alkaline Resistant Reinforcing Mesh.

(viii) Item 2.8. Second Base Coat.

(ix) Item 2.9. Finish Coat.

(x) Item 2.10. Other Design Considerations: Separation distance from finish exterior grade must be 6 inches or greater. Separation from roofs must be 1 inch or greater. Through wall flashing must be provided at horizontal locations at dissimilar materials. Expansion joints, if needed, shall comply with finish system ~~manufacturer~~ manufacturer's recommendations. Expansion gaps are required around all windows, doors, or other dissimilar material integrated in the wall and joints are required to be sealed.

(C) Exception: Log walls designed and constructed in accordance with the provisions of ICC 400®.

(2) Section R703.4 Flashing. This section has been modified to clarify that 6-mil polyethylene sheeting is an approved corrosion-resistant flashing in certain circumstances ~~and to clarify flashing above doors is not required when the door is covered by a minimum of 3 feet~~. This section has been modified to read: R703.4 Flashing. Approved corrosion-resistant flashing shall be applied ~~shingle-fashion~~ in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. 6-mil polyethylene sheeting is an approved corrosion-resistant flashing when not exposed to UV rays. Overlapped flashing shall be applied in shingle fashion. Self-adhered membranes used as flashing shall comply with AAMA 711. Fluid-applied membranes used as flashings in exterior walls shall comply with AAMA 714. The flashing shall extend to the surface of the exterior wall finish. Flashing shall be installed above deck ledgers in accordance with Section R507.9.1.5. Approved corrosion-resistant flashings shall be installed at the following locations:

(A) Item 1. Exterior window and door openings. Flashing at exterior window and door openings shall ~~extend to the surface of the exterior wall finish or to the water-resistive barrier complying with Section R703.2 for subsequent drainage. Mechanically attached flexible flashings shall comply with AAMA 712. Flashing at exterior window and door openings shall~~ be installed in accordance with ~~one or more of the following:~~ R703.4.1.

~~(i) Item 1.1. The fenestration manufacturer's installation instructions and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, flashing to be installed per 1.2, 1.3, 1.4 or, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in a such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Openings using pan flashing shall incorporate flashing or protection at the head and sides.~~

~~(ii) Item 1.2. In accordance with the flashing design or method of a registered design professional.~~

~~(iii) Item 1.3. In accordance with other approved methods.~~

~~(iv) Item 1.4. Flashing above doors are not required where the door is covered by a minimum of 3 feet.~~

(B) Item 2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.

(C) Item 3. Under and at the ends of masonry, wood or metal copings and sills.

(D) Item 4. Continuously above all projecting wood trim.

(E) Item 5. Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.

(F) Item 6. At wall and roof intersections.

(G) Item 7. At built-in gutters.

~~(3) Section 703.7.3 Water-resistive barriers. This section has been modified to clarify the requirements for the water-resistive barrier, where applied over approved sheathing to drain to the outer water-resistive barrier. This section has been modified to read: 703.7.3 Water-resistive barriers. Water-resistive barriers shall be installed as required in Section R703.2 and, where applied over approved sheathing, shall include a water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of Grade D paper. The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing, installed in accordance with Section R703.4 and intended to drain to the outer water-resistive barrier. Exception: Where the water-resistive barrier that is applied over wood-based sheathing has a water resistance equal to or greater than that of 60-minute Grade D paper and is separated from the stucco by an intervening, sustainably nonwater-absorbing layer or designed drainage space.~~

(3) Section R703.7.3.2 Moist or marine climates. This section has been modified to clarify in option one the requirement is for direct applied materials and stucco applications, not including Stucco finish over cementitious board. This section has been modified to read: R703.7.3.2 Moist or marine climates. In the Moist (A) or Marine (C) climate zones indicated in Figure N1101.7, water-resistive barriers shall comply with one of the following:

(A) In addition to complying with Section R703.7.3.1, a space or drainage material not less than three sixteenths inch (5 mm) in depth shall be added to the exterior side of the water-resistive barrier for direct applied materials and stucco applications, not including Stucco Finish over cementitious board.

(B) In addition to complying with Section 703.7.3.1, Item 2, drainage on the exterior of the water-resistive barrier shall have a drainage efficiency of not less than 90 percent, as measured in accordance with ASTM E2273 or Annex A2 of ASTME 2925.

(4) Section R703.8 Anchored stone and masonry veneer, general. This section has been modified to specify anchored stone walls shall have an additional layer of No. 15 asphalt felt complying with ASTM D226 for Type I felt or other water-resistive barrier to provide a bond break between the primary water-resistive barrier and the back side of the stone and mortar. This section has been modified to read: R703.8 Anchored stone and masonry veneer, general. Anchored stone and masonry veneer shall be installed in accordance with this chapter, Table R703.3(1) and Figure R703.8. These veneers installed over a backing of wood or cold-formed steel shall be limited to the first story above grade plane and shall not exceed 5 inches (127 mm) in thickness. See Section R602.10 for wall bracing requirements for masonry veneer for wood-framed construction and Section R603.9.5 for wall bracing requirements for masonry veneer for cold-formed steel and connections. Anchored stone walls shall have an additional layer of No. 15 asphalt felt complying with ASTM D226 for Type I felt or other approved water-resistance barrier to provide a bond break between the primary water-resistive barrier and the back side of stone or mortar. Exceptions:

(A) Exception 1. For buildings in Seismic Design Categories A, B, and C, exterior stone or masonry veneer, as specified in Table R703.8(1) with a backing of wood or steel framing shall be permitted to the height specified in Table R703.8(1) above a noncombustible foundation.

(B) Exception 2. For detached one- and two-family dwellings in Seismic Design Categories D (subscript 0), D (subscript 1), and D (subscript 2), exterior stone or masonry veneer, as specified in Table 703.8(2) with a backing of wood framing shall be permitted to the height specified in Table 703.8(2) above a noncombustible foundation.

(5) Figure ~~R703.8~~ R703.8(1) Typical Masonry Veneer Wall Details. This figure has been modified to add footnotes "e" and "f" ~~and "g"~~ to the footnote section and amend the figure heading to include a superscript "e" and "f" ~~and "g"~~ to indicate the associated footnotes. This figure's footnotes have been modified to read:

(A) Footnote "a" reads: "See Sections R703.4, R703.8.5, and R703.8.6."

(B) Footnote "b" reads: "See Section R703.2 and R703.8.4."

(C) Footnote "c" reads: "See ~~Section R703.8.4. and~~ Table ~~R703.8.4.2~~ R703.8.4(1) and Section R703.8.4.2."

~~(D) Footnote "d" reads: "See Section R703.8.3."~~

~~(E)~~(D) Footnote "~~e~~ d" reads: "~~Figure~~ Figures ~~R703.8~~ R703.8(1) and 703.8(2) ~~illustrates~~ illustrate typical construction details for a masonry veneer wall. For the actual mandatory requirements of this code, see the indicated sections of text. Other details of masonry veneer wall construction shall be permitted provided the requirements of the indicated sections of text are met.

~~(F)~~(E) Footnote "~~f~~ e" reads: "Flashing ~~to be done~~ shall be installed per Section R703.4, in accordance with a design from a registered design professional or in accordance with other approved methods or standard industry practices."

~~(G)~~(F) Footnote "~~g~~ f" reads: "Flashing depicted under sill and above windows ~~are~~ shall not be required with windows that have flanges for their primary attachment. Flange type windows shall be counter flashed into the weather-resistant barrier or installed per Section R703.4 and per window manufacturer's installation instructions."

(6) Figure R703.8(2) Typical Masonry Veneer Wall Details. This figure has been modified to add footnotes "f" and "g" to the footnote section and amend the figure heading to include a superscript "f" and "g" to indicate the associated footnotes. This figure's footnotes have been modified to read:

(A) Footnote "a" reads: "See Sections R703.4, R703.8.5, and R703.8.6."

(B) Footnote "b" reads: "See Section R703.2 and R703.8.4."

(C) Footnote "c" reads: "See Section R703.8.4(1). and Section R703.8.4.2"

(D) Footnote "d" reads: "See Section R703.8.3."

(E) Footnote "e" reads: "Figures R703.8(1) and R703.8(2) illustrate typical construction details for a masonry veneer wall. For the actual mandatory requirements of this code, see the indicated sections of text. Other details of masonry veneer wall construction shall be permitted provided the requirements of the indicated sections of text are met.

(F) Footnote "f" reads: "Flashing shall be installed per Section R703.4, in accordance with a design from a registered design professional or in accordance with other approved methods or standard industry practices."

(G) Footnote "g" reads: "Flashing depicted under sill and above windows shall not be required with windows that have flanges for their primary attachment. Flange type windows shall be counter flashed into the weather-resistant barrier or installed per Section R703.4 and per window manufacturer's installation instructions."

~~(6)~~(7) Figure R703.8.2.1 Exterior Masonry Veneer Support by Steel Angles. This figure has been modified by adding a footnote to the figure. The figure heading has been modified to have a superscript letter "a" to indicate a new footnote is applicable. Footnote "a" has been added to read: a. Flashing ~~to~~ shall be done per Section R703.4, in accordance with a design from a registered design professional or other approved methods as defined by the code for wall flashing.

~~(7)~~(8) Figure R703.8.2.2 Exterior Masonry Veneer Support by Roof Members. This figure has been modified by adding a footnote "a" to the figure. The figure heading has been modified to have a superscript letter "a" to indicate a new footnote is applicable. Footnote "a" has been added to read: a. Flashing ~~to~~ shall be done per Section R703.4, in accordance with a design from a registered design professional or other approved methods as defined by the code for wall flashing.

~~(8)~~(9) Section R703.8.3.1 Allowable span. This section has been modified to provide guidance to builders using, a lintel typical for Oklahoma~~, lintel~~. This section has been modified to read: R703.8.3.1 Allowable span. The allowable span shall not exceed the values set forth in Table R703.8.3.1. Additionally, a 3 inches x 3 inches x 3/16 inch (76 mm x 76 mm x 4.8 mm) steel angle 6 feet (1829 mm) long may be used to support 3 vertical feet (914 mm) of masonry veneer and a 3 inches x 3 inches x 3/16 inch (76 mm x 76 mm 4.8 mm) steel angle 5 feet (1524 mm) long may be used to support 4 1/4 vertical feet (1295 mm) of masonry veneer.

~~(9)~~(10) Section R703.9.1 Exterior insulation and finish systems (EIFS). This section has been modified to clarify EFIS shall be installed in accordance with the same product manufacturer's instructions to ensure product/material compatibility and performance. This section has been modified to read: R703.9.1. Exterior insulation and finish systems (EIFS). EIFS shall comply with the following:

(A) Item 1. ASTM E2568.

(B) Item 2. EIFS shall be limited to applications over substrates of concrete or masonry wall assemblies.

(C) Item 3. Flashing of EIFS shall be provided in accordance with the requirements of Section R703.4.

(D) Item 4. EIFS shall be installed in accordance with same manufacturer's ~~instruction as~~ instructions to ensure product/material compatibility and performance.

(E) Item 5. EIFS shall terminate not less than 6 inches (152 mm) above the finished ground level.

(F) Item 6. Decorative trim shall not be face-nailed through the EIFS.

~~(10)~~(11) Section R703.9.2 Exterior insulation and finish systems (EIFS) with drainage. This section has been modified to clarify EFIS shall be installed in accordance with the same product manufacturer's instructions to ensure product/material compatibility and performance. This section has been modified to read: R703.9.2 Exterior insulation and finish systems (EIFS) with drainage. EIFS with drainage shall comply with the following:

(A) Item 1. ASTM E2568.

(B) Item 2. EIFS with drainage shall be required over all wall assemblies with the exception of substrates of concrete or masonry wall assemblies.

(C) Item 3. EIFS with drainage shall have an average minimum drainage efficiency of 90 percent when tested in accordance with ASTM E2273.

(D) Item 4. The water-resistive barrier shall comply with Section R703.2 or ASTM 2570.

(E) Item. 5. The water-resistive barrier shall be applied between the EIFS and the wall sheathing.

(F) Item 6. Flashing of EIFS with drainage shall be provided in accordance with the requirements of Section R703.4.

(G) Item 7. EIFS with drainage shall be installed in accordance with the same manufacturer's instructions to ensure product/material compatibility and performance.

(H) Item 8. EIFS with drainage shall terminate not less than 6 inches (152 mm) above the finished ground level.

(I) Item 9. Decorative trim shall not be face-nailed through the EIFS.

748:20-6-13. IRC® 2018 2024 Chapter 8 Roof-Ceiling Construction [AMENDED]

Chapter 8 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section R801.3 Roof drainage. This section has been stricken from the code.

(2) Section ~~802.3~~ R802.3 Ridge. This section has been modified to clarify a ridge beam shall be designed in accordance with acceptable engineer practices when the roof load exceeds specific criteria to carry one-half of the tributary load. This section has been modified to read: R802.3 Ridge. A ridge board used to connect opposing rafters shall be not less than 1 inch (25 mm) nominal thickness and not less in depth than the cut end of the rafter. Where ceiling joists or rafter ties do not provide continuous ties across the structure, a ridge beam shall be designed, in accordance with acceptable engineer practices, and supported on each end of the wall or girder, when roof loads exceed 10 per square foot pound dead loads and 20 per square foot pound live loads. In the case where rafters are used to support roof and finished ceiling (also known as a cathedral ceiling) with no connection of opposing rafters, ridge beam shall be designed, in accordance with acceptable engineer practices to carry one half of tributary load of the roof.

(3) Section R802.4.1 Rafter size. This section has been modified to provide ~~guidance for builders framing rafters above the top sill of the wall system and provide~~ an exception to require collar ties to be sized not less than the required size of the rafters they are connected to. This section has been modified to read: 802.4.1 Rafter size. Rafters shall be sized based on the rafter spans in Tables R802.4.1(1) through R802.4.1(8). Rafter spans shall be measured along the horizontal projection of the rafter. For other grades and species and for other loading conditions, refer to the AWC STJR. ~~The tabulated rafter spans in Tables R802.4.1(1) through R802.4.1(8) assume ceiling joists are located at the bottom of the attic space or some other method of resisting the outward push of the rafter on the bearing walls, such as rafter ties is provided at that location. Where ceiling joists or rafter ties are located higher in the attic space, the rafter span in these tables shall be multiplied by the following rafter reduction factors: Where ceiling joists or rafter ties are located at one third the span of the rafter the adjustment factor is 0.67, at one quarter of the span of the rafter the rafter adjustment factor is 0.76, at one fifth the span of the rafter the adjustment factor is 0.83, at one sixth of the span of the rafter, the adjustment factor is 0.90, and at two fifteenths of the rafter or less, there is no need for adjusting the rafter capacity~~. Exception: Collar Ties. Installation of the collar ties to reduce the span of the

rafters is permitted as shown in Figure R802.4.5. When collar ties are used to reduce rafter spans, the ~~Collar~~ collar ties shall be installed at every rafter and sized not less than the required size of the rafters they are connected.

(4) Section R802.4.2 Framing details. This section has been modified to change the rafter framing details. This section has been modified to read: ~~R802.3~~ R802.4.2 Framing details.

(A) Rafters shall be framed opposite from each other to a ridge board, shall not be offset more than one and 1.5 inches (38 mm) from ~~or to~~ each other and shall be connected with a collar tie~~, gusset plate~~ or ridge strap in accordance with Section R802.4.6 or directly opposite from each other to a gusset plate in accordance with Table R602.3(1). Rafters shall be nailed to the top wall plates in accordance with Table R602.3 (1) unless the roof assembly is required to comply with the uplift requirements of Section R802.11. Ridge board shall not be less than 1-inch (25 mm) nominal thickness and not less in depth and one size greater than the rafters attached to it.

(B) Where a 1-inch (25 mm) nominal thickness ridge is used, all rafters shall be framed not more than 1.5 inches (38 mm) offset from each other at the ridge board or if no ridge is used, they should be framed directly opposite from each other with a gusset plate as a tie. When a nominal 2-inch rafter is used they may be offset with no limitations.

(5) Section ~~802.4.3~~ R802.4.3 Hips and valleys. This section has been modified to provide an exception for the use of a "Blind Valley," and provide a definition of a brace. This section has been modified to read: R802.4.3 Hips and Valleys. Hip and valley rafters shall be not less than 2 inches (51 mm) nominal in thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition, or beam, or be designated to carry and distribute the specific load at that point. Exception: The use of a "Blind Valley," also known as a "Farmers Valley" or "California Valley" will be allowed. In this type of valley, the main roof is framed as usual, it may or may not be sheathed and the intersecting roof is framed on top of the main roof. The two valley plates or sleeps lie on the top of the main roof rafters or sheathing and provide a nailing base for the jack rafters and the ridge board of the intersecting roof. A definition of a brace includes:

(A) Item 1. A triangular configuration of framing members with a horizontal tie and rafter members.

(B) Item 2. King post or similar.

(6) Section ~~R802.5.1~~ R802.4.5 Purlins. This section has been modified to include an exception for spacing the braces at not more than 6 feet (1829 mm) when certain conditions are met. The section has been modified to read: ~~R802.5.1~~ R802.4.5. Installation of purlins to reduce the span of rafters is permitted as shown in Figure ~~R802.5.1~~ R802.4.5. Purlins shall be sized not less than the required size of the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch (51 mm by 102 mm) braces installed to bearing walls at a slope not less than 45 degrees (0.79 rad) from the horizontal. The braces shall be spaced not more than 4 feet (1219 mm) on center and the unbraced length of the braces shall not exceed 8 feet (2438 mm). The tabulated rafter spans in Tables R802.4.1(1) through R802.4.1(8) assume ceiling joists are located at the bottom of the attic space or some other method of resisting the outward push of the rafter on the bearing walls, such as rafter ties is provided at that location. Where ceiling joists or rafter ties are located higher in the attic space, the rafter span in these tables shall be multiplied by the following rafter reduction factors: Where ceiling joists or rafter ties are located at one third the span of the rafter the adjustment factor is 0.67, at one quarter of the span of the rafter the rafter adjustment factor is 0.76, at one fifth the span of the rafter the adjustment factor is 0.83, at one sixth of the span of the rafter, the adjustment factor is 0.90, and at two fifteenths of the rafter or less, there is no need for adjusting the rafter capacity. Exception: Braces may be spaced not more than 6 feet (1829 mm) on center if:

(A) Item 1. The purlin brace is 2-inch by 6-inch (51 mm by 153 mm),

(B) Item 2. Purlins shall be sized one nominal size larger than the rafter they support, and;

(C) Item 3. Unbraced length of braces shall not exceed 8 feet (2438 mm).

(7) Section R802.5.2 Ceiling joist and rafter connections. This section has been modified to reflect current framing practices. This section has been modified to read: ~~R802.3.1~~ R802.5.2 Ceiling joists and rafter connections. Where ceiling joists run parallel to rafters, they shall be connected to rafters at the top wall plate in accordance with Table R802.5.2. Where ceiling joists are not connected to the rafters at the top of the wall plate, they shall be installed in the bottom third of the rafter height in accordance with Figure R802.4.5 and Table ~~R802.5.2~~ R802.5.2(1). Where ceiling joists do not run parallel to the rafters, the ceiling joists shall be

connected to top plates in accordance with Table R602.3(1). Each rafter shall be tied across the structure with a rafter tie spaced 4 ft (1219 mm) on center. Where ceiling joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or girder designed in accordance with accepted engineer practices.

(8) Section R802.5.2.2 Rafter ties. This section has been modified to change the required length of the rafter ties from 24 to 48 inches on center. This section has been modified to read: R802.5.2.2 Rafter ties. Wood rafter ties shall be not less than 2 inches by 4 inches (51 mm by 102 mm) installed in accordance with Table R802.5.2(1) at a maximum of 48 inches (1219 mm) on center. Other approved rafter tie methods shall be permitted.

~~(8)~~(9) Section R802.7.1.2 Ceiling joist taper cut. This section has been modified to include an exception to the section requirements for ceiling joists not carrying more than a 25-pound live load for limited attic storage. This section has been modified to read: R802.7.1.2 Ceiling joists taper cut. Taper cuts at the ends of the ceiling joists shall not exceed one-fourth the depth of the member in accordance with Figure R802.7.1.2. Exception: For ceiling joists not carrying more than 25 pounds of live load (limited attic storage) then taper cut at end of joist may be able to be increased to D/2.

~~(9) Section R806.5 Unvented attic and unvented enclosed rafter assemblies. This section has been modified to provide guidance on where the air permeable and impermeable insulation should be installed and provide exceptions to the section related to when air supply to the attic is not required. This section has been modified to read: R806.5 Unvented attic and unvented enclosed rafter assemblies. Unvented attics and unvented enclosed roof framing assemblies created by ceilings that are applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members/rafters, shall be permitted where all of the following conditions are met:~~

~~(A) Item 1. The unvented attic space is completely within the building thermal envelope.~~

~~(B) Item. 2. Interior Class I vapor retarders are not installed on the ceiling side (attic floor) of the unvented attic assembly or on the ceiling side of the unvented enclosed roof assembly.~~

~~(C) Item 3. Where wood shingles or shakes are used, a minimum 1/4 –inch (6.4 mm) vented airspace separates the shingles or shakes and the roofing underlayment above the structural sheathing.~~

~~(D) Item 4. In climate Zones 5, 6, 7, and 8, any air-impermeable insulation shall be a Class II vapor retarder or shall have a Class II vaper retarder coating or covering in direct contact with the underside of the insulation.~~

~~(E) Item 5. Insulation shall comply with Item 5.3 and either Item 5.1 or 5.2:~~

~~(i) Item 5.1. Item 5.1.1, 5.1.2, 5.1.3, or 5.1.4 shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.~~

~~(I) Item 5.1.1 Where only air-impermeable insulation is provided it shall be applied in direct contact with the underside of the structural roof sheathing.~~

~~(II) Item 5.1.2 Where air-permeable insulation is installed directly below the structural sheathing, ridge board or sheet insulation shall be installed directly above the structural roof sheathing in accordance with the R-values in Table R806.5 for condensation control.~~

~~(III) Item 5.1.3. Where both air-impermeable and air-permeable insulation are provided, the air-impermeable insulation shall be applied in direct contact with the underside of the structural roof sheathing in accordance with Item 5.1.1 and shall be in accordance with the R-values in Table R806.5 for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.~~

~~(IV) Item 5.1.4 Alternatively, sufficient ridge board or sheet insulation shall be installed directly above the structural roof sheathing to maintain the monthly average temperature of the underside of the structural roof sheathing above 45 degrees Fahrenheit (7 degrees Celsius). For calculation purposes, an interior air temperature of 68 degrees Fahrenheit (20 degrees Celsius) is assumed and the exterior air temperature is assumed to be the monthly average outside air temperature of the three coldest months.~~

~~(ii) Item 5.2. In Climate Zones 1, 2, and 3, air-permeable insulation installed in unvented attics shall meet the following requirements:~~

~~(I) Item 5.2.1. An approved vapor diffusion port shall be installed not more than 12 inches (305 mm) from the highest point of the roof, measured vertically from the highest point of the roof to the lower edge of the port.~~

~~(II) Item 5.2.2 The port area shall be greater than or equal to 1:600 of the ceiling area. Where there are multiple ports in the attic, the sum of the port areas shall be greater than or equal to the area requirement.~~

~~(III) Item 5.2.3 The vapor-permeable membrane in the vapor diffusion port shall have a vapor permeance rating of greater than or equal to 20 perms when tested in accordance with Procedure A of ASTM E96.~~

~~(IV) Item 5.2.4. The vapor diffusion port shall serve as an air barrier between the attic and the exterior of the house.~~

~~(V) Item 5.2.5. The vapor diffusion port shall protect the attic against the entrance of rain and snow.~~

~~(VI) Item 5.2.6. Framing members and blocking shall not block the free flow of water vapor to the port. Not less than a 2-inch (51 mm) space shall be provided between any blocking and the roof sheathing. Air-permeable insulation shall be permitted within that space.~~

~~(VII) Item 5.2.7. The roof slope shall be greater than or equal to 3:12 (vertical/horizontal)~~

~~(VIII) Item 5.2.8. Where only air-permeable insulation is used, it shall be installed directly below the structural roof sheathing, on top of the attic floor, or on top of the ceiling.~~

~~(IX) Item 5.2.9. Air-impermeable insulation, where used in conjunction with air-permeable insulation, shall be directly above or below the structural roof sheathing and is not required to meet the R-value in Table 806.5. Where directly below the structural roof sheathing, there shall be no space between the air-impermeable insulation and the air-permeable insulation.~~

~~(X) Item 5.2.10. Where air-permeable insulation is used and is installed directly below the roof structural sheathing, air shall be supplied at a flow rate greater than or equal to 50 CFM (23.6 L/s) per 1,000 square feet (93 square meters) of ceiling. The air shall be supplied from ductwork providing supply air to the occupiable space when the condition system is operating. Alternatively, the air shall be supplied by a supply fan when the conditioning system is operating. Exceptions: 1. Where both air-impermeable and air-permeable insulation are used, and the R-value in Table R806.5 is met, air supply to the attic is not required. 2. Where only air-permeable insulation is used and is installed in top of the attic floor, or on top of the ceiling, air supply to the attic is not required.~~

~~(iii) Item 5.3. Where preformed insulation board is used as the air-impermeable insulation layer, it shall be sealed at the perimeter of each individual sheet interior surface to form a continuous layer.~~

748:20-6-14. IRC® 2018 2024 Chapter 9 Roof Assemblies [AMENDED]

Chapter 9 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 905.1.2 Ice barriers. This section has been modified to clarify the conditions and ~~add two more paragraphs to the section to require 36-inch wide~~ locations where ice barriers shall ~~to~~ be installed on the roof ~~under specific conditions and in specific locations~~. This section has been modified to read:~~(A)~~ 905.1.2 Ice barriers. ~~In areas where there has been a history of ice forming along the eaves causing a backup of water as designated in Table R301.2(1), an ice barrier shall be installed for asphalt shingles, metal roof shingles, mineral-surfaced roll roofing, slate and slate-type shingles, wood shingles and wood shakes. The~~ An ice barrier shall consist of not fewer than two layers of underlayment cemented together, or a self-adhering polymer-modified bitumen sheet shall be ~~used in place of normal underlayment and extend from the lowest edges of all roof surfaces to a point not less than 24 inches (610 mm) inside the exterior wall line of the building. On roofs with a slope equal to or greater than eight units vertical in 12 units horizontal (67 percent slope), ice barrier shall also be applied not less than 36 inches (914 mm) measured along the roof slope from the eave edge of the building~~ installed in the following locations:

~~(B)~~(A) Item 1. A 36-inch wide (914 mm) ice barrier shall be installed in all valleys, run the length of the valley, and centered on the valley.

~~(C)~~(B) Item 2. A 36-inch wide (914 mm) ice barrier shall be installed at all change in roof pitch in which the lower roof has a lower pitch than the upper roof. The ice barrier ~~is run~~ runs the length of the change in pitch and cemented on the change in pitch.

(C) Item 3: For new construction, an 18-inch wide (457 mm) ice barrier shall be installed at wall and roof intersections, run the length of the wall, and be cemented on the wall and roof intersection adjacent to living space.

(D) Item 4. In areas where there has been a history of ice forming along the eaves causing a backup of water as designated in Table R301.2(1), an ice barrier shall be installed for asphalt shingles, metal roof shingles, mineral roll roofing, slate and slate-type shingles, wood shingles and wood shakes. The ice barrier shall be used in place of normal underlayment and extend from the lowest edges of all roof surfaces to a pint not less than 24 inches (610 mm) inside the exterior wall line of the building. On roofs with a slope equal to or greater than eight units vertical in 12 units horizontal (76 percent slope) ice barrier shall also be applied not less than 36 inches (914 mm) measured along the roof slope from the eve edge of the building.

~~(2) Section R905.2.1 Sheathing requirements. This section has been modified to add a definition for the term "solidly sheathed." This section has been modified to read: R905.2.1 Sheathing requirements. Asphalt shingles shall be fastened to solidly sheathed decks. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacturer's installation instructions, warped, split, cracked, deteriorated or rotten boards).~~

~~(3)~~(2) Section R905.2.8.5 Drip edge. This section has been modified to add an exception to the section when certain criteria is met. This section has been modified to read: R905.2.8.5 Drip edge. A drip edge shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of drip edge shall be overlapped not less than 2 inches (51 mm). Drip edges shall extend not less than 1/4 inch (6.4 mm) below the roof sheathing and extend up back onto the roof deck not less than 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at not less than 12 inches (305 mm) o.c. with fasteners as specified in Section R905.2.5. Drip edges shall be installed over the underlayment along rake edges. Exception: If a nominal 1 inch by 2 inch (25 mm by 51 mm) shingle mold is used, attached to the fascia and the starter course of shingles is extended a minimum of 1/4 inch (6.35 mm) and not more than 1 inch (25 mm) then a metal drip edge is not required.

~~(4) R905.3.1. Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.3.1. Deck requirements. Concrete and clay tile shall be installed only over solid sheathing or spaced structural sheathing boards. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(5) 905.4.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.4.1 Deck requirements. Metal roof shingles shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied to spaced sheathing. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(6) Section 905.5.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.5.1 Deck requirements. Mineral-surfaced roll roofing shall be fastened to solidly sheathed roofs. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(7) Section R905.6.2 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.6.2 Deck requirements. Slate shingles shall be fastened to solidly sheathed roofs. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than~~

~~those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(8) Section R905.7.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.7.1 Deck requirements. Wood shingles shall be installed on solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall be not less than 1-inch by 4-inch (25 mm by 102 mm) nominal dimensions and shall be spaced on centers equal to the weather exposure to coincide with the placement of fasteners. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(9) Section R905.8.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.8.1 Deck requirements. Wood shakes shall be used only on solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall be not less than 1-inch by 4-inch (25 mm by 102 mm) nominal dimensions and shall be spaced on centers equal to the weather exposure to coincide with the placement of fasteners. Where 1-inch by 4-inch (25 mm by 102 mm) spaced sheathing is installed at 10 inches (254 mm) on center, additional 1-inch by 4-inch (25 mm by 102 mm) boards shall be installed between the sheathing boards. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(10) Section R905.10.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.10.1 Deck requirements. Metal roof panel roof coverings shall be applied to solid or spaced sheathing, except where the roof covering is specifically designed to be applied to spaced supports. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(11) Section R905.16.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.16.1 Deck requirements. Photovoltaic shingles shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied over spaced sheathing. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(12) Section R905.17.1 Deck requirements. This section has been modified to provide a definition for the term "solidly sheathed." This section has been modified to read: R905.17.1 Deck requirements. BIPV roof panels shall be applied to a solid or closely-fitted deck, except where the roof covering is specifically designed to be applied over spaced sheathing. Solidly sheathed decks shall be defined as sawn lumber boards or structural panels that provide a solid holding power for fasteners that do not have deficit conditions (gaps greater than those allowed by the roof covering manufacture's installation instructions, warped, split, cracked deteriorated or rotten boards).~~

~~(13)~~(3) Section R908.3.1.1 Roof re-cover. This section has been modified to list a fourth condition for when a roof re-cover shall not be permitted. This section has been modified to read: R908.3.1.1. Roof re-cover. A roof re-cover shall not be permitted where any of the following conditions occur:

(A) Item 1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.

(B) Item 2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.

(C) Item 3. Where the existing roof has two or more applications of any type of roof covering.

(D) Item 4. Where the existing roof has one or more application of asphalt shingles additional applications of asphalt shingles shall not be permitted.

748:20-6-15. IRC® 2018 Chapter 10 Chimneys and Fireplaces [REVOKED]

~~Chapter 10 of the IRC® 2018 is adopted with the following modification: Section R1005.7 Factory-built chimney offsets. This section has been modified to provide an exception for listed and labeled factory-built chimneys that are part of a fireplace and chimney assembly to be installed according to the manufacturer's installation instructions. This section has been modified to read: R1005.7 Factory-built chimney offsets. Where a factory-built chimney assembly incorporates offsets, no part of the chimney shall be at an angle of more than 30 degrees (0.52 rad) from vertical at any point in the assembly and the chimney assembly shall not include more than four elbows. Exception: Where chimneys are part of a listed and labeled factory-built fireplace they may be installed in accordance with the fireplace and chimney manufacturer's installation instructions.~~

748:20-6-16. IRC® 2018 2024 Chapter 11 Energy Efficiency [AMENDED]

Chapter 11 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 1101.5 (R105.2) Information on construction documents when required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the local authority having jurisdiction has adopted the section, clarify the energy path is for prescriptive and performance, remove a requirement to include the area weighted U-factor and solar heat gain coefficient SHGC calculations from the required construction documents when they are completed, and require the air sealing details to comply with Table N1102.5.1.1. This section has been modified to read: 1101.5 (R105.2) Information on construction documents when required by the authority having jurisdiction. Construction documents shall be drawn to scale on suitable material. Electronic media documents are permitted to be submitted when approved by the code official Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in sufficient detail pertinent data and features of the building, systems and equipment as herein governed. Details shall include the following as applicable:

(A) Item 1. Energy compliance path prescriptive or performance.

(B) Item 2. Insulation materials and their R-values.

(C) Item 3. Fenestration U-factors and solar heat gain coefficients (SHGC)

(D) Item 4. This item has been stricken from the code.

(E) Item 5. Mechanical system design criteria

(F) Item 6. Mechanical and service water heating systems and equipment types, sizes and efficiencies.

(G) Item 7. Equipment and systems controls.

(H) Item 8. Duct sealing, duct and pipe insulation and location.

(I) Item 9. Air sealing details to comply with Table N1102.5.1.1.

~~(1) Section N1101.6 Defined terms. This section has been modified to delete the definition of a "ROOF RECOVER" from the list of defined terms in the chapter. Definitions for all other terms remain in the section and are applicable to the chapter.~~

(2) Section N1101.13.1 (R401.2.1) Prescriptive Compliance Option. This section has been modified to delete references to Sections N1104 and N1108. This section has been modified to read: N1103.13.1 (R401.2.1) The Prescriptive Compliance Option requires compliance with Sections N1101 through N1103.

~~(2)~~(3) Section N1101.14 (R401.3) Certificate ~~(Mandatory)~~. This section has been ~~moved to the newly created Appendix W, entitled "Appendix W, Energy Efficiency" and is not adopted as a part of the statewide minimum code for residential construction within the State of Oklahoma. The section has been renumbered in Appendix W to become W101.1. The section number N1101.14 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it~~ modified to delete a reference to Section N1108. This section has been modified to read: N1101.14 (R401.3) Certificate. A permanent certificate shall be completed by the builder or other approved party and posted on a wall in the space where the furnace is located, a utility room or an approved location in inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall indicate the following:

(A) Item 1 The predominate R-values of insulation installed in or on the ceilings, roofs, walls, foundation components such as slabs, basement walls, crawl space walls and floors, and ducts outside conditioned spaces.

(B) Item 2. U-factors of fenestration and the solar heat gain coefficient (SHGC) of fenestration. Where there is more than one value for any component of the building thermal envelope, the certificate shall indicate both the value covering the largest area and the area weighted average value if available.

(C) Item 3. The results from any required duct system and building thermal envelope air leakage testing performed on the building.

(D) Item 4 The types, sizes and efficiencies of heating, cooling and service water-heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall indicate "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency is not required to be indicated for gas-fired unvented room heaters, electric furnace and electric baseboard heaters.

(E) Item 5. Where on-site photovoltaic panel systems have been installed, the array capacity, inverter efficiency, panel title and orientation shall be noted on the certificate.

(F) Item 6. For building where an Energy Rating Index score is determined in accordance with Section N1106, the Energy Rating Index score, both with and without any on-site generation, shall be listed on the certificate.

(G) Item 7. The code edition under which the structure was permitted and the compliance path used.

(H) Item 8. The location and dimensions of a solar-ready zone where one is provided.

(4) Table N1102.1.2 (R402.1.2) Maximum Assembly U-Factors and Fenestration Requirements. This stable has been modified to change in Climate Zone 3, the Vertical Fenestration U-Factor from "0.30" to "0.35", the Wood Frame Wall U-Factor from "0.060" to "0.067" and the Unheated slab F-factor from " 0.54" to " zero." This table has been modified to read: Table N1102.1.2 (R402.1.2) Maximum Assembly U-Factors and Fenestration Requirements. A superscript "a" is after the word "factors" in the title to indicate footnote "a "is applicable. The table contains 14 rows and 9 columns with 5 footnotes at the end and is described below:

(A) Row 1 contains the headers for each of the columns as listed below:

(i) Row 1, column 1 heading is entitled "CLIMATE ZONE."

(ii) Row 1, column 2 heading is entitled "0"

(iii) Row 1, column 3 heading is entitled "1"

(iv) Row 1, column 4 heading is entitled " 2."

(v) Row 1, column 5 heading is entitled "3"

(vi) Row 1, column 6 heading is entitled "4 EXCEPT MARINE."

(vii) Row 1, column 7 heading is entitled "5 AND MARINE 4."

(viii) Row 1, column 8 heading is entitled "6."

(ix) Row 1, column 9 heading is entitled " 7 and 8."

(B) Row 2, contains the following information:

(i) Row 2, column 1 is entitled "VERTICAL FENESTRATION U-FACTOR."

(ii) Row 2, column 2 contains the number "0.50."

(iii) Row 2, column 3 contains the number "0.50."

(iv) Row 2, column 4 contains the number "0.40."

(v) Row 2, column 5, has been modified to change the Vertical Fenestration U-factor from "0.30" to "0.35."

(vi) Row 2, column 6 contains the number "0.30."

(vii) Row 2, column 7 contains the number "0.28" with a superscript "d" to indicate footnote "d" is applicable.

(viii) Row 2, column 8 contains the number "0.28" with a superscript "d" to indicate footnote "d" is applicable.

(ix) Row 2, column 9 contains the number "0.27" with a superscript "d" to indicate footnote "d" is applicable.

(C) Row 3, column 1 is entitled "SKYLIGHT U-FACTOR." No changes have been made to this row.

(D) Row 4, column 1 is entitled "GLAZED VERTICAL FENESTRATION SHGC." No changes have been made to this row.

(E) Row 5, column 1 is entitled " SKYLIGHT SHGC." No changes have been made to this row.

(F) Row 6, column 1 is entitled "CEILING U-FACTOR." No changes have been made to this row.

(G) Row 7, column is entitled "INSULATION ENTIRELY ABOVE ROOF DECK." No changes have been made to this row.

(H) Row 8, column 1 contains the following information:

(i) Row 8, column 1 is entitled "WOOD-FRAMED WALL U-FACTOR."

(ii) Row 8, column 2 contains the number "0.084."

(iii) Row 8, column 3 contains the number "0.084."

(iv) Row 8, column 4 contains the number "0.084."

(v) Row 8, column 5, has been modified to change the Wood-framed Wall U-factor from "0.060" to "0.067."

(vi) Row 8, column 6 contains the number "0.045."

(vii) Row 8, column 7 contains the number "0.045".

(viii) Row 8, column 8 contains the number "0.045".

(ix) Row 8, column 9 contains the number "0.045".

(I) Row 9, column 1 contains is entitled "MASS WALL U-FACTOR" with a superscript "b" to indicate footnote "b" is applicable. No changes have been made to this row.

(J) Row 10, column 1 is entitled "FLOOR U-FACTOR." No changes have been made to this row.

(K) Row 11, column 1 is entitled "BASEMENT WALL U-FACTOR." No changes have been made to this row.

(L) Row 12, column 1 contains the following information:

(i) Row 12, column 1 is entitled "UNHEATED SLAB F-FACTOR" with a superscript "e" to indicate footnote "e" is applicable.

(ii) Row 12, column 2 contains the number "0.73."

(iii) Row 12, column 3 contains the number "0.73."

(iv) Row 12, column 4 contains the number "0.73."

(v) Row 12, column 5, has been modified to change the Unheated Slab F-factor from "0.54" to "zero."

(vi) Row 12, column 6 contains the number "0.51."

(vii) Row 12, column 7 contains the number "0.54".

(viii) Row 12, column 8 contains the number "0.48".

(ix) Row 12, column 9 contains the number "0.48".

(M) Row 13, column 1 is entitled "HEATED SLAB F-FACTOR" with a superscript "e" to indicate footnote "e" is applicable. No changes have been made to this row.

(N) Row 14, column 1 is entitled "CRAWL SPACE WALL U-FACTOR." No changes have been made to this row.

(O) After the table the following information is listed: For SI" 1 foot – 304.8 mm.

(P) The footnotes at the end of the table state the following:

(i) Footnote "a" reads: Nonfenestration U-factors and F-factors shall be obtained from measurements, calculations an approved source or Appendix NF where such appendix is adopted or approved.

(ii) Footnote "b" reads: Mass walls shall be in accordance with Section N1102.2.6. where more than half the insulation is on the interior, the mass wall U-factor shall not exceed 0.17 in Climate Zones 0 and 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4, and 0.057 in Climate Zones 6 through 8.

(iii) Footnote "c" reads: In warm Humid locations as defined by Figure N1101.7 and Table 1101.7, the basement wall U-factor shall not exceed 0.0360.

(iv) Footnote "d" reads: A maximum U-factor of 0.30 shall apply in marine Climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either: (1) Above 4,000 feet in elevation above sea level, or (2) In windborne debris regions where protection of openings is required by Section R301.2.1.2.

(v) Footnote "e" reads: F-factors for slabs shall correspond to the R-values of Table N1102.1.3 and the installation conditions of Section N1102.2.10.1.

~~(3)~~(5) Table ~~R1102.1.2 (R402.1.2)~~ R1102.1.3 (R402.1.3) Insulation Minimum R-Values and Fenestration Requirements by Component with a superscript "a" after the word "component" to indicate footnote "a" is applicable. This table has been modified to change in Climate Zone 3, the Vertical Fenestration U-Factor from "~~0.32~~ 0.30" to "~~0.38~~ 0.35", ~~the Glazed Fenestration SHGC from "0.25" to "0.30", the Ceiling R-value from "38"~~

~~to "30" and~~ the Wood Frame Wall R-Value from "R20 or ~~13 +5~~ 13 +5ci or 0&15ci with a superscript h" to indicate footnote "h" is applicable to "~~R13~~.R15" with a superscript "i" to indicate footnote "i" is applicable, delete the requirement for an Unheated Slab R-Value and Depth, and add footnote "i" to the table. This table has been modified to read: Table ~~R1102.1.2 (R402.1.2)~~ R1102.1.3 (R402.1.3) Insulation Minimum R-Values and Fenestration Requirements by Component, with a superscript "a" at the end to indicate footnote "a" is applicable. The table contains ~~8~~ 14 rows and ~~11~~ 9 columns, with ~~9~~ 8 footnotes at the end and is described below:

(A) Row 1 contains the headers for each of the columns as listed below:

(i) Row 1, column 1 heading is entitled "CLIMATE ZONE."

(ii) Row 1, column 2 heading is entitled "~~FENSTRATION U-FACTOR~~ 0." ~~and contains a superscript "b" to indicate footnote "b" is applicable.~~

(iii) Row 1, column 3 heading is entitled "~~SKYLIGHT U-FACTOR~~ 1." ~~with a superscript "b" after the word "SKYLIGHT" to indicate footnote "b" is applicable.~~

(iv) Row 1, column 4 heading is entitled "~~GLAZED FENSTRATION SHGC~~ 3." ~~with a superscript "b" and "e" to indicate footnotes "b" and "e" are applicable.~~

(v) Row 1, column 5 heading is entitled "~~CEILING R-VALUE~~ 4 EXCEPT MARINE."

(vi) Row 1, column 6 heading is entitled "~~WOOD FRAME WALL R-VALUE~~ 5 AND MARINE 4."

(vii) Row 1, column 7 heading is entitled "~~MASS WALL R-VALUE~~ 6." ~~with a superscript "i" to indicate footnote "i" is applicable.~~

(viii) Row 1, column 8 heading is entitled "~~FLOOR R-VALUE~~ 7."

(ix) Row 1, column 9 heading is entitled "~~BASEMENT WALL R-VALUE~~ 7 AND 8." ~~with a superscript "c" after the word "BASEMENT" to indicate footnote "c" is applicable.~~

~~(x) Row 1, column 10 heading is entitled "SLAB R-VALUE AND DEPTH" with a superscript 'd" after the word "SLAB" to indicate footnote "d" is applicable.~~

~~(xi) Row 1, column 11 heading is entitled "CRAWL SPACE WALL R-VALUE" with a superscript "c" after the word "SPACE" to indicate footnote "c" is applicable.~~

(B) Row 2, column 1 contains the ~~number "1."~~ following information:

(i) Row 2, column 1 is entitled "Vertical Fenestration U-Factor."

(ii) Row 2, column 2 contains the number "0.50."

(iii) Row 2, column 3 contains the number "0.50."

(iv) Row 2, column 4 contains the number "0.40."

(v) Row 2, column 5, has been modified to change the number "0.30" to "0.35."

(vi) Row 2, column 6 contains the number "0.30."

(vii) Row 2, column 7 contains the number "0.28" with a superscript "g" to indicate footnote "g" is applicable.

(viii) Row 2, column 8 contains the number "0.28" with a superscript "g" to indicate footnote "g" is applicable.

(ix) Row 2, column 9 contains the number "0.27" with a superscript "g" to indicate footnote "g" is applicable.

(C) Row 3, column 1 ~~contains the number~~ is entitled "~~2~~ Skylight U-Factor." No changes have been made to this row.

(D) Row 4, ~~contains the following information:~~ column 1 is entitled "Glazed Vertical Fenestration SHGC." No changes have been made to this row.

~~(i) Row 4, column 1 contains the number "3."~~

~~(ii) Row 4, column 2 has been modified to change the Fenestration U-Factor requirement to "0.38."~~

~~(iii) Row 4, column 3 contains the number "0.55."~~

~~(iv) Row 4, column 4 has been modified to change the Glazed Fenestration SHGC requirement to "0.30."~~

~~(v) Row 4, column 5 has been modified to change the Ceiling R-value requirement to "30."~~

~~(vi) Row 4, column 6 has been modified to change the Wood frame Wall R-value requirement to "R13" followed by a superscript "h" after the "13" to indicate footnote "h" is applicable."~~

~~(vii) Row 4, column 7 contains the number "8/13."~~

~~(viii) Row 4, column 8 contains the number "19."~~

~~(ix) Row 4, column 9 contains the number "5/13" followed by a superscript "f" to indicate footnote "f" is applicable.~~

~~(x) Row 4, column 10 contains the number "0."~~

~~(xi) Row 4, column 11 contains the number "5/13."~~

(E) Row 5, column 1 ~~contains the number and words~~ is entitled "~~4 except Marine~~ Skylight SHGC." No changes have been made to this row.

(F) Row 6, column 1 ~~contains the number and words~~ is entitled "~~5 and Marine 4~~ Ceiling R-Value." No changes have been made to this row.

(G) Row 7, column 1 ~~contains the number~~ is entitled "~~6~~ Insulation Entirely Above Roof Deck." No changes have been made to this row.

(H) Row 8, ~~column 1 contains the numbers and word~~ contains the following information:

(i). Row 8, column 1 is entitled "Wood-Framed Wall R-Value," with a superscript "e" to indicate footnote "e" is applicable.

(ii) Row 8, column 2 contains the following: "13 or 0&10ci."

(iii) Row 8, column 3 contains the following: "13 or 0&10ci."

(iv) Row 8, column 4 contains the following: "13 or 0&10ci."

(v) Row 8, column 5, has been modified to change the wording from "20 or 13 & 5ci or 0 and 15ci" with a superscript "h" to "R-15" with a superscript "i" to indicate footnote "i" is applicable.

(vi) Row 9, column 6 contains the following: "30 or 20&5ci or 13&10ci or 0&20ci."

(vii) Row 9, column 7 contains the following: "30 or 20&5ci or 13&10ci or 0&20ci."

(viii) Row 9, column 8 contains the following: "30 or 20&5ci or 13&10ci or 0&20ci."

(ix) Row 9, column 9 contains the following: "30 or 20&5ci or 13&10ci or 0&20ci."

(I) Row 10, column 1 is entitled "Mass Wall R-Value" with a superscript "f" to indicate footnote "f" is applicable. No changes have been made to this row.

(J) Row 11, column 1 is entitled "Basement Wall R-Value" with superscript letters "b" and "e" to indicate both footnotes are applicable. No changes have been made to this row.

(K) Row 12 contains the following information:

(i). Row 12, column 1 is entitled "Unheated Slab R-Value & Depth," with a superscript "c" to indicate footnote "c" is applicable.

(ii) Row 12, column 2 contains the following: "0."

(iii) Row 12, column 3 contains the following: "0."

(iv) Row 12, column 4 contains the following: "0."

(v) Row 12, column 5, has been modified to delete the requirement and leave the cell in the table blank.

(vi) Row 12, column 6 contains the following: "10ci, 3ft."

(vii) Row 12, column 7 contains the following: "10ci, 3ft."

(viii) Row 12, column 8 contains the following: "10ci, 4 ft."

(ix) Row 12, column 9 contains the following: "10ci, 4ft."

(L) Row 13, column 1 is entitled "Heated Slab R-Value & Depth" with a superscript "c" to indicate footnote "c" is applicable. No changes have been made to this row.

(M) Row 14, column 1 is entitled "Crawl Space Wall R-Value" with superscript letters "b" and "e" to indicate both footnotes are applicable. No changes have been made to this row.

~~(I)~~(N) After the table the following information is listed:

(i) For SI" 1 foot – 304.8 mm

(ii) NR equals Not Required, ci equals Continuous Insulation.

~~(J)~~(O) The footnotes at the end of the table state the following:

(i) Footnote "a" reads: ~~"~~R-values are minimums. U-factors and SHGC are maximums. Where insulation is installed in a cavity that is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.~~"~~

(ii) Footnote "b" reads: "~~The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: In Climate Zones 1 through 3, skylights shall be permitted to be excluded from glazed fenestration SHGC requirements provided that the SHGC for such skylights does not exceed 0.30~~ 5ci or 13" means R-5 continuous insulation (ci) on the interior or

exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "10ci or 13" means R-10 continuous insulation (ci) on the interior or exterior surface of the wall or R-13 cavity insulation on the interior side of the wall. "15 ci or 19 or 13&5ci" means R-15 continuous insulation (ci) on the interior or exterior surface of the wall; or R-19 cavity insulation on the interior side of the wall: or R-13 cavity insulation on the interior of the wall in addition to R-5 continuous insulation on the interior or exterior surface of the wall."

(iii) Footnote "c" reads: "'10/13' means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation on the interior of the basement wall. '15/19' means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation on the interior of the basement wall. Alternatively, compliance with '15/19' shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home." Slab insulation shall be installed in accordance with Section N1102.2.10.1.

(iv) Footnote "d" reads: "R-5 insulation shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab." Basement wall insulation shall not be required in Warm Humid locations as defined by Figure N1101.7 and Table N1101.7.

(v) Footnote "e" reads: "There are no SHGC requirements in the Marine Zone." The first value is cavity insulation; the second value is continuous insulation. Therefore, as an example "13&5" means R-13 cavity insulation plus R-5 continuous insulation.

(vi) Footnote "f" reads: "Basement wall insulation shall not be required in warm-humid locations as defined by Figure N1101.7 and Table 1101.7." Mass walls shall be in accordance with Section N1102.2.6. The second R-value applies where more than half of the insulation is on the interior of the mass wall.

(vii) Footnote "g" reads: "Alternatively, insulation sufficient to fill the framing cavity providing not less than an R-value of R-19." A maximum U-factor of 0.30 shall apply in Marine climate Zone 4 and Climate Zones 5 through 8 to vertical fenestration products installed in buildings located either:

(I) Above 4,000 feet in elevation

(II) In windborne debris regions where protection of openings is required by Section R301.2.1.2.

(viii) Footnote "h" reads: "The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, '13 +5' means R-13 cavity insulation plus R-5 continuous insulation." "30 or 19+7.5ci or 20ci" means R-30 cavity insulation alone or R-19 cavity insulation with R-7.5 continuous insulation or R-20 continuous insulation alone.

(ix) Footnote "i" reads: "Mass walls shall be in accordance with Section N1102.2.5. The second R-value applies where more than half of the insulation is on the interior of the mass wall." Full depth open cell foam complies with wood-framed R-value for 2 x 4 wall.

(4) Table N1102.1.4 (R402.1.4) Equivalent U-Factors has been modified to change in Climate Zone 3, the requirements for Fenestration U-factor from "0.32" to "0.36," the Ceiling U-Factor from "0.030" to "0.035" and the Frame Wall U-Factor from "0.060" to "0.082." This table has been modified to read: Table R1102.1.4 (R402.1.4) Equivalent U-Factors with a superscript "a" at the end to indicate footnote "a" is applicable. The table contains 7 rows and 9 columns with 3 footnotes at the end and is described below:

(A) Row 1 contains the headers for each of the columns as listed below:

(i) Row 1, column 1 heading is entitled "CLIMATE ZONE."

(ii) Row1, column 2 heading is entitled "FENSTRATION U-FACTOR."

(iii) Row 1, column 3 heading is entitled "SKYLIGHT U-FACTOR."

(iv) Row 1, column 4 heading is entitled "CEILING U-FACTOR."

(v) Row 1, column 5 heading is entitled "FRAME WALL U-FACTOR."

(vi) Row 1, column 6 heading is entitled "MASS WALL U-FACTOR" with a superscript "b" to indicated footnote "b" is applicable.

(vii) Row 1, column 7 heading is entitled "FLOOR U-FACTOR."

(viii) Row 1, column 8 heading is entitled "BASEMENT WALL U-FACTOR."

(ix) Row 1, column 9 heading is entitled "CRAWL SPACE WALL U-FACTOR."

(B) Row 2, column 1 contains the number "1." No changes have been made to this row.

(C) Row 3, column 1 contains the number "2." No changes have been made to this row.

~~(D) Row 4 contains the following information:~~

~~(i) Row 4, column 1 contains the number "3."~~

~~(ii) Row 4, column 2 has been modified to change the Fenestration U-Factor requirement to "0.36."~~

~~(iii) Row 4, column 3 contains the number "0.55."~~

~~(iv) Row 4, column 4 has been modified to change the Ceiling U-Factor requirement to "0.035."~~

~~(v) Row 4, column 5 has been modified to change the Frame Wall U-Factor requirement to "0.082."~~

~~(vi) Row 4, column 6 contains the number "0.098."~~

~~(vii) Row 4, column 7 contains the number "0.047."~~

~~(viii) Row 4, column 8 contains the number "0.091" with a superscript "c" to indicate footnote "c" is applicable.~~

~~(ix) Row 4, column 9 contains the number "0.136."~~

~~(E) Row 5, column 1 contains the number and wording "4 except Marine." No changes have been made to this row.~~

~~(F) Row 6, column 1 contains the number and wording"5 and Marine 4." No changes have been made to this row.~~

~~(G) Row 7, column 1 contains the number "6." No changes have been made to this row.~~

~~(H) Row 8, column 1 contains the number and wording"7 and 8." No changes have been made to this row.~~

~~(I) The footnotes at the end of the table state the following:~~

~~(i) Footnote "a" reads: "Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source."~~

~~(ii) Footnote "b" reads: "Mass walls shall be in accordance with Section N1102.2.25. Where more than half the insulation is on the interior, the mass wall U-factors shall not exceed 0.17 in Climate Zone 1, 0.14 in Climate Zone 2, 0.12 in Climate Zone 3, 0.087 in Climate Zone 4 except Marine, 0.065 in Climate Zone 5 and Marine 4 and 0.0857 in Climate Zone 6 through 8."~~

~~(iii) Footnote "c" reads: "In warm-humid locations as defined by Figure N1101.7 and Table N1101.7, the basement wall U-factor shall not exceed 0.360."~~

~~(5) Section N1102.2.1 Ceilings with attic spaces. This section has been modified to add two exceptions to the section under specific circumstances. This section has been modified to read: N1102.2.1. Ceilings with attic spaces. Where Section R1102.1.2 requires R-38 insulation in the ceiling, installing R-30 insulation over 100 percent of the ceiling area requiring insulation shall satisfy the requirement for R-38 insulation wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. Where Section N1102.1.2 requires R-49 insulation in the ceiling, installing R-38 insulation over 100 percent of the ceiling area requiring insulation shall satisfy the requirement for R-49 insulation wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves. This reduction shall not apply to the U-factor alternative approach in Section N1102.1.4 and the Total UA alternative in Section N1102.1.5. Exceptions:~~

~~(A) Where Table 1102.2.1 Requires R-30 insulation in the ceiling and roof/ceiling assembly does not allow sufficient space for the required insulation, compressed batts shall be allowed at the perimeter of the building where insulation extends over top plates.~~

~~(B) Where the ceiling is formed by the rafter in a slope or vaulted ceiling from plate height to ceiling level of 2 feet, that slope shall be considered an extension of the wall up to 4 feet and be insulated with R-19.~~

(6) Section N1102.2.2 (R402.2.2) Ceilings without attics. This section has been modified to add an exception where the ceiling is formed by the rafter in a slope or vaulted ceiling from the plate height to ceiling level of 2 feet, that the slope shall be considered an extension of the wall up to 4 feet and be insulated with R-19. This section has been modified to read: N1102.2.2 (R404.2.2) Ceilings without attics. Where Section N1102.1.3 requires insulation R-values greater than R-30 in the interstitial space above a ceiling and below the structural roof deck, and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation R-value for such roof/ceiling assemblies shall be R-30. Insulation shall extend over the top of the wall plate to the outer edge of such plate and shall not be compressed. This reduction of insulation from the requirements of Section N1102.1.3 shall be limited to 500 square feet (46 meters squared) or 20 percent of the total insulated ceiling area, whichever is less. This reduction shall not apply to the component performance alterative in Section N1102.1.5. Exception: Where the ceiling is formed by the rafter in a slope or vaulted ceiling from plate height to ceiling level of 2 feet, that slope shall be considered an extension of the wall up to 4 feet and be insulated with R-19.

~~(6)~~(7) Section ~~N1102.2.10~~ N1102.2.10.1 (R402.2.10.1) Slab-on-grade ~~floors~~ floor insulation installation. This section has been modified to add an exception to the section under certain circumstances. This section has been modified to read: ~~N1102.2.10~~ N1102.2.10.1 (R402.2.10.1) Slab-on-grade ~~floors~~ floor insulation installation. ~~Slab-on-grade floors with a floor surface less than 12 inches (305 mm) below grade shall be insulated in accordance with Table N1102.1.2. The~~ For buildings complying with Section N1101.13.1, the slab edge continuous insulation shall extend downward from the top of the slab on the outside or inside of the foundation wall. Insulation located below grade shall ~~be extended~~ extend the vertical distance provided in Table ~~N1102.1.2~~ N1102.1.3, ~~by any combination of vertical insulating, insulation extending under the slab or insulation extending out from the building~~ but need not exceed the footing depth in accordance with Section R403.1.4. ~~Insulation~~ Where a proposed design includes insulation extending away from the building it shall be protected by pavement or by not less than 10 inches (254 mm) of soil. The top edge of the insulation installed between the exterior wall and the edge of the interior slab shall be permitted to be cut a 45-degree (0.79 rad) angle away from the exterior wall. Full-slab insulation shall be continuous under the entire area of the slab-on-grade floor, except at structural column locations and service penetrations. Slab-edge insulation ~~is not~~ required ~~in jurisdiction designated by the building official as having a very heavy termite infestation~~ at the heated slab perimeter shall not be required to extend below the bottom of the heated slab and shall be continuous with the full slab insulation. Exception: If foundation/slab insulation is used in vertical application on inside of stem wall and a slab ledge exists, 1/2-inch insulation in vertical position is allowed as a thermal break between slab edge and foundation wall so that slab can still bear on the horizontal ledge.

~~(7) Table N1102.4.1.1 (R402.4.1.1) Air Barrier and Insulation Installation. This table has been modified to change the insulation installation criteria for walls under certain circumstances and the air barrier criteria and insulation installation criteria for electrical and communication boxes. This table has been modified to read: Table N1102.4.1.1 (R402.4.1.1) Air Barrier and Insulation Installation with a superscript "a" to indicate footnote "a" is applicable. The table has three columns and 17 rows and is described below:~~

~~(A) Row 1 contains the headers for each of the columns as listed below:~~

~~(i) Row 1, column 1 heading is entitled "COMPONENT."~~

~~(ii) Row 1, column 2 heading is entitled "AIR BARRIER CRITERIA."~~

~~(iii) Row 1, column 3 heading is entitled "INSULATION INSTALLATION CRITERIA."~~

~~(B) Row 2, column 1 contains the wording "General requirements." No changes were made to any of the columns in this row.~~

~~(C) Row 3, column 1 contains the wording "Ceiling/attic." No changes were made to any of the columns in this row.~~

~~(D) Row 4 has been modified and contains the following information:~~

~~(i) Row 4, column 1 has not been modified and contains the wording "Walls."~~

~~(ii) Row 4, column 2 has not been modified and contains the wording " The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top exterior walls shall be sealed. Knee walls shall be sealed."~~

~~(iii) Row 4, column 3 has been modified to read: "Cavities within corners and headers (in a 2 x 6 wall system or greater) of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of not less than R-3 per inch. If used on wall systems, exterior thermal envelope insulation for framed walls shall be installed in substantial contact and in continuous alignment with the air barrier."~~

~~(E) Row 5, column 1 contains the wording "Windows, skylights, and doors." No changes were made to any of the columns in this row.~~

~~(F) Row 6, column 1 contains the wording "Rim joists." No changes were made to any of the columns in this row.~~

~~(G) Row 7, column 1 contains the wording "Floors including cantilevered floors and floors above grades." No changes were made to any of the columns in this row.~~

~~(H) Row 8, column 1 contains the wording "Crawl space walls." No changes were made to any of the columns in this row.~~

~~(I) Row 9, column 1 contains the wording "Shafts, penetrations." No changes were made to any of the columns in this row.~~

~~(J) Row 10, column 1 contains the wording "Narrow cavities." No changes were made to any of the columns in this row.~~

~~(K) Row 11, column 1 contains the wording "Garage separation." No changes were made to any of the columns in this row.~~

~~(L) Row 12, column 1 contains the wording "Recessed lighting." No changes were made to any of the columns in this row.~~

~~(M) Row 13, column 1 contains the wording "Plumbing and wiring." No changes were made to any of the columns in this row.~~

~~(N) Row 14, column 1 contains the wording "Shower/tub on exterior wall." No changes were made to any of the columns in this row.~~

~~(O) Row 15 has been modified and contains the following information:~~

~~(i) Row 15, column 1 has been modified to change the heading from "Electrical/phone box on exterior walls" to "Electrical and communication outlet boxes."~~

~~(ii) Row 15, column 2 has been modified to read: "The air barrier extends behind the building thermal envelope. Boxes that penetrate the building thermal envelope shall be air sealed to the subfloor, wall covering, or ceiling penetrated by the box or air-sealed boxes shall be installed."~~

~~(iii) Row 15, column 3 has been modified to read "Spaces behind boxes penetrating the thermal envelope shall have insulation cut or blow to fit or that readily conforms to the space around the box."~~

~~(P) Row 16, column 1 contains the wording "HVAC register boots." No changes have been made to any of the columns in this row.~~

~~(Q) Row 17, column 1 contains the wording "Concealed sprinklers." No changes have been made to any of the columns in this row.~~

~~(R) Footnote "a" reads: "Inspection of log walls shall be in accordance with the provisions of ICC 400."~~

~~(8) Section N1102.4.1.2 Testing. This section has been modified to provide an exception to the section for visual testing, modify the air changes per hour in Climate Zone 3 and clarify when the section is required. This section has been modified to read: N1102.4.1.2 (R402.4.1.2) Testing.~~

~~(A) The building or dwelling unit may be tested and verified as having an air leakage rate of not exceeding five air changes per hour in Climate Zones 1, 2, and 3, and three air changes per hour in Climate Zones 4 through 8. Testing, if preformed shall be in accordance with RESNET/ICC 380, ASTM E779 or ASTM E1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the building official, testing shall be conducted by an approved third party. A written report of the test shall be signed by the party conducting the test and provided to the building official, if requested. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. During testing:~~

~~(i) Item 1. Exterior windows and doors, fireplace, and stove doors shall be closed, but not sealed beyond the intended weatherstripping or other infiltration measures.~~

~~(ii) Item 2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.~~

~~(iii) Item 3. Interior doors, where installed at the time of the test shall be open.~~

~~(iv) Item 4. Exterior or interior terminations for continuous ventilation systems shall be sealed.~~

~~(v) Item 5. Heating and cooling systems, where installed at the time of the test, shall be turned off.~~

~~(vi) Item 6. Supply and return registers, where installed at the time of the test, shall be fully open.~~

~~(B) Exception: Visual testing of air barrier shall be allowed to assure leakage rate above or the Air Barrier and Insulation Checklist Table N1102.4.1.1 (R402.4.1.1) by a local jurisdictional inspection services or by approved third party.~~

(8) Section N1102.5.1.2 (R402.5.1.2) Air leakage testing where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section and add a second exception to the section for visual testing. This section has been added to read: N1102.5.1.2 (R402.5.1.2) Air leakage testing where required by the authority having jurisdiction. The building or each dwelling unit or sleeping unit in the building shall be tested for air leakage. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380, ASTM E770, ASTM E1827 or ASTM E3158 and reported at pressure differential of 0.2-inch water gauge (50 pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results shall be

signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope has been sealed.

(A) During testing:

(i) Item 1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather-stripping or other infiltration control measures.

(ii) Item 2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.

(iii) Item 3. Interior doors, where installed at the time of the test, shall be open.

(iv) Item 4. Exterior or interior terminations for continuous ventilation systems shall be sealed.

(v) Item 5. Heating and cooling systems, where installed at the time of the test, shall be turned off.

(vi) Item 6. Supply and return registers, where installed at the time of the test, shall be fully open.

(B) Exceptions:

(i) Exception 1: For heated, attached private garages and heated, detached private garages accessory to one- and two-family dwellings and townhouses not more than three stories above grade plane in height, building thermal envelope tightness and insulation installation shall be considered acceptable where the items in Table N1102.5.1.1, applicable to the method of construction, are field verified. Where required by the code official, an approved third-party independent from the installer shall inspect both the air barrier and insulation installation criteria. Heated, attached private garage space and heated detached private garage space shall be thermally isolated from all other habitable, conditioned spaces in accordance with Sections N1102.2.13 and N1102.4.2, as applicable.

(ii) Exception 2: Visual inspection of air barrier shall be allowed to ensure leakage rates comply with Section N1102.5.1.3 and installation and sealing comply with Table N1102.5.1.1. by a local jurisdiction having authority or by approved third party.

(9) N1102.5.1.3 (R402.5.1.3) Maximum air leakage rate. This section has been amended to delete non-applicable Climate Zones and change the maximum air leakage rate in Climate Zone 3 from "4.0" "5.0" air changes per hour and change the air leakage rate in Climate Zone 4 from "3.0" to "4.0" changes per hour. This section has been modified to read. N1102.5.1.3 (R402.5.1.3) Maximum air leakage rate. Where tested in accordance with Section N1102.5.1.2, the air leakage rate for buildings, dwelling units or sleeping units shall be as follows:

(A) Item 1. Where complying with Section N1101.13.1, the building or the dwelling units or sleeping units in the building shall have an air leakage rate not greater than 5.0 air changes per hour in Climate Zone 3; and 4.0 air changes per hour in Climate Zone 4.

(B) Item 2. Where complying with Section N1101.13.2 or N1101.13.3, the building or the dwelling units or sleeping units in the building shall have an air leakage rate not greater than 4.0 air changes per hour, or 0.22 cubic feet per minute square foot [1.1 L/s times meters squared)] of the building thermal envelope area or the dwelling testing enclosure area, as applicable.

(C)Exceptions:

(i) Exception 1. Where dwelling units or sleeping units are attached or located in an R-2 occupancy, and are tested without simultaneously testing adjacent dwelling units or sleeping units, the air leakage rate is permitted to be not greater than 0.27 cubic feet per minute per square foot [1.4 L/s times meters squared)] of testing unit enclosure area. Where adjacent dwelling units are simultaneously tested in accordance with ASTM E799, the air leakage rate is permitted to be not greater than 0.27 cubic feet per minute per square feet [1.4 L/s times meters squared)] of the testing unit enclosure area that separates conditioned space from the exterior.

(ii) Exception 2. Where buildings have 1,500 square feet (139.4 meters squared) or less of conditioned floor area, the air leakage rate is permitted to be not greater than 0.27 cubic feet per minute per square foot [1.4 L/(s times meters squared)].

~~(9) Section N1102.4.6 (R402.4.6) Air-sealed electrical and communication outlet boxes. This section has been added to require air-sealed electrical and communication outlet boxes as permitted by Table N1102.4.1.1, that penetrate the building thermal envelope to be sealed, and require boxes that are air-sealed to be tested in accordance with NEMA OS 4 and have an air leakage rate not greater than 2.0 cfm at a pressure differential of 1.57 psf and requires those boxes meeting NEMA OS 4 to marked with "NEMA OS 4" or "OS 4" and requires them to be installed in accordance with the manufacturer's instructions and with any supplied components~~

~~required to achieve compliance with NEMA OS 4. This section has been added to read: N1102.4.6 (R406.2.4.6) Air-sealed electrical and communication outlet boxes. Where selected for installation as permitted by Table N1102.4.1.1, air-sealed electrical and communication outlet boxes that penetrate the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. Air-sealed electrical and communication outlet boxes shall be tested in accordance with NEMA OS 4. Requirement for Air-sealed Boxes for Electrical and Communication Applications and shall have an air leakage rate of not greater than 2.0 cfm (0.944 L/s) at a pressure differential of 1.57 psf (75 Pa). Electrical and communication outlet boxes shall be installed per the manufacturer's instructions and with any supplied components required to achieve compliance with NEMA OS 4.~~

(10) Section N1103.3.2 Building Cavities. This section has been modified to clarify building cavities used as plenums shall be sealed and comply with Section M1601.1.1. This section has been modified to read: N1103.3.2 (R403.3.2) Building cavities. Building cavities shall not be used as supply ductwork. Building cavities used as plenums shall be sealed and comply with M1601.1.1.

~~(10)~~(11) Section ~~N1103.3.2 (R403.3.2)~~ N1103.3.6 (R403.3.6.) Sealing ~~(Mandatory)~~. This section has been modified to add return air, all sheet metal plenums and start collar or any other seam or connection to coil, Y's and supply boot inner-liners to metal supply boots ~~connections to plenum~~ to the items that shall be sealed ~~and require duct systems with sheet metal plenums, Y's, and supply boots to be sealed~~ by liquid applied sealants ~~only~~ that comply with 181 BM ~~(Mastic or similar) to be used to seal inner liners and start collars to plenum and for any other seams in the system~~ and comply with Section M1601.4.1. This section has been modified to read: ~~N1103.3.2 (R403.3.2)~~ N1103.3.6 (R403.3.6.) Sealing ~~(Mandatory~~). ~~Ducts~~ Ductwork, ~~air handler~~ air-handling units, return air and filter boxes, ~~plenums, start collar connections to plenum and filter boxes~~ shall be sealed. ~~Joints and seams shall comply with Section M1601.4.1. For duct systems with~~ In addition, all sheet metal ~~Plenums~~ plenums, start collars, or any other seam or connection to the coil, Y's and supply ~~boots~~ boot inner-liners to metal supply boots shall be sealed with only liquid applied or mastic sealants complying with 181 BM ~~(Mastic or similar) shall be used to seal inner liners and start collars to plenum and any other seams in system~~ and shall comply with Section M1601.4.1.

~~(11)~~(12) Section ~~N1103.3.3 (R403.3.3)~~ N1103.3.7 (R403.3.7) Duct system testing where required by the authority having jurisdiction. This section has been modified to ~~specify the section is not mandatory~~ add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section and add a ~~third~~ fourth exception for visual testing. This section has been modified to read: ~~N1103.3.3 (R403.3.3)~~ N1103.3.7 (R403.3.7) Duct system testing where required by the authority having jurisdiction. Each duct system shall be tested for ~~(A) Ducts shall be pressure tested to determine~~ air leakage in accordance with ANSI/RESNET/ICC 380 OR ASTM E1554. ~~by one of the following methods: (i) Item 1: Rough-in-test:~~ Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the duct system, ~~including~~ and shall include the measured leakage from the supply and return ductwork. A written report of the test results shall be signed by the party conducting the test and provided to the code official. Duct system leakage testing at either rough-in or post construction shall be permitted with or without the installation of registers or grilles. ~~the manufacturer's air handler enclosure if installed at the time of the test. Registers~~ Where installed, registers and grilles shall be ~~taped or otherwise~~ sealed during the test. Where registers and grilles are not installed, the face of the register boots shall be sealed during the test. ~~(ii) Item 2: Post construction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test. (B)~~ Exceptions:

~~(i) Exception 1: A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.~~

~~(ii)~~(A) Exception ~~2~~ 1: ~~A duct air-leakage test~~ Testing shall not be required for ~~ducts~~ duct systems serving ~~heat or energy recovery ventilators~~ ventilation systems that are not integrated with ducts serving heating or cooling systems.

(B) Exception 2: Testing shall be required where there is not more than 10 feet (3048 mm) of total ductwork external to the space conditioning equipment and both the following are met:

(i) Requirement 2.1: The duct system is located entirely within the conditioned space.

(ii) Requirement 2.2: The ductwork does not include plenums constructed of building cavities or gypsum board.

~~(C) A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.~~

(C) Exception 3: Where the space conditioning equipment is not installed, testing shall be permitted. The total measured leakage of the return ductwork shall be less than or equal to 3.0 cubic feet per minute (85 L/min) per 100 square feet (9.29 meters) of conditioned floor area.

~~(iii)~~(D) Exception ~~3~~ 4: Visual verification by Authority having Jurisdiction, approved ~~agency~~ third party or licensed inspector.

(13) Section N1103.3.8 (R403.3.8) Duct system leakage where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if authority having jurisdiction has adopted the section. This section has been modified to read: N1103.3.8 (R403.3.8) Duct system leakage where required by the authority having jurisdiction. The total measured duct system leakage shall not be greater than the values in Table 1103.3.8, based on the conditioned floor area, number of ducted returns and the location of the duct system. For buildings complying with N1105 or N1106, where duct system leakage to outside is tested in accordance with ANSI/RESNET/ICC 380 OR ASTM E1553, the leakage to the outside value shall not be used for compliance with this section, but shall be permitted to be used in the calculation procedures of Sections N1105 and N1106.

~~(12)~~(14) Section N1103.4 (R403.4) Mechanical system piping insulation ~~(Mandatory)~~. This section has been modified to change the temperature the mechanical piping systems are required to carry fluids at and to add language specifying that the piping shall be insulated to a specific R-value or to the ~~manufacture's~~ manufacturer's installation instructions, whichever is more stringent. This section has been modified to read: N1103.4 Mechanical system piping insulation ~~(Mandatory)~~. Mechanical system piping capable of carrying fluids greater than 120 degrees Fahrenheit (49 degrees Celsius) or less than 55 degrees Fahrenheit (13 degrees Celsius) shall be insulated to an R-value of not less than R-3 or to the manufacturer's installation instructions, whichever is more stringent.

(15) Section N1103.5 (R403. 5) Service hot water systems where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1103.5 (R403. 5) Service hot water systems where required by the authority having jurisdiction. Energy conservation measures for service hot water systems shall be in accordance with Sections N1103.5.1 through N1103.5.3

~~(13)~~(16) Section N1103.5.3 (R403.5.3) Hot water pipe insulation ~~(Prescriptive)~~. This section has been modified to delete ~~two~~ three of the items where insulation of the hot water pipe is required. This section has been modified to read: N1103.5.3 (R403.5.3) Hot water pipe insulation ~~(Prescriptive)~~. Insulation for hot water piping with a thermal resistance R-value of not less than R-3 shall be applied to the following:

(A) Item 1. ~~Piping 1 inch (25 mm) and larger in nominal diameter.~~ This item has been stricken from the code.

(B) Item 2. Piping serving more than one dwelling unit.

(C) Item 3. Piping located outside the conditioned space.

(D) Item 4. This item has been stricken from the code.

(E) Item 5. This item has been stricken from the code.

(F) Item 6. Buried piping outside structure

(G) Item 7. Supply and return piping in recirculation systems other than demand recirculation systems.

(17) Section N1103.6.2 (R403.6.2) Fan Efficacy for whole house mechanical ventilation systems and outdoor air ventilation systems. This section has been stricken from the code.

(18) Table N1103.6.2 (R403.6.2) Fan Efficacy for whole house mechanical ventilation systems and outdoor air ventilation systems. This table has been stricken from the code.

(19) Section N1103.6.3 (R403.6.3) Testing where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1103.6.3 (R403.6.3) Testing where required by the authority having jurisdiction. Mechanical ventilation systems shall be tested and verified to provide the minimum ventilation flow rates required by Section N1103.6 in accordance with ANSI/RESNET/ICC 380. Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

Exceptions:

(A) Exception 1. Kitchen range hoods that are ducted to the outside with ducting having a diameter of 6 inches (152 mm) or larger, a length of 10 feet (3048 mm) or less, and not more than two 90-degree (1.57 rad) elbows or equivalent shall not require testing.

(B) Exception 2. A third-party test shall not be required where the ventilation system has an integrated diagnostic tool used for airflow measurement, and a user interface that communicates the installed airflow rate.

(20) Section N1103.6.4 (R403.6.5) Intermittent exhaust control for bathrooms and toilet rooms where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1103.6.4 (R403.6.5) Intermittent exhaust control for bathrooms and toilet rooms where required by the authority having jurisdiction.

(A) Where an exhaust system serving a bathroom or toilet room is designed for intermittent operation, the exhaust system controls shall include one or more of the following:

(i) Item 1. A timer control with one or more delay setpoints that automatically turns off exhaust fans when the selected setpoint is reached. Not fewer than one delay-off setpoint shall be 30 minutes or less.

(ii) Item. 2 An occupant sensor control with one or more delay setpoints that automatically turns off exhaust fans in accordance with the selected delay setpoint after all occupants have vacated the space. Not fewer than one delay-off setpoint shall be 30 minutes or less.

(iii) Item 3. A humidity control with an adjustable setpoint ranging between 50 percent or more and 80 percent or less relative humidity that automatically turns off exhaust fans when the selected setpoint is reached.

(iv) Item 4. A contaminant control that responds to a particle or gaseous concentration and automatically turns off exhaust fans when a design setpoint is reached.

(B)Manual-off functionality shall not be used in lieu of the minimum setpoint functionality required by this section.

(C) Exception: Bathroom and toilet room exhaust systems serving as an integral component of an outdoor air ventilation system or a whole-house mechanical ventilation system.

~~(14) N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory) This section has been modified to add a requirement for all new residential one- and two-family dwellings and townhouses to provide documentation showing compliance with this section to the authority having jurisdiction at the time a mechanical permit is required. This section has been modified to read: N1103.7 (R403.7) Equipment sizing and efficiency rating (Mandatory). Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for geographic location where the equipment is installed. Documentation demonstrating compliance with this section is to be provided to the authority having jurisdiction at the time a Mechanical Permit is requested on new one- and two-family dwellings and townhouses.~~

(21) Section N1103.10.2 (R403.10.2) Time switches where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1103.10.2 (R403.10.2) Time switches where required by the authority having jurisdiction. Time switches or other control methods that can automatically turn heaters and pump motors off and on according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section. Exceptions:

(A) Exception 1. Where public health standards require 24-hour pump operation.

(B) Exception 2. Pumps that operate on-site renewable energy and waste-heat-recovery pool heating systems.

(22) Section N1104 (R404) Electrical Power, Lighting and Renewable Energy Systems. This section and all subsections and tables have been stricken from the code.

(23) Section N1105.1 (R405.1) Scope. This section has been modified to remove a reference to Section N1104. This section has been modified to read: N1105.1 (R405.1) Scope. This section establishes criteria for

compliance using simulated building performance analysis. Such analysis shall include heating, cooling, mechanical ventilation and service water-heating energy only. Such analysis shall be limited to dwelling units. Spaces other than dwelling units in Group R-2, R-3 or R-4 buildings shall comply with Sections N1102 and N1103.

(24) Table N1105.2 (R405.2) Requirements for Simulated Building Performances. This table has been modified to remove references to Section N1104. This table has been modified to read: Table N1105.2 (R405.2) Requirements for Simulated Building Performances. The table contains 2 columns and 36 rows, with one footnote and is described below:

(A) Row 1 is the header row with two columns and is described below:

(i) Row 1, column 1 is entitled "Section" and contains a superscript "a" to indicate footnote "a" is applicable.

(ii) Row 1, column 2 is entitled "Title."

(B) Row 2, column 1 has been combined with column two and is entitled "General."

(C) Row 3, column 1 contains the section "N1101.14." No changes have been made to this row.

(D) Row 4, column 1 has been combined with column two and is entitled "Building thermal envelope."

(E) Row 5, column 1 contains the section "N1102.1.1." No changes have been made to this row.

(F) Row 6, column 1 contains the section "N1102.1.6." No changes have been made to this row.

(G) Row 7, column 1 contains the section "N1102.2.3." No changes have been made to this row.

(H) Row 8, column 1 contains the section "N1102.2.4." No changes have been made to this row.

(I) Row 9, column 1 contains the section "N1102.2.5.1." No changes have been made to this row.

(J) Row 10, column 1 contains the section "N1102.2.10." No changes have been made to this row.

(K) Row 11, column 1 contains the section "N1102.2.11." No changes have been made to this row.

(L) Row 12, column 1 contains the section "N1102.5.1.1." No changes have been made to this row.

(M) Row 13, column 1 contains the section "N1102.5.1.2." No changes have been made to this row.

(N) Row 14, column 1 contains the section "N1102.5.1.3." No changes have been made to this row.

(O) Row 15, column 1 contains the section "N1102.5.2." No changes have been made to this row.

(P) Row 16, column 1 contains the section "N1102.5.3." No changes have been made to this row.

(Q) Row 17, column 1 contains the section "N1102.5.4." No changes have been made to this row.

(R) Row 18, column 1 contains the section "N1102.5.5." No changes have been made to this row.

(S) Row 19, column 1 contains the section "N1102.6" No changes have been made to this row.

(T) Row 20, column 1 has been combined with column two and is entitled "Mechanical."

(U) Row 21, column 1, contains the section "N1103.1." No changes have been made to this row.

(V) Row 22, column 1, contains the section "N1103.2. "No changes have been made to this row.

(W) Row 23, column 1, contains the section "N1103.3." No changes have been made to this row.

(X) Row 24, column 1, contains the section "N1103.4." No changes have been made to this row.

(Y) Row 25, column 1, contains the section "N1103.5." No changes have been made to this row.

(Z) Row 26, column 1, contains the section "N1103.6." No changes have been made to this row.

(AA) Row 27, column 1, contains the following "N1103.7, except Section N1103.7.1." No changes have been made to this row.

(BB) Row 28, column 1, contains the section "N1103.8." No changes have been made to this row.

(CC) Row 29, column 1, contains the section "N1103.9.2." No changes have been made to this row.

(DD) Row 30, column 1, contains the section "N1103.10." No changes have been made to this row.

(EE) Row 31, column 1, contains the section "N1103.11." No changes have been made to this row.

(FF) Row 32, column 1, contains the section "N1103.12." No changes have been made to this row.

(GG) Row 33, column 1, contains the section "N1103.13." No changes have been made to this row.

(HH) Row 34, column 1 has been combined with column two and is entitled "Electrical power and lighting systems."

(II) Row 35 – this row has been stricken from the table.

(JJ) Row 36 – this row has been stricken from the table.

(KK) Footnote "a" reads as follows: Reference to a code section includes all the relative subsections except as indicated in the table.

~~(15) Section N1105.4.2 Compliance report. This section has been modified to specify compliance is required only when the proposed design of a building will be built on different sites where the cardinal origination of~~

~~the building on each site is different. This section has been modified to read: Section N1105.4.2 (R405.4.2) Compliance report.~~

~~(A) Compliance software tools shall generate a report that documents that the proposed design complies with Section N1105.3. A compliance report on the proposed design shall be submitted with the application for the building permit. Upon completion of the building, a compliance report based on the as-built condition of the building shall be submitted to the building official before a certificate of occupancy is issued. Batch sampling of buildings to determine energy code compliance shall only be allowed for stacked multiple-family units.~~

~~(B) Compliance shall include information in accordance with Sections N1105.4.2.1 and N1105.4.2.2 When the proposed design of a building will be built on different sites where the cardinal orientation of the building on each site is different, compliance of the proposed design for the purposes of the application for the building permit shall be based on the worst-case orientation, worst-case configuration, worst-case building air leakage and worst-case duct leakage. Such worst-case parameters shall be used as inputs to the compliance software energy analysis.~~

(25) Section N1105.4.3 (R405.4.3) Input values. This section has been modified to remove a reference to section N1104. This section has been modified to read: N1105.4.3 (R405.4.3 Input values. When calculations require input values not specified by Section N1102, N1103 and N1105, those input values shall be taken from an approved source.

(26) Section N1105.5.4.1 (R405.5.4.1) Compliance report for permit application where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1105.5.4.1 (R405.5.4.1) Compliance report for permit application where required by the authority having jurisdiction. A compliance report generated for submission with the application for building permit shall include the following:

(A) Item 1. Building street address or other building site identification.

(B) Item 2. The name of the individual performing the analysis and generating the compliance report.

(C) Item 3. The name and version of the compliance software tool.

(D) Item 4. Documentation of all inputs to the software used to produce the results for the standard reference design and the proposed design.

(E) Item 5. A certificate indicating that the proposed design complies with Section N1105.2. The certificate shall document the building components' energy specifications that are included in the calculation including: component-level insulation R-values or U-factors; duct system and building thermal envelope air leakage testing assumptions; and the type and rated efficiencies of proposed heating, cooling, mechanical ventilation and service water-heating equipment to be installed. Where on-site renewable energy systems will be installed, the certificate shall report the type and production size of the proposed system.

(F) Item 6. Where a site-specific report is not generated, the proposed design shall be based on the worst-case orientation and configuration of the rated dwelling unit.

(27) Section N1105.5.4.2 (R405.5.4.2) Compliance report for certificate of occupancy where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1105.5.4.2 (R405.5.4.2) Compliance report for certificate of occupancy where required by the authority having jurisdiction. A compliance report generated for submission prior to obtaining the certificate of occupancy shall include the following:

(A) Item 1. Building street address or other building site identification.

(B) Item 2. Declaration of the simulated building performance path on the title page of the energy report and the title page of the building plans.

(C) Item 3. A statement, bearing the name of the individual performing the analysis and generating the report, indicating that the as-built building complies with Section N1105.2.

(D) Item 4. The name and version of the compliance software tool.

(E) Item 5. A site-specific energy analysis report that is in compliance with the requirements of Section N1105.4, where all inputs for the proposed design have been replaced in the simulation with confirmed energy features of the as-built dwelling unit.

(F) Item 6. A final confirmed certificate indicating compliance based on inspection, and a statement indicating that the as-built building complies with Section N1105.2. The certificate shall report the energy features that were confirmed to be in the building, including component-level insulation R-values or U-factors; results from any required duct system and building thermal envelope air leakage testing; and the type and rated efficiencies of the heating, cooling, mechanical ventilation and service water-heating equipment installed.

(G) Item 7. When on-site renewable energy systems have been installed, the certificate shall report the type and production size of the installed system.

(28) Section N1106.1 (R406.1) Scope. This section has been modified to remove a reference to section N1104. This section has been modified to read: N1106.1 (R406.1) Scope. This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis. Such analysis shall be limited to dwelling units. Spaces other than dwelling units in Group R-2, R-3, or R-4 buildings shall comply with Sections N1102 and N1103.

(29) Table N1106.2 (R406.2) Requirements for Energy Rating Index. This table has been modified to remove references to Section N1104. This table has been modified to read: Table N1106.2 (R406.2) Requirements for Energy Rating Index. The table contains 2 columns and 35 rows, with one footnote and is described below:

(A) Row 1 is the header row with two columns and is described below:

(i) Row 1, column 1 is entitled "Section" and contains a superscript "a" to indicate footnote "a" is applicable.

(ii) Row 1, column 2 is entitled "Title."

(B) Row 2, column 1 has been combined with column two and is entitled "General."

(C) Row 3, column 1 contains the section "N1101.14." No changes have been made to this row.

(D) Row 4, column 1 has been combined with column two and is entitled "Building thermal envelope."

(E) Row 5, column 1 contains the section "N1102.1.1." No changes have been made to this row.

(F) Row 6, column 1 contains the section "N1102.1.6." No changes have been made to this row.

(G) Row 7, column 1 contains the section "N1102.2.4." No changes have been made to this row.

(H) Row 8, column 1 contains the section "N1102.2.5.1." No changes have been made to this row.

(I) Row 9, column 1 contains the section "N1102.2.10." No changes have been made to this row.

(J) Row 10, column 1 contains the section "N1102.2.11." No changes have been made to this row.

(K) Row 11, column 1 contains the section "N1102.5.1.1." No changes have been made to this row.

(L) Row 12, column 1 contains the section "N1102.5.1.2." No changes have been made to this row.

(M) Row 13, column 1 contains the section "N1102.5.1.3." No changes have been made to this row.

(N) Row 14, column 1 contains the section "N1102.5.2." No changes have been made to this row.

(O) Row 15, column 1 contains the section "N1102.5.3." No changes have been made to this row.

(P) Row 16, column 1 contains the section "N1102.5.4." No changes have been made to this row.

(Q) Row 17, column 1 contains the section "N1102.5.5." No changes have been made to this row.

(R) Row 18, column 1 contains the section "N1102.6.3." No changes have been made to this row.

(S) Row 19, column 1 has been combined with column two and is entitled "Mechanical."

(T) Row 20, column 1, contains the section "N1103.1." No changes have been made to this row.

(U) Row 21, column 1, contains the section "N1103.2. "No changes have been made to this row.

(V) Row 22, column 1, contains the section "N1103.3." No changes have been made to this row.

(W) Row 23, column 1, contains the section "N1103.4." No changes have been made to this row.

(X) Row 24, column 1, contains the section "N1103.5." No changes have been made to this row.

(Y) Row 25, column 1, contains the section "N1103.6." No changes have been made to this row.

(Z) Row 26, column 1, contains the following "N1103.7, except Section N1103.7.1." No changes have been made to this row.

(AA) Row 27, column 1, contains the section "N1103.8." No changes have been made to this row.

(BB) Row 28, column 1, contains the section "N1103.9.2." No changes have been made to this row.

(CC) Row 29, column 1, contains the section "N1103.10." No changes have been made to this row.

(DD) Row 30, column 1, contains the section "N1103.11." No changes have been made to this row.

(EE) Row 31, column 1, contains the section "N1103.12." No changes have been made to this row.

(FF) Row 32, column 1, contains the section "N1103.13." No changes have been made to this row.

(GG) Row 33, column 1 has been combined with column two and is entitled "Electrical power and lighting systems."

(HH) Row 34 – this row has been stricken from the table.

(II) Row 35 – this row has been stricken from the table.

(JJ) Footnote "a" reads as follows: "Reference to a code section includes all the relative subsections except as indicated in the table."

~~(16)~~(30) Table ~~N1106.4 (R406.4)~~ N1106.5 (R406.5) Maximum Energy Rating Index. This table has been modified to change the Energy Rating Index Not Including OOP in Climate Zone 3 from "~~57~~ 50" to "~~64~~ 58" and change the Energy Rating Index With OOP from "33" to "41." The table also modifies Climate Zone 4 to change the Energy Rating Index Not Including OOP from "53" to "53" and the Energy Rating Index With OOP from "40" to "41." The table has ~~two~~ three columns and 9 rows ~~with one footnote~~ and is described below:

(A) Row 1: Is the header row and is described below:

(i) Row 1, column 1 header is entitled "Climate Zone."

(ii) Row 1, column 2 header is entitled "Energy Rating Index Not Including OOP." ~~with a superscript "a" to indicate footnote "a" is applicable~~

(iii) Row 1, column 3 header is entitled "Energy Rating Index With OOP."

(B) Row 2, column 1, contains the number "1." No changes have been made to this row.

(C) Row 3, column 1, contains the number "2." No changes have been made to this row.

(D) Row 4 has been modified and is described below:

(i) Row 4, column 1, contains the number "3."

(ii) Row 4, column 2, contains the number "~~64~~ 58."

(iii) Row 4, column 3, contains the number "41."

(E) Row 5, column 1, contains the number "4~~.~~" and is described below: ~~No changes have been made to this row.~~

(i) Row 4, column 1, contains the number "4."

(ii) Row 4, column 2, contains the number "58."

(iii) Row 4, column 3, contains the number "41."

(F) Row 6, column 1, contains the number "5." No changes have been made to this row.

(G) Row 7, column 1, contains the number "6." No changes have been made to this row.

(H) Row 8, column 1, contains the number "7." No changes have been made to this row.

(I) Row 9, column 1, contains the number "8." No changes have been made to this row.

~~(J) Footnote "a" reads: "Where on-site renewable energy is included for compliance using the ERI analysis of section N1106.4, the building shall meet the mandatory requirements of Section N1106.2, and the building thermal envelope shall be greater than or equal to the levels of efficiency and SHGC in Table N1102.1.2 or Table N1102.1.4 of the 2015 International Residential Code®."~~

(31) Section N1106.7.2.1 (R406.7.2.1) Proposed compliance report for permit application where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1106.7.2.1 (R406.7.2.1) Proposed compliance report for permit application where required by the authority having jurisdiction. Compliance reports submitted with the application for a building permit shall include the following:

(A) Item 1. Building street address, or other building site identification.

(B) Item 2. Declare ERI on title page of building plans.

(C) Item 3. The name of the individual performing the analysis and generating the compliance report.

(D) Item 4. The name and version of the compliance software tool.

(E) Item 5. Documentation of all inputs entered into the software used to produce the results for the ERI referenced design and the rated design.

(F) Item 6. A certificate indicating that the proposed design has an ERI less than or equal to the appropriate score indicated in Table N1106.5 when compared to the ERI reference design. The certificate shall document the building component energy specifications that are included in the calculation, including: component level insulation R-values or U-factors; assumed duct system and building thermal envelope air leakage testing results; and the type and rated efficiencies of proposed heating, cooling, mechanical ventilation and service water-heating equipment to be installed. Where on-site renewable energy systems will be installed, the certificate shall report the type and production size of the proposed system.

(G) Item 7. When a site-specific report is not generated the proposed design shall be based on a worst-case orientation and configuration of the rated dwelling unit.

(32) Section N1106.7.2.2 (R406.7.2.2) Confirmed compliance report for a certificate of occupancy where required by the authority having jurisdiction. This section has been amended to add language to the heading to clarify it is required only if the authority having jurisdiction has adopted the section. This section has been modified to read: N1106.7.2.2 (R406.7.2.2) Confirmed compliance report for a certificate of occupancy where required by the authority having jurisdiction. A confirmed compliance report submitted for obtaining the certificate of occupancy shall be made site and address specific and include the following:

(A) Item 1. Building street address or other building site identification.

(B) Item 2. Declaration of ERI on the title page and on the building plans.

(C) item 3. The name of the individual performing the analysis and generating the report.

(D) Item 4. The name and version of the compliance software tool.

(E) Item 5. Documentation of all inputs entered into the software used to produce the results for the ERI reference design and the as-built dwelling unit.

(F) Item 6. A final confirmed certificate indicating that the as-built building complies with Sections N1106.2, N1106.4 and 1106.5. The certificate shall report the energy features that were confirmed to be in the building, including: component-level insulation R-values or U-factors; results from any required duct system and building thermal envelope air leakage testing; and the type and rated efficiencies of the heating, cooling, mechanical ventilation, and service water-heating equipment installed. Where on-site renewable energy systems have been installed on or in the building, the certificate shall report the type and production size of the installed system.

(33) Section N1106.7.3 (R406.7.3 Renewable energy certificate (REC) documentation. This section has been stricken from the code.

(34) Section N1106.7.6 Input values. This section has been modified to remove a reference to Section N1104. This section has been modified to read: N1106.7.6 (R406.7.6) Input values. Where calculations require input values not specified by Sections N1102, N1103 and N1105, those input values shall be taken from ANSI/RESNET/ICC-301.

(35) Section N1107.2 (R407.2) Tropical climate region. This section has been modified to remove a reference to section N1104. This section has been modified to read: N1107.2 (R407.2) Tropical climate region. Compliance with this section requires the following:

(A) Item 1. Not more than one-half of the occupied space is air conditioned.

(B) Item 2. The occupied space is not heated.

(C) Item 3. Solar, wind or other renewable energy source supplies not less than 80 percent of the energy for service water heating.

(D) Item 4. Glazing in conditioned spaces has a solar heat gain coefficient (SHGC) of less than or equal to 0.40, or has an overhang with a projection factor equal to or greater than 0.30.

(E) Item 5. This item has been stricken from the code.

(F) Item 6. The exterior low slope roof surface complies with one of the options in Table N1107.2 or the roof or ceiling has insulation with an R-value of R-15 or greater. Where attics are present, attics above the insulation are vented and attics below the insulation are unvented.

(G) Item 7. Roof surfaces have a slope of not less than 1/4 unit vertical in 12 units horizontal (2 percent slope). The finished roof does not have water accumulation areas.

(H) Item 8. Operable fenestration provides a ventilation area of not less than 14 percent of the floor area in each room. Alternatively, equivalent ventilation is provided by a ventilation fan.

(I) Item 9. Bedrooms with exterior walls facing two different directions have operable fenestration on exterior walls facing two directions.

(J) Item 10. Interior doors to bedrooms are capable of being secured in the open position.

(J) Item 11. A ceiling fan or ceiling fan rough-in is provided for bedrooms and the largest space that is not used as a bedroom.

(36) Section 1108 (R408) Additional Efficiency Requirements. This section, including all subsections, tables and equations (1108.1 through 1108.2.11) has been stricken from the code.

(37) Section N1110.2.4 (R502.2.4) Lighting. This section has been stricken from the code.

(38) Section N1110.2.5 (R502.2.5) Additional efficiency credit requirements for additions. This section has been stricken from the code.
(39) Section N1111.1.4 (R503.1.4 Lighting. This section has been stricken from the code.
(40) Section N1111.5 (R503.5) Additional efficiency credit requirements for substantial improvements. This section has been stricken from the code.

748:20-6-18. IRC® 2024 Chapter 13 General Mechanical System Requirements [NEW]

Chapter 13 of the 2024 IRC® is adopted with the following modifications:
(1) Section M1302.2.2 Piping in other locations. This section has been modified to change the clearance distance from 1 1/4 inches to 1 1/2 inches for pipes to match modifications made in other codes adopted by the OUBCC. This section has been modified to read: M1302.2.2 Piping in other locations. Where piping is located within a framing member and is less than 1 1/2 inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the piping shall be protected by shield plates that cover the width and length of the piping. Where piping is located outside of a framing member and is located less than 1 1/2 inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the piping shall be protected by shield plates that cover the width and length of the piping.
(2) Section M1308.2.1 Piping through bored holes or notches. This section has been modified to change the clearance distance from 1 1/4 inches to 1 1/2 inches for pipes to match modifications made in other codes adopted by the OUBCC. This section has been modified to read: M1308.2.1 Piping through bored holes or notches. Where piping is installed through holes or notches in framing members and is located less than 1 1/2 inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the pipe shall be protected by shield plates that cover the width of the pipe and the framing member that extend 2 inches (51 mm) to each side of the framing member. Where the framing member that the pipe passes through is a bottom plate, bottom track, top plate or top track the shield plates shall cover the framing member and extend 2 inches (51 mm) above the bottom framing member and 2 inches (51 mm) below the top framing member.

748:20-6-19. IRC® ~~2018~~ 2024 Chapter 14 Heating and Cooling Equipment and Appliances [AMENDED]

Chapter 14 of the ~~2018~~ 2024 IRC® is adopted with the following modifications:
~~(1) Section M1401.3 Equipment and appliance sizing. This section has been modified to add a requirement for all new residential one- and two-family dwellings and townhouses to provide documentation showing compliance with this section to the authority having jurisdiction at the time a mechanical permit is required. This section has been modified to read: M1401.3 Equipment and appliance sizing. Heating and cooling equipment and appliances shall be sized in accordance with ACCA Manual S or other approved sizing methodologies based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. Documentation demonstrating compliance with this section is to be provided to the authority having jurisdiction at the time a mechanical permit is required on new one- and two-family dwellings and townhouses. Exception: Heating and cooling equipment and appliance sizing shall not be limited to the capacities determined in accordance with Manual S where either of the following conditions applies:~~

~~(A) Item 1: The specified equipment or appliance utilizes multistage technology or variable refrigerant flow technology and the loads calculated in accordance with the approved heating and cooling calculation methodology are within the range of the manufacturer's published capacities for that equipment or appliance.~~

~~(B) Item 2: The specified equipment or appliance manufacturer's published capacities cannot satisfy both the total and sensible heat gains calculated in accordance with the approved heating and cooling calculation methodology and the next larger standards size unit is specified.~~

~~(2) Section M1402.1 General. This section has been modified to add another referenced standard "UL/CSA 60335-2-40" as an option for conformity for electrical furnaces This section has been modified to read: M1402.1 General. Oil-fired central furnaces shall conform to ANSI/UL 727. Electric furnaces shall conform to UL 1995 or UL/CSA 60335-2-40.~~

~~(3) Section 1403.1 Heat pumps. This section has been modified to update a referenced standard by removing the ANCE sponsorship of the standard. This section has been modified to read: M1403.1 Heat pumps. Electric heat pumps shall be listed and labeled in accordance with UL 1995 or UL/CSA 60335-2-40.~~

(1) Section M1411.2 Refrigeration system listing. This section has been modified to add a reference to Oklahoma statutory language in Title 59, Section 1000.30, related to the use of refrigerants. This section has been modified to read: M1411.2 Refrigeration system listing. Refrigeration systems using Group A2L refrigerants shall be listed and labeled to UL/CSA 60335-2-40. Refrigeration systems using Group A1 refrigerants shall be listed to UL/CSA 60335-2-40 or UL 1995. Refrigerants designated as acceptable for use pursuant to and in accordance with 42 U.S.C. 7671K, provided any equipment containing such refrigerants is listed and installed in accordance with safety standards and use conditions imposed pursuant to such designation shall be allowed per 59 O.S. 1000.30. The equipment shall be installed in accordance with the listing.

(2) Section M1411.5 Signs and identification. This section has been modified to remove the requirement for the system refrigerant charge and the refrigerant number to be indicated on a marked label provided by the equipment manufacturer for refrigeration systems using Group A2L refrigerant. This section has been modified to read: Signs and identification. Each refrigeration system using Group A2L refrigerant shall have the following information legibly and permanently indicated on a markable label provided by the equipment manufacturer: Contact information of the responsible company that installed the refrigeration system.

(3) Section M1411.8 Refrigeration coils in warm-air furnaces. This section has been modified to require an existing furnace to be compatible with A2L safety controls as provided by the equipment manufacturer or the listed and labeled components to provide shutdown in the event of a refrigerant leak or an alternate approved methodology. This section has been modified to read: M1411.8 Refrigeration coils in warm-air furnaces. Where a cooling coil is located in the supply plenum of a warm-air furnace, the furnace blower shall be rated at not less than 0.5-inch water column (124 Pa) static pressure unless the furnace is listed and labeled for use with a cooling coil. Cooling coils shall not be located upstream from heat exchangers unless listed and labeled for such use. Conversion of existing furnaces for use with cooling coils shall be permitted provided that the furnace will operate within the temperature rise specified for the furnace. The existing furnace must be compatible with the A2L safety controls as provided by the equipment manufacturer or listed and labeled components to provide shutdown in the event of refrigerant leak or alternate approved methodology.

(4) Section M1411.9 Condensate disposal. This section has been modified to allow condensate drains to terminate to an approved pit or French drain. This section has been modified to read: M1411.9 Condensate disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate drains shall be allowed to terminate to an approved pit or French drain consisting of a minimum of 24 inches by 24 inches by 24 inches (610 mm by 610 mm by 610 mm), or equivalent; of 1 inch (25 mm) washed rock. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

(5) Section M1411.9.1.1 Water-level monitoring devices. This section has been modified to add an exception for when the section shall not apply. This section has been modified to read: M1411.9.1.1 Water-level monitoring devices. On down-flow units and all other coils that do not have a secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. Devices installed in the drain line shall not be permitted. Exception: This section shall not apply to appliances installed in areas outside on the ground or elevated structure where condensate overflow will not damage building components or contents.

~~(4)~~(6) Section ~~M1411.8~~ M1411.15 Locking access port caps. This section has been modified to specify the section will apply to new and retrofit outdoor condensers only. This section has been modified to read: ~~M1411.8~~ M1411.15 Locking access port caps. Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps or shall be otherwise secured to prevent unauthorized access. Shall apply to new and retrofit outdoor condensers only.

~~(5) Section M1412.1 Approval of equipment. This section has been modified to update a referenced standard by removing the ANCE sponsorship of the standard. This section has been modified to read: M1412.1 Approval~~

~~of equipment. Absorption systems shall be installed in accordance with the manufacturer's instructions. Absorption equipment shall comply with UL 1995 or UL/CSA 60335-2-40.~~

~~(6) Section M1413.1 General. This section has been modified to update a referenced standard by removing the ANCE sponsorship of the standard. This section has been modified to read: M14013.1 General. Evaporative cooling equipment and appliances shall comply with UL 1995 or UL/CSA 60335-2-40 and shall be installed:~~

~~(A) Item 1: In accordance with the manufacturer's instructions.~~

~~(B) Item 2: On level platforms in accordance with Section M1305.1.3.1.~~

~~(C) Item 3: So that openings in exterior walls are flashed in accordance with Section R703.4.~~

~~(D) Item 4: So as to protect the potable water supply in accordance with Section P2902.~~

~~(E) Item 5: So that the air intake opening locations are in accordance with Section R303.5.1.~~

748:20-6-20. IRC® 2024 Chapter 15 Exhaust Systems [AMENDED]

Chapter 15 of the ~~2018~~ 2024 IRC® is adopted with the following ~~modifications~~ modification: ~~(1)~~ Section M1502.3 Duct termination. This section has been modified to add requirements for the exhaust duct to terminate a minimum of 12 inches (305 mm) above the ground or any obstructions; terminate at least 3 feet (914 mm) from any condensing unit; and exempts existing dryer terminations. This section has been modified to read: M1502.3 Duct termination. Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from the openings into buildings including openings into ventilated soffits, and not ~~nor~~ less than 12 inches from finished ground level or other ~~obstacles~~ obstruction. Exhaust duct terminations shall be equipped with a backdraft damper. Additionally, exhaust shall not terminate within 3 feet (914 mm) of condensing units and a minimum 12 inches (305 mm) from the ground or any obstruction. Screens shall not be installed at the duct termination. Existing dryer terminations shall be exempt.

~~(2) Section M1502.4.2 Duct installation. This section has been modified to prohibit ducts from being joined with any screws or similar fasteners that protrude into the inside of the duct and to change the length of support intervals from 12 feet to 4 feet. This section has been modified to read: M1502.4.2 Duct installation. Exhaust ducts shall be supported at 4 feet (1219 mm) intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall not be joined with screws or similar fasteners that protruded into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.~~

748:20-6-21. IRC® ~~2018~~ 2024 Chapter 16 Duct Systems [AMENDED]

Chapter 16 of the ~~2018~~ 2024 IRC® is adopted with the following modifications:

(1) Table M1601.1.1 Duct construction minimum sheet metal thickness for single dwelling units has been stricken from the code and replaced with a newly created table with the same table heading. The newly created table contains three rows and three columns and a footnote. The newly created table is described below:

(A) Row 1 is the header row and contains three columns, one of which is divided into two sub-rows as described below:

(i) Row 1, column 1 header is entitled "Duct Size"

(ii) Row 1, column 2 header is entitled "Galvanized" and contains two sub-rows:

(I) Row 1, column 2, sub-column 1 header is entitled "Minimum thickness (inches)."

(II) Row 1, column 2, sub-column 2 header is entitled "Equivalent Galvanized Gage No."

(iii) Row 1, column 3 is entitled "Approximate Aluminum B and S Gage."

(B) Row 2 contains 2 sub-rows with the following information listed:

(i) Row 2, sub-row 1, column 1 contains the wording "Round ducts and enclosed rectangular ducts 14 inches or less."

(ii) Row 2, sub-row 1, column 2 contains the following numbers in each sub-column:

(I) Row 2, sub-row 1, column 2, sub-column 1 contains the number "0.013."

(II) Row 2, sub-row 1, column 2, sub-column 2 contains the number "30."

(iii) Row 2, sub-row 1, column 3, contains the number "26."

(iv) Row 2, sub-row 2, column 1 contains the wording "Round ducts and enclosed rectangular ducts over 14 inches."

(v) Row 2, sub-row 2, column 2 contains the following numbers in each sub-column:

(I) Row 2, sub-row 2, column 2, sub-column 1 contains the number "0.016."

(II) Row 2, sub-row 2, column 2, sub-column 2 contains the number "28."

(vi) Row 2, sub-row 2, column 3 contains the number "24."

(C) Row 3 contains two sub-rows with the following information listed:

(i) Row 3, sub-row 1, column 1 contains the wording "Exposed rectangular ducts 14 inches or less."

(ii) Row 3, sub-row 1, column 2 contains the following numbers in each sub-column:

(I) Row 3, sub-row 1, column 2, sub-column 1 contains the number "0.016."

(II) Row 3, sub-row 1, column 2, sub-column 2 contains the number "28."

(iii) Row 3, sub-row 1, column 3, contains the number "24."

(iv) Row 3, sub-row 2, column 1 contains the wording "Exposed rectangular ducts over 14 inches."

(v) Row 3, sub-row 2, column 2 contains the following numbers in each sub-column:

(I) Row 3, sub-row 2, column 2, sub-column 1 contains the number "0.019."

(II) Row 3, sub-row 2, column 2, sub-column 2 contains the number "26."

(vi) Row 3, sub-row 2, column 3 contains the number "22."

(D) Between the end of the table and Footnote "a" is the wording "For SI: 1 inch is equal to 25.4 mm."

(E) Footnote "a" has been added to read: "a. Ductwork that exceeds 20 inches by dimension or exceeds a pressure of 1-inch water gage (250 pa) shall be constructed in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible."

(2) Section M1601.4.1 Joints, seams, and connections. This section has been modified to add a fourth exception for duct systems with sheet metal plenums, Y's and supply boots with liquid applied sealants. This section has been modified to read: M1601.4.1 Joints, seams and connections.

(A) Longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards-Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards. Joints, longitudinal and transverse seams, and connection in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesive), mastic-plus-embedded-fabric systems, liquid sealants or tapes. Tapes and mastics used to seal fibrous glass ductwork shall be listed and labeled in accordance with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181 A-M" for mastic or "181 A-H" for heat sensitive tape.

(B) Tapes and mastics used to seal metallic and flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181 B-FX" for pressure-sensitive tape or "181 BM" for mastic. Duct connections to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimps joints for round metallic ducts shall have a contact lap of not less than 1 inch (25 mm) and shall be mechanically fastened by means of not less than three sheet-metal screws or rivets equally spaced around the joint.

(C) Closure systems used to seal all ductwork shall be installed in accordance with the manufacturers' instructions.

(D) Exceptions:

(i) Exception 1: Spray polyurethane foam shall be permitted to be applied without additional joint seals.

(ii) Exception 2: Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.

(iii) Exception 3: For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams. This exception shall not apply to snap-lock and button-lock type joints and seams that are located outside of conditioned space.

(iv) Exception 4: For duct systems with sheet metal plenums, Y's and supply boots, only liquid applied sealants complying with UL 181 BM (Mastic or similar) or equivalent method, shall be used to seal inner liners and start collars to plenum and any other seams in system.

748:20-6-24. IRC® 2018 Chapter 19 Special Appliances, Equipment and Systems [REVOKED]

~~Chapter 19 of the IRC® 2018 is adopted with the following modification: Section M1903.1.1 Electrical requirements has been added to the code. This section has been added to read: M1903.1.1 Electrical requirements. In addition to the requirements of M1903.1, interconnection and all associated wiring shall be installed in accordance with NFPA 70, NEC®, 2017, Article 692 Fuel Cell Systems.~~

748:20-6-28. IRC® ~~2018~~ 2024 Chapter 23 Solar Thermal Energy Systems [AMENDED]

Chapter 23 of the IRC® ~~2018~~ 2024 is adopted with the following modification: Section M2301.2.2.1 Roof-mounted collectors. This section has been modified to add a requirement for a mechanical means of disconnect to be installed on piping to allow for the disconnecting and removal of collectors to service or replace the roof. This section has been modified to read: ~~M2301.2.21~~ M2301.2.2.1 Roof-mounted collectors. The roof shall be constructed to support the loads imposed by roof-mounted solar collectors. Roof-mounted solar collectors that serve as a roof covering shall conform to the requirements for roof coverings in Chapter 9 of this code. Where mounted on or above the roof coverings, the collectors and supporting structure shall be constructed on noncombustible materials or fire-retardant-treated wood equivalent to that required for roof construction. A mechanical means of disconnect shall be installed on piping to allow the disconnecting and removal of collectors for service or replacement of the roof.

748:20-6-29. IRC® ~~2018~~ 2024 Chapter 24 Fuel Gas [AMENDED]

Chapter 24 is of the IRC® ~~2018~~ 2024 adopted with the following ~~modification~~ modifications:

(1) Section G2415.12 Minimum burial depth. This section has been modified to require all underground piping systems to be installed a minimum of 18 inches below grade. This section has been revised to read: G2415.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of 18 inches (457.5 mm) below grade, except as provided for in Section G2415.12.1.

(2) G2415.17.1 (404.17.1) Limitations. This section has been modified to add plastic composite piping (where listed and labeled) to the list of piping that can be installed outdoors underground only. This section has been modified to read: G2415.17.1 Limitations. Plastic pipe and plastic composite piping (where listed and labeled) shall be installed outdoors underground only. Plastic pipe shall not be used within or under any building or slab or be operated at pressures greater than 100 psig (689 kPa) for natural gas or 30 psig (207 kPa) for LP-gas. Exceptions:

(A) Exception 1. Plastic pipe shall be permitted to terminate above ground outside of buildings where installed in premanufactured anodeless risers or service head adapter risers that are installed in accordance with the manufacturer's instructions.

(B) Exception 2. Plastic pipe shall be permitted to terminate with a wall head adapter within buildings where the plastic pipe is inserted in a piping material for fuel gas use in buildings.

(C) Exception 3. Plastic pipe shall be permitted under outdoor patio, walkway and driveway slaps provided that the burial depth complies with Section G2415.12.

748:20-6-30. IRC® ~~2018~~ 2024 Chapter 25 Plumbing Administration [AMENDED]

Chapter 25 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) P2503.4 Building sewer testing. This section has been modified to clarify that the building sewer test is only necessary when the local authority having jurisdiction requires the testing to be done and to change the building sewer test height requirement from a 10-foot high test to a 5-foot high test. This section has been modified to read: P2503.4 Building sewer testing.

(A) Item 1: Where required by local authority having jurisdiction, the building sewer shall be tested by insertion of a test plug at the point of connection with the public sewer, filling the building sewer with water and pressurizing the sewer to not less than 5-foot (1524 mm) head of water. The test pressure shall not decrease during a period of not less than 15 minutes. The building sewer shall be watertight at all points.

(B) Item 2: A forced sewer test shall consist of pressuring the piping to a pressure of not less than 5 psi (34.5 kPa) greater than the pump rating and maintaining such pressure for not less than 15 minutes. The forced sewer shall be watertight at all points.

(2) P2503.7 Water-supply system testing. This section has been modified to delete the word "plastic" and replace it with the terms "PVC" and "CPVC." This section has been modified to read: P2503.7 Water-supply system testing. Upon completion of the water-supply system or a section of it, the system or portion completed shall be tested and proved tight under a water pressure of not less than the working pressure of the system or, for piping systems other than PVC or CPVC, by an air test of not less than 50 psi (345 kPa). This pressure shall be held for not less than 15 minutes. The water used for tests shall be obtained from a potable water source. Exception: For PEX piping systems, testing with compressed gas shall be an alternative to hydrostatic testing where compressed air or other gas pressure testing is specifically authorized by the manufacturer's instructions for the PEX pipe and fittings products installed at the time the system is being tested, and compressed air or the gas testing is not otherwise prohibited by applicable codes, laws or regulations outside of this code.

748:20-6-31. IRC® ~~2018~~ 2024 Chapter 26 General Plumbing Requirements [AMENDED]

Chapter 26 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:
(1) Section P2603.2.1 Protection against physical damage. This section has been modified to change the installation sizing requirement of the holes or notches in studs, joists, rafters or similar members for piping other than cast-iron or galvanized steel from "1 1/4 inches (32 mm)" to "1 1/2 inches (38 mm)." This section has been modified to read: P2603.2.1 Protection against physical damage. In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1 1/2 inches (38 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. ~~Such shield plates shall have a thickness of not less than 0.0575 inch (1.463mm) (No. 16 Gage).~~ Such plates shall cover the area of the pipe where the member is notched or bored and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.
(2) Section P2603.4 Pipes through foundation walls. This section has been modified to add a requirement for the relieving arch or pipe sleeve to comply with the materials and standards listed in Table 3002.1(2). This section has been modified to read: P2603.4 Pipes through foundation walls. A pipe that passes through a foundation wall shall be provided with a relieving arch, or a pipe sleeve shall be built into the foundation wall. The relieving arch or pipe sleeve shall conform to one of the materials and standards listed in Table P3002.1(2). The sleeve shall be two pipe sizes greater than the pipe passing through the wall.
(3) Section P2603.5.1 Sewer depth. This section has been modified to include a depth for the septic tank connection unless otherwise approved by the authority having Jurisdiction. This section has been modified to read: P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be not less than 12 inches (305 mm) or as approved by the authority having jurisdiction below finished grade at the point of septic tank connection. Building sewers shall be not less than 12 inches (305 mm) below grade.

748:20-6-32. IRC® ~~2018~~ 2024 Chapter 27 Plumbing Fixtures [AMENDED]

Chapter 27 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:
(1) Section P2705.1 General. This section has been modified to add a ninth requirement for fixtures to conform to that specifies vanity countertops are permitted to extend a specific length into the water closet floor space. This section has been modified to read: P2705.1 General. The installation of fixtures shall conform to the following:

(A) Item 1: Floor-outlet or floor-mounted fixtures shall be secured to the drainage connection and to the floor, where so designed, by screws, bolts, washers, nuts and similar fasteners of copper, copper alloy, or other corrosion-resistant material.
(B) Item 2: Wall-hung fixtures shall be rigidly supported so that the strain is not transmitted to the plumbing system.
(C) Item 3: Where fixtures come into contact with walls and floors, the contact area shall be watertight.
(D) Item 4: Plumbing fixtures shall be usable.
(E) Item 5: Water closets, lavatories, and bidets. A water closet lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition or vanity or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be a clearance of not less than 21 inches (533 mm) in front of a water closet, lavatory or bidet to any wall, fixture, or door.

(F) Item 6: The location of piping, fixtures or equipment shall not interfere with the operation of windows or doors.

(G) Item 7: In flood hazard areas as established by Table R301.2(1), plumbing fixtures shall be located or installed in accordance with Section R322.1.6.

(H) Item 8: Integral fixture-fitting mounting surfaces on manufactured plumbing fixtures or plumbing fixtures constructed on site, shall meet the design requirements of ASME A112.19.1/CSA B41.1 or ASME A112.19.3/CSA B45.4.

(I) Item 9: Vanity countertops shall be permitted to extend a maximum of 1.5 inches (38.1 mm) into the water closet floor space.

(2) Section P2709.2 Lining required. This section has been modified to clarify it is only effective where required by the authority having jurisdiction ~~and to change the distance the lining material must extend from 2 inches to 3 inches (51 mm to 76 mm).~~ This section has been modified to read: P2709.2 Lining required.

(A) Where required by the authority having jurisdiction, the adjoining walls and floor framing enclosed on-site built-up shower receptors shall be lined with one of the following materials:

(i) Item 1: Sheet lead.

(ii) Item 2: Sheet copper.

(iii) Item 3: Plastic liner material complies with ASTM D 4068 or ASTM D 4551.

(iv) Item 4: Hot mopping in accordance with Section P2709.2.3.

(v) Item 5: Sheet-applied load bearing, bonded waterproof membranes that comply with ANSI A118.10.

(B) The lining material shall extend not less than ~~3~~ 2 inches (~~76~~ 51 mm) beyond or around the rough jambs and not less than ~~3~~ 2 inches (~~76~~ 51 mm) above finished thresholds. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's installation instructions.

~~(3) Section P2715.1 Laundry tray waste outlet. This section has been modified to replace the word "tub" with the word "tray" in the section heading and section language. This section has been modified to read: P2715.1 Laundry tray waste outlet. Each compartment of a laundry tray shall be provided with a waste outlet not less than 1 1/2 inches (38 mm) in diameter and a strainer or crossbar to restrict the clear opening of the waste outlet.~~

748:20-6-33. IRC® ~~2018~~ 2024 Chapter 28 Water Heaters [AMENDED]

Chapter 28 of the IRC® ~~2018~~ 2024 is adopted with the following ~~modification~~ modifications:

(1) Section P2801.6.1 Stands and/or platforms. This section has been added to improve public safety by preventing unsafe, makeshift stands for water heaters. This section has been added to read: P2801.6.1 Stands and/or platforms. Where water heaters are required to be elevated, they shall be placed on a stand or platform that is structurally appropriate for the intended load of the water heater and its contents.

(2) Section P2802.3 Solar water heater panels means of disconnect, has been added to specify when solar water heater panels are installed on a roof, a union will be installed on all piping entering and exiting the solar panel to allow for a mechanical means of disconnect for service or replacement of the roof. This section has been added to read: P2802.3 Solar Water heater panels means of disconnect. When solar water heater panels are installed on the roof, a union shall be installed on all piping entering and exiting the solar panel to allow a mechanical means of disconnect for service or replacement of the roof.

748:20-6-34. IRC® ~~2018~~ 2024 Chapter 29 Water Supply and Distribution [AMENDED]

Chapter 29 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) Section P2902.5.3 Lawn irrigation systems. This section has been modified to add a spill resistant backflow preventer as an option for protection. This section has been modified to read: P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric vacuum breaker, a pressure vacuum breaker assembly, a spill resistance vacuum breaker or a reduced pressure principal backflow prevention assembly. Valves shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principal backflow prevention assembly.~~

~~(2)~~(1) Section P2904.1.1 Required sprinkler locations. This section has been modified to clarify sprinklers shall ~~only~~ be installed to protect all areas of a townhouse dwelling unit and add an exception to the section when a two-hour fire-resistance rated wall is installed between dwelling units. This section has been modified to read: Section P2904.1.1 Required sprinkler locations. Sprinklers shall be installed to protect all areas of a townhouse dwelling unit.

(A) Item 1: Attics, crawl spaces and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be installed above the equipment; however, sprinklers shall not be required in the remainder of the space.

(B) Item 2: Clothes closets, linen closets, and pantries not exceeding 24 square feet (2.2 meters squared) in area with the smallest dimension not greater than 3 feet (915 mm) and having wall and ceiling surfaces of gypsum board.

(C) Item 3: Bathrooms not more than 55 square feet (5.1 square meters) in area.

(D) Item 4: Garages; carports; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door and similar spaces.

(E) Exception: An automatic fire sprinkler system shall not be required when a two-hour fire-resistance rated wall is installed between dwelling units.

~~(3)~~(2) Section P2906.4 Water service pipe. This section has been modified to require piping materials not third-party certified for water distribution, to terminate at least 30 inches outside of the exterior wall. It has also been modified to strike the requirement of the termination to be before the full open valve located at the entrance to the structure. This section has been modified to read: P2906.4 Water service pipe. Water service pipe shall conform to NSF 61 and shall conform to one of the standards indicated in Table P2906.4. Water service pipe or tubing, installed underground and outside of the structure, shall have a minimum working pressure rating of not less than 160 pounds per square inch at 73 degrees Fahrenheit (1103 kPa at 23 degrees Celsius). Where the water pressure exceeds 160 pounds per square inch, (1103 kPa), piping material shall have a rated working pressure equal to or greater than the highest available pressure. Water service piping materials not third-party certified for water distribution shall terminate at least 30 inches outside the exterior wall. Ductile iron water service piping shall be cement mortar lined in accordance with AWWA C104/A21.4.

~~(4) Section P2906.9.1.4 PVC plastic pipe. This section has been modified to add a clear primer as another option to be applied to PVC solvent-cemented joints. This section has been modified to read: P2906.9.1.4 PVC plastic pipe. A clear or purple primer, or other approved primer that conforms to ASTM F 656 shall be applied to PVC solvent-cemented joints. Solvent cement for PVC plastic pipe conforming to ASTM D 2564 shall be applied to all joint surfaces.~~

748:20-6-35. IRC® ~~2018~~ 2024 Chapter 30 Sanitary Drainage [AMENDED]

Chapter 30 of the IRC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section P3003.2 Prohibited joints. This section has been modified to include an exception for "Saddle-type" fittings. This section has been modified to read: P3003.2 Prohibited joints. Running threads and bands shall not be used in the drainage system. Drainage and vent piping shall not be drilled, tapped, burned, or welded. The following types of joints and connections shall be prohibited:

(A) Item 1: Cement or concrete.

(B) Item 2: Mastic or hot-pour bituminous joints.

(C) Item 3: Joints made with fittings not approved for the specific installation.

(D) Item 4: Joints between different diameter pipes made with elastomeric rolling O-rings.

(E) Item 5: Solvent-cement joints between different types of plastic pipe except where provided for in section P3003.13.4.

(F) Item 6: Saddle-type fittings. Exception: Where approved by the jurisdiction, saddle-type fittings shall be permitted to connect the building sewer to a public sewer.

~~(2) Section P3003.9.2 Solvent cementing. This section has been modified to delete the exception that allows for primer to not be used under certain conditions. This section has been modified to read: P3003.9.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B 137.3 or CSA~~

~~B181.2 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be installed above or below ground.~~

(2) Section P3008.4 Location. This section has been amended to clarify backwater valves shall be a maximum of 24 inches deep below the finished grade with an exception for extendable type backwater valves. This section has been modified to read: P3008.4 Location. Backwater valves shall be installed so that access is provided to the working parts. Backwater valves shall be a maximum of 24 inches deep below finish grade. Exception: Extendable type backwater valves.

748:20-6-39. IRC® 2018 Chapter 34 General Requirements (Electrical) [REVOKED]

~~Chapter 34 of the IRC® 2018 is adopted with the following modifications:~~

~~(1) Section E3403.3 Listing and labeling. This section has been modified to add a requirement to comply with the National Electrical Code® (NEC®), NFPA 70®. The section has been modified to read: E3403.3 Listing and labeling. Electrical materials, components, devices, fixtures and equipment shall be listed for the application, in accordance with NFPA 70®, shall bear the label of an approved agency and shall be installed, and used, or both, in accordance with the manufacturer's installation instructions [110.3(B)].~~

~~(2) Section 3404.7 Integrity of Electrical Equipment. This section has been modified to allow for the reuse of existing electrical equipment, rather than requiring new replacements when certain conditions are met. This section has been modified to read: E3404.7 Integrity of electrical equipment. Internal parts of electrical equipment, including busbars, wiring terminals, insulators and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners or abrasives, and corrosive residues. There shall not be any damaged parts that might adversely affect safe operation or mechanical strength of the equipment such as parts that are broken; bent; cut; deteriorated by corrosion, chemical action, or overheating. Foreign debris shall be removed from equipment. Damaged materials, equipment, appliances, and devices shall not be reused unless such elements have been reconditioned, tested, and placed in good and proper working condition and approved by a Nationally Recognized Testing Laboratory (NRTL), or by the manufacturer of the equipment. Electrical equipment damaged by natural or man-made events shall be reused only as recommended by the manufacturer of such equipment. [110.12(B)]~~

748:20-6-41 IRC® 2024 Chapter 36 Services [NEW]

Chapter 36 of the IRC® 2024 is adopted with the following modification: Section E3601.8 Emergency disconnects has been stricken from the code.

748:20-6-44. IRC® 2024 Chapter 39 Power and Lighting Distribution [NEW]

Chapter 39 of the IRC® 2024 is adopted with the following modification: Section E3902.14 Outdoor outlets. This section has been modified to remove the expiration date in exception number 3 and add a fourth exception for refrigerators or freezers in garages. This section has been modified to read: E3902.14 Outdoor outlets.

(1) All outdoor outlets, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

(A) Item 1. Garages that have floors located at or below grade level.

(B) Item 2. Accessory buildings.

(C) Item 3. Boathouses.

(2) Exceptions:

(A) Exception 1. GFCI protection shall not be required on lighting outlets other than those covered in Section 210.8(F) of NFPA 70.

(B) Exception 2. GFCI protection shall not be required for receptacles that are not readily accessible and are supplied by a branch circuit dedicated to electric snow-melting, deicing, or pipeline and vessel heating equipment where such equipment is protected as required by NFPA 70.

(C) Exception 3. GFCI protection shall not be required for listed HVAC equipment.

(D) Exception 4. GFCI protection shall not be required for refrigerators or freezers in garages.

748:20-4-46. IRC® 2024 Chapter 41 Appliance Installation [NEW]

Chapter 41 of the IRC® 2024 is adopted with the following modification: Section 4101.3 1. Gas-fired central furnaces has been added to the code to correlate with a change made to the adoption of the National Electrical Code. This section has been added to read: Section 4101.3.1 Gas-fired central furnaces. Gas-fired furnaces supplying dwelling units shall be permitted to be connected by a flexible code-and-plug. The flexible cord shall have an equipment grounding conductor and be terminated into a grounding-type attachment plug. The cord and attachment plug shall have sufficient ampacity for the load, and shall be routed or otherwise protected to prevent physical damage to the cord or attachment plug. The cord length shall not be greater than 9 feet.

748:20-6-47. IRC 2018® Chapter 42 Swimming Pools [REVOKED]

~~Chapter 42 of the IRC® 2018 is adopted with the following modification: Section 4206.4.1 Maximum voltage has been modified to limit the operation of luminaries in swimming pools to the low-voltage contact limits defined in Section E4202.1. This section has been modified to read: E4206.4.1 Luminaries shall not operate above the low-voltage contact limit as defined in E4202.1. [680.23(A)(4)].~~

748:20-6-49. IRC® ~~2018~~ 2024 Chapter 44 Referenced Standards

Chapter 44 of the IRC® ~~2018~~ 2024 has been adopted with the following modifications:

~~(1) The reference for the standard ANCE NMX J-521/2-40-ANCE-2014/CAN/CSA-22.2 No. 60335-2-40–12/UL 60335-2-40: Safety of Household and Similar Electric Appliances, Part 2-40: Particular Requirements for Heat Pumps, Air-Conditioners and Dehumidifiers along with the associated referenced sections has been stricken from the code.~~

~~(2)~~(1) A reference for the standard ANSI/APSP/ICC 7-20 has been added to the chapter. This section has been added to read: ANSI/APSP/ICC 7-20 American National Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins®. Referenced in code section number R326.5.

~~(3)~~(2) A reference for the standard ANSI/APSP/ICC 16-17 has been added to the chapter. This section has been added to read: ANSI/APSP/1CC 16-17 American National Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas and Hot Tubs®. refenced in code section number R326.4.

~~(4) The reference to the ASHRAE Standard 34-2016: Design and Safety Classification of Refrigerants has been modified to update the publication year from 2016 to 2019. The reference has been modified to read: 34-2019: Design and Safety Classification of Refrigerants.~~

(3) A reference for the standard ASTM D7957/D7957M-22 has been added to the chapter. This section has been added to read: ASTM D7957/D7957M-22 Standard for Speficiation for Solid Round Glass Fiber Reinforced Polymer Bars for Concrete reinforcement. Referenced in code section number R404.1.3.3.7.1.b.

~~(5)~~(4) A reference for the standard CSA C22.2 No. 218.1-17 has been added to the chapter. This section has been added to read: CSA C22.2 No. 218.1-17. Spas, Hot Tubs and Associated Equipment®. Referenced in code section number R326.5.

~~(6) The reference to the CSA standard CAN/CSA/C22.2 No. 60335-2-40-2012 has been modified to change the title and update the edition year of the reference from 2016 to 2019. This section has been modified to read: CSA C22.2 No. 60335-20-40 – 2019 Safety of Household and Similar Electrical Appliances, Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers.~~

~~(7)~~(5) The reference to the ICC 500® has been modified to update the code section references. This section has been modified to read: ~~ICC 500-14~~ ICC 500-2020 ICC/NSSA Standard on the Design and Construction of Storm Shelters®. Referenced in code section number ~~R323.1, R323.2, R323.2.1, R323.2.2, R323.2.3~~ R307.3, R307.3.1, R307.3.2, R307.3.3, R307.3.4 and ~~R323.2.4~~ R307.3.4.1.

~~(8)~~(6) The reference to the International Building Code® has been modified to update the edition year to ~~2018~~ 2024 and include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC®-18~~ IBC®-24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(7) The reference to the International Existing Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been

modified to read: IEBC®-24 International Existing Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(9)~~(8) The reference to the International Fire Code® has been modified to update the edition year to ~~2018~~ 2024 and include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC® 18~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(10)~~(9) The reference to the International Fuel Gas Code® has been modified to update the edition year to ~~2018~~ 2024 and include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFGC® 18~~ IFGC®-24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(11)~~(10) The reference to the International Mechanical Code® has been modified to update the edition year to ~~2018~~ 2024 and include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC® 18~~ IMC®-24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(12)~~(11) The reference to the International Plumbing Code® has been modified to update the edition year to ~~2018~~ 2024 include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IPC® 18~~ IPC®-24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(13)~~(12) The referenced standard for NFPA® 70 National Electrical Code® has been modified to update the edition year to 2023 and include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

~~(14)~~(13) A reference for the standard UL 1563 has been added to the chapter. This section has been added to read: UL 1563-2009: Standard for Electric Hot Tubs, Spas and Associated Equipment®, with revisions through September 2020. Referenced in code section number R326.5.

~~(15) The referenced standard UL 1995-2011 Heating and Cooling Equipment – with revisions through July 2015 has been modified to update the edition year and remove the reference to revisions. The standard has bene modified to read: 1995-2015 Heating and Cooling Equipment.~~

~~(16) The reference standard UL/CSA/ANCE 60335-2-40-2012: Standard for Household and Similar Electrical Appliances, Part 2: Particular Requirements for Motor-compressors has been modified to update the edition year and the title and add a section reference. This reference has been modified to read: UL/CSA 60335-2-40-2019: Standard for Household and Similar Electrical Appliances, Part 2: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers. Referenced Sections M1402.1, M1403.1, M1412.1 and M1413.1.~~

748:20-6-50. Appendix ~~U~~ BP, Automatic Fire Systems

This appendix has been newly created and entitled "Automatic Fire Sprinkler Systems." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.

(1) Section ~~U101~~ BP101 General. This section heading has been added to clarify the sections of text applicable to installing residential fire sprinkler systems in one- and two-family dwellings. This section heading has been added to read: ~~U101~~ BP101 General.

(2) Section ~~U101.1~~ BP101.1 One- and two-family dwellings automatic fire sprinkler systems. This section formerly numbered Section ~~R313.2~~ R309.2 has been moved into appendix ~~U~~ BP, entitled "Automatic Fire Sprinkler Systems" and specifies the provisions of this appendix shall apply to one- and two-family dwellings. It has been added to read: ~~U101.1~~ BP101.1 One- and two-family dwellings automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings. Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.

(3) Section ~~U101.2~~ BP101.2 Design and installation. This section, formerly numbered Section ~~R313.2.1~~ R309.2.1 has been moved into Appendix ~~U~~ BP, entitled "Automatic Fire Sprinkler Systems" and specifies the design and installation of automatic residential fire sprinkler systems shall comply with the provisions of this appendix and NFPA 13D. This section has been added to read: ~~U101.2~~ BP101.2 Design and installation.

Automatic residential fire sprinkler systems shall be designed and installed in accordance with the provisions of this appendix and NFPA 13D.

748:20-6-51. Appendix ~~V~~ BQ, Swimming Pools, Spas, and Hot Tubs

This appendix has been newly created and entitled "Swimming Pools, Spas, and Hot Tubs." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.

(1) ~~V101~~ BQ101 Swimming Pools, Spas, and Hot Tubs. This section header has been added to clarify the sections of text that apply to the general requirements for swimming pools, spas and hot tubs. This section has been added to read: ~~V101~~ BQ101 Swimming Pools, Spas, and Hot Tubs.

(2) ~~V101.1~~ BQ101 General. This section formerly numbered ~~R326.1~~ R328.1 General has been moved into an appendix and has been added to read: ~~V101.1~~ BQ101 General. The design and construction of pools and spas shall comply with the International Swimming Pool and Spa Code.

748:20-6-52. Appendix W, Energy Efficiency [REVOKED]

~~This appendix has been newly created and entitled "Energy Efficiency." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.~~

~~(1) W101 General. This section has been added to clarify the scope for this appendix. This section has been added to read: W101 General. This section has been added to specify the provisions of this appendix shall apply exclusively to the requirements for a Certificate listing energy efficiency components included in a residential dwelling unit.~~

~~(2) W101.1 Certificate. This section, formerly numbered N1101.14 has been moved into appendix W, entitled "Energy Efficiency." This section has been added to read: W101.1 Certificate. A permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list the predominate R-values of insulation installed in or on the ceiling/roof, walls, foundation (slab, basement wall, crawl space wall/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.~~

748:20-6-53. Appendix ~~X~~ BR, Residential Tornado Provisions

(a) This appendix has been newly created and entitled "Residential Tornado Provisions." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.

(b) ~~X101~~ BR101 Scope. This section heading has been added to specify the sections of this appendix that deal with the Scope of the appendix. This section header has been added to read: ~~X101~~ BR101. Scope.

(1) Section ~~X101.1~~ BR101.1 General. This section has been added to clarify the provisions shall be applicable for new construction. This section has been added to read: ~~X101.1~~ BR101.1 General. These provisions shall be applicable for new construction where residential tornado provisions are required. This appendix provides prescriptive based requirements for construction of a residential structure meeting or exceeding a 135-mph wind event corresponding to an EF-2 tornado rating. The single most important objective in protecting a structure against high wind is achieving a continuous load path from the roof to the foundation. Based on the findings of studies and failures associated with various construction types, a group of 11 building practices (each associated with a different aspect of the structure) are summarized in this section.

(2) Section ~~X101.2~~ BR101.2 Application. This section has been added to clarify the administrative provisions of this appendix are applicable in the administrative and building planning and construction requirements in Chapters 1 through 10 of this code. The section has been added to read: ~~X101.2~~ BR101.2 Application. In

addition to the general administration requirements of Chapter 1, the administrative provisions of this appendix shall also apply to the building planning and construction requirements of Chapters 1 through 10.
(3) Section ~~X101.3~~ BR101.3 Wind design criteria. This section has been added to clarify that if Section R301.2.1 is modified, the buildings and portions thereof shall be constructed in accordance with the code and the ultimate wind speed design of 135 mph. This section has been added to read: ~~X101.3~~ BR101.3 Wind design criteria. Modifying section R301.2.1 buildings and portions thereof shall be constructed in accordance with the wind provisions of this code using the ultimate design wind speed 135 mph.
(4) Section ~~X101.4~~ BR101.4 Lumber sheathing. This section has been added to address the permitted forms of lumber sheathing. This section has been added to read: ~~X101.4~~ BR101.4 Lumber sheathing. Only OSB or plywood sheathing is permitted. Dimensional lumber sheathing may not be used. Allowable spans and attachment for lumber used as roof or exterior wall sheathing shall conform to the following:

(A) ~~X101.4.1~~ BR101.4.1 Sixteen Inch Framing. For rafter, stud, or beam spacing of 16 inches, the minimum nominal sheathing panel thickness will be 7/16 inch, the minimum wood structural panel span rating 24/16, to be nailed with 8d ring shank (0.131 inch x 2.5 inch) or 10d (0.148 inch x 3 inch) nails on 4 inches on center along the edges and 6 inches on center in the field.

(B) ~~X101.4.2~~ BR101.4.2 Twenty-four Inch Framing. For rafter, stud or beam spacing of 24 inches, the minimum nominal sheathing panel thickness will be 23/32 inch, the minimum wood structural panel span rating 24/16 to be nailed with 8d ring shank (0.131 inch x 2.5 inch) or 10d (0.148 inch x 3 inch) nails on 4 inches on center along the edges and 4 inches on center in the field.

(5) Section ~~X101.5~~ BR101.5 Ceiling joist and rafter connections. This section has been added to require ceiling joists and rafters to be nailed to each other in a manner to achieve a connection that can transfer a 500-pound force in both compression and tension across the connections. This section has been added to read: ~~X101.5~~ BR101.5 Ceiling joist and rafter connections. In addition to the provisions of Chapter 8, ceiling joists and rafters shall be nailed to each other in a manner to achieve a connection that can transfer a 500-pound force in both compression and tension across the connection.
(6) Section ~~X101.6~~ BR101.6 Rafter uplift resistance. This section has been added to require individual rafters to be attached to supporting wall assemblies by connections capable of resisting uplift forces of 500 pounds. This section has been added to read: ~~X101.6~~ BR101.6 Rafter uplift resistance. Individual rafters shall be attached to supporting wall assemblies by connections capable of resisting uplift forces of 500 pounds.
(7) Section ~~X101.7~~ BR101.7 Gable end walls. This section has been added to clarify connections and sheathing for gable end walls. This section has been added to read: ~~X101.7~~ BR101.7 Gable end walls. Gable end walls will be sheathed per ~~X101.4~~ BR101.4 and will have connections to both a.) supporting wall assemblies and b.) roof framing by connections capable of resisting uplift forces of 500 pounds in both compression and tension across the connection.
(8) Section ~~X101.8~~ BR101.8 Exterior wall bracing. This section has been added to clarify sheathing methods to be utilized to brace exterior walls and prohibit intermittent bracing on exterior walls. This section has been added to read: ~~X101.5~~ BR101.8 Exterior wall bracing. Only continuous sheathing methods per R602.10.4.2 may be used to brace exterior walls. Frame garage doors using the sheathed portal frame method CS-PF. Lumber sheathing and attachment per ~~X101.4~~ BR101.4. Any form of intermittent bracing is not allowed on an exterior wall. Intermittent bracing may only be used for interior braced wall lines.
(9) Section ~~X101.9~~ BR101.9 Multi-story construction. This section has been added to require nailing upper and lower story wall sheathing to a common rim board. This section has been added to read: ~~X101.9~~ BR101.9 Multi story construction. Nail upper and lower story wall sheathing to common rim board in order to maintain continuity between stories.
(10) Section ~~X101.10~~ BR101.10 Wood floor above crawl space construction. This section has been added to require extending structural wood sheathing to lap the sill plate. This section has been added to read: ~~X101.10~~ BR101.10 Wood floor above crawl space construction. Extend structural wood sheathing to lap the sill plate. Nail to sill plate at 4 inches on center along the edges. Nail to rim board if present with 8d ring shank (0.131 inch x 2.5 inch) or 10d (0.148 inch x 3 inch) nails at 4 inches on center along both the top and bottom edges of the rim board.
(11) Section ~~X101.11~~ BR101.11 Garage Doors. This section has been added to require garage doors to be rated for 135 mile per hour winds. This section has been added to read: ~~X101.11~~ BR101.11 Garage Doors. Garage doors are to be wind rated to 135 mph.

SUBCHAPTER 8. IEBC® ~~2018~~ 2024

748:20-8-1. Adoption of the International Existing Building Code®, ~~2018~~ 2024 Edition (IEBC® ~~2018~~ 2024) [AMENDED]

(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Existing Building Code®, ~~2018~~ 2024 Edition (IEBC® ~~2018~~ 2024), ~~third~~ first printing (~~January, 2019~~ August 2023) as amended and modified in this subchapter as the statewide minimum code for commercial existing building construction in the State of Oklahoma pursuant to 59 O.S. 1000.23.

(b) The OUBCC through formal action expressly chose to adopt the IEBC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for commercial existing building construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Existing Building Code® 2021 Edition (IEBC®, 2021) for any purpose.

(c) ~~The OUBCC has pulled from the ICC website, published errata to the third printing of the IEBC® through July 31, 2019. Any errata~~ Eratta published ~~after that date~~ by the ICC for the IEBC® 2024 has not been reviewed or incorporated into the rules.

(d) This material contains information which is proprietary to and copyrighted by the International Code Council, Inc. The acronym "ICC" and the ICC logo are trademarks and service marks of ICC. ALL RIGHTS RESERVED.

748:20-8-2. Effect of Adoption [AMENDED]

The IEBC® ~~2018~~ 2024 as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for commercial existing building construction in Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-8-3. IEBC® ~~2018~~ 2024 Appendices [AMENDED]

(a) None of the appendices of the IEBC® ~~2018~~ 2024 have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial existing building construction in the State of Oklahoma.

(b) Appendices A through ~~C~~ E and Resource A are not adopted as the statewide minimum code for commercial existing building construction within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices and Resource A in accordance with 59 O.S. § 1000.29.

748:20-8-4. IEBC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IEBC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for commercial existing building construction within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.

(b) To the extent any references in the IEBC® ~~2018~~ 2024 as amended and modified in this sub-chapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IEBC® ~~2018~~ 2024 as amended and modified in this sub-chapter and in Chapter 16 entitled "Referenced Standards."

748:20-8-6. IEBC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IEBC® ~~2018~~ 2024, includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IEBC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for commercial existing building construction in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IEBC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for commercial existing building construction.

(2) All provisions of the adopted IEBC® ~~2018~~ 2024 including Chapter 1, as amended and revised by the OUBCC are hereby established and adopted as the statewide minimum code for commercial existing building

construction in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.
~~(3) Section 101.4 Applicability. This section has been modified to add an exception to the section that allows each local jurisdiction to utilize the date of November 1, 2010 as set by the OUBCC or add a different date to require compliance with the International Building Code® or International Residential Code®, as applicable for new construction. This section has been modified to read: 101.4 Applicability. This code shall apply to the repair, alteration, change of occupancy, addition and relocation of existing buildings, regardless of occupancy, subject to the criteria of Sections 101.4.1 and 101.4.2. Exception: Alterations, change of occupancy and additions to buildings or structures constructed on or after November 1, 2010 [or any date may be inserted by a jurisdiction that has the legal right to do so, such as, but not limited to state agencies, municipalities and other political subdivisions] shall comply with the International Building Code® or International Residential Code®, as applicable, for new construction~~
~~(4)~~(3) Section 105.1.1 Annual permit. This section has been modified to clarify an annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. This section shall read: 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.
~~(5)~~(4) Section 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.
~~(6)~~(5) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create~~,~~ departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IEBC® ~~2018~~ 2024.
~~(7)~~(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IEBC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-8-8. IEBC® 2024 Chapter 3 Provisions for all Compliance Methods ~~[RESERVED]~~ [NEW]

Chapter 3 of the Oklahoma adopted IEBC® 2024 is adopted with the following modifications:
(1) Section 303.2 Addition to a Group E occupancy. This section has been modified to remove the language related to the shelter design wind speed and to change the occupant load from 50 to 200. This section has been modified to read: Where an addition is added to an existing Group E occupancy and the occupant load in the addition is 200 or more in accordance with IBC® Table 1004.5), the addition shall have a storm shelter constructed in accordance with ICC 500. Exceptions:
(A) Exception 1. Group E day care facilities.

(B) Exception 2. Group E occupancies accessory to places of religious worship.

(C) Exception 3. Additions meeting the requirements for shelter design in ICC 500.

(2) Section 303.2.1 Design occupant capacity. This section has been modified to change the section heading from "Design occupant capacity" to "Occupant capacity" and clarify the occupant capacity shall be based on the number of currently enrolled students and staff in the building on a regular basis and requires the information to be provided on district or school letterhead signed by the Owner or Owner's authorized agent. The exceptions to the section were modified by clarifying in the first exception that when the addition is not of sufficient size, the required storm shelter shall be designed to house all the students and staff in the new addition. The second exception was modified to allow the occupant capacity of the storm shelter to be reduced by any existing shelters; and adds a third exception to clarify a storm shelter is not required for temporary facilities when approved by the code official and the temporary facilities are part of a phased building project that includes a storm shelter. This section has been modified to read: 303.2.1 Occupant capacity. The required occupant capacity of the storm shelter shall be the total number of students and staff. The enrollment and staff numbers shall be submitted on district or school letterhead and be signed by the Owner or Owner's authorized agent. Exceptions:

(A) Exception 1. Where an addition is being added on an existing Group E building, and where the addition is not of sufficient size to accommodate the required occupant capacity of the storm shelter for the building, the storm shelter shall, at a minimum, accommodate the students and staff within the new addition.

(B) Exception 2. The required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters.

(C) Exception 3. Where approved by the building official, temporary facilities shall be exempt from storm shelter requirements, when said temporary facilities are part of a phased project that includes a storm shelter.

(4) Section 303.4 Change of use or occupancy. This section has been added to clarify when any existing building or structure is undergoing a change of use group or occupancy to a Group E occupancy, storm shelters must be provided in compliance with Section 423 of the International Building Code® and provides an exception for buildings in which an E use exists in operation and in which the change of use or occupancy is performed in conjunction with not more than a level 2 alteration. This section has been added to read: 303.4 Change of use or occupancy. Any existing building or structure undergoing a change of use group or occupancy to a Group E occupancy shall be required to provide storm shelters in compliance with the provisions of Section 423 of the International Building Code®. Exception: Buildings in which an E use currently exists in operation and in which the change of use or occupancy is performed in conjunction with no more than a level 2 alteration.

(5) Section 306.7.12 Toilet rooms. This section has been modified to remove the wording "in the same area" and provide a 500-foot travel distance from existing toilet rooms to an accessible toilet room. This section has been modified to read: 306.7.12 Toilet rooms. Where it is technically infeasible to alter existing toilet rooms to be accessible, one accessible single-user toilet room or one accessible family or assisted-use toilet room constructed in accordance with Section 1110.2.1 of the International Building Code is permitted. The toilet room shall be located on the same floor as and within a 500-foot travel distance of the existing toilet room. At the inaccessible toilet rooms, directional signs indicating the location nearest such toilet room shall be provided. These directional signs shall include the International Symbol of Accessibility, and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

(6) Section 306.7.13 Bathing rooms. This section has been modified to remove the wording "in the same area" and provide a 500-foot travel distance from existing bathing rooms to an accessible bathing room. This section has been modified to read: 306.7.12 Bathing rooms. Where it is technically infeasible to alter existing bathing rooms to be accessible, one accessible single-user bathing room constructed in accordance with Section 1110.2.1 of the International Building Code is permitted. The bathing room shall be located on the same floor as and within a 500-foot travel distance of the existing bathing room. At the inaccessible bathing rooms, directional signs indicating the location nearest such bathing room shall be provided. These directional signs shall include the International Symbol of Accessibility, and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

748:20-2-10. IEBC® 2018 Chapter 5 Prescriptive Compliance Methods [REVOKED]

~~Chapter 5 of the Oklahoma adopted IEBC® 2018 is adopted with the following modification: Section 503.1 General. This section has been modified to address errata published by the ICC®. The modification adds language to the third exception to clarify existing and new escalators are permitted to have a clear width of less than 32 inches. This section has been modified to read: 503.1 General. Except as provided by Section 302.4, 302.5 or this section, alterations to any building or structure shall comply with the requirements of the International Building Code® for new construction. Alterations shall be such that the existing building or structure is not less complying with the provisions of the International Building Code® than the existing building or the structure was prior to the alteration. Exceptions:~~

~~(1) An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code® where the existing space and construction does not allow a reduction in pitch or slope.~~

~~(2) Handrails otherwise required to comply with Section 1011.11 of the International Building Code® shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.~~

~~(3) Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).~~

748:20-8-14. IEBC® 2018 Chapter 9 Alterations, Level 3 [REVOKED]

~~Chapter 9 of the Oklahoma adopted IEBC® 2018 is adopted with the following modification: Section 901.2 Compliance. This section has been modified to address errata published by the ICC®. The modification adds Section 805 to the list of sections that must comply with all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load. This section has been modified to read: 901.2 Compliance. In addition to the provisions of this chapter, work shall comply with all of the requirements of Chapters 7 and 8. The requirements of Section 802, 803, 804 and 805 shall apply with all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load. Exception: Buildings in which the reconfiguration of space affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 305.7 shall not be required to comply with this chapter.~~

748:20-8-15. IEBC® ~~2018~~ 2024 Chapter 10 Change of Occupancy [AMENDED]

Chapter 10 of the Oklahoma adopted IEBC® ~~2018~~ 2024 is adopted with the following modification: ~~Section 1001.2.1 Change in use. This section has been modified to address errata published by the ICC®. The modification changes a reference in the section from Chapter 5 to Chapter 6. This section has been modified to read: 1001.2.1 Change in use. Any work undertaken in connection with a change in use that does not involve a change of occupancy classification or a change to another group within an occupancy classification shall conform to the applicable requirements for the work as classified in Chapter 6 and to the requirements of Sections 1002 through 1010. Exception: As modified in Section 1204 for historic buildings.~~ Section 1011.7.1 Exterior wall rating for change of occupancy classification to a higher-hazard category. This section has been modified to add a second exception to the section when approved by the building official. This section has been modified to read: 1011.7.1 Exterior wall rating for change of occupancy classification to a higher-hazard category. Where a change of occupancy classification is made to a higher hazard category as shown in Table 1011.7, exterior walls shall have a fire resistance, exterior opening areas and opening protectives as required by the International Building Code. Exceptions:

(1) Exception 1. A 2-hour-fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M, or S.

(2) Exception 2. Where approved by the building official, in multi-tenant buildings, only the portion of the exterior wall that is part of the tenant undergoing the change of occupancy must have the fire resistance and exterior opening protectives as required by the International Code, given: The tenant undergoing the change of occupancy is fully encapsulated by fire barriers and horizontal assemblies, constructed in accordance with Section 707 and 711 of the International Building Code, having the same fire resistance rating required for the exterior wall. In this condition a parapet is not required. Exceptions:

(A) Exception 2. 1. If a parapet is not required by Section 705.12 of the International Building Code, a fire resistance rated horizontal assembly is not required.
(B) Exception 2.2. Walls opposite of the fire resistance rated exterior wall do not need to be fire resistance rated.

748:20-8-16. IEBC® 2018 Chapter 11 Additions [REVOKED]

~~Chapter 11 of the IEBC® 2018 is adopted with the following modifications:~~
~~(1) Section 1102.2 Area limitations. This section has been modified to address errata published by the ICC®. The modification changes a reference in the section from Chapter 6 to Chapter 5. This section has been modified to read: 1102.2 Area limitations. An addition shall not increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the International Building Code® for new buildings unless fire separation as required by the International Building Code® is provided. Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stairway shafts shall be permitted beyond that permitted by the International Building Code®.~~
~~(2) Section 1106.1 Addition to a Group E occupancy. This section has been modified to remove the shelter design wind speed and change the occupant load of the addition to 200 or more. This section has been modified to read: 1106.1 Addition to a Group E occupancy. Where an addition is added to an existing Group E occupancy and the occupant load of the addition is 200 or more, the addition shall have a storm shelter constructed in accordance with ICC 500®. Exceptions:~~
~~(A) Group E day care facilities~~
~~(B) Group E occupancies accessory to places of religious worship.~~
~~(C) Buildings meeting the requirements for shelter design in ICC 500®.~~
~~(3) Section 1106.1.1 Required occupant capacity. This section has been modified to change the requirement for utilizing the required occupant capacity from any to the largest indoor assembly space that is associated with the Group E occupancy and to modify the second exception to delete the requirement that the exception be approved by the code official and to include safe rooms as well as storm shelters. This section has been modified to read: 1106.1.1 Required occupant capacity. The required occupant capacity of the storm shelter shall include all buildings on the site and shall be the greater of the following:~~
~~(A) The total occupant load of the classrooms, vocational rooms and offices of the Group E occupancy.~~
~~(B) The occupant load of the largest indoor assembly space that is associated with the Group E occupancy.~~
~~(C) Exceptions:~~
~~(i) Where an addition is being added on an existing Group E site, and where the addition is not of sufficient size to accommodate the required occupant capacity of the storm shelter for all of the buildings on-site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new addition.~~
~~(ii) The required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters or safe rooms on the site.~~

748:20-8-20. IEBC® 2024 Chapter 15 Construction Safeguards [NEW]

Chapter 15 of the Oklahoma adopted IEBC® 2024 is adopted with the following modifications:
(1) Section 1509.1 Where required. This section has been modified to change the height from 40 feet to 30 feet at which the standpipe needs to be installed for use during construction. This section has been modified to read: 1509.1 Where required. In buildings required to have standpipes by Section 905.3.1 of the International Building Code®, not less than one standpipe shall be provided for use during construction. Such standpipes shall be installed prior to construction exceeding 30 feet (9144 mm) in height above the lowest level of the fire department vehicle access. Such standpipes shall be provided with fire department hose connections at locations adjacent to stairways complying with Section 1508.1. As construction progresses, such standpipes shall be extended to within one floor of the highest point of construction secured decking or flooring.
(2) Section 1512.1 When required. This section has been modified to clarify in the exception, the fire code official has the ability to approve other alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development full fire flow requirements is impractical. This section has been modified to read. 1512.1 When required. An approved water supply for fire protection, either temporary or

permanent, shall be made available as soon as combustible building material arrives on the site, on commencement of vertical combustible construction and on installation of a standpipe system in buildings under construction, in accordance with Sections 1512.1 through 1512.5. Exception: The fire code official is authorized to reduce the fire flow requirements or allow other alternatives for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

(3) Section 1512.2. Combustible building materials. This section has been modified to add an exception for the fire code official to reduce the fire flow requirements or allow other alternative for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical. This section has been modified to read: 1512.2 Combustible building materials. When combustible building materials of the building under construction are delivered to a site, a minimum fire flow of 500 gallons per minute (1893 liters per minute) shall be provided. The fire hydrant used to provide this fire flow supply shall be within 500 feet (152 meters) of the combustible building materials as measured along an approved fire apparatus access lane. Where the configuration is such that one fire hydrant cannot be located within 500 feet (152 meters) of all combustible building materials, additional fire hydrants shall be required to provide coverage in accordance with this section. Exception: The fire code official is authorized to reduce the fire flow requirements or allow other alternative for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire flow requirements is impractical.

748:20-8-21. IEBC® ~~2018~~ 2024 Chapter 16 Referenced Standards [AMENDED]

Chapter 16 of the Oklahoma adopted IEBC® ~~2018~~ 2024 is adopted with the following modifications:

(1) The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC® 18~~ IBC®-24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(2) The reference to the International Energy Conservation Code® has been modified to change the edition year to 2006. This section has been modified to read: IECC®-06 International Energy Conservation Code®.

(3) The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC® 18~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(4) The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFGC® 18~~ IFGC®-24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(5) The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC® 18~~ IMC®-24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(6) The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IPC® 18~~ IPC®-24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(7) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(8) The referenced standard for NFPA® 70 National Electrical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

SUBCHAPTER 12. IFGC® ~~2018~~ 2024

748:20-12-1. Adoption of the International Fuel Gas Code®, ~~2018~~ 2024 Edition (IFGC® ~~2018~~ 2024) [AMENDED]

(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Fuel Gas Code®, ~~2018~~ 2024 Edition (IFGC® ~~2018~~ 2024), ~~second~~ first printing (~~April, 2018~~ October 2023), as amended and modified in this subchapter as the statewide minimum code for commercial fuel gas construction in the State of Oklahoma pursuant to 59 O.S. 1000.23.

(b) The OUBCC through formal action expressly chose to adopt the IFGC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for commercial fuel gas construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Fuel Gas Code®, 2021 Edition (IFGC®, 2021) for any purpose.

(c) ~~The OUBCC has pulled from the ICC website, published errata to the second printing of the IFGC® through July 31, 2019. Any errata~~ Errata published by the ICC for the IFGC® 2024 edition ~~after that date~~ has not been reviewed or incorporated into these rules.

(d) This material contains information which is proprietary to and copyrighted by the International Code Council, Inc. The acronym "ICC" and the ICC logo are trademarks and service marks of ICC. ALL RIGHTS RESERVED.

748:20-12-2. Effect of Adoption [AMENDED]

The IFGC® ~~2018~~ 2024 as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for commercial fuel gas construction in Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-12-3. IFGC® ~~2018~~ 2024 Appendices [AMENDED]

(a) None of the appendices of the IFGC® ~~2018~~ 2024, have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial fuel gas construction in the State of Oklahoma.

(b) Appendices A through D are not adopted as the statewide minimum code for commercial fuel gas construction within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices in accordance with 59 O.S. § 1000.29.

748:20-12-4. IFGC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IFGC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for commercial fuel gas construction within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.

(b) To the extent any references in the IFGC® ~~2018~~ 2024 as amended and modified in this subchapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IFGC® ~~2018~~ 2024 as amended and modified in this subchapter and in Chapter 8 entitled "Referenced Standards."

748:20-12-6. IFGC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IFGC® ~~2018~~ 2024, includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IFGC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for commercial fuel gas construction in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IFGC® ~~2018~~ 2024, is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for commercial fuel gas construction.

(2) All provisions of the adopted IFGC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for commercial fuel gas construction in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to

Oklahoma law ~~and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code~~. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.
(3) Section ~~106.1.1~~ 105.1.1 Annual permit. This section has been modified to clarify an annual permit is a yearly permit which represents a group of individual permits for each alteration to an already existing electrical, gas, mechanical or plumbing installation. This section shall read: ~~106.1.1~~ 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already existing electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.
(4) Section ~~106.1.2~~ 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: ~~106.1.2~~ 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.
(5) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create~~,~~ departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IFGC® ~~2018~~ 2024.
(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IFGC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-12-7. IFGC® ~~2018~~ 2024 Chapter 2 Definitions [AMENDED]

Chapter 2 of the Oklahoma adopted IFGC® ~~2018~~ 2024 is adopted with the following modifications:
(1) The definition of a DISPENSING AREA has been added to clarify multiple references in the code with regard to fuel dispensing. This definition has been added to read: DISPENSING AREA. The appropriate hazardous (classified) locations for the fuel being dispensed in accordance with the National Electrical Code® – NFPA® 70.
(2) The definition of a MAIN RAILROAD TRACK has been added to provide clarity to building code officials. This definition has been added to read: MAIN RAILROAD TRACK. That part of the railway, exclusive of switch tracks, branches, yards, and terminals upon which trains are operated by timetable or train order or both.

748:20-12-8. IFGC® ~~2018~~ 2024 Chapter 3 General Regulations [AMENDED]

Chapter 3 of the Oklahoma adopted IFGC® ~~2018~~ 2024 is adopted with the following modifications:
(1) Section 306.5 Equipment and appliances on roofs or elevated structures. This section has been modified to correlate and add language related to parapet walls that exists in the International Mechanical Code® and add a second exception for when the section would not apply. This section has been modified to read: 306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access such equipment or appliances, an interior or exterior means of access shall be provided. Such access shall not require climbing over obstructions greater than 30 inches (762

mm) in height or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Such access shall not require the use of portable ladders. Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

(A) Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

(i) Item 1. The side railing shall extend above the parapet or roof edge or landing platform not less than 30 inches (762 mm).

(ii) Item 2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center. The upper-most rung shall be not more than 24 inches (610 mm) below the upper edge of the roof hatch, roof or parapet, as applicable.

(iii) Item 3 Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.

(iv) Item 4. There shall be not less than 18 inches (457 mm) between rails.

(v) Item 5. Rungs shall have a diameter not less than 0.75-inch (19 mm) and be capable of withstanding a 300-pound (136.1 kg) load.

(vi) Item 6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot (488.2 kg divided by meters squared). Landing dimensions shall be not less than 18 inches (457 mm) and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.

(vii) Item 7. Climbing clearance. The distance from the centerline of rungs to the nearest permanent object on the climbing side of the ladder shall be not less than 30 inches (762 mm) measured perpendicular to the rungs. This distance shall be maintained from the point of ladder access to the bottom of the roof hatch. A minimum clear width of 15 inches (381 mm) shall be provided on both sides of the ladder measured from the midpoint of and parallel with the rungs except where cages or wells are installed.

(viii) Item 8. Landing required. The ladder shall be provided with a clear and unobstructed bottom landing area having a minimum dimension of 30 inches (762 mm) by 30 inches (762 mm) centered in front of the ladder.

(ix) Item 9. Ladders shall be protected against corrosion by approved means.

(x) Item 10. Access to ladders shall be provided at all times.

(xi) Item 11. Top landing required. The ladder shall be provided with a clear and unobstructed landing on the exit side of the roof hatch, having a minimum space of 30 inches (762 mm) deep and being the same width as the hatch.

(B) Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms. Exceptions:

(i) Exception 1. This section shall not apply to Group R-3 occupancies.

(ii) Exception 2. This section shall not apply to appliance replacement.

(2) Section 306.6 Guards. This section has been modified to clarify the circumstances under which guards shall be provided and to modify the exception to require the authority having jurisdiction approve the use of a fall-restraint system instead of guards. This section has been modified to read: 306.6 Guards. Guards shall be provided where various components that require service are located on a roof or elevated structure and have a condition as set forth in Sections 306.6.1 through 306.6.3. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the International Building Code®. Guards shall be provided at new components when added or replaced on existing roof or elevated structure and have a condition as set forth in Sections 306.6.1 through 306.6.3. Exception: When approved by the authority having jurisdiction, guards are not required where permanent fall arrest-restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.

(3) Section 306.6.1 Roof edge. This section has been added to clarify the circumstances required to exist for the installation of guards at the roof edge when the components needing service are within a specific distance

of the roof edge. This section has been added to read: 306.6.1 Roof edge. Guards complying with 306.1 shall be provided when components are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface or elevated structure and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of the component that requires service.

(4) Section 306.6.2 Skylights. This section has been added to clarify the circumstances for the installation of guards around components near skylights and to provide exceptions to the requirement. This section has been added to read: 306.6.2 Skylights. Guards complying with Section 306.6 shall be provided when a skylight is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the skylight. Exceptions:

(A) Exception 1. Guards are not required when the skylight is located at least 42 inches (1067 mm) above the highest point of the walking surface adjacent to the skylight or component.

(B) Exception 2. Guards are not required if some other provision for skylight fall-thru protection is provided and approved by the authority having jurisdiction.

(5) Section 306.6.3 Roof hatch. This section has been added to clarify the circumstances for the installation of guards around components installed within a specific distance from the roof hatch. This section has been added to read: 306.6.3 Roof hatch. Guards complying with Section 306.6 shall be provided when a roof hatch is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the roof hatch. If the component is within 10 feet (3048 mm) of the ladder access side of the roof hatch, the guard shall incorporate a self-closing, self-latching gate. The gate shall have a top edge of not less than 42 inches (1067 mm) above the elevated surface adjacent to the gate and shall not allow the passage of a 21-inch (533 mm) sphere. If a roof hatch exists within 10 feet of a roof edge that is located more than 30 inches (762 mm) above the floor, roof or grade below and a new component that requires service on that existing roof or elevated structure, then a guard complying with Section 306.6 shall be added between the existing roof hatch and the roof edge.

(6) Section 307.2. Fuel-burning appliances. This section has been modified to require an acid neutralizer to be installed before discharge of liquid combustion byproducts. This section has been modified to read: 307.2 Fuel-burning appliances. Liquid combustion byproducts of condensing appliances shall be collected and discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's instructions. Condensate piping shall be of an approved corrosion-resistant material and shall not be smaller than the drain connection on the appliance. Such piping shall maintain a minimum slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). The termination of concealed condensate piping shall be marked to indicate whether the piping is connected to the primary drain or to the secondary drain. An acid neutralizer shall be installed before discharge of liquid combustion byproducts.

~~(6)~~(7) Section 307.2.1 Condensate drains. This section has been added to require condensate drains to be protected from freezing. This section shall read: 307.2.1 Condensate drains. Where condensing appliances are in locations subject to freezing conditions, the condensate drain line shall be protected from freezing in an approved manner and in accordance with manufacturer's installation instructions.

748:20-12-9. IFGC® ~~2018~~ 2024 Chapter 4 Gas Piping Installations [AMENDED]

Chapter 4 of the Oklahoma adopted IFGC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 404.12 Minimum burial depth. This section has been modified to change the minimum burial depth from 12 inches (305 mm) to 18 inches (457 mm) ~~and to allow for an exception when there is no ability to meet that minimum depth~~. This section has been modified to read: 404.12 Minimum burial depth. Underground piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade, except as provided for in Section 404.12.1. ~~Exception: Where a minimum depth of cover cannot be provided, the pipe shall be installed in conduit or bridged (shielded).~~

(2) Section 412.5 Attendants. This section has been modified to provide an exception to the requirement of an attendant when the dispensing equipment meets the guidelines of NFPA® 58 for a "Low emission transfer." This section has been modified to read: 412.5 Attendants. Motor fuel-dispensing operations shall be conducted by qualified attendants or in accordance with Section 412.9 by persons trained in the proper

handling of LP-gas. Exception: When the dispensing equipment meets the guidelines of NFPA® 58 for "Low emission transfer" an attendant is not required.
(3) Section 412.6.1 Low emission transfer. This section has been added to clarify when the dispensing equipment meets the guidelines of NFPA® 58, Section 6.30.5 for "Low emission transfer" then the transfer distance shall be reduced by one-half. This section has been modified to read: 412.6.1 Low emission transfer. When the dispensing equipment is installed in accordance with Section 6.30.5 of NFPA® 58 for "Low emission transfer," the transfer distance requirements in Table 6.7.2.1 and Section 6.27.4.3 of NFPA® 58 shall be reduced by one-half.
~~(4) Section 412.9 Public fueling of motor vehicles. This section has been modified to provide an exception to the owner's requirement to train users when the dispensing equipment meets the guidelines of NFPA® 58 for a "Low emission transfer." This section has been modified to read: 412.9 Public fueling of motor vehicles.~~
~~(A) Self-service LP-gas dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of permanently mounted containers providing fuel to the LP-gas-powered vehicle.~~
~~(B) The requirements for self-service LP-gas dispensing systems shall be in accordance with the following:~~
~~(i) The arrangement and operation of the transfer of product into a vehicle shall be in accordance with this section and Chapter 61 of the International Fire Code®.~~
~~(ii) The system shall be provided with an emergency shut-off switch located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from dispensers.~~
~~(iii) The owner of the LP-gas motor fuel-dispensing facility or the owner's designee shall provide for the safe operation of the system and the training of users. Exception: If the LP-gas motor fuel-dispensing facility meets the requirements of a low emission transfer station per NFPA® 58, then training of the users is not the responsibility of the facility.~~
~~(iv) The dispenser and hose-end valve shall release not more than 4 cubic centimeters of liquid to the atmosphere upon breaking the connection with the fill valve on the vehicle.~~
~~(v) Fire extinguishers shall be provided in accordance with Section 2305.5 of the International Fire Code®.~~
~~(vi) Warning signs shall be provided in accordance with Section 2305.6 of the International Fire Code®.~~
~~(vii) The area around the dispenser shall be maintained in accordance with Section 2305.7 of the International Fire Code®.~~
~~(5)~~(4) Section 413.3.2 Warning signs. This section has been added to require warning signs be posted on Compressed Natural Gas (CNG) dispensing devices. This section has been added to read: 413.3.2 Warning signs. Warning signs complying with Section 310 of the International Fire Code® shall be posted as follows:
(A) Warning sign(s) shall be conspicuously posted within sight of each dispenser in the fuel dispensing area and shall state the following:
(i) No smoking
(ii) Shut off motor
(iii) Flammable Gas
(iv) Natural gas vehicle fuel cylinders shall be inspected at intervals not exceeding 3 years or 36,000 miles to ensure safe operation of the vehicle
(v) Natural gas fuel cylinders past their end-of-life date shall not be refueled and shall be removed from service.
(B) A warning sign with the words "NO SMOKING, FLAMMABLE GAS" shall be posted in all compressor and storage areas.
(C) The lettering on the sign shall be legible and large enough to be visible from each point of transfer.
(D) The service pressure of each dispenser shall be posted in view of the operator.
~~(6)~~(5) Section ~~413.5~~ 413.6 Private fueling of motor vehicles. This section has been modified to allow for the industry practice of utilizing CNG trailers that are not permanently attached to CNG powered vehicles ~~and delete the requirement for the owner to ensure the user of a CNG powered vehicle be properly trained on the vehicle's filling procedures~~. This section has been modified to read: ~~413.5~~ 413.6 Private fueling of motor vehicles.
(A) Self-service CNG-dispensing systems, including key, code and card lock dispensing systems, shall be limited to the filling of approved, permanently mounted fuel containers.

(B) In addition to the requirements in the International Fire Code, the owner of a self-service CNG-dispensing facility shall ensure the safe operation of the system and the training of users.

~~(7)~~(6) Section ~~413.8~~ 413.9 Emergency shutdown devices. This section has been modified to change the word "control" to "devices" in the section heading, clarify the requirements of the emergency shutdown device and provide an exception to those requirements for time-fill applications. This section has been modified to read: ~~413.8~~ 413.9 Emergency shutdown devices. A remote and local emergency manual shutdown device shall be provided. Upon activation, the emergency shutdown system shall automatically close valves between the main gas supply and the compressor and between the storage containers and dispensers, and automatically shut off the power supply to the compressor and the following associated devices: dispensing enclosures; remote pumps; power, control, and signal circuits; and electrical equipment in the hazardous (classified) locations surrounding the fuel dispensing enclosures. All labeled emergency shutdown devices shall be interconnected, whether required or not. Resetting from an emergency shutoff condition shall require manual intervention and the manner of resetting shall be approved by the Authority Having Jurisdiction. Exception: In time-fill applications, in lieu of a defined remote and local emergency manual shutdown device, an emergency manual shutdown device shall be provided within 50 feet (15 240 mm) of each fixed point of dispensing hose attachment and located inside and outside the compressor area within 10 feet (3048 mm) of the main access to the compressor area.

~~(8)~~(7) Section ~~413.8.1~~ 413.9.1 Remote emergency shutdown device. This section has been added to clarify the distance requirements for remote emergency shutdown device placement and provide an exception to the maximum distance required when located within line of sight of the dispensing enclosures and approved by the Authority Having Jurisdiction. This section has been added to read: ~~413.8.1~~ 413.9.1 Remote emergency shutdown device. A remote emergency manual shutdown device shall be located within 100 feet (30 480 mm) of, but not less than 20 feet (6096 mm) from all dispensing enclosures and shall be provided inside and outside the compressor area within 10 feet (3048 mm) of the main access to the compressor area. Exception: A remote emergency manual shutdown device may be located greater than 100 feet (30 480 mm) from one or more dispensing enclosures when within line of sight of the dispensing enclosures and approved by the Authority Having Jurisdiction.

~~(9)~~(8) Section ~~413.8.2~~ 413.9.2 Local emergency shutdown device. This section has been added to require a local emergency shutdown device be provided within 15 feet (4572 mm) of each dispensing enclosure. This section has been added to read: ~~413.8.2~~ 413.9.2 Local emergency shutdown device. A local emergency manual shutdown device shall be located within 15 feet (4572 mm) of each dispensing enclosure.

748:20-12-13. IFGC® ~~2018~~ 2024 Chapter 8 Referenced Standards [AMENDED]

Chapter 8 of the Oklahoma adopted IFGC® ~~2018~~ 2024 is adopted with the following modifications:

(1) The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC®-18~~ IBC®-24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(2) The reference to the International Energy Conservation Code® has been modified to change the edition year to 2006. This section has been modified to read: IECC®-06 International Energy Conservation Code®.

(3) The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC®-18~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(4) The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC®-18~~ IMC®-24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(5) The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IPC®-18~~ IPC®-24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(6) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(7) The referenced standard for NFPA 70® National Electrical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.

SUBCHAPTER 14. IMC® ~~2018~~ 2024

748:20-14-1. Adoption of the International Mechanical Code®, ~~2018~~ 2024 Edition (IMC® ~~2018~~ 2024) [AMENDED]
(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Mechanical Code®, ~~2018~~ 2024 Edition (IMC® ~~2018~~ 2024), ~~second~~ first printing (~~October, 2018~~ June 2023), as amended and modified in this subchapter as the statewide minimum code for commercial mechanical construction in the State of Oklahoma pursuant to 59 O.S. 1000.23.
(b) The OUBCC through formal action expressly chose to adopt the IMC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for commercial mechanical construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Mechanical Code, 2021 Edition (IMC®, 2021) for any purpose.
(c) ~~The OUBCC has pulled from the ICC website, published errata to the second printing of the IMC® through July 31, 2019. Any errata~~ Errata published by the ICC for the IMC® 2024 edition ~~after that date~~ has not been reviewed or incorporated into these rules.
(d) This material contains information which is proprietary to and copyrighted by the International Code Council, Inc. The acronym "ICC" and the ICC logo are trademarks and service marks of ICC. ALL RIGHTS RESERVED.

748:20-14-2. Effect of Adoption [AMENDED]
The IMC® ~~2018~~ 2024 as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for commercial mechanical construction in Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-14-3. IMC® ~~2018~~ 2024 Appendices [AMENDED]
(a) None of the appendices of the IMC® ~~2018~~ 2024 have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial mechanical construction in the State of Oklahoma.
(b) Appendices A through ~~B~~ E are not adopted as the statewide minimum code for commercial mechanical construction within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices in accordance with 59 O.S. § 1000.29.

748:20-14-4. IMC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]
(a) All chapters and provisions within chapters, including exceptions, of the IMC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for commercial mechanical construction within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.
(b) To the extent any references in the IMC® ~~2018~~ 2024 as amended and modified in this subchapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IMC® ~~2018~~ 2024 as amended and modified in this subchapter and in Chapter 15 entitled "Referenced Standards."

748:20-14-6. IMC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]
Chapter 1 of the Oklahoma adopted IMC® ~~2018~~ 2024, includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IMC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for commercial mechanical construction in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IMC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for commercial mechanical construction.
(2) All provisions of the adopted IMC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for commercial mechanical construction in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to Oklahoma law ~~and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code~~. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.
(3) Section ~~106.1.1~~ 105.1.1 Annual permit. This section has been modified to clarify an annual permit represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. This section shall read: ~~106.1.1~~ 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.
(4) Section ~~106.1.2~~ 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: ~~106.1.2~~ 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.
(5) The OUBCC's adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create~~,~~ departments, offices and administrative policies pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IMC® ~~2018~~ 2024.
(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC's limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IMC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-14-8. IMC® ~~2018~~ 2024 Chapter 3 General Regulations [AMENDED]

Chapter 3 of the Oklahoma adopted IMC® ~~2018~~ 2024 is adopted with the following modifications:
(1) Section 301.15 Wind resistance. This section has been modified to allow design and installation of equipment and appliances that are exposed to wind to be built in accordance with SMACNA HVAC Duct Construction Standards – Metal and Flexible and other approved methods. This section has been modified to read: 301.15 Wind resistance. Mechanical equipment, appliances and supports that are exposed to wind shall be designed and installed to resist the wind pressures determined in accordance with the International Building Code®, SMACNA HVAC Duct Construction Standards - Metal and Flexible, and other approved methods.

(2) Section [BE] 304.11 Guards. This section has been modified to clarify the circumstances under which guards shall be provided around components and to modify the exception to require the authority having jurisdiction approve the use of a fall/restraint system instead of guards. This section has been modified to read: [BE] 304.11 Guards. Guards shall be provided where various components that require service located on a roof or elevated structure and have a condition as set forth in Sections 304.11.1 through 304.11.3. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch diameter (533 mm) sphere and shall comply with the loading requirements for guards as specified in the International Building Code®. Guards shall be provided at new components when added or replaced on an existing roof or elevated structure and have a condition as set forth in Sections 304.11.1 through 304.11.3. Exception: When approved by the authority having jurisdiction, guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire roof covering lifetime. The devices shall be reevaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along hip and ridge lines and placed not less than 10 feet (3048 mm) from roof edges and the open sides of walking surfaces.
(3) Section 304.11.1 Roof edge. This section has been added to clarify the circumstances required to exist for the installation of guards at the roof edge when the components needed service are within a specific distance of the roof edge. This section has been added to read: 304.11.1 Roof edge. Guards complying with 304.11 shall be provided when components are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface or elevated structure and such edge or open side is located more than 30 inches (762 mm) above the floor, roof, or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of the component that requires service.
(4) Section 304.11.2 Skylights. This section has been added to clarify the circumstances for the installation of guards around components near skylights and to provide exceptions to the requirement. This section has been added to read: 304.11.2 Skylights. Guards complying with Section 304.11 shall be provided when a skylight is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the skylight. Exceptions:

(A) Exception 1. Guards are not required when the skylight is located at least 42 inches (1067 mm) above the highest point of the walking surface adjacent to the skylight or component.

(B) Exception 2. Guards are not required if some other provision for skylight fall-through protection is provided and approved by the authority having jurisdiction.

(5) Section 304.11.3 Roof hatch. This section has been added to clarify the circumstances for the installation of guards around components installed within a specific distance from the roof hatch. This section has been added to read: 304.11.3 Roof hatch. Guards complying with Section 304.11 shall be provided when a roof hatch is within 10 feet (3048 mm) of the component that requires service. The guard shall extend 30 inches (762 mm) beyond the edge of the roof hatch. If the component is within 10 feet (3048 mm) of the ladder access side of the roof hatch, the guard shall incorporate a self-closing, self-latching gate. The gate shall have a top edge of not less than 42 inches (1067 mm) above the elevated surface adjacent to the gate and shall not allow the passage of a ~~21 inch~~ 21-inch (533 mm) sphere. If a roof hatch exists within 10 feet of a roof edge that is located more than 30 inches (762 mm) above the floor, roof or grade below and a new component that requires service on that existing roof or elevated structure, then a guard complying with Section 304.11 shall be added between the existing roof hatch and the roof edge.
(6) Section ~~305.5.1~~ 305.5.2 Location and protection of refrigerant piping. This section has been added to provide protection for refrigerant piping installed within 1 1/2 inches (38 mm) of the underside of roof decks. This section shall read: ~~305.5.1~~ 305.2.2 Location and protection of refrigerant piping. Refrigerant piping installed within 1 1/2 inches (38 mm) of the underside of roof decks shall be protected from damage caused by nails and other fasteners.
(7) Section 306.5 Equipment and appliances on roofs or elevated structures. This section has been modified to add a second exception for when the section would not apply. This section has been modified to read: 306.5 Equipment and appliances on roofs or elevated structures: Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet (4877 mm) above grade to access such equipment or appliances, an interior or exterior means of access shall be provided. Such access shall not require climbing over obstructions greater than 30 inches (762

mm) in height or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Such access shall not require the use of portable ladders. Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall.

(A) Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

(i) Item 1. The side railing shall extend above the parapet or roof edge or landing platform not less than 30 inches (762 mm).

(ii) Item 2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center. The upper-most rung shall be not more than 24 inches (610 mm) below the upper edge of the roof hatch, roof or parapet, as applicable.

(iii) Item 3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.

(iv) Item 4. There shall be not less than 18 inches (457 mm) between rails.

(v) Item 5. Rungs shall have a diameter not less than 0.75-inch (19 mm) and be capable of withstanding a 300-pound (136.1 kg) load.

(vi) Item 6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot (488.2 kg divided by meters squared). Landing dimensions shall be not less than 18 inches (457 mm) and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.

(vii) Item 7. Climbing clearance. The distance from the centerline of rungs to the nearest permanent object on the climbing side of the ladder shall be not less than 30 inches (762 mm) measured perpendicular to the rungs. This distance shall be maintained from the point of ladder access to the bottom of the roof hatch. A minimum clear width of 15 inches (381 mm) shall be provided on both sides of the ladder measured from the midpoint of and parallel with the rungs except where cages or wells are installed.

(viii) Item 8. Landing required. The ladder shall be provided with a clear and unobstructed bottom landing area having a minimum dimension of 30 inches (762 mm) by 30 inches (762 mm) centered in front of the ladder.

(ix) Item 9. Ladders shall be protected against corrosion by approved means.

(x) Item 10. Access to ladders shall be provided at all times.

(xi) Item 11. Top landing required. The ladder shall be provided with a clear and unobstructed landing on the exit side of the roof hatch, having a minimum space of 30 inches (762 mm) deep and being the same width as the hatch.

(B) Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms. Exceptions:

(i) Exception 1. This section shall not apply to Group R-3 occupancies.

(ii) Exception 2. This section shall not apply to appliance replacement.

(8) Section 307.1 Fuel-burning appliances. This section has been modified to require an acid neutralizer to be installed before discharge of liquid combustion byproducts. This section has been modified to read: 307.1 Fuel-burning appliances. Liquid combustion byproducts of condensing appliances shall be collected and discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's installation instructions. Condensate piping shall be of approved corrosion-resistant material and shall not be smaller than the drain connection on the appliance. Such piping shall maintain a minimum horizontal slope in the direction of discharge not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). An acid neutralizer shall be installed before discharged of liquid combustion byproduct.

~~(8)~~(9) Section 307.2.1 Condensate disposal. This section has been modified to allow condensate drains to terminate to a pit or French drain when approved by the code official. This section has been modified to read: 307.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate drains shall be allowed to terminate to an approved pit or French drain consisting of a minimum of 24 inches by 24 inches by 24 inches (610 mm by 610 mm by 610 mm), or equivalent; of 1 inch (25 mm) washed rock. Such pits or French drains shall be located 30 inches (762 mm) minimum from outer edge of

foundation to nearest edge of pit or French drain. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

~~(9)~~ (10) Section 307.2.3.1 Water-level monitoring devices. This section has been modified to add an exception for when the section shall not apply. This section has been modified to read: 307.2.3.1 Water-level monitoring devices. On down-flow units and all other coils that do not have a secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. Devices installed in the drain line shall not be permitted. Exception: This section shall not apply to appliances installed in areas outside on the ground or elevated structure where condensate overflow will not damage building components or contents.

748:20-14-10. IMC® ~~2018~~ 2024 Chapter 5 Exhaust Systems [AMENDED]

Chapter 5 of the Oklahoma adopted IMC® ~~2018~~ 2024 ~~has been~~ is adopted with the following modifications:

(1) Section 502.15 Repair garages. This section has been modified to require compliance with Section 2311.4.3 of the International Fire Code® when designing basement or pit ventilation. This section has been modified to read: 502.15 Repair garages. Where Class I liquids or LP-gas are stored or used within a building having a basement or pit wherein flammable vapors could accumulate, the basement or pit shall be provided with ventilation designed in accordance with Section 2311.4.3 of the International Fire Code® to prevent the accumulation of flammable vapors therein.

(2) Section 506.3.1.1 Grease duct materials. This section has been added to clarify the language between the code and NFPA® 96 regarding the type of steel to be utilized. This section has been modified to read: 506.3.1.1 Grease duct materials. Grease ducts serving Type I hoods shall be constructed of non-galvanized carbon steel having a minimum thickness of 0.0575 inch (1.463 mm) (No. 16 ~~gage~~ gauge) or stainless steel not less than 0.0450 inch (1.14 mm) (No. 18 ~~gage~~ gauge) in thickness. Exception: Factory-built commercial kitchen grease ducts listed and labeled in accordance with UL 1978 and installed in accordance with Section 304.1.

(3) Section 507.2. Type I hoods. This section has been modified to add an additional exception for installation of Type II hoods when specific conditions are met. This section has been modified to read: 507.2 Type I hoods. Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process. Type I hoods shall be installed over medium-duty, heavy-duty, and extra-heavy-duty cooking appliances. Exceptions:

(A) Item 1. A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg per cubic meter when tested at an exhaust flow rate of 500 cfm (0.236 cubic meters per second) in accordance with UL 710B.

(B) Item 2. Where approved, a Type II hood equipped with a suppression system listed in accordance with UL 300A, or meeting the requirements of ICC-ES LC 1031, shall be permitted in new construction and renovation of adult day care facilities or child day care facilities having an occupant load of 16 or less, with a single domestic Medium Duty Cooking Appliance, utilized for warming food only.

748:20-14-11. IMC® ~~2018~~ 2024 Chapter 6 Duct Systems [AMENDED]

Chapter 6 of the Oklahoma adopted IMC® ~~2018~~ 2024 ~~has been~~ is adopted with the following modification: Section 604.1 General. This section has been modified to add a requirement to duct insulation to conform to SMACNA HVAC Duct Construction Standards – Metal and Flexible. This section has been modified to read: 604.1 General. Duct insulation shall conform to the requirements of Sections 604.2 through 604.13, the International Energy Conservation Code® and SMACNA HVAC Duct Construction Standards – Metal and Flexible.

748:20-14-13. IMC® 2018 Chapter 8 Chimneys and Vents [REVOKED]

~~Chapter 8 of the Oklahoma adopted IMC® has been adopted with the following modifications:~~

~~(1) Section 805.3 Factory-built fireplaces. The originally published Section 805.3 entitled "Factory-built chimney offsets" has been moved to Section 805.4 and a new section 805.3 entitled "Factory-built fireplaces" has been added to address errata published by the ICC®. The modification adds a requirement for chimneys used with factory-built fireplaces to comply with UL 127. This section has been added to read: 805.3 Factory-built fireplaces. Chimneys for use with factory-built fireplaces shall comply with the requirements of UL 127.~~

~~(2) Section 805.4 Factory-built chimney offsets. The originally published Section 805.4 entitled "Support" has been moved to Section 805.5 and the previously published Section 805.3 entitled "Factory-built chimney offsets" has been moved to Section 805.4. No other modifications have been made to the section. This section has been modified to read: 805.4 Factory-built chimney offsets. Where a factory-built chimney assembly incorporates offsets, no part of the chimney shall be at an angle of more than 30 degrees (.52 rad) form vertical at any point in the assembly and the chimney assembly shall not include more than four elbows.~~
~~(3) Section 805.5 Support. The originally published Section 805.5 entitled "Medium-heat appliances" has been moved to Section 805.6 and the previously published Section 805.4 entitled "Support" has been moved to Section 805.5. No other modifications have been made. This section has been modified to read: 805.5 Support. Where factory-built chimneys are supported by structural members, such as joists and rafters, such members shall be designed to support the additional load.~~
~~(4) Section 805.6 Medium-heat appliances. The originally published Section 805.6 entitled "Decorative shrouds" has been moved to Section 805.7 and the previously published Section 805.5 entitled "Medium-heat appliances" has been moved to Section 805.6. No other modifications have been made. This section has been modified to read: 805.6 Medium-heat appliances. Factory-built chimneys for medium-heat appliances producing flue gases having a temperature above 1,000 degrees Fahrenheit (538 degrees Celsius) measured at the entrance to the chimney shall comply with UL 959.~~
~~(5) Section 805.7 Decorative shrouds. The originally published Section 805.7 entitled "Insulation shield" has been moved to Section 805.8 and the previously published section "805.6 entitled "Decorative shrouds" has been moved to Section 805.7. No other modifications have been made. This section has been modified to read: 805.7 Decorative shrouds. Decorative shrouds shall not be installed at the termination of factory-built chimneys except where such shrouds are listed and labeled for use with the specific factory-built chimney system and are installed in accordance with Section 304.1.~~
~~(6) Section 805.8 Insulation shield. The originally published Section 805.7 entitled "Insulation shield" has been moved to Section 805.8. No other modifications have been made. This section has been modified to read: 805.8 Insulation shield. Where factory-built chimneys pass through insulated assemblies, an insulation shield constructed of steel having a thickness of not less than 0.0187 inch (0.4712 millimeter) (No.26 gage) shall be installed to provide clearance between the chimney and the insulation material. The clearance shall be not less than the clearance to combustibles specified by the chimney manufacturer's installation instructions. Where chimneys pass through attic space, the shield shall terminate not less than 2 inches (51 millimeter) above the insulation materials and shall be secured in place to prevent displacement. Insulation shields provided as part of a listed chimney system shall be installed in accordance with the manufacturer's instructions.~~

748:20-14-16. IMC® ~~2018~~ 2024 Chapter 11 Refrigeration [AMENDED]

Chapter 11 of the Oklahoma adopted IMC® ~~2018~~ 2024 ~~has been~~ is adopted with the following modification: Section 1102.3 Access port protection. This section has been stricken from the code.

748:20-14-19. IMC® 2018 Chapter 14 Solar Thermal Systems [REVOKED]

~~Chapter 14 of the Oklahoma adopted IMC® 2018 has been adopted with the following modification: Section 1402.8.3 Piping has been modified to correct errata published by the ICC®. The modification changes a specified chapter from "10" to "12." This section has been modified to read: 1402.8.3 Piping. Potable piping shall be installed in accordance with the International Plumbing Code®. Hydronic piping shall be installed in accordance with Chapter 12 of this code. Mechanical system piping shall be supported in accordance with Section 305.~~

748:20-14-20. IMC® ~~2018~~ 2024 Chapter 15 Referenced Standards [AMENDED]

Chapter 15 of the Oklahoma adopted IMC® ~~2018~~ 2024 is adopted with the following modifications:
(1) The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC® 2018~~ IBC®-24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(2) The reference to the International Energy Conservation Code® has been modified to change the edition year to 2006. This section has been modified to read: IECC®-06 International Energy Conservation Code®.

(3) The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC® 2018~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(4) The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFGC® 2018~~ IFGC®-24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(5) The reference to the International Plumbing Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IPC® 2018~~ IPC®-24 International Plumbing Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(6) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(7) The referenced standard for NFPA® 70 National Electrical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(8) The referenced standard "UL 300A ~~2006~~ 2017 edition, Outline of Investigation for Extinguishing System Units for Residential Range Top Cooking Surfaces, has been added to the IMC. This reference has been added to read: ~~300A-06~~ 300A-17 Outline of Investigation for Extinguishing System Units for Residential Range Top Cooking Surfaces: Code reference section: 507.2.

SUBCHAPTER 16. IPC® ~~2018~~ 2024

748:20-16-1. Adoption of the International Plumbing Code®, ~~2018~~ 2024 Edition (IPC® ~~2018~~ 2024) [AMENDED]
(a) The Oklahoma Uniform Building Code Commission (the "OUBCC") hereby adopts the International Plumbing Code®, ~~2018~~ 2024 Edition (IPC® ~~2018~~ 2024), ~~second~~ first printing (~~February, 2018~~ June 2023), as amended and modified in this subchapter as the statewide minimum code for commercial plumbing construction in the State of Oklahoma pursuant to 59 O.S. 1000.23.
(b) The OUBCC through formal action expressly chose to adopt the IPC® ~~2018~~ 2024 as amended and modified in this subchapter, as the statewide minimum code for commercial plumbing construction in the State of Oklahoma. In like manner, the OUBCC through formal action expressly chose not to adopt the International Plumbing Code®, 2021 Edition (IPC®, 2021) for any purpose.
(c) ~~The OUBCC has pulled from the ICC website, published errata to the second printing of the IPC® through July 31, 2019. Any errata~~ Errata published by the ICC for the IPC® 2024 edition ~~after that date~~ has not been reviewed or incorporated into these rules.

748:20-16-2. Effect of Adoption [AMENDED]
The International Plumbing Code®, ~~2018~~ 2024 Edition (IPC® ~~2018~~ 2024), as amended and revised by these rules, is hereby established and adopted as the statewide minimum code for commercial plumbing construction in Oklahoma pursuant to 59 O.S. § 1000.23, and may only be amended or altered by other jurisdictions pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code.

748:20-16-3. IPC® ~~2018~~ 2024 Appendices [AMENDED]
(a) None of the appendices of the IPC® ~~2018~~ 2024 have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial plumbing construction in the State of Oklahoma.

(b) Appendices A through ~~E~~ F and Resource A are not adopted as the statewide minimum code for commercial plumbing construction within the State of Oklahoma. However, other jurisdictions within the State of Oklahoma may adopt any or all of said appendices and Resource A in accordance with 59 O.S. § 1000.29.

748:20-16-4. IPC® ~~2018~~ 2024 Provisions Adopted and Modified [AMENDED]

(a) All chapters and provisions within chapters, including exceptions, of the IPC® ~~2018~~ 2024 not specifically addressed within these rules as being modified, deleted, moved or removed are hereby adopted without modification as the statewide minimum code for commercial plumbing construction within the State of Oklahoma pursuant to 59 O.S. § 1000.23. Chapters and provisions within chapters, including exceptions adopted with modifications are specifically addressed in these rules.

(b) To the extent any references in the IPC® ~~2018~~ 2024 as amended and modified in this subchapter are made to any other code or standard, the particular edition for that reference is defined in the referenced standards found in the IPC® ~~2018~~ 2024 as amended and modified in this subchapter and in Chapter 15 entitled "Referenced Standards."

748:20-16-6. IPC® ~~2018~~ 2024 Chapter 1 Scope and Administration [AMENDED]

Chapter 1 of the Oklahoma adopted IPC® ~~2018~~ 2024, includes the following Preamble at the very beginning of the chapter:

(1) Pursuant to 59 O.S. § 1000.23, the OUBCC has adopted the IPC® ~~2018~~ 2024 as amended and revised by the OUBCC, as the statewide minimum code to be used by all entities for commercial plumbing construction in jurisdictions throughout the State of Oklahoma. However, the OUBCC's adoption of Chapter 1 "Scope and Administration" of the IPC® ~~2018~~ 2024 is for continuity purposes and the OUBCC's adoption of Chapter 1 recognizes the methods of best practice in fully implementing the statewide minimum code for commercial plumbing construction.

(2) All provisions of the adopted IPC® ~~2018~~ 2024, including Chapter 1, as amended and revised by the OUBCC, are hereby established and adopted as the statewide minimum code for commercial plumbing construction in Oklahoma pursuant to 59 O.S. § 1000.23, which may only be amended or altered pursuant to Oklahoma law and the administrative rules of the OUBCC as set forth in Title 748, Chapter 15 of the Oklahoma Administrative Code. However, the provisions of Chapter 1 adopted herein are only intended to be in force and effect to the extent that the respective provisions do not conflict with State law or the lawful exercise of code administration and enforcement jurisdiction by entities empowered to do so pursuant to applicable law.

(3) Section ~~106.1.1~~ 105.1.1 Annual permit. This section has been modified to clarify an annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. This section shall read: ~~106.1.1~~ 105.1.1 Annual permit. An annual permit is a yearly permit which represents a group of individual permits for each alteration to an already approved electrical, gas, mechanical or plumbing installation. The building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the permit.

(4) Section ~~106.1.2~~ 105.1.2 Annual permit records. This section has been modified to require the building official to collect the OUBCC permit fee for each individual permit that is part of the annual permit at the completion of the annual permit term. This section has been modified to read: ~~106.1.2~~ 105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such detailed records of alterations at all times. At the completion of the entity's annual permit term, the applicant shall file such detailed records of alterations with the building official. Pursuant to the authority of 59 O.S. § 1000.25, the building official shall collect fees for each individual permit which is part of the annual permit once the detailed records are submitted and remit such fees to the OUBCC.

(5) The OUBCC adoption of Chapter 1 in this manner is made with the recognition that the legal authority granting state and local code administration and enforcement jurisdictions the power and discretion to administer and enforce codes arises from Oklahoma laws governing those jurisdictions. Furthermore, the OUBCC also recognizes that many state and local code administration and enforcement jurisdictions have already created, or have the lawful authority to create~~,~~ departments, offices and administrative policies

pursuant to various applicable laws and other adopted model codes with "Scope and Administration" provisions similar to Chapter 1 of the adopted IPC® ~~2018~~ 2024.

(6) This limited adoption of Chapter 1 is made in recognition of the authority and discretion possessed by jurisdictions to administer and enforce building codes. Exercising such authority and jurisdiction in a manner inconsistent with Chapter 1 must be supported by Oklahoma law. Code administration and enforcement jurisdictions shall not use the OUBCC'S limited adoption of Chapter 1 to circumvent the remainder of the requirements established by the Oklahoma adopted IPC® ~~2018~~ 2024 and the OUBCC will strongly oppose any such practice.

748:20-16-7. IPC® ~~2018~~ 2024 Chapter 2 Definitions [AMENDED]

Chapter 2 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modification: The definition of a BUILDING DRAIN has been modified to align with the industry standard where the site sewer (civil) picks up 5 feet outside of the building. This definition has been modified to read: BUILDING DRAIN. That part of the lowest piping of a drainage system that receives the discharge from soil, waste, and other drainage pipes inside and that extends 5 feet (1524 mm) in developed length of pipe beyond the exterior walls of the building and conveys the drainage to the building sewer.

(1) Combined. A building drain that conveys both sewage and storm water or other drainage.

(2) Sanitary. A building drain that conveys sewage only.

(3) Storm. A building drain that conveys storm water or other drainage, but not sewage.

748:20-16-8. IPC® ~~2018~~ 2024 Chapter 3 General Regulations [AMENDED]

Chapter 3 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section 305.3 Pipes through foundations walls. This section has been modified to require the relieving arch or pipe sleeve pipe to conform with the materials and standards listed in Table 702.2 or as approved by the authority having jurisdiction. This section has been modified to read: 305.3 Pipes through foundation walls. Any pipe that passes through a foundation wall shall be provided with a relieving arch or pipe sleeve pipe shall be built into the foundation wall. The relieving arch or pipe sleeve shall conform to one of the materials and standards listed in Table 702.2, or as approved. The sleeve shall be two pipe sizes greater than the pipe passing through the wall.

(2) Section 305.4.1 Sewer depth. This section has been modified to include a depth for the septic tank connection unless otherwise approved by the authority having jurisdiction. This section has been modified to read: 305.4.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a minimum of 12 inches (305 mm) or as approved by the authority having jurisdiction below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (305 mm) below grade.

(3) Section 305.6 Protection against physical damage. This section has been modified to change distance in concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members from less than 1 and a quarter inches to less than 1 and one half inches from the nearest edge of the member or the pipe will be protected by steel shield plates. This section has been modified to read: 305.6 Protection against physical damage. In concealed locations, where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1 and one-half inches (38 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 ~~gage~~ gauge). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.

(4) Section 312.2 Drainage and vent water test. This section has been modified to change the test from a requirement of a ~~10 foot~~ 10-foot (3048 mm) head of water to a requirement of a ~~5 foot~~ 5-foot (1524 mm) head of water. This section has been modified to read: 312.2 Drainage and vent water test. A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a ~~5 foot~~ 5-foot (1524 mm) head of water. In testing successive sections, at least the upper ~~5 feet~~ 5-feet (1524 mm) of the next preceding section shall be tested so that no joint or pipe in the

building, except the uppermost ~~5 feet~~ 5-feet (1524 mm) of the system, shall have been submitted to a test of less than a ~~5 foot~~ 5-foot (1524 mm) head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.
(5) Section 312.3 Drainage and vent air test. This section has been modified to change the equivalent pressure for the inches of mercury to match the feet of water change made for the drainage and vent test. This section has been modified to read: 312.3 Drainage and vent air test. Plastic piping shall not be tested using air. An air test shall be made by forcing air into the system until there is a uniform gauge pressure of 2.5 psi (17.25 kPa) or sufficient to balance a 5-inch (127 mm) column of mercury. This test shall be held for a period of not less than 15 minutes. Any adjustments to the test pressure required because of changes in ambient temperatures or the seating of gaskets shall be made prior to the beginning of the test period.
(6) 312.6 Gravity sewer test. This section has been modified to allow the authority having jurisdiction to determine if this test is required and change the test from a ~~10 foot~~ 10-foot (3048 mm) head of water test to a ~~5 foot~~ 5-foot (1024 mm) head of water test. This section has been modified to read: 312.6 Gravity sewer test. Where required, gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, filling the building sewer with water, testing with not less than a ~~5 foot~~ 5-foot (1024 mm) head of water and maintaining such pressure for 15 minutes.
(7) Section ~~312.10.1~~ 312.11.1 Inspections. This section has been modified to allow for third-party inspections to be accepted by the code official. This section has been modified to read: ~~312.10.1~~ 312.11.1 Inspections. Annual inspections shall be made of all backflow prevention assemblies and air gaps to determine whether they are operable, in accordance with Chapter 1, Sections 104.3 and 105.3.2.
(8) Section 314.1 Fuel burning appliances. This section has been modified to require an acid neutralizer to be installed before the discharge of liquid combustion byproducts. This section has been modified to read: 314.1 Fuel-burning appliances. Liquid combustion by products of condensing appliances shall be collected and discharged to an approved plumbing fixture or disposal area in accordance with the manufacturer's instructions. Condensate piping shall be of approved corrosion-resistant material and shall not be smaller than the drain connection on the appliance. Such piping shall maintain a horizontal slope in the direction of discharged of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). An acid neutralizer shall be installed before discharge of liquid combustion byproducts.
~~(8)~~(9) Section 314.2.1 Condensate disposal. This section has been modified to allow condensate drains to terminate to an approved pit or French drain. This section has been modified to read: 314.2.1 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pain outlet to an approved place of disposal. Such piping shall maintain a horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate drains shall be allowed to terminate to an approved pit or French drain consisting of a minimum of 24 inches by 24 inches by 24 inches (610 mm by 610 mm by 610 mm), or equivalent; of 1 inch (25 mm) washed rock. Such pits or French drains shall be located 30 inches (762 mm) minimum from outer edge of foundation to nearest edge of pit or French drain. Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.
~~(9)~~(10) Section 314.2.3.1 Water-level monitoring devices. This section has been modified to add an exception for when the section shall not apply. This section has been modified to read: 314.2.3.1 Water-level monitoring devices. On down-flow units and all other coils that do not have a secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. Devices installed in the drain line shall not be permitted. Exception: This section shall not apply to appliances installed in areas outside on the ground or elevated structure where condensate overflow will not damage building components or contents.

748:20-16-9. IPC® ~~2018~~ 2024 Chapter 4 Fixtures, Faucets and Fixture Fittings [AMENDED]

Chapter 4 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modifications:
(1) 403.1 Minimum number of fixtures. This section has been modified to add an exception for buildings and facilities intended to be unoccupied when approved by the building code official. This section has been modified to read: 403.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number as shown in Table 403.1, based on the actual use of the building or space. Uses not shown in Table 403.1 shall be considered individual by the code official. The number of occupants shall be determined by the

International Building Code®. Exception: Plumbing fixtures shall not be required for buildings and facilities intended to be unoccupied and as approved by the code official such as, but not limited to, personal self-storage bays, shipping containers used only for on-site storage of materials, and structures housing equipment.

~~(1)~~(2) 403.4.1 Directional signage. This section has been modified to specify directional signage indicating the route to public toilet facilities in Group A, B, I, M, and R-1 occupancies shall be posted in a lobby, corridor or aisle or similar space. The change requires only one sign at each main entrance that is intended for public use and adds two exceptions, one for Group A occupancies that are part of an overall Group E occupancy and one for private-use Group B occupancies. This section has been modified to read: 403.4.1 Directional signage. Directional signage indicating the route to the required public toilet facilities in Group A, B, I, M, and R-1 occupancies shall be posted in a lobby, corridor, or aisle, or similar space, such that the sign can be readily seen from the main entrance to the building or tenant space. Only one sign at each main entrance that is intended for public use shall be required. Exceptions:

(A) Exception 1. Group A occupancies that are part of an overall Group E occupancy need not have directional signage.

(B) Exception 2. Private-use Group B occupancies need not have directional signage.

~~(2)~~(3) Section 405.9 Slip joint connections. This section has been modified to allow the gasket to be installed from the fixture outlet to within 18 inches (457 mm) downstream of the trap outlet seal. It has been modified to read: 405.9 Slip joint connections. Slip joints shall be made with an approved elastomeric gasket and shall only be installed from fixture outlet to within 18 inches (457 mm) downstream of trap outlet seal. Fixtures with concealed slip-joint connections shall be provided with an access panel or utility space at least 12 inches (305 mm) in its smallest dimension or other approved arrangement so as to provide access to the slip joint connections for inspection and repair.

~~(3) Section 408.2 Water connection. This section has been modified to address errata published by the ICC® to correct section references for when the water supply to a bidet is required to be protected against backflow by an air gap or backflow preventer. This section has been modified to read: 408.2 Water connection. The water supply to a bidet shall be protected against backflow by an air gap or backflow preventer in accordance with Section 608.14.1, 608.14.2, 608.14.3, 608.14.5, or 608.14.6.~~

(4) Section 410.4 Substitution. This section has been modified to allow a water dispenser connected to the potable water distribution system and drainage system to be permitted to be substituted for the required drinking fountain in occupancy ~~Group~~ Groups A, B, F, M, I-4, and S with an occupant load of ~~less than~~ 50 or fewer. This section has been modified to read: 410.4 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. ~~In occupancy Group B, F, M, I-4 and S, with an occupant load less than 50, where drinking fountains are required, a water dispenser connected to the potable water distribution system shall be permitted to be substituted for the required drinking fountain.~~ In ~~occupancies other than restaurants~~ other occupancies where three or more drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains. Exceptions:

(A) Exception 1. In Group A use with an occupant load of 50 or fewer where facilities are provided for the consumption of food or beverage and a container is provided free of charge, a water dispenser connected to the potable water distribution and drainage system shall be permitted to be substituted for the required drinking fountain. Water dispensers shall not be portable.

(B) Exception 2. In Group B, F, M, I-4, and S occupancies with an occupant load of 50 or fewer a water dispenser connected to the potable water distribution system and the drainage system shall be permitted to be substituted for the required drinking fountain. Water dispensers shall not be portable.

748:20-16-11. IPC® ~~2018~~ 2024 Chapter 6 Water Supply and Distribution [AMENDED]

Chapter 6 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: ~~(1)~~ Section 604.5 Size of fixture supply. This section has been modified to add an exception ~~to allow~~ for domestic dishwashers and drinking fountains to clarify the termination for fixture supply pipe may terminate more than 30 inches (762 mm) but is not to exceed 72 inches (1829 mm) from the point of connection to the fixture. This section has been modified to read: 604.5 Size of fixture supply. The minimum size of a fixture supply pipe shall be as shown in Table 604.5. The fixture supply pipe shall terminate not more than 30 inches (762 mm) from the point of

connection to the fixture. A reduced size flexible water connector installed between the supply pipe and the fixture shall be of an approved type. The supply pipe shall extend to the floor or wall adjacent to the fixture. The minimum size of individual distribution lines utilized in gridded or parallel water distribution systems shall be as shown in Table 604.5. Exception: The fixture supply pipe for domestic dishwashers and drinking fountains shall ~~be permitted to~~ be terminated ~~more than 30 inches (762 mm)~~ not more than 72 inches (1829 mm) from the point of connection to the fixture.

~~(2) Table 605.3 Water Service Pipe. This table has been modified to address errata published by the ICC® to correct a standard listing from "CSA B137.11" to "CSA B137.1" in the 16th line of the table. The table has been modified to read: Table 605.3 Water Service Pipe. The table contains 19 rows and 2 columns, and is described below:~~

~~(A) Row 1 contains the header row. Each column heading is listed below:~~

~~(i) Row 1, column 1, is entitled "Material."~~

~~(ii) Row 1, column 2, is entitled "Standard."~~

~~(B) Row 2 containing the material type entitled "Acrylonitrile butadiene styrene (ABS) plastic pipe" in column 1, was not modified.~~

~~(C) Row 3 containing the material type entitled "Chlorinated polyvinyl chloride (CPVC) plastic pipe" in column 1, was not modified.~~

~~(D) Row 4 containing the material type entitled "Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CPVC)" in column 1, was not modified.~~

~~(E) Row 5 containing the material type entitled "Copper or copper-alloy pipe" in column 1, was not modified.~~

~~(F) Row 6 containing the material type entitled "Copper or copper-alloy pipe (Type K, WK, L, WL, M or WM)" in column 1, was not modified.~~

~~(G) Row 7 containing the material type entitled "cross-linked polyethylene (PEX) plastic pipe and tubing" in column 1, was not modified.~~

~~(H) Row 8 containing the material type entitled "Cross-linked polyethylene/aluminum/cross linked polyethylene (PEX-AL-PEX) pipe" in column 1, was not modified.~~

~~(I) Row 9 containing the material type entitled "Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)" in column 1, was not modified.~~

~~(J) Row 10 containing the material type entitled "Ductile iron water pipe" in column 1, was not modified.~~

~~(K) Row 11 containing the material type entitled "Galvanized steel pipe" in column 1, was not modified.~~

~~(L) Row 12 containing the material type entitled "Polyethylene (PE) plastic pipe" in column 1, was not modified.~~

~~(M) Row 13 containing the material type entitled" Polyethylene (PE) plastic tubing" in column 1, was not modified.~~

~~(N) Row 14 containing the material type entitled "Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe" in column 1, was not modified.~~

~~(O) Row 15 containing the material type entitled "Polyethylene of raised temperature (PE-RT) plastic tubing" in column 1 was not modified.~~

~~(P) Row 16 has been modified to read as described below:~~

~~(i) Row 16, column 1 lists the material type: "Polypropylene (PP) plastic pipe or tubing."~~

~~(ii) Row 16, column 2 lists the standards: "ASTM F2389; CSA B137.1."~~

~~(Q) Row 17 containing the material type entitled "Polyvinyl chloride (PVC) plastic pipe in column 1 was not modified.~~

~~(R) Row 18 containing the material type entitled "Stainless steel pipe (Type 304/304L)" in column 1, was not modified.~~

~~(S) Row 19 containing the material type entitled "Stainless steel pipe (Type 316/316L)" in column 1, was not modified.~~

~~(3) Section 608.16.4 Protection by a vacuum breaker. This section has been modified to address errata published by the ICC to specify the critical level of installation height of the vacuum breaker shall be not less than 12 inches (305 mm) above the highest elevation of downstream piping and flood level rim of the fixture or device. This section has been modified to read: 608.16.4 Protection by a vacuum breaker. Openings and outlets shall be protected by atmospheric-type or pressure-type vacuum breakers. The vacuum breaker has a~~

~~critical level installation height of not less than 12 inches (305 mm) above the highest elevation of downstream piping and flood level rim of the fixture of device. Fill valves shall be set in accordance with Section 415.3.1. Vacuum breakers shall not be installed under exhaust hoods or similar locations that will contain toxic fumes or vapors. Pipe applied vacuum breakers shall be installed not less than 6 inches (152 mm) above the flood level rim of the fixture, receptor, or device served.~~

~~(4) Section 608.17.5 Connections to lawn irrigation systems. This section has been modified to add a spill resistant backflow preventer as an option for protection. This section has been modified to read: 608.17.5 Connections to lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker assembly, a spill resistant backflow preventer or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer assembly.~~

~~(5) Section 608.17.7 Chemical dispenser. This section has been modified to address errata published by the ICC®. The modification deletes a reference to a section that is not applicable to this section of code. This section has been modified to read: 608.17.7 Chemical dispenser. Where chemical dispensers connect to the potable water distribution system, the water supply system shall be protected against backflow in accordance with Section 608.14.1, 608.14.2, 608.14.5, 608.14.6 or 608.14.8.~~

748:20-16-12. IPC® ~~2018~~ 2024 Chapter 7 Sanitary Drainage [AMENDED]

Chapter 7 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification: ~~(1)~~ Section 705.10.2 Solvent cementing. This section has been modified to ~~delete the exceptions for not using primer under certain conditions~~ remove the words "both of," in the exception to clarify there are more than two conditions for when a primer is not required. This section has been modified to read: 705.10.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F 656 shall be applied. Solvent cement not purple in color and conforming to ASTM D 2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D 2855. Solvent-cement joints shall be permitted above or below ground. Exception: A primer is not required where the following conditions apply:

(1) The solvent cement used is third-party certified as conforming to ASTM D2564.

(2) The solvent cement is used for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.

(3) The joint is made in accordance with ASTM F3328.

~~(2) Section 708.1.3 Building drain and building sewer junction. This section has been modified to change the requirement for the cleanout to be located at the junction or from within 10 feet to within 12 feet of the developed length of piping upstream of the junction. This section has been modified to read: 708.1.3 Building drain and building sewer junction. The junction of the building drain and the building sewer shall be served by a cleanout that is located at the junction or within 12 feet (3658 mm) of the developed length of piping upstream of the junction. For the requirements of this section, the removal of the water closet shall not be required to provide cleanout access.~~

748:20-16-13. IPC 2018 Chapter 8 Indirect/Special Waste [REVOKED]

~~Chapter 8 of the Oklahoma adopted IPC® 2018 is adopted with the following modification: Section 802.1 Where required. This section has been modified to address errata published by the ICC® to correct a section reference specified in the section from "802.1.1 through 802.1.8" to "802.1.1 through 802.1.7." This section has been modified to read: 802.1 Where required. Food-handling equipment, in other than dwelling units, clear-water waste, humidifiers, dishwashing machines and utensils, pots, pans and dishwashing sinks shall discharge through an indirect waste pipe as specified in Sections 802.1.1 through 802.1.7. Fixtures not required to be indirectly connected by this section and the exception to Section 301.6 shall be directly connected to the plumbing system in accordance with Chapter 7.~~

748:20-16-14. IPC® ~~2018~~ 2024 Chapter 9 Vents [AMENDED]

Chapter 9 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modifications:

(1) Section ~~903.1~~ 903.1.1 Roof extension unprotected. This section has been modified to specify the number of inches where the open vent pipes that extend through the roof shall be terminated. This section has been modified to read: ~~903.1~~ 903.1.1 Roof extension unprotected. Open vent pipes that extend through a roof shall be terminated not less than 10 inches (254 mm) above the roof. ~~Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purpose, open vent pipes shall terminate not less than 7 feet (2134 mm) above the finished occupiable surface within 10 feet (3048 mm) horizontal distance.~~

(2) Section 903.1.2 Roof used for recreation or assembly places. This section has been modified to clarify when the roof is used as a recreation or assembly place, open vent pipes shall terminate above the finished occupiable space within 10 feet (3048 mm) horizontal distance. This section has been modified to read: 903.1.2 Roof used for recreation assembly places. Where a roof is to be used as a promenade, restaurant, bar, or sunbathing deck, as an observation deck or similar purpose, open vent pipes shall terminate not less than 7 feet (2134 mm) above the finished occupiable surface within 10 feet (3048 mm) horizontal distance.

~~(2) Section 919.1 General. This section has been modified to address errata published by the ICC® to correct a specified section reference from "Section 105.3" to "Section 316." This section has been modified to read: 919.1 General. Engineered vent systems shall comply with this section and the design, submittal, approval, inspection and testing requirements of Section 316.~~

748:20-16-15. IPC® 2024 Chapter 10 Traps, Interceptors, and Separators [AMENDED]

Chapter 10 of the Oklahoma adopted IPC ® ~~2018~~ 2024 is adopted with the following modification: Section 1003.4 Oil separators required. This section has been modified to add a second exception to the requirement for installing an oil separator. This section has been modified to read: 1003.4 Oil separators required. At repair garages where floor or trench drains are provided, car washing facilities, factories where oily and flammable liquid wastes are produced and hydraulic elevator pits, oil separators shall be installed into which oil-bearing, grease-bearing or flammable wastes shall be discharged before emptying into the building drainage system or other point of disposal. Exceptions:

(1) An oil separator is not required in hydraulic elevator pits where an approved alarm system is installed. Such alarm systems shall not terminate the operation of pumps utilized to maintain emergency operation of the elevator by fire fighters.

(2) Oil separators shall not be required in a non-hydraulic elevator pit.

748:20-16-16. IPC® ~~2018~~ 2024 Chapter 11 Storm Drainage [AMENDED]

Chapter 11 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following ~~modifications~~ modification:

~~(1) Section 1101.7 Roof design. This section has been modified to change the section number for the requirement to accommodate the design rate for secondary roof drainage from Section 1106 to Section 1108. This section has been modified to read: 1101.7 Roof design. Roofs shall be designed for the maximum possible depth of water that will pond thereon as determined by the relative levels of roof deck and overflow weirs, scuppers, edges or serviceable drains in combination with the deflected structural elements. In determining the maximum possible depth of water, all primary roof drainage means shall be assumed to be blocked. The maximum possible depth of water on the roof shall include the height of the water required above the inlet of the secondary roof drainage means to achieve the required flow rate of secondary drainage means to accommodate the design rainfall rate as required by Section 1108.~~

~~(2) Section 1101.9 Backwater valves. This section has been modified to address errata published by the ICC® to correct a specified section reference from "715" to "714". This section has been modified to read: 1101.9 Backwater valves. Storm drainage systems shall be provided with backwater valves as required for sanitary drainage systems in accordance with Section 714.~~

~~(3) Table 1108.1 Size of Secondary Scuppers for a 10.2-inch Per Hour Rate of Rainfall. This table has been added to provide sizing guidance for secondary scuppers for a 10.2-inch per hour rate of rainfall. The table has been added to read: Table 1108.1 Size of Secondary Scuppers for a 10.2-inch Per Hour Rate of Rainfall. The table contains 5 rows and 2 columns. The second column contains seven sub-columns. The table is described~~

~~(A) Row 1 is the header row and contains the following headings:~~

~~(i) Row 1, column 1, is entitled "Head in inches."~~

(ii) Row 1, column 2 is entitled "Horizontally Projected Roof areas (Square Feet) Length of Weir in inches."

(I) Row 1, column 2, subcolumn 1 is entitled "4."

(II) Row 1, column 2, subcolumn 2 is entitled "6."

(III) Row 1, column 2, subcolumn 3 is entitled "8."

(IV) Row 1, column 2, subcolumn 4 is entitled "12."

(V) Row 1, column 2, subcolumn 5 is entitled "16."

(VI) Row 1, column 2, subcolumn 6 is entitled "20."

(VII) Row 1, column 2 subcolumn 7 is entitled "24."

(B) Row 2 contains the following information in both of the columns listed in header row 1:

(i) Row 2, column 1 lists the Head in inches number "1."

(ii) Row 2, column 2 lists the following in each of the seven subcolumns:

(I) Row 2, column 2, subcolumn 1 entitled "4" lists "112."

(II) Row 2, column 2, subcolumn 2 entitled "6" lists "169."

(III) Row 2, column 2, subcolumn 3 entitled "8" lists "226."

(IV) Row 2, column 2, subcolumn 4 entitled "12" lists "339."

(V) Row 2, column 2, subcolumn 5 entitled "16" lists "452."

(VI) Row 2, column 2 subcolumn 6 entitled "20" lists "565."

(VII) Row 2, column 2, subcolumn 7 entitled "24" lists "678."

(C) Row 3 contains the following information in both of the columns listed in header row 1:

(i) Row 3, column 1 lists the Head in inches number "2."

(ii) Row 3, column 2 lists the following in each of the seven subcolumns:

(I) Row 3, column 2, subcolumn 1 entitled "4" lists "314."

(II) Row 3, column 2, subcolumn 2 entitled "6" lists "471."

(III) Row 3, column 2, subcolumn 3 entitled "8" lists "628."

(IV) Row 3, column 2, subcolumn 4 entitled "12" lists "942."

(V) Row 3, column 2, subcolumn 5 entitled "16" lists "1256."

(VI) Row 3, column 2 subcolumn 6 entitled "20"lists "1571."

(VII) Row 3, column 2, subcolumn 7 entitled "24" lists "1885."

(D) Row 4 contains the following information in both of the columns listed in header row 1:

(i) Row 4, column 1 lists the Head in inches number "3."

(ii) Row 4, column 2 lists the following in each of the seven subcolumns:

(I) Row 4, column 2, subcolumn 1 entitled "4" lists "565."

(II) Row 4, column 2, subcolumn 2 entitled "6" lists "848."

(III) Row 4, column 2, subcolumn 3 entitled "8" lists "1130."

(IV) Row 4, column 2, subcolumn 4 entitled "12" lists "1696."

(V) Row 4, column 2, subcolumn 5 entitled "16" lists "2262."

(VI) Row 4, column 2 subcolumn 6 entitled "20" lists "2828."

(VII) Row 4, column 2, subcolumn 7 entitled "24" lists "3393."

(E) Row 5 contains the following information in both of the columns listed in header row 1:

(i) Row 5, column 1 lists the Head in inches number "4."

(ii) Row 5, column 2 lists the following in each of the seven subcolumns:

(I) Row 5, column 2, subcolumn 1 entitled "4" lists "879."

(II) Row 5, column 2, subcolumn 2 entitled "6" lists "1319."

(III) Row 5, column 2, subcolumn 3 entitled "8" lists "1759."

(VI) Row 5, column 2, subcolumn 4 entitled "12" lists "2637."

(V) Row 5, column 2, subcolumn 5 entitled "16" lists "3519."

(VI) Row 5, column 2 subcolumn 6 entitled "20" lists "4399."

(VII) Row 2, column 2, subcolumn 7 entitled "24" lists "5279."

(F) Beneath the table the following should be added: For SI: 1 inch equals 25.4 mm. Notes:

(i) To adjust this table for other than a 10.2-inch design rain fall rate multiply the square footage on the table by 10.2 then divide by the design rainfall rate.

~~(ii) This table does not apply to scuppers with a vertical opening height that is less than the head height. Example: For 4 inches of design rainfall rate, a 4-inch long scupper with a 1-inch head would accommodate 286 square feet. (112 times 10.2) divided by 4 equals 286.~~

~~(4)~~ Section 1108.3 Sizing of secondary drains. This section has been modified to ~~include the use of scuppers or increase the sizing of secondary drains to accommodate rainfalls of 10.2 inches per hour and includes minimum design loads~~ clarify the sizing of secondary drains will be based on the rainfall rates established by the National Oceanic and Atmospheric Precipitation Frequency Data Server (PFDS) for a 15-minute rainfall rate at the nearest station based on the risk categories given in Table 1161.1 in the International Building Code®. This section has been modified to read: 1108.3 Sizing of secondary drains. Secondary (emergency) roof drain systems ~~or scuppers~~ shall be sized in accordance with Section ~~1108~~ 1106 based on ~~a~~ rainfall ~~rate of 10.2 inches per hour. In sizing secondary roof drain systems using Tables 1106.2, 1106.3 and 1106.6, the Horizontally Projected Roof Area shall be determined by dividing the Horizontally Projected Roof Area for 1-inch rain fall per hour rate by 10.2 inches per hour~~ rates established by the National Oceanic and Atmospheric Precipitation Frequency Data Server (PFDS). The sizing shall be based on the data for a 15-minute rainfall rate at the nearest station for the risk categories given in Table 1611.1 in the International Building Code®. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall ~~not~~ have an opening dimension of not less than 4 inches (102 mm) and an opening width equal to the circumference of the roof drain required for the area served. The flow through the primary system shall not be considered when sizing the secondary roof drain system or scuppers. ~~Scuppers shall be sized in accordance with Table 1108.1 or by other national methods using the head height of water and flow rate of the scupper.~~

748:20-16-18. IPC® ~~2018~~ 2024 Chapter 13 Nonpotable Water Systems [AMENDED]

Chapter 13 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modification: Section 1301.9.5 Overflow. This section has been modified to require the section to apply to any walkway, not just those on roofs. This section has been modified to read: 1301.9.5 Overflow. The storage tank shall be equipped with an overflow pipe having a diameter not less than that shown in Table 606.5.4. The overflow pipe shall be protected from insects or vermin and shall discharge in a manner consistent with storm water runoff requirements of the jurisdiction. The overflow pipe shall discharge at a sufficient distance from the tank to avoid damaging the tank foundation or the adjacent property. Drainage from overflow pipes shall be directed to prevent freezing on walkways. The overflow drain shall not be equipped with a shutoff valve. A cleanout shall be provided on each overflow pipe in accordance with Section 708.

748:20-16-20. IPC® ~~2018~~ 2024 Chapter 15 Referenced Standards [AMENDED]

Chapter 15 of the Oklahoma adopted IPC® ~~2018~~ 2024 is adopted with the following modifications:

~~(1) A reference to ANSI A118.10-99 Specifications for Load Bearing, Bonded, Waterpoofed Membranes for Thin Set Ceramic Tile and Dimension Stone Installation referenced in Sections 421.5.2.5 and 421.5.2.6 has been added to the code. This reference has been added to read: ANSI A118.10-99 Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin Set Ceramic Tile and Dimension Stone Installation. 421.5.2.5, 421.5.2.6.~~

~~(2)~~(1) The reference to the International Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IBC®-2018~~ IBC®-24 International Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(2) The reference to the International Existing Building Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: IEBC®-24 International Existing Building Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(3) The reference to the International Energy Conservation Code® has been modified to change the edition year to 2006. This section has been modified to read: IECC-06 International Energy Conservation Code®.

(4) The reference to the International Fire Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFC®-2018~~ IFC®-24 International Fire Code® as adopted and modified by the State of Oklahoma through the OUBCC.

(5) The reference to the International Fuel Gas Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IFGC® 2018~~ IFGC®-24 International Fuel Gas Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(6) The reference to the International Mechanical Code® has been modified to include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IMC® 2018~~ IMC®-24 International Mechanical Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(7) The reference to the International Residential Code® has been modified to ~~change the edition year to 2018 and~~ include after the title the words "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: ~~IRC® 18~~ IRC®-24 International Residential Code® as adopted and modified by the State of Oklahoma through the OUBCC.
(8) The referenced standard for NFPA® 70 National Electrical Code® has been modified to ~~change the edition year to 2023 and~~ include the words after the title "as adopted and modified by the State of Oklahoma through the OUBCC." This section has been modified to read: 70-23 National Electrical Code® as adopted and modified by the State of Oklahoma through the OUBCC.
~~(9) The reference standard for TCNA/ANSI A118.10-99: Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin Set Ceramic Tile and Dimension Stone Installation referenced in Sections 421.5.2.5 and 421.5.2.6 has been stricken from the code.~~