



# Board of Building Standards

## CODE COMMITTEE MEETING AGENDA

DATE: SEPTEMBER 22, 2022  
TIME: 1:00 PM  
LOCATION: TRAINING ROOM 3, 6606 TUSSING ROAD, REYNOLDSBURG, OHIO, 43068  
[Click here to join the meeting](#)

### Call to Order

### Approval of Minutes

[MIN-1](#) August 25, 2022 Code Committee Meeting Minutes

### Petitions

### Recommendations of the Residential Construction Advisory Committee

### Old Business

[OB-1](#) 2020 NFPA 70 TIA 20-19  
[OB-2](#) Zero lot line townhouse buildings  
[OB-3](#) Commercial Energy Code Review  
[OB-4](#) OBC draft rule review (Chapters 5-9)

### New Business

### Adjourn

**File Attachments for Item:**

MIN-1 August 25, 2022 Code Committee Meeting Minutes

**OHIO BOARD OF BUILDING STANDARDS**  
**CODE COMMITTEE MINUTES**  
**August 25, 2022**

The Code Committee met on August 25, 2022 with the following members present: Mr. Denk, Ms. Cromwell, Mr. Johnson, Mr. Miller, Mr. Pavlis, Mr. Samuelson, Mr. Stanbery, Mr. Tyler, and Mr. Yankie. Board Chairman, Tim Galvin, was also present.

The following staff members were present: Regina Hanshaw, Debbie Ohler, Robert Johnson, and Jay Richards

Guests present: Luther Liggett, Doug Boyer, Bill Kaufholz and Dan O’Connell of Fischer Homes, Charles Wilson of Lenar Corp., Corbin Johnson, and John Johnson III  
Guests present via Teams: J. Scott, Charles Huber, and Jeff Mang.

**CALL TO ORDER**

The meeting was called to order by Mr. Denk at 1:08 P.M.

**APPROVAL OF MINUTES**

Mr. Stanbery made the motion to approve the minutes of the Code Committee meeting held on June 23, 2022. Mr. Johnson seconded the motion. The motion passed unanimously.

**PETITIONS**

Petition #22-02 from Larry Cormack, Jr. of the City of Columbus was re-introduced to the committee by staff. The original OPC petition proposed to prohibit all dead ends in plumbing systems. Staff researched the proposal, found 2021 UPC code language that included a definition of “Dead leg” and required a method of flushing for dead legs, and shared the UPC language with Mr. Cormack. Mr. Cormack was satisfied that the UPC language accomplished his goal and requested that his petition be modified to request adoption of the UPC definition and requirement for flushing. Mr. Tyler made the motion to deny the original petition because the language was too restrictive. Mr. Miller seconded the motion. The motion passed unanimously. Mr. Tyler further made the motion to deny the 2021 UPC language because the language is too vague and unenforceable, as it didn’t require flushing. Mr. Miller seconded the motion. The motion passed unanimously.

**RECOMMENDATIONS OF THE RESIDENTIAL CONSTRUCTION ADVISORY COMMITTEE**

No items for consideration

**OLD BUSINESS**

**Definition of Registered Design Professional**

Doug Boyer and Luther Liggett, representing the Ohio Chapter of the American Society of Landscape Architects (ASLA), proposed a change to the OBC definition of Registered Design Professional that includes the term “landscape architect” in addition to the Revised Code citation that addresses landscape architects. They explained that the language is necessary because building departments are rejecting plans sealed by a landscape architect. The committee preferred language drafted by BBS staff and Mr. Boyer and Liggett stated that the staff language accomplished their goal. Mr. Pavlis made a motion to include the staff draft definition of Registered Design Professional in the next OBC and to send a courtesy notice of the clarification to the Architects Registration Board and the code officials. Ms.

Cromwell seconded the motion. The motion passed unanimously.

### **2020 NEC Proposed TIAs**

Staff updated the committee on the status of the two proposed TIAs that could impact the rule language decided upon by the BBS for the adoption of the 2020 edition of NFPA 70: TIA 1653 which proposes to expand the GFCI exemption to all outdoor HVAC equipment and extend it through September of 2026; and TIA 1656 which proposes to extend the GFCI exemption only for outdoor HVAC equipment employing power conversion equipment through September of 2026. The NFPA Standards Council was expected to make a decision on the proposed TIAs in early August. However, staff contacted the Standards Council staff and the decision has still not yet been posted. Staff will keep the committee informed.

### **Commercial Energy Code Review**

No discussion occurred and no action was taken.

## **NEW BUSINESS**

### **Zero Lot Line Townhouse Buildings**

Bill Kaufholz presented the issue of zero lot-line residential townhome units and explained that there have been different understandings and interpretations from building officials and plans examiners across Ohio regarding which code should be followed. Additionally, Mr. Kaufholz explained that having to comply with the OBC for energy conservation and mechanical systems was adding cost to the projects because building officials were requiring a registered design professional to design the system.

Staff explained that this code scoping issue was addressed several years ago when the RCO and OBC definition of “dwelling” was changed to clarify that there could be a maximum of three connected dwelling units in a building to remain within the scope of the RCO.

Mr. Pavlis made a motion to table the issue and asked staff to draft modified OBC Section 310.5.5 language that could address the concerns of Mr Kaufholz. Mr. Miller seconded the motion. The motion passed with Mr. Johnson abstaining.

### **HB 430 Update**

Staff explained that HB 430 contained two issues that impact the Board. The bill added a definition of “Mobile Computing Unit” and exempts those structures from the rules of the Board. Additionally, the bill expanded the use of temporary door locking devices (TDLDs) from schools to several other nonresidential occupancies. Staff had presented draft BBS memos to the committee in the previous week and asked if the committee had any questions or concerns about the memos. There were none. Staff also indicated that draft rules will be presented at a later date for the committee’s review and approval.

### **Special Inspections for Shoring**

Ms. Cromwell brought up a concern that the City of Cincinnati building department is requiring a special inspection of horizontal elevated concrete shoring and asked whether the code requires that special inspection. Staff will contact the building official in Cincinnati and learn more about their requirement.

Ms. Cromwell also mentioned that she will be speaking to the Structural Engineers Association of Ohio about the BBS and careers in code enforcement.

## **ADJOURN**

Mr. Stanbery made the motion to adjourn at 4:10 P.M. Ms. Cromwell seconded the motion. The motion passed unanimously.

**File Attachments for Item:**

OB-1 2020 NFPA 70 TIA 20-19



*Dawn Michele Bellis*  
*Secretary, Standards Council*

26 August 2022\*

To: Interested Parties

Subject:

Standards Council Decision (Final):	<b>D#22-12</b>
Standards Council Agenda Item:	<b>SC#22-8-16-d, e, and f</b>
Date of Decision:	12 August 2022
TIA Nos. 1653, 1654, 1656 and 1657 to NFPA 70®, <i>National Electrical Code</i> ®, 2020 and 2023 Editions	

Dear Interested Parties:

At its meeting of August 10-12, 2022, the Standards Council considered an appeal on the above referenced matter. The Council's Final decision is now available and is attached herewith.

Sincerely,

A handwritten signature in black ink that reads "Dawn Michele Bellis".

Dawn Michele Bellis  
Secretary, NFPA Standards Council

cc: S. Everett, S. Gallagher, C. Duffy, J. Sargent  
Members, NEC Code-Making Panel 2 (NEC-P02)  
Members, NEC Correlating Committee (NEC-AAC)  
Members, NFPA Standards Council (AAD-AAA)  
Individuals Providing Appeal Commentary

\*NOTE: Participants in NFPA's standards development process should know that limited review of this decision may be sought from the NFPA Board of Directors. For the rules describing the available review and the method for petitioning the Board for review, please consult section 1-7 of the Regulations Governing the Development of NFPA Standards and the NFPA Regulations Governing Petitions to the Board of Directors from Decisions of the Standards Council. Notice of the intent to file such a petition must be submitted to the Clerk of the Board of Directors within 15 calendar days of the publication date of this Decision.



Standards Council Decision (Final):	<b>D#22-12</b>
Standards Council Agenda Item:	<b>SC#22-8-16-d, e, and f</b>
Date of Decision:	12 August 2022
TIA Nos. 1653, 1654, 1656 and 1657 to NFPA 70®, <i>National Electrical Code</i> ®, 2020 and 2023 Editions	

**SUMMARY OF ACTION (for convenience only; not part of official decision):** The Standards Council voted to uphold the appeals requesting Council to overturn the ballot results for TIA Nos. 1653 and 1654, on NFPA 70®, *National Electrical Code*®, 2020 and 2023 Editions as processed, and not issue TIA Nos. 1656 and 1657 which processed simultaneously on the same affected section (§210.8(F)).

**DECISION:**  
At its meeting of August 10-12, 2022, the Standards Council considered appeals from three appellants: William Koffel representing the Leading Builders of America (LBA), Mary Koban, Air-Conditioning, Heating, and Refrigeration Institute (AHRI), and David Bixby, Air Conditioning Contractors of America (ACCA). These appellants request that the Standards Council overturn the ballot results and recommendations of Code-Making Panel 2 (“CMP 2”) and the NEC Correlating Committee (“CC”). If upheld, the result of the Council’s action would be to issue TIA Nos. 1653 and 1654 and not issue TIA Nos. 1656 and 1657 on the 2020 and 2023 editions of NFPA 70. Specifically, the appeals request that the Standards Council issue TIA Nos. 1653 and 1654 which revise section 210.8(F) and Exception No. 2(new).

As background, the text of §210.8(F), and the subject of ground fault circuit interruptor protection for outdoor HVAC equipment, has been at the heart of multiple processed TIAs<sup>1</sup>, as well as extensive Task Group work since issuance of the 2020 Edition of NFPA 70. During that period, Council reviewed 5 TIAs seeking to amend §210.8(F) within the 2020 Edition of the NEC: only one of which, TIA No. 1593, passed ballot. When TIA No. 1593 came before Council for issuance at its August 2021 meeting, it was the subject of appeal by multiple parties. While the Council did issue TIA No. 1593, in part of its decision on that appeal, the Council directed the formation of a Task Group of affected stakeholders “to evaluate and reach an informed, technically substantiated resolution to the issues raised [in the appeal].” The Council also encouraged the Task Group to submit a TIA, if appropriate.

In accordance with that direction, a Task Group was formed and included members from the HVAC industry, home builders industry, U.S. Consumer Product Safety Commission, GFCI manufacturers, as well as some members of CMP 2 and the NEC correlating committee. This Task Group developed TIA Nos. 1653 and 1654, which were supported by a simple majority of the Task Group members and submitted with Task Group approval by appellant William Koffel for processing. A minority of the Task Group members, however, favored different language and submitted TIA Nos. 1656 and 1657 for processing simultaneously: providing optional language for the responsible CMP’s consideration.

<sup>1</sup> TIA No. 1593, issued by Council at its August 2021 meeting, was one of four TIAs presented to the Council on section 210.8(F) for action at that meeting (three of which failed to achieve the necessary support of both CMP 2 and the CC). Additionally, a fifth TIA was processed and presented to Council at its December 2020 meeting, (TIA No. 1529 which failed to achieve the necessary support of the CC by one vote on emergency nature).

The four TIAs subject to this appeal were balloted by CMP 2 and the CC in accordance with the *Regulations Governing the Development of NFPA Standards (Regs)* to determine whether the necessary three-fourths majority support was achieved on technical merit, emergency nature, and correlation for recommendation of issuance. Two of the TIAs—TIA Nos. 1653 and 1656—were processed on the 2020 Edition, while the two remaining TIAs at issue—TIA Nos. 1654 and 1657—were processed concurrently on the 2023 Edition. TIA Nos. 1653 and 1654 each failed to achieve the necessary support of CMP 2 on technical merit, but achieved the necessary support on emergency nature, while achieving support of the CC on correlation<sup>2</sup>. TIA Nos. 1656 and 1657 each achieved the necessary support of CMP 2 on both technical merit and emergency nature, as well as achieving support of the CC on correlation.

The text of TIA Nos. 1653 and 1654 subject to this appeal did not gain sufficient  $\frac{3}{4}$  CMP support within the standards development process for inclusion in the 2020 and 2023 Editions of NFPA 70, respectively. On appeal, the Council accords great respect and deference to the NFPA standards development process. In conducting its review, the Council will overturn the results of that process only where a clear and substantial basis for doing so is demonstrated.

In reviewing the full record, the Appellants renewed some of the concerns Council has heard in the prior appeal, including the practical impact of yet unresolved interoperability issues between GFCI and HVAC equipment. Additionally, the ballots on TIA Nos. 1653 and 1654 reflect that CMP 2 agreed that “emergency nature” is met, however, each ballot failed on technical merit by a single vote. The Council found that the Task Group accomplished its charge, which was to bring diverse and materially affected interests together to seek resolution of the technical concerns presented in the appeal on a narrow issue within CMP 2’s scope. In the present case of dueling TIAs, and in light of the Task Group’s work, the Council found the Task Group’s TIAs to reflect the closest point of agreement to address this controversial matter.

Appellants raised the concern that as of the date of the hearing, there was no HVAC industry representation on CMP 2, but simultaneously acknowledged the difficulty to find interested parties to participate given the broad scope of CMP 2<sup>3</sup>. That said, the Council recognized that by expanding GFCI protection for receptacles, Article 210 now impacts parties, such as the HVAC industry, in new ways. The Council agreed with the Appellant that it is therefore important to expand CMP 2 membership to add additional parties who may now be directly impacted by Article 210. Council encourages the participants and other members of the HVAC industry to apply for membership on CMP 2. Also, Council directs NFPA staff to call for additional members to CMP 2 in other interest classifications as well. (See D#22-10 for a similar direction regarding a call for members on CMP 2).

The Council has reviewed the entire record concerning this matter and has considered all the arguments put forth in this appeal. In the view of the Council, this appeal does present a clear and substantial basis upon which to overturn the results yielded by the NFPA standards development process. Accordingly, the Council has voted to uphold the appeal. The effect of this action is that the NFPA 70, *National Electrical Code* (2020 and 2023 editions) will include the text of TIA Nos. 1653 and 1654, rather than the text of TIA Nos. 1656 and 1657.

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<sup>2</sup> During the hearing, it was noted by Appellants and acknowledged by Council that although TIA Nos. 1653 and 1654 did not achieve support of  $\frac{3}{4}$  of the voting CMP members as required for recommendation of issuance for a TIA, both TIAs did receive support of more than  $\frac{2}{3}$  of the voting CMP members which would have been sufficient to pass the text had it been completed in time for consideration as a Public Comment at Second Draft.

<sup>3</sup> Although CMP 2 did not have representation of the HVAC industry at the time of processing the TIAs at issue nor at the time of the hearing, an application was pending for Council action at the August meeting. As part of the membership actions of Council during the August meeting, the individual applicant representing a single HVAC manufacturer was appointed to CMP 2.



Council Members John Kovacik and Rodger Reiswig recused themselves from the deliberations and vote on the appeal.

Council Members Michael Johnston and Jack Poole were not in attendance during the August 2022 meeting and therefore did not participate in the deliberations and vote on the appeal.



Tentative Interim Amendment

## NFPA® 70®

### *National Electrical Code®*

#### 2020 Edition

**Reference:** 210.8(F) and Exception No. 2(new)

**TIA 20-19**

(SC 22-8-16 / TIA Log #1653)

Pursuant to Section 5 of the NFPA *Regulations Governing the Development of NFPA Standards*, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 70®, *National Electrical Code®*, 2020 edition. The TIA was processed by the NEC Code-Making Panel 2, and the NEC Correlating Committee, and was issued by the Standards Council on August 12, 2022, with an effective date of September 1, 2022.

1. *Revise paragraph 210.8(F) to read as follows:*

**210.8(F) Outdoor Outlets.**

All outdoor outlets for dwellings, other than those covered in 210.8(A)(3), Exception to (3), that are supplied by single-phase branch circuits rated 150 volts to ground or less, 50 amperes or less, shall have ground-fault circuit-interrupter protection for personnel. ~~This requirement shall become effective on January 1, 2023, for mini-split type heating/ventilating/air conditioning (HVAC) equipment and other HVAC units employing power conversion equipment as a means to control compressor speed.~~

~~Informational Note: Power conversion equipment is the term used to describe the components used in HVAC equipment that is commonly referred to as a variable speed drive. The use of power conversion equipment to control compressor speed differs from multistage compressor speed control.~~

*Exception No. 1: Ground-fault circuit-interrupter protection shall not be required on lighting outlets other than those covered in 210.8(C).*

*Exception No. 2: Ground-fault circuit-interrupter protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026.*

**Issue Date:** August 12, 2022

**Effective Date:** September 1, 2022

(Note: For further information on NFPA Codes and Standards, please see [www.nfpa.org/docinfo](http://www.nfpa.org/docinfo))

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NATIONAL FIRE PROTECTION ASSOCIATION



Tentative Interim Amendment

## NFPA® 70®

### *National Electrical Code®*

#### 2023 Edition

**Reference:** 210.8(F) and Exception No. 2(new)

**TIA 23-3**

(SC 22-8-17 / TIA Log #1654)

**Note:** Text of the TIA was issued and approved for incorporation into the document prior to printing.

*1. Revise paragraph 210.8(F) to read as follows:*

**210.8(F) Outdoor Outlets.**

For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, 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:

- (1) Garages that have floors located at or below grade level
- (2) Accessory buildings
- (3) Boathouses

If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet shall be supplied with GFCI protection.

*Exception No. 1: GFCI protection shall not be required on lighting outlets other than those covered in 210.8(C).*

*Exception No. 2: GFCI protection shall not be required for listed HVAC equipment. This exception shall expire September 1, 2026.*

**Issue Date:** August 12, 2022

**Effective Date:** September 1, 2022

(Note: For further information on NFPA Codes and Standards, please see [www.nfpa.org/docinfo](http://www.nfpa.org/docinfo))

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NATIONAL FIRE PROTECTION ASSOCIATION

61—17	Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Product Facilities
70—17 20	National Electrical Code ( <i>except that section 210.8(F) does not apply to HVAC units employing power conversion equipment (variable speed drive) as a means to control compressor speed</i> )
72—16	National Fire Alarm and Signaling Code
80—16	Standard for Fire Doors and Other Opening Protectives
82—14	Standard on Incinerators and Waste and Linen Handling Systems and Equipment
85—the edition referenced in rule 4101:4-3-01 of the Administrative Code	Boiler and Combustion System Hazards Code
92—15	Standard for Smoke Control Systems
99—15	Health Care Facilities Code
101—15	Life Safety Code ( <i>only applies for Section 1029.6.2</i> )
105—16	Standard for Smoke Door Assemblies and Other Opening Protectives
110—16	Standard for Emergency and Standby Power Systems
111—16	Standard on Stored Electrical Energy Emergency and Standby Power Systems
120—15	Standard for Fire Prevention and Control in Coal Mines
170—15	Standard for Fire Safety and Emergency Symbols
211—16	Standard for Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
221—15	Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls
252—12	Standard Methods of Fire Tests of Door Assemblies
253—15	Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
257—12	Standard for Fire Test for Window and Glass Block Assemblies

61—17	Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Product Facilities
70— <del>17</del> 20	National Electrical Code ( <i>except that section 210.8(F) does not apply to listed HVAC equipment</i> )
72—16	National Fire Alarm and Signaling Code
80—16	Standard for Fire Doors and Other Opening Protectives
82—14	Standard on Incinerators and Waste and Linen Handling Systems and Equipment
85—the edition referenced in rule 4101:4-3-01 of the Administrative Code	Boiler and Combustion System Hazards Code
92—15	Standard for Smoke Control Systems
99—15	Health Care Facilities Code
101—15	Life Safety Code ( <i>only applies for Section 1029.6.2</i> )
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110—16	Standard for Emergency and Standby Power Systems
111—16	Standard on Stored Electrical Energy Emergency and Standby Power Systems
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170—15	Standard for Fire Safety and Emergency Symbols
211—16	Standard for Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances
221—15	Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls
252—12	Standard Methods of Fire Tests of Door Assemblies
253—15	Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
257—12	Standard for Fire Test for Window and Glass Block Assemblies

**File Attachments for Item:**

OB-2 Zero lot line townhouse buildings

**106.2.1 Seal requirements.** Construction documents shall bear the seal of a registered design professional pursuant to section 3791.04 of the Revised Code.

**Exceptions:** The seal of a registered design professional is not required on construction documents for:

1. Buildings or structures classified as one-, two-, or three-family dwellings and accessory structures; and structures permitted to comply with the Residential Code of Ohio in place of the requirements of this code pursuant to Chapter 3 where the building official determines that the proposed work does not involve technical design analysis;
2. Energy conservation design for buildings or structures classified as one-, two-, or three-family dwellings;
3. Fire protection system designs submitted under the signature of an individual certified in accordance with section 107.4.4;
4. Installation of replacement devices, equipment or systems that are equivalent in type and design to the replaced devices, equipment or systems; and
5. New construction, Alterations alteration, construction or repairs to any buildings or structures subject to sections 3781.06 to 3781.18 and 3791.04 of the Revised Code where the building official determines that the proposed work does not involve the technical design analysis of work affecting public health or general safety in the following areas: means of egress, structural, mechanical, electrical, plumbing, or fire protection.

~~5.1~~ For the purpose of this section exception, technical design analysis is defined as the development of integrated solutions using analytical methods in accordance with established scientific and engineering principles.

**310.5.5 Multi-family a-Group R-3 Alternative compliance options.** The following are alternative compliance options for Group R-3 buildings within the scope of this code.

**310.5.5.1** A Group R-3 building may use Chapters 2 to 11 ~~and 44~~ of the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” (RCO) in place of the requirements of this code for ~~Group R-3 occupancies~~ under the following conditions and limitations:

1. Chapter 1 of the OBC is applicable for code administration purposes; and
2. The building is comprised exclusively of dwelling units; and
3. The building is not used as a care facility; and
4. The building is three stories or less in height; and
5. Each dwelling unit in the building has an independent exit; and
6. No more than one dwelling unit is allowed to be located above another dwelling unit; and
7. Fire separation between units within a grouping of two units, including a unit located partially or totally above another unit, ~~shall~~ is to be in accordance with the RCO section 302.2. Fire separation between any grouping of two units and other adjacent units shall is to be in accordance with RCO sections 302.2 through 302.6; and
8. ~~The edition of NFPA 70 listed in Chapter 35 of the OBC shall be applicable for electrical components, equipment, and system requirements; and~~

- 9. ~~The mechanical code shall apply for mechanical appliances, equipment, and system requirements, including fuel gas requirements; and~~
- 10. ~~The plumbing code shall apply for plumbing fixtures, equipment, water supply, and sanitary systems; and~~
- 9. ~~11. Chapter 13 of this code shall apply for energy conservation.~~ The Ohio Home Builder Association (OHBA) Alternative Energy Code Options may not be used to demonstrate compliance with energy efficiency requirements of the RCO; and
- 10. Except as provided by this paragraph, the editions of codes and standards listed in Chapter 35 of this code shall are to be used. For codes and standards not listed in Chapter 35 or for those referenced in RCO Chapter 11, RCO Chapter 44 shall apply applies.

**310.5.5.2 A Group R-3 building may use the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” (RCO) in place of the requirements of this code under the following conditions and limitations:**

- 1. Chapter 1 of the OBC shall be is applicable for code administration purposes; and
- 2. The building is comprised exclusively of dwelling units; and
- 3. The building is not used as a care facility; and
- 4. The building is three stories or less in height; and
- 5. Each dwelling unit in the building has an independent exit; and
- 6. Each dwelling unit extends from the foundation to the roof and has a yard or public way on not less than two sides; and
- 7. Fire separation between dwelling units is comprised of two one-hour fire-resistance-rated wall assemblies or one common wall with a two-hour fire-resistance-rated assembly rated for exposure from both sides;
  - 7.1 If fire sprinklers are provided in accordance with NFPA 13D or RCO section 2904, the fire-resistance rating of the common wall may be reduced to one-hour;
  - 7.2 The common wall shared between dwelling units is to be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall; and
- 8. Each individual dwelling unit is served by independent building services, including but not limited to, equipment, piping; wiring, and ductwork; and
- 9. The Ohio Home Builder Association (OHBA) Alternative Energy Code Options are permitted to be used to demonstrate compliance with the energy efficiency requirements of the RCO provided all the following are met:
  - 1. ~~The building is three stories or less, and~~
  - 2. ~~Comprised exclusively of dwelling units, and~~
  - 3. ~~Each dwelling unit has an independent exit, and~~
  - 4. minimum appliance efficiencies meet or exceed Table 310.5.5.2.

**TABLE 310.5.5.2 Appliance efficiency**

<u>Type of appliance</u>	<u>Minimum Efficiency</u>
<u>Gas furnace</u>	<u>96% AFUE</u>
<u>Electric heat pump (heating mode)</u>	<u>8.8 HSPF</u>
<u>Electric heat pump (cooling mode)</u>	<u>14 SEER</u>
<u>Electric air conditioner</u>	<u>14 SEER</u>



<u>Gas hot water tank</u>	<u>At least .57 EF, but not less than the federal minimum efficiency established in 10 C.F.R. 430</u>
<u>Electric hot water tank</u>	<u>.95 EF</u>

**1301.1 Scope.** This chapter governs the design and construction of buildings for energy efficiency.

**1301.1.1 Criteria.** Buildings shall be designed and constructed in accordance with the applicable provisions of the “International Energy Conservation Code” or the requirements of “ASHRAE 90.1” listed in Chapter 35 of this code except as modified in Sections 1301.2 and 1301.3.

~~**EXCEPTION:** Either the “International Energy Conservation Code” referenced in Chapter 44 of the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” (RCO) or Sections 1101.2.2 through 1104 in Chapter 11 of the RCO are permitted to be used in place of the energy conservation requirements of this code for R-3 occupancies in buildings three stories or less, comprised exclusively of dwelling units, where each unit has independent means of egress. Except as provided by Section 1301.1.1.1, Chapter 11 of the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” (RCO) is permitted to be used in place of the energy conservation requirements of this code for Group R-3 occupancies in buildings three stories or less, comprised exclusively of dwelling units, where each dwelling unit has an independent exit.~~

~~**1301.1.1.1 Ohio Home Builder Association (OHBA) Alternative Energy Code Option.** Group R-3 occupancy buildings are permitted to comply with Section 1112 of the RCO provided all the following are met:~~

- ~~5. The building is three stories or less, and~~
- ~~6. Comprised exclusively of dwelling units, and~~
- ~~7. Each dwelling unit has an independent exit, and~~
- ~~8. Minimum appliance efficiencies meet or exceed Table 1301.1.1.1.~~

**TABLE 1301.1.1.1 Appliance efficiency**

<u>Type of appliance</u>	<u>Minimum Efficiency</u>
<u>Gas furnace</u>	<u>96% AFUE</u>
<u>Electric heat pump (heating mode)</u>	<u>8.8 HSPF</u>
<u>Electric heat pump (cooling mode)</u>	<u>14 SEER</u>
<u>Electric air conditioner</u>	<u>14 SEER</u>
<u>Gas hot water tank</u>	<u>At least .57 EF, but not less than the federal minimum efficiency established in 10 C.F.R. 430</u>
<u>Electric hot water tank</u>	<u>.95 EF</u>

**File Attachments for Item:**

OB-3 Commercial Energy Code Review

## Ohler, Deborah

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**From:** Ned B. Heminger <nbheminger@hawainc.com>  
**Sent:** Tuesday, August 2, 2022 12:31 PM  
**To:** Ohler, Deborah  
**Subject:** Trane publication and DOE changes  
**Attachments:** Trane\_Commercial\_DOE\_2023\_Overview.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Debbie

FYI-This came out from Trane (new DOE requirements effective 1/1/23) for manufacturers. Its an example of how dated Ohio's requirements have become on some equipment. Beginning of 2023, manufacturers have to meet a higher efficiency requirement to conform to the new DOE requirements. Saying that, the current requirements of DOE (which were effective 1/1/2016) still exceed Ohio's requirements which are based on 90.1-2010. These new requirements for DOE are address in 90.1-2019.

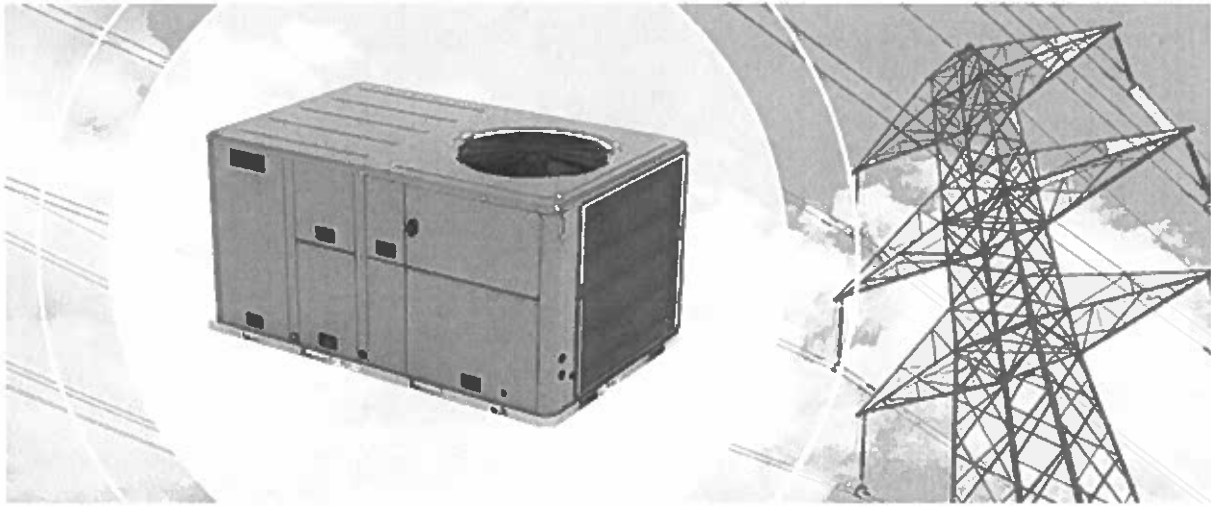
**Ned Heminger, PE, LEED AP, HBDP**  
*Vice President*  
*Chief Engineer*

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**From:** Trane Commercial <hvac@trane.com>  
**Sent:** Tuesday, July 12, 2022 10:02 AM  
**To:** Ned B. Heminger <nbheminger@hawainc.com>  
**Subject:** Are you ready?

Change is coming for HVAC efficiency standards





## 2023 DOE Standards: Start the Countdown

In January 2023, new minimum efficiency standards for many HVAC systems will go into effect. The change, reflective of the U.S. Department of Energy (DOE) initiative to reduce overall energy use in the U.S., increases the minimum efficiency standards for rooftop units by 15%.

Many of today's units will not meet the new requirements. And unfortunately, waiting to complete replacement projects in 2023 will likely mean higher prices and delays due to continued global supply chain challenges.

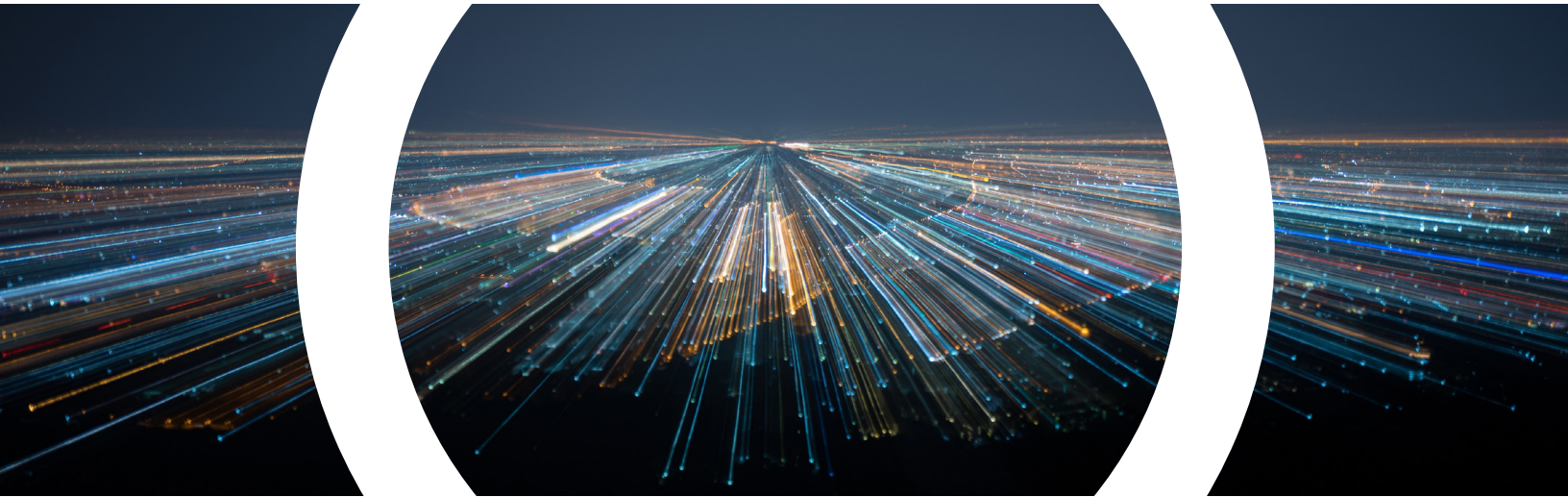
### **Start now and get ahead of the curve:**

- Learn more about the new efficiency standards for your region and share the information with your customers. Trane can help!
- Fast-track some projects into '22. Help your customers assess the age and overall condition of their equipment. Identifying retrofit solutions now may help building owners avoid anticipated 2023 challenges (while still meeting efficiency targets.).
- Research products and design-fit for your customer's new go-to replacement units.

**Get ready for the future.**

# Get Ready for the Future

## Overview of Upcoming Regulatory Changes



### 2023 DOE Regulatory Requirements

On January 1, 2023, the U.S. Department of Energy's new minimum efficiency standards will go into effect. The changes include:

- New minimum cooling efficiencies for newly manufactured residential and commercial HVAC equipment
- Natural gas heating efficiency (> 225,000 btu/h) increases from 80% to 81% steady state efficiency

These changes may present new complexities, but Trane® is committed to leading our industry in compliance and energy intensity reduction and is prepared to support our partners every step of the way. Throughout 2022, we will be updating our products to meet the new 2023 requirements.

### Why the Change?

Every six years, the Department of Energy reviews energy use of certain home appliances and mechanical systems in an ongoing effort to reduce overall energy consumption in the United States. If it is determined that an increase in energy efficiency requirements is justified, higher requirements are put into effect.

The changes are expected to save a significant amount of energy and yield environmental benefits. The DOE estimates the new standards will result in a cumulative reduction in CO2 emissions through 2030 amounting to 77 million metric tons (Mt), which is equivalent to the emissions resulting from the annual electricity use of more than 10.6 million homes.\*

### IEER Ratings

In 2018, the DOE changed its performance metric for commercial air-conditioning and heat pump equipment from EER to IEER (Integrated Energy Efficiency Ratio). IEER is a cooling part load efficiency measurement that takes into account different operating conditions and is the best representation of how a unit will perform over a cooling season.

## New Commercial Minimum Efficiency Standards

The new 2023 system cooling efficiency minimums are increasing on commercial units above 65K BTU by approximately 15%. The following chart outlines standards for commercial packaged and split systems (air conditioners and heat pumps) and commercial gas furnaces. All products manufactured prior to January 1, 2023, may be installed on or after January 1, 2023.

Equipment Type		Heating Type	Current Standard Efficiency	2023 Standard Efficiency
<b>Small Commercial Split &amp; Packaged</b>  (Air Cooled) – ≥65,000 Btu/h and <135,000 Btu/h Cooling Capacity	AC	Electric Resistance Heating or No Heating	12.9 IEER	14.8 IEER
		All Other Types of Heating	12.7 IEER	14.6 IEER
	HP	Electric Resistance Heating or No Heating	12.2 IEER	14.1 IEER
		All Other Types of Heating	12.0 IEER	13.9 IEER
<b>Large Commercial Split &amp; Packaged</b>  (Air Cooled) – ≥135,000 Btu/h and <240,000 Btu/h Cooling Capacity	AC	Electric Resistance Heating or No Heating	12.4 IEER	14.2 IEER
		All Other Types of Heating	12.2 IEER	14.0 IEER
	HP	Electric Resistance Heating or No Heating	11.6 IEER	13.5 IEER
		All Other Types of Heating	11.4 IEER	13.3 IEER
<b>Very Large Commercial Packaged</b>  (Air Cooled) – ≥240,000 Btu/h and <760,000 Btu/h Cooling Capacity	AC	Electric Resistance Heating or No Heating	11.6 IEER	13.2 IEER
		All Other Types of Heating	11.4 IEER	13.0 IEER
	HP	Electric Resistance Heating or No Heating	10.6 IEER	12.5 IEER
		All Other Types of Heating	10.4 IEER	12.3 IEER

## Commercial Warm Air Furnaces: New Thermal Efficiency Standards

Equipment Type	Input Capacity	Current Standard	2023 Standard
<b>Gas-Fired Furnaces</b>	≥ 225,000 Btu/h	80%	81%

\*Source: CUAC-CUHP CWF Direct Final Rule

To learn more, contact your Trane Account Manager or local Trane office.



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RT-PRC104

04/29/2022

# MONTHLY ENERGY CONSUMPTION

By Emerald Built Environments

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
---------	-----	-----	-----	-----	-----	------	------	-----	------	-----	-----	-----	-------

<b>Alternative: 1</b>	<b>901 2010</b>
-----------------------	-----------------

Electric

On-Pk Cons. (kWh)	2,766	2,498	2,766	2,677	2,766	2,677	2,766	2,766	2,677	2,766	2,677	2,766	32,565
On-Pk Demand (kW)	4	4	4	4	4	4	4	4	4	4	4	4	4

Energy Consumption

Building	7,410 Btu/(ft2-year)
Source	22,231 Btu/(ft2-year)

Environmental Impact Analysis

CO2	58,864 lbm/year
SO2	409 gm/year
NOX	102 gm/year

Floor Area      15,000 ft2

<b>Alternative: 2</b>	<b>901 2019</b>
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Electric

On-Pk Cons. (kWh)	2,280	2,060	2,280	2,207	2,280	2,207	2,280	2,280	2,207	2,280	2,207	2,280	26,849
On-Pk Demand (kW)	4	4	4	4	4	4	4	4	4	4	4	4	4

Energy Consumption

Building	6,109 Btu/(ft2-year)
Source	18,329 Btu/(ft2-year)

Environmental Impact Analysis

CO2	48,532 lbm/year
SO2	337 gm/year
NOX	84 gm/year

Floor Area      15,000 ft2

# MONTHLY UTILITY COSTS

By Emerald Built Environments

Utility	----- Monthly Utility Costs -----												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
<b>Alternative 1</b>													
Electric													
On-Pk Cons. (\$)	277	250	277	268	277	268	277	277	268	277	268	277	3,257
Monthly Total (\$):	277	250	277	268	277	268	277	277	268	277	268	277	3,257

Building Area = 15,000 ft<sup>2</sup>  
 Utility Cost Per Area = 0.22 \$/ft<sup>2</sup>

<b>Alternative 2</b>													
Electric													
On-Pk Cons. (\$)	228	206	228	221	228	221	228	228	221	228	221	228	2,685
Monthly Total (\$):	228	206	228	221	228	221	228	228	221	228	221	228	2,685

Building Area = 15,000 ft<sup>2</sup>  
 Utility Cost Per Area = 0.18 \$/ft<sup>2</sup>



**4101:1-13-01 Energy efficiency.**

Chapter 13 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

**(A) Replace section 1301.1.1 with the following:**

**1301.1.1 Criteria.** Buildings shall be designed and constructed in accordance with the applicable provisions of the “International Energy Conservation Code” or the requirements of “ASHRAE 90.1” listed in Chapter 35 of this code except as modified in Sections 1301.2 and 1301.3.

**(B) Add new section 1301.2 that reads as follows:**

**1301.2 Modifications to the International Energy Conservation Code.** The following changes are made to the International Energy Conservation Code:

**Residential Provisions**

1. Section R403.3.7 is to read: “**Building cavities (Mandatory).** Building framing cavities are not to be used as supply ducts.”

**(C) Add new section 1301.3 that reads as follows:**

**1301.3 Modifications to ASHRAE 90.1.** The following changes are made to the ASHRAE 90.1:

1. Section 8.4.2 Automatic Receptacle Control; Delete section.
2. Section 8.4.3 Electrical Energy Monitoring; Delete section.

**File Attachments for Item:**

OB-4 OBC draft rule review (Chapters 5-9)

## **4101:1-5-01 General Building Heights and Areas.**

Chapter 5 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

- (A) **Modify Table 504.3, footnotes d and h as follows:**
- d. The NS value is only for use in evaluation of existing building height in accordance with the Chapter 34 and in Group R-2 occupancies.
  - h. In other than group R-2 occupancies, all new Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
- (B) **Modify Table 504.4, footnotes d and h as follows:**
- d. The NS value is only for use in evaluation of existing building height in accordance with the Chapter 34 and in Group R-2 occupancies.
  - h. In other than group R-2 occupancies, all new Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
- (C) **Modify Table 506.2, footnotes d and h as follows:**
- d. The NS value is only for use in evaluation of existing building height in accordance with the Chapter 34 and in Group R-2 occupancies.
  - h. In other than group R-2 occupancies, all new Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
- (D) **Replace Section 506.3.1 with the following:**  
**506.3.1 Minimum percentage of perimeter.** To qualify for an area factor increase based on frontage, a building will have not less than 25 percent of its perimeter on a *public way* or open space. Such open space is to be either on the same lot or dedicated for public use and be accessed from a street or approved *fire lane*. A *fire lane* is an unobstructed width of not less than 20 feet (6096 mm), except for approved security gates, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).
- Exception:** An unoccupied space on an adjoining property may be included, provided that the adjoining property is dedicated or deeded so as to preclude, for the life of the structure, the erection of any building or structure on such space (see section 3781.02 of the Revised Code).
- (E) **Add Section 507.14 to read as follows:**

**507.14 Adjoining property.** Where referenced in section 507, an unoccupied space on an adjoining property may be included in the required open perimeter distance, provided that the adjoining property is dedicated or deeded so as to preclude, for the life of the structure, the erection of any building or structure on such space (see section 3781.02 of the Revised Code).

Draft

**4101:1-6-01 Types of construction.**

Chapter 6 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

**No Changes.**

Draft

**4101:1-7-01 Fire and smoke protection features.**

Chapter 7 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

**(A) Modify Section 703.2.3 as follows:**

The reference to “Section 104.11” is to be replaced with “Sections 106.5 or 114.3”.

**(B) Replace section 703.5 with the following:**

**703.5 Marking and identification. Deleted.**

**(C) Modify section 705.5 to add the following sentence at the end of the section:**

Where referenced in Section 705, an unoccupied space on an adjoining property may be included in the required *fire separation distance*, provided that the adjoining property is dedicated or deeded so as to preclude, for the life of the structure, the erection of any building or structure on such space (see Section 3781.02 of the Revised Code.)

**(D) Replace the Table 705.5 title with the following:**

**FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE** <sup>a, d, g, j</sup>

**(E) Add footnote ‘j’ to Table 705.5 to read as follows:**

j. Buildings and structures with an occupancy in Group H-3 used for the display, sale or storage of fireworks, 1.4G, is to be located in accordance with section 415 and the fire code.

**(F) Add Section 706.1.2 as follows:**

**706.1.2 Double fire walls.** A double *fire wall* is to consist of two back-to-back walls where no structural connections exist between the walls.

**(G) Replace Section 706.2 with the following:**

**706.2 Structural stability.** *Fire walls* are to be designed and constructed to allow collapse of the structure on either side without collapse of the wall under fire conditions. Double *fire walls* are to be supported laterally by the building frame on its respective side and be independent of the *fire wall* and framing on the opposite side, except for the foundation and flashing. *Fire*

walls designed and constructed in accordance with NFPA 221 are deemed to comply with this section.

**Exception:** In Seismic Design Categories D through F, where double fire walls are used in accordance with NFPA 221, floor and roof sheathing not exceeding 3/4 inch (19.05 mm) thickness are permitted to be continuous through the wall assemblies of light frame construction.

**(H) Modify Section 706.4 to add the following sentence at the end of the section:**

The fire-resistance rating of each wall in a double fire wall and the combined rating of the wall are to be in accordance with Table 706.4.

**(I) Replace Table 706.4 with the following:**

**TABLE 706.4  
FIRE WALL FIRE-RESISTANCE RATINGS**

<b><u>GROUP</u></b>	<b><u>SINGLE WALL FIRE-RESISTANCE RATING (hours)</u></b>	<b><u>DOUBLE WALL FIRE RESISTANCE RATING (hours for each wall)</u></b>
<u>A, B, E, H-4, I, R-1, R-2, U</u>	<u>3<sup>a</sup></u>	<u>2</u>
<u>F-1, H-3<sup>b</sup>, H-5, M, S-1</u>	<u>3</u>	<u>2</u>
<u>H-1, H-2</u>	<u>4<sup>b</sup></u>	<u>3</u>
<u>F-2, S-2, R-3, R-4</u>	<u>2</u>	<u>1</u>

a. In Type II or V construction, walls are permitted to have a 2-hour fire-resistance rating.

b. For Group H-1, H-2 or H-3 buildings, also see Sections 415.7 and 415.8.

**(J) Add Section 706.8.1 to read as follows:**

**706.8.1 Openings in double fire walls.** Openings in double fire walls are to be protected using one fire door in each wall or where the opening provides for a means of egress, the doors are to be installed in a vestibule that encloses the opening on each side of the double fire wall.

**(K) Replace Section 716.1.1 with the following:**

**716.1.1 Alternative methods for determining fire protection ratings.**

The application of any of the alternative methods specified in this section is to be based on the fire exposure and acceptance criteria specified in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C. The required fire resistance of an opening protective is to be permitted to be established by any of the following methods or procedures:

1. Designs documented in referenced publications approved in accordance

with this code.

2. Calculations performed in accordance with Section 106.5.
3. Engineering analysis based on a comparison of opening protective designs having fire protection ratings as determined by the test procedures set forth in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C.
4. Alternative protection methods as allowed by Sections 106.5 and 114.3.

**(L) Modify Section 717.5.2, Exception: 3, last sentence to read as follows:**  
Flexible air connectors are permitted in the following locations:

**(M) Replace Section 717.5.3, Exception 2 with the following:**  
2. Deleted.

**(N) Add Exception 6 to Section 717.5.3 as follows:**  
6. Smoke dampers are not required where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

**(O) Add sentence and conditions to the end of Exception 4 in Section 717.5.4 to read as follows:**  
Flexible air connectors are permitted in fully ducted sheet steel duct systems where the installation meets either of the following:  
4.1. Flexible air connectors are installed to connect ducts to air handling equipment and such connectors are located entirely within the mechanical room that contains the air handling equipment.  
4.2. Flexible air connectors are installed to connect an overhead metal duct to a ceiling diffuser and such connector is located entirely within the same room as the ceiling diffuser. The flexible air connectors do not pass through any walls, floors or ceilings.

**(P) Add Exception 2 to Section 720.7 as follows:**  
2. Materials installed for protection against heat and sharp edges to comply with the accessibility provisions.



**4101:1-8-01 Interior finishes.**

Chapter 8 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

**(A) Add footnote ‘n’ in the Group column of Table 803.13 for Groups R-4 and R-3, and add footnote ‘n’ to read as follows:**

n. Where Group R-3 and R-4 occupancies are permitted in Section 903.2.8 to be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.3 the requirements for a non-sprinklered building apply.

Draft

**4101:1-9-01 Fire protection and life safety systems.**

Chapter 9 of the International Building Code, 2021 edition, as adopted by reference and modified in OBC Section 101.1, is further modified as follows:

**(A) Modify Section 901.3 to add a sentence at the end of the paragraph that reads as follows:**

Termination of fire alarm monitoring services are to be in accordance with Section 901.9 of the fire code.

**(B) Replace section 901.5 with the following:**

**901.5 Acceptance tests.** *Fire protection systems* are to be tested in accordance with the requirements of this code, the fire code, and the applicable standards referenced in this code. Required acceptance tests are to be conducted at the expense of the owner or the owner's representative. The building official may require that the acceptance tests be conducted in the presence of a certified building inspector or a certified fire protection system inspector. Test results are to be documented and test records and certificates are to be submitted to the building official and the fire official upon completion. Copies of test records and certificates are also to be maintained at the jobsite and made available to the inspector conducting the *fire protection systems* final inspections. It is unlawful to occupy portions of a structure until the required *fire protection systems* within that portion of the structure have been tested, inspected, and *approved*.

**(C) Add new section 901.8 to read as follows:**

**901.8 Welding and brazing.** Welding and brazing of all metallic *fire protection system* piping is to be done in accordance with Section 313 of the mechanical code.

**(D) Modify section 903.2.1.3 to add an exception to condition 1 that reads as follows:**

**Exception:**

1.1 *Fire areas* used exclusively for religious worship services with fixed seating.

**(E) Modify section 903.2.1.3 to add exceptions to condition 2 that read as follows:**

**Exceptions:**

2.1 *Fire areas* used primarily for worship with fixed seating.

2.2 Fire areas without fixed seating not used for exhibition or display; or

**(F) Modify section 903.2.1.3 to add an exception to and at the end of the entire section that reads as follows:**

**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the *level of exit discharge* of the main entrance and exit.

**(G) Modify section 903.2.1.4 to add an exception to and at the end of the entire section that reads as follows:**

**Exception:** Areas used exclusively as participant sports areas where the main floor area is located at the same level as the *level of exit discharge* of the main entrance and exit

**(H) Modify section 903.2.3 to add an additional condition that reads as follows:**

4. Throughout every portion of Group E day care facilities - 2 ½ years or less of age.

**Exception:** An automatic sprinkler system is not required throughout Group E day care facilities that provide care for more than five but no more than 100 children 2 ½ years or less of age where the day care facilities are at the *level of exit discharge* and where every room where care is provided for children that are less than or equal to 2 ½ years of age has no fewer than one exterior exit door for which the *exit access* and *exit discharge* do not include the traversing of stairs.

**(I) Modify section 903.2.6 to add the following phrase at the end of exception #2:**

for which the *exit access* and *exit discharge* do not require the traversing of stairs.

**(J) Modify section 903.2.8 to add an exception that reads as follows:**

**Exception:** Group R-2. An *automatic sprinkler system* is not required in buildings of Group R-2 permitted to have a single *exit* per Section 1006.3.4 where:

1. The building is not used as an “SRO” occupancy as defined in Chapter 2, and
2. The *exit* is constructed as an *exterior exit stairway* per Section 1027, and
3. The *dwelling units* egress directly into an *exit*, and
4. Two-hour *fire barriers* divide the building into *fire areas* with a maximum of two *dwelling units* per floor and not more than six *dwelling units* per *fire area*, and

5. All *dwelling units* in the *fire area* must have separations as required by Section 708.1 for *dwelling units*, and
6. The building is limited to a basement and two stories above *grade plane*, and
7. The building contains no more than four *dwelling units* per floor and no more than twelve *dwelling units* per building.

**(K) Modify the first phrase of section 903.3.1.2 to read as follows:**

**903.3.1.2 NFPA 13R sprinkler systems.** *Automatic sprinkler systems* in Group I-1, Condition 1 facilities and Group R occupancies are permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

**(L) Replace section 903.8.1 with the following:**

**903.8.1 Number of sprinklers.** Limited area sprinkler systems shall not exceed nineteen sprinklers in any single *fire area*.

**(M) Modify section 903.4.2 to add an exception that reads as follows:**

**Exception:** Waterflow alarms are not required for limited area sprinkler system installed in accordance with Section 903.3.8.

**(N) Modify section 907.2.9.3 as follows:**

Replace the word “operated” with the phrase “owned or operated”

**(O) Modify section 907.2.11 to add the following phrase at the end of the section:**

“and Section 314.1.2 of the Residential Code of Ohio.”

**(P) Replace section 907.3.3 to read as follows:**

**907.3.3 Elevator emergency operation.** Automatic fire detectors installed for elevator emergency operation shall be installed in accordance with the provisions of ASME A17.1/CSA B44 as referenced in rule 4101:5-3-01 of the Administrative Code and NFPA 72.

**(Q) Modify section 907.5.2 to add the following sentence to the end of the section:**

Audible and visual alarm notification appliances are to be located and installed in accordance with this section, NFPA 72, Chapter 11, and ICC A117.1.

**(R) Replace section 907.5.2.3.3 to read as follows:**

**907.5.2.3.3 Group R-2.** In Group R-2 occupancies required by Section 907 to have a fire alarm system, each story that contains dwelling units and sleeping units is to be provided with the capability to support future visible alarm notification appliances in accordance with ICC A117.1 and be designed and installed to accommodate wired or wireless equipment.

**(S) Replace section 907.6.6.3 with the following:**

**907.6.6.3 Termination of monitoring service.** Deleted.

**(T) Replace section 909.18.8.3.1 to read as follows:**

**909.18.8.3.1 Report filing.** A copy of the final report is to be filed with the building official, the fire official, and maintained in an *approved* location at the building.

**(U) Modify section 911.1.6, item #17 to read as follows:**

17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44 as referenced in rule 4101:5-3-01 of the Administrative Code.

**(V) Modify Section 912.1 to add exceptions that read as follows:**

**Exceptions:** Fire department connections are not required for:

1. Limited area sprinkler systems supplied from the domestic water system.
2. Automatic sprinkler systems having less than 20 sprinklers.

**(W) Add new section 913.1.1 that reads as follows:**

**913.1.1 Minimum suction pressure to be maintained.** When a fire pump is installed, the “Ohio Environmental Protection Agency” requires the installation of a low pressure cut-off, a low suction throttling valve, or variable speed suction limiting controls to ensure that a minimum of 10 psi is maintained in the suction line while the pump is operating (see rule 3745-95-07 of the Administrative Code).

**(X) Replace section 916.2 with the following:**

**916.2 Approvals.** Approvals shall be required as set forth in Chapter 1 of this code.

**(Y) Modify section 916.2.1 to replace the word “permit” with “plan approval”.**