

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

SUBCHAPTER 2. IBC® 2018

748:20-2-3. IBC® 2018 and Other Appendices

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

(b) The OUBCC hereby creates a new appendix, entitled "Appendix O, Supplemental Storm Shelter Requirements."

(c) The OUBCC has removed from Chapter Four of the IBC® 2018, Section 423.3 entitled "Critical emergency operations," Section 423.4 entitled "Group E Occupancies," and Section 423.4.1 Required occupant capacity" and has relocated and renumbered those sections into the newly created Appendix O, entitled "Supplemental Storm Shelter Requirements."

~~(b)~~(d) Appendices A through ~~N~~ Q 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.

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

Chapter 4 of the Oklahoma adopted IBC® 2018 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) 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) The canopy shall meet or exceed Type I construction requirements.

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

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

(3) 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, column 1, 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) 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®~~ moved into the newly created Appendix O, entitled "Supplemental Storm Shelter Requirements" and is not adopted as a minimum standard for commercial construction within the State of Oklahoma. This section has been renumbered in Appendix O to become Section O102. The number 423.3 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it. This section has been modified to read: 423.3 Critical emergency

operations. Buildings that contain 911 call stations, emergency operation centers, and 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) Section 423.4 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®; and add a fourth exception requiring all additions to existing Group E occupancies comply with the International Existing Building Code® moved into the newly created Appendix O, entitled "Supplemental Storm Shelter Requirements" and is not adopted as a minimum standard for commercial construction within the State of Oklahoma. This section has been renumbered in Appendix O to become Section O103. The number 423.4 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it. This section has been modified to read: 423.4 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) 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®.
- (D) Additions to Group E occupancies shall comply with the requirements of Section 1106 of the International Existing Building Code®.

(11) Section 423.4.1 Required occupant capacity. This section has been modified to 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 moved into the newly created Appendix O, entitled "Supplemental Storm Shelter Requirements" and is not adopted as a minimum standard for commercial construction within the State of Oklahoma. This section has been renumbered in Appendix O to become Section O103.1 The number 423.4.1 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it. For clarification, the exceptions apply to the entire section and are not exceptions to item B. This section has been modified to read: 423.4.1 Required 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:

- (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 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 the new building.
 - (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

(12) Section 423.5 Required. This section has been added to specify the requirements when storm shelters are provided. This section has been added to read: 423.5 Required. Where

storm shelters are provided, they shall be provided in compliance with ICC 500® except as required by Sections 423.5.1 through 423.5.11.

(13) Section 423.5.1 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 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) Section 423.5.2.1 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 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) Section 423.5.4 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 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) Section 423.5.6 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 Door operation. Means of egress doors shall be operable from the inside without the use of keys or special knowledge or effort.

(20) Section 423.5.6.1 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 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) 423.5.7 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 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) Section 423.5.8 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 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.

(26) 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) 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) 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 from the miscella and solvent recovery shall comply with this section.

Exception: Extraction process that utilizes nonhazardous solvents or carbon dioxide.

(29) 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) 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) 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) 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) 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) 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) 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) 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.

748:20-2-41. IBC® 2018 Appendix O, Supplemental Storm Shelter Requirements

This appendix has been newly created and entitled "Supplemental Storm Shelter Requirements." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.

(1) Section O101 General. This section heading has been added to clarify the scope and design requirements for this appendix. This section has been added to read: O101 General.

(A) Section O101.1 Scope. This section has been added to specify the provisions of the appendix shall apply exclusively to the installation of storm shelters in critical emergency operation facilities and Group E occupancies. This section has been added to read: O101 Scope. The provisions of this appendix shall apply exclusively to the installation of storm shelters in critical emergency operation facilities and Group E occupancies.

(B) Section O101.2 Design. This section has been added to specify the technical requirements for items herein shall comply with ICC 500® and Section 423. This section has been added to read: O101.2 Design. Technical requirements for items herein shall comply with ICC 500® and Section 423.

(2) Section O102 Critical emergency operations. This section, formerly numbered 423.3 has been moved into appendix O, entitled "Supplemental Storm Shelter Requirements" and 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: O102 Critical emergency operations. Buildings that contain 911 call stations, emergency operation centers, and 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®.

(3) Section O103 Group E occupancies. This section, formerly 423.4 has been moved into appendix O, entitled "Supplemental Storm Shelter Requirements" and 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®; and adds 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: O103 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) 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®.

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

(4) Section O103.1 Required occupant capacity. This section, formerly 423.4.1, has been moved into appendix O, entitled "Supplemental Storm Shelter Requirements" has been modified to 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. This section has been modified to read: 423.4.1 Required 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:

(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 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 the new building.

(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.

SUBCHAPTER 8. IEBC® 2018

748:20-8-3. IEBC® 2018 and Other Appendices

(a) None of the appendices of the IEBC® 2018 have been adopted by the OUBCC for inclusion in the statewide minimum code for commercial existing building construction in the State of

Oklahoma.

(b) The OUBCC hereby creates a new appendix, entitled "Appendix D, Supplemental Storm Shelter Requirements."

(c) The OUBCC has removed from Chapter Eleven of the IBC® 2018, Section 1106.1 entitled "Addition to a Group E occupancy" and Section 1106.1.1 "Required occupant capacity" and has relocated and renumbered those sections into the newly created Appendix D, entitled "Supplemental Storm Shelter Requirements."

~~(b)(d)~~ Appendices A through D 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.

748:20-8-16. IEBC® 2018 Chapter 11 Additions

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.~~ moved into the newly created Appendix D, entitled "Supplemental Storm Shelter Requirements" and is not adopted as a minimum standard for commercial construction within the State of Oklahoma. This section has been renumbered in Appendix D to become Section D103. The number 1106.1 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it. ~~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®.~~ This section has been

(3) Section 1106.1.1 Required occupant capacity. This section has been ~~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~~ moved into the newly created Appendix D, entitled "Supplemental Storm Shelter Requirements" and is not adopted as a minimum standard for commercial construction within the State of Oklahoma. This section has been renumbered in Appendix D to become Section D104. The number 1106.1.1 itself, will stay as part of the code for numbering alignment but will not have any requirements attached to it. ~~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.

748:20-8-22. IEBC® Appendix D, Supplemental Storm Shelter Requirements

This appendix has been newly created and entitled "Supplemental Storm Shelter Requirements." The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance or order.

(1) Section D101 General. This section heading has been added to clarify the scope and design requirements for this appendix. This section has been added to read: D101 General.

(2) Section D102 Design. This section has been added to specify the technical requirements for items herein shall comply with ICC 500®. This section has been added to read: O101.2 Design. Technical requirements for items herein shall comply with ICC 500®.

(3) Section D103 Addition to a Group E occupancy. This section, formerly numbered 1106.1 has been moved into appendix D, entitled "Supplemental Storm Shelter Requirements" and 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: D103 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®.

(4) Section D104 Required occupant capacity. This section, formerly numbered 1106.1, has been moved into appendix D, entitled "Supplemental Storm Shelter Requirements" and 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.